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## Understanding business valuation : a practical guide to valuing small to medium-sized businesses

Gary R. Trugman

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# Understanding Business Valuation

A Practical Guide to Valuing Small  
to Medium Sized Businesses

Fifth Edition | Gary R. Trugman, CPA/ABV, MCBA, ASA, MVS





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## Notice to Readers

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## Dedication

To Linda, my partner in life and business

Our life together is like a really good bottle of wine...  
it gets so much better with age

I am the luckiest person alive because of you!



# Preface

Wow! This is really the fifth edition. This journey started a long time ago in 1998 when the first edition of this book was published. This has been so much fun, I hope that I never have to stop. I was going to say that I am like a bottle of fine wine that keeps getting better with age, but those of you who know me or have bought earlier editions of this book know that I keep getting older. I will leave it for you to decide if I am getting any better with age. In the meantime, since you purchased this book, keep reading.

I have been saying this with every new edition: This is just what we need, another book on business valuation. Years ago, there were only a limited number of books on this topic—mostly finance texts. Today, it is nearly impossible to read everything that is being published in this field unless you have no life. Anyway, for those of you with a limited life, there are definitely some books on this topic that are worth reading. I can no longer list only two or three books that are my favorites because so many good books on this topic have been published over the last decade that the list has grown too much. I have included many references to these books throughout this edition, so you should have no problem figuring out which ones I like.

So, what's new in this edition? A lot. I wrote this fifth edition for several reasons; first, because I need the royalties; second, because I find that there is still a need for this stuff to be explained in plain, uncomplicated English in a manner that helps a valuation analyst apply valuation theory to real-world practice. Please don't get me wrong, I am not claiming to know everything! In fact, I keep finding out that the smarter I get, the less I realize I know. But I have come to accept that there are things in this world we may never understand. Regarding the new stuff in this edition and from the weight of this book, you can tell that there is a lot; I will tell you about it soon.

The purpose of this book is to provide some guidance on the theory, as well as on how to apply the theory in a meaningful fashion. Whether or not I'm successful is up to you. First, some basic ground rules and general information:

1. To get the most out of this book, you must read it, not only in its entirety, but also in the sequence in which it is written. Don't go to the chapter on discount rates without reading the earlier sections of the book. Otherwise, you may feel like you walked into the middle of a movie. It is also important to make sure that you read the exhibits and the appendixes at the time they are referenced. The exhibits have been included as an integral part of this book. If you skip over them or go back to them later, you may miss a valuable point I am trying to make. As for the appendixes, this edition has a new format that I will explain shortly in its own section. Wait until you see what you are getting with this book—it is incredible!
2. In general, I do not think in terms of complex mathematical formulas. My mind does not work that way. I do not like equations with lots of parentheses, nor do I like formulas that have Greek letters in them. Therefore, if you really enjoy mathematical equations, this book is not for you. However, if you are a student and your professor has chosen this book, you're stuck. I am sorry. Believe it or not, my intentions are honorable because I want readers to understand this stuff! In certain sections of this book, you will see some mathematical formulas. You will even see some Greek letters. It is not for a fraternity or sorority. The notation may be different from that found in other books. Concentrate on the concepts, not the letters and symbols used.
3. I am a firm believer in the KISS theory (keep it simple, stupid). This does not mean, however, that business valuations are simple, nor are they stupid. Quite the contrary! If you are at all like me, after reading this book, you will never feel comfortable doing or relying on a business valuation again. This can be an extremely subjective process. For the accountants reading this book, this is not at all like accounting in which the debits have to equal the credits. What you will learn is that there is no black and white answer. There are a million shades of gray. To quote a good friend of mine, the answer to most questions that are asked about business valuation is, "It depends."

4. The concepts discussed in this book cannot be read and applied as if they were in a vacuum. Many of the items discussed will directly or indirectly affect other parts of the valuation process. You must be a big-picture type of person.
5. In some of the exhibits, I cheated. They were so good in the last edition that I decided to merely update the dates to freshen them up. If I messed up because the interest rates are not from that exact period, please forgive me. I am much more concerned with the concepts than the dates. In some instances in which I felt the exhibit was date-sensitive, I did not change the dates. In some cases, I also changed the location of the business to protect the confidentiality of the client, so here, too, if it is a little inconsistent, please forgive me.
6. This book is not intended to present every alternative to every situation. Just because I have included something in this book, please do not rely solely on my writings. There may be facts and circumstances that could negate my opinion. You will find that there is no substitute for common sense in this process.
7. In some instances, I will be illustrating points from the negative. Several of the exhibits contain sections of actual reports critiquing someone else's work. Learn from what they may have done wrong.
8. Please don't shoot the messenger! Throughout this book, several topics will be discussed that may be controversial. Some may not even have a definitive answer, but you must think about these issues when you do or use a business valuation.
9. While reading this book, you are going to be exposed to my own form of humor. This is not intended to insult anyone but, rather, to add a little levity to what can be a very dry and technical topic. The very last thing that I ever want to do is insult anyone. If any of my comments make you feel uncomfortable, please accept my apology in advance. I promise that it was not intended to do so. Although business valuation tends to be extremely complex, let's have some fun while we learn. You just can't take this stuff too seriously, unless of course, you have a mid-term or final exam.
10. And finally, in much of what I am trying to teach, I have made many of the mistakes that I am trying to prevent you from making. Someone once told me I will learn from my mistakes. By now, I am a genius!

With that stuff out of the way, please enjoy my attempt to explain what little I know about business valuation.



# Acknowledgments

I must acknowledge several people for their contributions to this book. These people are not listed in any special order, but they are all very important to me. The first person is admittedly the most important. First and foremost, I have to thank my wife, Linda Trugman, CPA/ABV, MCBA, ASA, MBA, who, as you can see, is much more qualified than I am. She is my business partner of 33 years, past president of the American Society of Appraisers, and I have to thank her for her countless hours in assisting me to make this book more readable, logical, and technically accurate. She also is one heck of an editor. She makes this kid from the Bronx sound like I am from Manhattan while keeping my Bronx accent intact. She is also the primary author of the chapter on estate and gift valuations. This is clearly her area of expertise, and there is no reason to try to produce a chapter on this topic without her significant input.

Next, my special thanks to Mark Zyla, CPA/ABV, CFA, ASA, who was the primary author of the chapter on valuations for financial reporting. This is one of Mark's areas of expertise, and I was delighted to have him participate in this book. I also want to thank Lynn Pierson, CPA, CFA, from Mark's firm, for her edits in this chapter, as well. Finally, I also want to thank William Harris, ASA, CFA, from my firm, for his significant contribution to updating many of the chapters with new content. Another individual who deserves special thanks is Ed Dupke, CPA/ABV, ASA, who provided a complete technical review of the entire book. Another group of folks who deserve a thank you, and I apologize for not listing everyone by name, is the group of individuals who sent me various emails about either corrections that needed to be made to the book or items they felt needed additional clarification. You are the folks who bought this book and actually took the time to go through it and provided comments to make it better. I hope we fixed all the typos and clarifications. In fact, one person actually added up all of the tables in this book and pointed out that there were a few addition errors. Wow, what an attention to detail! All I can say is thank you, thank you, and thank you again.

And one more special thanks to a group of folks I could not have done without—the group at the AICPA who made this book what it is: David Cohen, Whitney Woody, and Annmarie Piacentino. These folks had to put up with my writing style and the many mistakes I made throughout the manuscript. This group of folks is my dream team. I could not have done this without you all!

And finally, one more thank you goes to two different groups of individuals. The first group consists of the many practitioners I have taught with over the years who have taught me so much. This list goes on and on and just keeps getting longer as I get older. You know who you are. The second group of individuals consists of all the students who have attended my classes, participants at past conferences who attended sessions where I spoke, and all my colleagues who have had such flattering things to say to me over the years about my teaching, my writings, and, particularly, the first four editions of this book. I have said this before, and I will repeat it here: It is hard to make me humble, but you have succeeded.



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# Introduction

This book has been methodically organized to help you get the most you possibly can out of it. Each chapter contains lots of new stuff since the last edition, and there is even a brand new chapter; therefore, you might want to go through all the chapters in sequence. The chapters are set up as follows:

- Chapter 1 provides background stuff regarding why businesses are valued, who values them, and the various valuation organizations. The intention of this chapter is to provide you with some background about the valuation profession. You want to be aware of the different types of valuation analysts and their standards because you will most likely run across them in your endeavors.
- Chapter 2 consists of an annotation of the AICPA business valuation standard. Other standards are also covered in this chapter. This chapter is so important (and also so long) that I made it into its own chapter.
- Chapter 3 gets you started in the valuation process. In this chapter, I discuss the things that a valuation analyst must know to start an assignment. Chapter 3 includes information about engagement letters, conflicts of interest, internal work programs, and the initial document request.
- Chapter 4 takes you through the basic valuation principles and theory behind the stuff that we are trying to figure out how to do. We will learn that the term *value* has many different meanings in business valuation, and we will discuss some of the more important definitions. Because so much of the valuation work we do involves taxes, this chapter will also point out the influence of the IRS on what we do.
- Chapter 5 includes a discussion of internal and external sources of information that will be gathered by the valuation analyst. Numerous references are provided about where the valuation analyst can locate information. This chapter lists all types of neat websites for doing the required research. However, they change faster than any of us can keep up with.
- Chapter 6 walks you through the process of what the valuation analyst should do with the data that was gathered during the valuation process. This chapter includes a discussion of economic, industry, company, and financial analysis. This is one of the most important chapters in the valuation process. It will help the valuation analyst arrive at the numbers needed to apply to valuation methodologies, as well as help the valuation analyst assess the riskiness of the income stream of the valuation subject.
- Chapter 7 covers statistics for business valuation and economic damages. Don't worry; I kept it relatively basic because I could not make it complex. Keeping it simple is a good thing! If you are going to do this work, don't skip this chapter.
- Chapter 8 addresses forecasts. So much of what we do involves working with forecasts that I decided to dedicate a separate chapter to this topic. The intention is to keep the valuation analyst out of trouble. Various forecasting techniques are discussed.
- Chapter 9 presents the first part of the market approach to valuation. The underlying theory for the market approach is presented in this chapter. The balance of the chapter concentrates on the guideline public company method, including more detail on how to perform the analysis involving publicly traded companies. You will have to read this chapter to find out about size, growth, leverage, performance, turnover, and liquidity. You will also learn how to size-adjust multiples.
- Chapter 10 presents the second half of the market approach. This chapter includes a detailed discussion of the guideline transaction method, including a description of the various databases available to find merger and acquisition information involving closely held businesses. This chapter takes you step by step through the process of using this method, including making you aware of the potential pitfalls. Using internal transactions and rules of thumb are also discussed in this chapter.
- Chapter 11 presents the asset-based approach to valuation. Several methods are also explored here, and there is a discussion of how to find and communicate with other types of appraisers. New to this edition is a detailed discussion about economic obsolescence.
- Chapter 12 presents the income approach to valuation. For small- and medium-sized businesses, this chapter may be one of the most important. Single period and multiperiod models are presented. Forecasting financial information is also included in this chapter because it is the very essence of this approach to valuation.

- Chapter 13 is the chapter everyone will want to turn to! Discount rates and capitalization rates are discussed. Lots of theory and, hopefully, practical guidance have been included in this chapter. This chapter has been significantly changed and expanded from the last edition. An in-depth discussion about the equity risk premium and the small stock premium are included in this chapter. Discussions about several Duff & Phelps publications and their discount rate calculator are included in this chapter. I have also included a discussion about private equity cost of capital. This may cause even the experienced valuation analysts to change the manner in which they do things.
- Chapter 14 includes the first part of my discussion on valuation adjustments, also known as *premiums and discounts*. In this chapter, the valuation analyst will learn when to use different premiums and discounts, as well as how to support his or her opinion. This chapter includes a discussion on valuation premiums and discounts, in general, control premiums, lack of control (minority) discounts and discounts from net asset value.
- Chapter 15 is the second part of my discussion on valuation adjustments. This chapter includes everything that you want to know about discounts for lack of marketability (maybe not). I have a lot of stuff in this chapter, including a separate discussion on quantification techniques of this discount. I have an expanded discussion about the Quantitative Marketability Discount Model and the Stout (formerly FMV Opinions) DLOM Calculator. Other discounts and premiums discussed in this chapter include private company discounts, key person discounts, nonhomogeneous (portfolio) discounts, blockage discounts, and more. I even explain how to apply these discounts.
- Chapter 16 contains an annotated version of Revenue Ruling 59-60. This revenue ruling is so important that it deserves a separate chapter. You can never get enough of a Revenue Ruling that is almost 60 years old but has the makings of being the best writing in business valuation of all time (maybe with the exception of my book).
- Chapter 17 addresses the valuation report. The valuation analyst can learn how to prepare and defend the report and learn some tips regarding presentation techniques. This chapter includes the reporting requirements of the AICPA's business valuation standard.
- Chapter 18 is dedicated to Pass-Through Entities. Besides having a discussion about the tax issues of these types of entities, I have included a discussion about all of the leading models being used to calculate the impact on value. This chapter is a dandy!
- Chapter 19 covers valuations for financial reporting. While it is intended to be basic, if the valuation analyst does valuations for financial reporting purposes, he or she knows that this work is anything but basic. This chapter discusses the basic rules and pronouncements in this area of practice.
- Chapter 20 is a basic chapter on intangible assets. There are several examples to help the valuation analyst learn how to value different types of intangibles. There are some really good reference materials cited in this chapter, as well.
- Chapter 21 addresses valuation assignments that are performed for estate and gift tax purposes. Learn about the Chapter 14 (of the IRC) requirements, the adequate disclosure requirements, and family limited partnership valuations. Also, learn about valuation analyst penalties if you mess up.
- Chapter 22 covers issues involved in divorce valuations. Valuations performed as part of a divorce assignment entail very unique considerations for the valuation analyst.
- Chapter 23 contains a discussion on unique aspects of valuing professional practices. Learn what factors should be considered in valuing different types of professional practices, making these assignments different from valuing an operating company. Also included in this chapter is a detailed analysis on the valuation of work in process for a contingent fee law firm.
- Chapter 24 addresses valuation assignments for ownership disputes, including issues involving the fair value standard of value. There are some new exhibits in this chapter that address very significant issues regarding fair value.
- Chapter 25 is a brand new chapter. This chapter includes a discussion on the valuation of stock options, warrants, preferred stock, debt, and early-stage companies. It also includes a discussion of the backsolve method.
- Chapter 26 contains a discussion about economic damages. There are several new exhibits addressing different types of damages issues in this chapter.
- As a bonus, chapter 25 from the last edition is now included as chapter 27 to this book. It is a discussion of some of my favorite court cases. In fact, the name of this chapter is "My Favorite Court Cases." Pretty catchy, isn't it? This chapter has a few really good court cases that will help you understand some important issues regarding valuation. In many instances, I refer to these cases in other chapters.

And finally, for those of you that bought the last edition of this book, you may recall that there was a CD-ROM containing appendixes, sample reports, bibliography materials, and a bunch of other stuff. Guess what? The CD-ROM is gone. But fear not, see the next section.

## Replacement of the CD-ROM With Downloadable Materials

Because technology changes regularly, the publisher of this book has decided to take advantage of the times. All the appendixes, as well as some reports for you to plagiarize, are included as downloadable materials at [AICPAStore.com/UBV](http://AICPAStore.com/UBV). I only hope that you will give our firm proper attribution. Several new sample reports are included so that you can see the differences among the reports. Also new to this edition is a link to a special website that has been made available to anyone that purchased this book from Business Valuation Resources. This website will allow you to download many of the court cases that are discussed throughout this book. There will also be other stuff added to this special website as time passes. To visit the website, go to [www.bvresources.com/products/understanding-business-valuation](http://www.bvresources.com/products/understanding-business-valuation). Special thanks go out to the folks at Business Valuation Resources that have made this possible.

Although the material in this book is not necessarily unique, it has been organized in a manner that is intended to provide you with a logical analysis of the valuation process. Many of the exhibits contain actual sections of valuation reports to help emphasize the subject matter. Make sure you read them!

## Steps of a Business Valuation

This book proceeds in a sequence that resembles the steps of performing a business valuation. The chapters will address these steps in detail. Because you are probably dying to know what these steps are, I listed them here:

1. Define the valuation engagement.
2. Gather the necessary data to perform the engagement.
3. Analyze the data that you gathered.
4. Estimate the value of the interest being valued.
5. Write the report to communicate the value.

## Notation System Used in This Book

A source of confusion for those trying to understand financial theory and methods is the fact that financial writers have not adopted a standard system of notation. Although I have attempted to follow the most common notation system, I may have deviated along the way. This should not concern you.

Following are the symbols used in this book:

- Value at a point in time:
  - $PV$  = Present value
  - $FV$  = Future value
- Cost of capital and rate of return variables:
  - $k$  = Discount rate (generalized)
  - $k_e$  = Discount rate for common equity capital (cost of common equity capital); unless otherwise stated, it generally is assumed that this discount rate is applicable to the net cash flow available to common equity
  - $k_d$  = Discount rate for debt (*Note:* for complex capital structures, there could be more than one class of capital in any of the preceding categories, in which case, expanded subscripts would be required.)
  - $c$  = Capitalization rate
  - $C^{pt}$  = Capitalization rate for a pretax benefit stream
  - $C^{at}$  = Capitalization rate for an after-tax benefit stream
  - $CP$  = Control premium
  - $t$  = Tax rate (expressed as a percentage of pretax income)

- $R_f$  = Rate of return on a risk-free security
- $\beta$  = Beta (a coefficient, usually used to modify a rate of return variable)
- $(R_m - R_f)$  = Risk premium for the “market” (usually used in the context of a market for equity securities such as NYSE or S&P 500)
- SCA = Specific company adjustment
- SCP = Small company premium
- WACC = Weighted average cost of capital

- Income variables:

- $E$  = Expected economic income (in generalized sense [that is, could be dividends], any of several possible definitions of cash flow, net income, and so on; also called a *benefit stream*)
- EBIT = Earnings before interest and taxes
- EBITDA = Earnings before depreciation, interest, and taxes (“depreciation” in this context usually includes amortization)

- Periods or variables in a series:

- $i$  = The  $i$ th period, or the  $i$ th variable in a series (may be extended to the  $j$ th variable, the  $k$ th variable, and so on)
- $n$  = The number of periods or variables in the series, or the last number in the series
- $\infty$  = Infinity
- $0$  = Period, the base period, usually the latest year immediately preceding the valuation date

- Weightings:

- $W$  = Weight
- $W_e$  = Weight (percentage) of common equity in capital structure
- $W_p$  = Weight (percentage) of preferred equity in capital structure
- $W_d$  = Weight (percentage) of debt in capital structure

*Note:* For purposes of computing a weighted average cost of capital (WACC), it is assumed that the above weightings are at market value.

- Growth:

- $g$  = Rate of growth

- Mathematical functions:

- $\Sigma$  = Sum of (add up all the variables that follow)

# Chapter 1

# Overview of Business Valuation

## Learning Objectives

Business valuation is process-oriented. As such, I thought that I should start the process at the beginning. Therefore, this chapter is designed to do the following:

- Give you a very brief history about the valuation profession
- Explain why businesses are valued
- Provide some background about who values businesses
- Familiarize you with professional valuation organizations

What did you expect at this point, the complicated stuff? Be patient, and we will get there.

## Introduction

Business valuations are performed for companies and interests in companies of all sizes and types. The conceptual principles are the same for companies of different sizes, but very often, the manner in which these principles are applied varies greatly. The quantity and quality of data available for the valuation of small- and mid-sized companies tends to be considerably lower than what is available for larger businesses. Just for the record, having a greater amount of data for larger companies is not always better. Sometimes, the quality of the data is awful, even for larger companies. When there is a lack of data available for the smaller companies, either certain methodologies cannot be used or the result should be considered less reliable. However, there can be a lack of data for larger companies, as well. The valuation analyst<sup>1</sup> must be more careful in circumstances in which less data is available because having less data creates a larger risk of not being able to interpret the existing data properly. The valuation analyst should understand the business valuation process from the large company, more theoretical basis, in order to adapt these concepts properly to its smaller counterparts. This means that the same theory that applies to the valuation of large companies may have to be adapted for the valuation of small companies. However, valuing smaller businesses can be extremely challenging because most of the empirical data that a valuation analyst regularly uses applies to larger companies and only tangentially to smaller ones.

## A Brief Walk Down Memory Lane

Let's take a couple of giant steps to cover this material. If you are looking for a longer history about the profession, buy an earlier edition of this book! Over the last few decades, the business valuation industry has gone through staggering changes. We have seen the following occur:

- 1987—Establishment of the Appraisal Foundation. This organization was set up by seven real estate organizations and the American Society of Appraisers, a multidiscipline body, in response to the growing problems facing the real estate appraisal world. The Appraisal Foundation is the creator of the *Uniform Standards of Professional Appraisal Practice* (USPAP). The provisions of the USPAP include Standards 1 and 2 that pertain to real estate appraisal, Standards 7 and 8 that pertain to personal property appraisal, Standard 6 that pertains to mass appraisals, whether real estate or personal property, and Standards 9 and 10 that pertain to business valuations. Standard 3, Appraisal Review, applies to business valuation as well as real estate and personal property. You are probably wondering about Standards 4 and 5. They used to pertain to real estate, but they are now retired.

<sup>1</sup> In this book, I will be referring to the business or intangible asset appraiser as the *valuation analyst*. This is the wording used in the AICPA Statement on Standards for Valuation Services No. 1, *Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset* (AICPA, *Professional Standards*, VS sec. 100) that I will be discussing throughout this book. We might as well be consistent!

- 1989—Passage of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA). Among other provisions, this law requires all who perform real estate appraisals involving a *federally related transaction* to follow the USPAP. There was quite a bit of confusion when this law was first passed because the business valuation profession thought that it would also be subject to this act. However, it is pretty clear now that it was only real estate appraisers who were subject to the federally related transaction portion of the legislation. Yet, several of the appraisal organizations have encouraged all appraisers to follow the USPAP as a “best practices” technique, although the American Society of Appraisers is the only organization with a business valuation discipline that mandates adherence to these standards.
- 1997—The American Institute of Certified Public Accountants (AICPA) Executive Board passes a specialty designation known as Accredited in Business Valuation (ABV). The first examination was given in November 1997. This designation, especially because it is appended to the CPA (CPA/ABV), gains immediate recognition in the marketplace among all of the credentials available in our field.
- 1998—The AICPA, through great insight and foresight, published the first edition of my book. (Hey, don’t laugh—it could not have been that bad—this is the fifth edition, and you either bought it or it was given to you as a birthday present!)
- 2007—The AICPA’s business valuation standard was approved and passed. It became effective January 1, 2008. This is such an important event in our history that I have devoted a complete chapter to this standard (see chapter 2).
- 2017—The fifth edition of my book gets published. Based on its popularity, it is now being used in the academic market as well as the professional market. That, my friends, is a very cool thing!

## Why Are Businesses Valued?

Business valuation assignments will vary depending on their purpose. Therefore, it is imperative that the valuation analyst understand the purpose of the assignment before the process can begin. More often than not, the purpose will influence the standard of value, the methodologies used, the level of research performed, and possibly the date of the valuation. This does not mean that the valuation analyst takes shortcuts or aims for a high or low value. Examples of how these items can affect the assignment can be demonstrated by understanding that certain types of business valuations are guided by specific sets of rules, such as state statutes, IRS regulations, or Department of Labor (DOL) regulations, or, if a minority interest is being valued, certain adjustments may not be made to the company’s financial statements because the minority interest cannot legally effectuate such adjustments. Valuations performed for divorce purposes may have case law restrictions that must be considered (for example, separating personal or professional goodwill from the goodwill of the enterprise). Business valuations of closely held companies will fall into one of three categories: 1) as part of an arm’s-length, negotiated sale or acquisition of a company, 2) as part of a statutory or legal action, such as a dissenting shareholder suit, fairness opinion, or marital dissolution, and 3) as part of a hypothetical sale, when no actual transaction takes place (such as fair market value for income, gift, and estate tax purposes and fair value reporting for financial reporting purposes). If you have never performed a business valuation, this stuff probably has you wondering what I am talking about. Be patient, this will start to make more sense as we proceed. Box 1.1 explains the variety of reasons that business valuation engagements are performed.

## Mergers, Acquisitions, Reorganizations, Spin-Offs, Liquidations, and Bankruptcy

Business valuations are frequently performed when one company acquires another company, when a company is targeted for an acquisition, when a company’s capital structure is reorganized, when a company splits up, or when a company enters bankruptcy in liquidation or reorganization. The transactions may include entire or partial acquisitions, divestitures, liquidation, or recapitalization. Mergers will generally require both companies to be valued, whereas an acquisition may require only a single valuation. The terms of the transaction generally include cash, notes, stock, or a combination of these forms of payment. Sometimes, the valuation analyst has to calculate the cash equivalent value of the payment terms when the terms include payments in stock or notes that may not reflect market rates. This will be further explained in chapter 10.



In bankruptcy, in addition to the involvement of the different classes of creditors and the owners,<sup>2</sup> the approval of the bankruptcy court is usually required. Closely held companies with two or more definable divisions may be split up or spun off into separate entities. Reasons for doing this can include estate tax considerations, family conflict, or sale of only part of the total business. In the liquidation of a business enterprise, the valuation analyst's allocation of the assets distributed to the owners may be required to substantiate subsequent depreciation and other deductions claimed. Many publicly traded companies have acquired closely held businesses by using restricted stock (Rule 144 stock) as the form of payment. Restricted stock is discussed in chapter 15. The advantage of using stock as a form of payment is that the acquirer does not have to use cash to make the acquisition. Frequently, the transaction can provide the seller with a tax-free transaction under IRC Section 1031. It also provides the seller with the opportunity to take advantage of the tax-deferred appreciation of owning the acquirer's stock. This can be a good or bad thing. This can also create work for the valuation analyst.

**BOX 1.1****Reasons for a Business Valuation Engagement**

- Mergers, acquisitions, reorganizations, spin-offs, liquidations, and bankruptcy
- Allocation of purchase price (tax and financial reporting)
- Estate, gift, and income taxes
- Marital dissolution
- ESOPs
- Buy-sell agreements
- Ownership disputes
- Financing
- Ad valorem taxes
- Incentive stock option (equity) considerations
- Initial public offerings
- Damages litigation
- Insurance claims
- Charitable contributions
- Eminent domain actions
- Fairness opinions

## Allocation of Purchase Price

An allocation of purchase price may be performed for either tax or financial reporting purposes. Each of these assignments will be accomplished based on the applicable set of rules for the intended purpose. The tax rules have been around longer, so I am going to start with them. The financial reporting rules continue to evolve.

Years ago, when a transaction took place, both the purchaser and seller would determine their own values and treat the breakdown of the value of the transferred assets and liabilities differently. The purchaser did not want to buy goodwill because it was not tax deductible, and the seller wanted to sell goodwill because it was subject to lower capital gains tax treatment. This created some very interesting allocations between the buyer and the seller. The all-around loser was Uncle Sam. However, the Tax Reform Act of 1986 changed all of that. IRC Section 1060 requires that when a business is acquired, a valuation must be performed to support the allocation of the total purchase price to the component parts for income tax purposes. The law requires a uniform allocation of the purchase price based on an appraisal of the underlying assets. The IRS pays attention to these transactions to ensure that the purchase price allocation is reasonable and is treated consistently by both the purchaser and the seller. An inappropriate or inconsistent allocation of the purchase price can result in an increased tax liability and, in some instances, penalties.

In 1993, the tax law changed, providing for intangible assets to be amortized over 15 years. This change reduced the necessity for valuation analysts to allocate the purchase price between different classes of intangible assets that had different amortization periods or no amortization period (for example, goodwill) under the old law. In more recent times, an allocation of purchase price for income tax purposes has become important because many sellers are trying to allocate a certain portion of a corporate sale as the personal goodwill of an owner. This is intended to create capital gain treatment for a portion of the sale that might otherwise be subject to ordinary income tax rates (for non-tax people, ordinary tax rates are higher).

<sup>2</sup> In this book, I will be referring to the terms *owner* or *owners* because of the different types of ownership interests that may exist for a business. A sole proprietorship or a single-member limited liability company may only have a single owner; a partnership will have partners, generally two or more; a limited liability company may have anywhere from one to numerous "members" that own the equity of the enterprise; and a corporation will have one or more stockholders (with the possibility of multiple classes of stock) that own the equity of the enterprise. I am going to keep it simple, but the type of owner will depend on the type of entity that is being addressed.

In addition to allocating the purchase price for tax purposes, generally accepted accounting principles (GAAP) also require these types of valuations. The valuation analyst is frequently being called on to provide valuation services with respect to pronouncements made by FASB. They include, but are not necessarily limited to, FASB *Accounting Standards Codification (ASC) 805, Business Combinations*; FASB ASC 350, *Intangibles—Goodwill and Other*; FASB ASC 360, *Property, Plant, and Equipment*; and FASB ASC 820, *Fair Value Measurement*, all of which deal with issues such as the determination of the fair value of assets acquired and impairment of goodwill. These topics will be covered in more detail in chapter 19.

Not all allocations of purchase price are performed for income tax or financial reporting purposes. In some instances, an allocation may be performed when it is necessary to value certain components (assets or liabilities) of a company, rather than the entire equity of an enterprise. This is illustrated in the following situation. A company was sold, and the value of the transaction was known. However, the \$17 million sales price was problematic because the client thought that her husband's business was worth \$5 million. After all, he told her this when they settled their divorce action based on this value. To say the least, she was not happy when she found out that the business was sold for \$17 million, with the transaction closing about two weeks after the divorce was finalized. The court decided that she was entitled to her equitable share of the excess (due to the husband's fraud), but, because the divorce was in a state that did not consider personal goodwill or personal covenants not to compete as part of a marital settlement, she was entitled to the non-personal portion (see chapter 22 for an extensive discussion about personal goodwill).

The valuation analyst representing the husband allocated a large portion of the purchase price to personal goodwill or a personal covenant not to compete, or both. We had to allocate the purchase price to support the value of what our client was entitled to receive. This is an example of a non-tax allocation of purchase price.

## Estate, Gift, and Income Taxes

The valuation of a closely held business or business interest is important to estate planners as they consider the effect of the unified estate and gift tax credit on lifetime transfers of property. Although this is not a tax book, valuation analysts working in this area are urged to consult the appropriate IRC sections and regulations for specifics on the unified estate and gift tax requirements. If you think that finance books on business valuation are fun reading, try the tax code. You will never have so much fun! Chapter 21 of this book contains specific information about estate and gift tax valuations. Also included in that chapter are the rules that pertain to defining a *qualified appraiser*, as well as penalties if the valuation prepared is determined to be substantially outside of the final determined value.

Valuations performed for income tax purposes may include S corporation conversions due to the built-in gains tax issues that arise if a sale occurs before the required holding period established by the IRC. Although these assignments do not occur as often as they did a number of years ago, valuation analysts are still being approached to perform this type of assignment, especially in circumstances in which the client did not listen to its tax accountants when he or she said that the client needed to perform the valuation at the time of the conversion. Clients frequently said, "I have no intention of selling my business during the next few years, so I am not worried about it." Guess what? The built-in gains tax kicked in when the client received an offer to sell that was too good to pass up. Valuation analysts should consult applicable sections of the tax law to properly understand the unique requirements of S corporation valuations performed for a conversion. S corporation and other pass-through entity valuation issues are discussed further in chapter 18.

## Marital Dissolution

In a marital dissolution, most of a couple's assets and liabilities are valued, regardless of whether their state follows equitable distribution or community property rules. Frequently, one of the assets included in the marital estate is an interest in a closely held business. Usually, the business or business interest is not divided between the spouses because that would defeat the idea of them getting divorced. Instead, one spouse keeps the business, and the other receives different assets of equal value. Because marital dissolution laws vary significantly from state to state, the valuation analyst must be aware of the rules of the state in which the

divorce takes place. For example, in some states, goodwill associated with a professional is excludable from distribution, whereas in other states, it is includable. Another item that the valuation analyst must be aware of is the standard of value (covered in chapter 4) used in the jurisdiction of the marital dissolution. Frequently, fair market value is the standard of value discussed, but the application from state to state varies greatly from the definition found in the tax laws. This can be illustrated by reviewing cases from various states. For example, in Florida, fair market value has been interpreted to be the value of the business, assuming that the business owner walks away without a covenant not to compete. In most instances, fair market value assumes a covenant not to compete. Logically, what willing buyer would purchase a business if the seller could open up next door and compete with him or her? In Pennsylvania, fair market value excludes personal goodwill. Clearly, the valuation analyst cannot be expected to know every state's law, but he or she should ask the client's attorney for information before proceeding in a direction that may have his or her report thrown out for failure to comply with the rules of the jurisdiction. Chapter 18 contains specific information about divorce valuations.

## Employee Stock Ownership Plans

An employee stock ownership plan (ESOP) is an incentive ownership arrangement funded by the employer. In general, employer stock is contributed instead of cash. ESOPs provide capital, liquidity, and certain tax advantages for private companies whose owners do not want to go public. An independent valuation analyst must value the employer's securities, at least annually, and must determine the price per share supporting transactions with participants, plan contributions, and allocations within the ESOP. Valuation analysts are urged to become familiar with the rules promulgated by the IRS and the DOL before they begin an ESOP engagement. Although I am not going to spend time on these types of engagements in this book, there are entire books devoted to this topic. If you plan to value an ESOP, I suggest that you track down the appropriate literature before you begin.

## Buy-Sell Agreements

A buy-sell agreement allows an owner in a closely held business to acquire the interest of another owner who withdraws from the business. The agreement may contain a designated price or a formula to determine the price that the remaining owners of the entity will pay to acquire the interest. The price, or the formula, needs to be updated periodically. Payment terms and conditions of sale are also generally provided. A client may ask a valuation analyst to assist in determining which valuation method is appropriate in such an agreement. Buy-sell agreements are also used frequently to establish a value for a transaction between the owners or the entity, or both in the event of death, disability, or retirement. It is common to see different formulas for each event. Unfortunately, there are so many poorly written and outdated agreements that this area of practice has evolved in the litigation arena, where the parties are fighting over the intent of the agreement. It is part of the full-employment act for business valuers.

The valuation analyst must be aware of and understand IRC Section 2703 and its effect on valuations when there is a buy-sell agreement in effect. This is discussed in chapter 21.

In working with the client, the valuation analyst should caution him or her, and possibly the entity's legal counsel, about the use of a single formula. Formulas do not always appropriately consider the economic and financial climate at the valuation date, stand the test of time, or achieve the parties' intentions. Therefore, their usage should be limited. Instead, the basis of a buy-sell agreement should be a valuation. If an extensive valuation is required, it should be performed by a qualified valuation analyst.

## Ownership Disputes

Ownership disputes can range from company breakups resulting from disagreements between owners to ownership dissent relating to mergers, dissolutions, and similar matters. Because many states allow a business enterprise to merge, dissolve, or restructure without unanimous ownership consent, many disputes have arisen over the years because minority owners have felt that the action of the majority had a negative impact on them. Dissenting owners have filed lawsuits to allow their ownership interests to be valued as if the action never took place.

In such cases, the value of the ownership interest is what it was immediately before the change; it does not reflect the impact of the proposed change on the value of the business enterprise. In these instances, the value is generally determined according to the standard of fair value, based on either statute or the case law within the state of incorporation or formation. When a valuation analyst accepts an engagement relating to an ownership action, it is advisable for him or her to request the client's legal counsel to clarify the value definition used in the particular state. The valuation analyst cannot address such issues as control premiums, discounts for lack of control, and discounts for lack of marketability without adequate legal information about the value definition to be used.

Many states also have statutes to protect minority owners from being "oppressed" (abused) by the controlling owner(s). This is another instance in which the valuation analyst must become familiar with the statutes and case law of the jurisdiction where the legal action is pending. Chapter 24 contains some specific information about ownership dispute valuations.

## Financing

A valuation of the business may be necessary to provide lenders or potential investors with information that will help the business enterprise obtain additional funds. Financial statements for an established business present information about that enterprise based on historical amounts, but rarely reflect the current values of the assets and liabilities that are contained in the balance sheet.

For a new business, the traditional balance sheet may closely reflect the estimated current value since the assets and liabilities were recently acquired. However, this is generally not the case for an established business that has developed intangible value over the years. Assets with intangible value (such as special trademarks, patents, customer lists, and goodwill) will most likely not be included in a balance sheet at current value unless it was recently acquired. Furthermore, other assets and liabilities of the business (such as real estate and equipment) may be worth significantly more or less than the book value as recorded under GAAP.

## Ad Valorem Taxes

In some jurisdictions, ad valorem taxes are based on the value of property used in a trade or business. Various entities are subject to ad valorem taxation; therefore, the fair market value of such properties must frequently be determined to ascertain the amount of tax. Regulations and case law differ significantly from jurisdiction to jurisdiction. To determine the appropriate standard of value for these properties, the valuation analyst needs to consult the client's attorney.

## Incentive Stock Option (Equity) Considerations

Many large companies provide fringe benefits in the form of incentive stock option plans that allow their employees to purchase the company's stock at a certain point in time and at a stated price. Even non-corporate entities can have incentive equity plans that work in a similar fashion as the stock plans. Employees pay no taxes when the incentive stock option is granted or when the stock option is exercised. Employees do pay tax, however, when they sell the stock received through the exercise of the option. To qualify as an incentive stock option, a stock's option price must equal or exceed its fair market value when the option is granted. Accordingly, the valuation of a closely held company has a significant effect on its incentive stock option plan.

Stock options have become a major component of employee compensation packages, especially for start-up companies that may not have the cash flow to pay market rates of compensation to its employees. Instead, the employee works for the company for a lower salary but a very generous stock option plan. The computer industry has produced many millionaires as a result of these programs. Maybe I should have considered a different profession!

## Initial Public Offerings

A substantial amount of legal and accounting services must be rendered to bring a private business to the public marketplace. From a financial standpoint, the corporation's accounting records and statements are carefully reviewed and amended, if necessary. The capital structure may need enhancement, and executive benefit plans may need revisions. More important, the corporation's stock is valued for the initial offering.

The underwriter must exercise a great deal of judgment about the price the public may be willing to pay for the stock when it is first offered for sale. Such factors as prior years' earnings, potential earnings, general stock market conditions, and the stock prices of comparable or guideline companies need to be considered to determine the final offering price. The client may ask the valuation analyst to support the offering price by performing a valuation or a fairness opinion.

## Damages Litigation

Many court cases involve economic damages. Some cases relate to compensation sought for patent infringements, illegal price fixing, breaches of contract, lost profits, or lost business opportunities, while others relate to lender liability, discrimination, and wrongful death actions. The valuation analyst may also be asked to perform hypothetical valuations of a company to determine the amount of damages resulting from the loss of business value (that is, diminution of value) to the owners. These types of valuations generally require the valuation analyst to value the company twice. The first valuation determines the value of the company at the present time. The second valuation is based on what the company would have been worth had a certain action taken place or not taken place. The difference is generally a measure of damages.

When you work in this area of practice, you need to be aware of such court decisions as *Daubert*<sup>3</sup> and *Kumho Tire*<sup>4</sup> to ensure that the methodologies employed in these and other types of litigation are generally accepted in the literature. Using methods that are not generally accepted can result in the expert's disqualification from a litigation. This is sure to make for unhappy clients and attorneys. Keep in mind that these cases also apply to more than just damages litigation. They are applicable to all types of litigation assignments. Chapter 26 contains specific information pertaining to economic damages.

## Insurance Claims

Cases involving risk insurance claims focus on the loss of income because of business interruptions and the value of such separate business assets as inventory and equipment. A valuation may be required to support the owner's position or the insurer's position. The loss of income would be determined based on documentable lost profits. The value of individual business assets, such as inventory and equipment, would be based on the replacement cost of these assets.

## Charitable Contributions

Owners of closely held businesses may wish to give all or part of their interest in a business to a favorite charity. Although ownership interests in a closely held business are donated to charity infrequently, this option exists, and the valuation analyst must be aware of the income tax rules concerning the necessary documentation to be included in a valuation report for the deductibility of such gifts. Current tax laws encourage charitable donations by permitting a tax deduction equal to the fair market value of certain appreciated capital gains property. For gifts of property in excess of \$500, the IRS requires that donors provide documentation to support the deduction for the year in which the gift was given. If the amount of the tax deduction warrants the expense, donors can obtain a valuation of the gift. If the value of the gift exceeds \$5,000, a qualified appraisal is required. I will discuss what makes a qualified appraisal in chapter 21.

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<sup>3</sup> *William Daubert, et al. v. Mzw Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L.Ed.2d 469 (1993).

<sup>4</sup> *Kumho Tire Company, Ltd., et al. v. Patrick Carmichael, et al.*, 119 S. Ct. 1167, 143 L.Ed.2d 238 (1999).

## Eminent Domain Actions

An eminent domain action takes place when the government exercises its right to take over property and must compensate the owner for any resulting reduction in the value of the property. For example, a business may have to forfeit a prime location to accommodate the widening of a street. Although the business can relocate, its value may be adversely affected during the period of the move or as a result of changing locations. An expert opinion on the monetary effect of the condemnation may be necessary to support the business owner's claim or the government's offer. As part of the business valuation, the valuation analyst should become familiar with the demographics of the area and should assess the impact of the change in location. In assessing the impact, the business valuation analyst needs to remember that real estate valuation analysts have often said that the key to a business's success is "location, location, location." Forecasts may be required to calculate the losses. A valuation of the business, both before the condemnation and after the move, may be required. The expenses of the actual move need to be considered in the valuation.

## Fairness Opinions

A service that is very closely related to business valuation is the fairness opinion. A fairness opinion is generally required when a corporation is involved in a merger, acquisition, going private, or other type of transaction in which the board of directors wants to have an independent valuation analyst give its blessing to the transaction. This is a high risk type of service, and it should not be performed by a valuation analyst unless he or she really understands the nuances of preparing a fairness opinion.

This service is frequently provided by investment bankers (with deep pockets). However, many valuation firms also offer this service. After the Sarbanes-Oxley Act of 2002<sup>5</sup> was passed, many smaller publicly traded companies have gone private, requiring fairness opinions. The purpose of the fairness opinion is for the valuation analyst to opine that the transaction is fair to the stockholders from a financial point of view. The valuation analyst does not determine value because there is already an agreed upon price for the transaction. Fairness opinions also arise in the context of an ESOP. Frequently, a valuation firm is asked to opine that an ESOP transaction is fair. This can present an area of danger to the valuation analyst if the analyst is also the consultant to the ESOP who establishes the initial purchase price for the transaction. How can the analyst opine that the transaction that was based on his or her valuation was anything but fair? This is a potential conflict of interest that has apparently been below the radar of the DOL. The question is can the analyst stay lucky for an unlimited amount of time? The valuation analyst should read many other publications, including actual fairness opinions, before even thinking about doing one. Think liability!

## Who Values Businesses?

There is a considerable amount of competition among business valuers. There is a growing number of full-time valuation analysts in the business, but they are outnumbered by the part-time valuation analysts, who spend much of their time in other areas. It is important to understand who the other players in the field are because it will help you to assess the qualifications of the individual whose report you may be reading. Understanding the strengths and weaknesses of a valuation analyst, particularly in a litigation engagement, will allow you to properly assist the attorney with whom you are working so that he or she can cross-examine the other expert more thoroughly. Among the groups providing business valuation services are the following:

- Business valuation analysts
- Accountants (CPAs)
- Business brokers
- College professors (finance and economics)
- Commercial real estate appraisers
- Investment bankers
- Industry experts
- The Internet (the newest entry into our field!)

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5 Sarbanes-Oxley Act of 2002 (Pub. L. No. 107-204, 116 Stat. 745).

Each group of professionals brings something unique to the practice of business valuation. Each group has its advantages and disadvantages, although the better business valuation analysts have crossed over boundaries and obtained some of the advantages of the other groups. Each of these groups is discussed in the following sections.

## Business Valuation Analysts

Professional business valuation analysts are those individuals who provide business valuation services as the primary area of expertise of their professional practice. They are generally well educated in business valuation, and this includes having an understanding of issues involved in the fields of finance, economics, security analysis, and accounting, among others. Most of these individuals either have received some form of accreditation from a professional valuation organization or are currently pursuing these credentials (credentials are discussed later in this chapter).

Many of these individuals work in an environment in which they are exposed to businesses of a particular type (for example, professional practices, large companies, small companies, or a particular industry). One difficulty that these individuals may encounter is trying to value a company that is not in their area of specialization. For example, a valuation analyst who is accustomed to using public stock market information to value large closely held companies may have a difficult time valuing the small hardware store (not The Home Depot).

## Accountants (CPAs)

Over the past few decades, the number of accountants performing business valuations has grown exponentially. An accountant's background and training provide both advantages and disadvantages with regard to being a business valuation analyst.

Accountants have several advantages in rendering business valuation services. They are educated in financial concepts and terminology, which gives the accountant a distinct advantage in understanding financial statements, and in some cases, tax returns. It also may give the accountant the ability to analyze the financial statements using the same analytical tools (for example, ratio analysis) that he or she employs to perform other types of accounting services.

Working with numbers is another clear advantage for the accountant. We bean counters can count beans better than anyone else. Accountants are also frequently exposed to revenue rulings and tax laws. This can represent a significant advantage over other types of valuation analysts, especially when tax-related appraisals are being performed. To illustrate this point, our firm performed a valuation assignment for the IRS (I know, the so-called "bad guys." They really are not a bad group to work for once you get to know them.) in which the subject of the valuation was a 1.6 percent beneficial interest in a trust. The taxpayer's valuation analyst took a discount for lack of marketability, which we pointed out as being incorrect because of specific IRS regulations that pointed to mortality tables that took this into consideration. Don't try to figure out all the details; suffice it to say that our awareness of the tax laws gave us a distinct advantage over the non-CPA valuation analyst.

However, there are disadvantages as well. Accountants are used to working with financial statements and concepts that are either GAAP-oriented or tax-oriented. These concepts deal with book value, rather than market value. Accountants are also frequently uncomfortable working with operating performance forecasts of the business being valued. Accountants are historians by nature. Financial statements generally report the past, not the future.

Over the years, accountants have been exposed to a large number of malpractice lawsuits, particularly in the audit area, but more recently, in the litigation support area, as well. As a result, accountants tend to be concerned with malpractice exposure because of the subjective nature of business valuation. The debits do not equal the credits; therefore, is the answer correct? Accountants also have to be concerned with potential conflicts of interest (for example, preparing tax returns for the business and then adjusting the officer's compensation in the valuation as being excessive). Even if there is not a conflict of interest, there can be a perceived bias in certain types of assignments.

## Business Brokers

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Business brokers have a distinct advantage as business valuation analysts because they are involved with actual transactions in the marketplace. Because fair market value comes from the market, the business broker is frequently more familiar with the market for the business being appraised.

However, many business brokers do not complete business valuation training. They are generally salespeople as opposed to valuation analysts. They will tell you that a similar business sold for \$1 million and that the valuation subject is, therefore, also worth \$1 million, but they may not understand the effect on value that the terms of the transaction can have. What if the similar business sold with terms of 20 percent down, with the balance being paid off over 10 years with no interest? The present value of this transaction would be quite a bit less than \$1 million. Business brokers are generally involved in the investment value standard and often have trouble switching to fair market value due to their lack of valuation training.

Business brokers are also very quick to value a business based on “rules of thumb.” Rules of thumb can be dangerous. They are discussed in chapter 10. It has also been my experience that some brokers tend to sell the same type of business for the same multiple of earnings or gross revenues, over and over again, which tends to make them market makers instead of interpreters of the market—which is actually the role of the valuation analyst. Frequently, the business broker also lacks training in financial statement analysis.

## College Professors

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Another group of valuation analysts who are visible in the field are college professors with backgrounds in economics, finance, and accounting. Many professors are entering this field because they have time after school or as a means to supplement their income (not a bad part-time job). There is no doubt that the vast majority of these individuals understand the theory, but some (not all) demonstrate two shortcomings: First, they try to apply some very complex formulas to simple little businesses, and second, they cannot explain what they did in language that most regular people can understand. Many of these individuals are very strong in their comprehension of financial modeling and formulas. Although the mathematical formula may be correct, the answer may still be wrong.

## Commercial Real Estate Appraisers

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Every time we see the real estate market suffer, we have seen a growing number of commercial real estate appraisers entering the field of business valuation. Included among the students from past courses that I have taught are members of this profession who are trying to expand their businesses. During the slow times in the real estate world, many real estate appraisers look to fill up their work week with business valuation assignments. And often, the pay is better for business valuation assignments.

Although real estate appraisers understand the valuation process and principles, they often have a difficult time with the accounting aspects of financial reporting. They also have some difficulty making the transition into business valuation, where the ability to verify comparables is not always possible. Finally, although many real estate appraisals involving a capitalization of income use capitalization rates between 7 percent and 12 percent, real estate appraisers have a difficult time understanding the substantially higher capitalization rates used to value small businesses.

## Investment Bankers

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Investment bankers are frequently employed to perform valuations for a wide variety of assignments, including estate and gift tax valuations, initial public offerings, and going private, as well as for other purposes. More often than not, the investment bankers perform pretty large valuation assignments. They are brought into assignments for reasons that come before the issue of the fee. It is much different from the local hardware store.



## Industry Experts

Industry experts are being called upon more often these days to provide valuation opinions regarding businesses in their industry. Many of these individuals are familiar with what is going on in the industry, but they rarely have the qualifications of a business valuation analyst. However, the courts are paying a lot of attention to these individuals, rightfully or wrongfully, because they are believed to understand the mechanics of the industry. My own experience is that many of these industry experts are more expert from the operational side of the business than from the valuation side. Sometimes, you may want to team up with someone who has the industry know-how to strengthen your valuation.

## The Internet

Did you know that you can get a business valuation done on the Internet? There are websites that allow you to put in your credit card number, some financial data about a company, and out comes a business valuation. Some sites even claim that the report is in compliance with standards. We actually had one prospective client ask us how we differentiate ourselves from an Internet site, particularly because our fee quote was considerably higher. The question just did not deserve an answer. We told the prospect that you get what you pay for. We also told her that she can talk to us and get an answer (rather than talk to the computer and get no response). For that matter, our name does not start with “www.”

There are many websites available to have a business valuation done. Many of them seem to be designed and administered by college professors (or, for all I know, their graduate students). The fees range from as low as \$99 to a high of \$6,000. By the time you finish reading this book and realize how much work you need to do to produce a credible valuation, you may wonder how these fees are possible!

## Professional Valuation Organizations

When one thinks of business valuation, several organizations<sup>6</sup> come to mind, including the following:

- The AICPA
- The American Society of Appraisers
- The National Association of Certified Valuation Analysts/The Institute of Business Appraisers
- The CFA Institute
- The Appraisal Foundation

## The AICPA

The AICPA is not a valuation organization, but its members probably provide the largest percentage of business valuations performed because of their sheer numbers. In 1981, the AICPA established a membership section for CPAs who provide management advisory services, recognizing that AICPA members provide services other than audit and tax. Today, that section is divided into multiple member sections, including the Forensic and Valuation Services (FVS) section. The AICPA recognizes business valuation services as an important component of CPA services.

The ABV designation was approved by the AICPA Council in the fall of 1996, and the first examination was given in November 1997. This has been an area of specialization recognized by the accounting profession. To obtain this accreditation, a candidate must meet the following requirements:

1. Be a member in good standing of the AICPA
2. Hold a valid and unrevoked CPA certificate or license issued by a legally constituted jurisdictional authority (50 states plus 6 territories)
3. Pass a comprehensive business valuation examination
4. Have the appropriate education and experience
5. Pay the required fee

<sup>6</sup> There are also international organizations, such as the Canadian Institute of Chartered Business Valuers (CICBV), our friends to the north, that participate with the American organizations in conferences, standards, education, and so on.

Box 1.2 describes additional requirements that must be completed before the ABV certificate is awarded, but may be completed at any time within 24 months of passing the AICPA ABV examination. The ABV credential is required to be recertified every 3 years. This may seem like a lot, but it can't be that bad. After all, I am an ABV! For more information about obtaining the credential, go to the following website: [www.aicpa.org/Membership/Join/Pages/credentials.aspx](http://www.aicpa.org/Membership/Join/Pages/credentials.aspx).

Because the requirements change from time to time, you should visit this site for the most current requirements.

### BOX 1.2 Additional Requirements to Become an ABV

#### THE BUSINESS EXPERIENCE REQUIREMENT\*

There are two ways an ABV credential candidate may successfully fulfill the business experience requirement:

1. A credential candidate will successfully complete the requirement by serving as a full-time instructor, who has taught at least four accredited college courses covering at least 50 percent of the material included in the business valuation body of knowledge indicated in the ABV Exam Content Specification Outline.
2. A credential candidate will also successfully complete the requirement by completing at least 150 hours of or 6 business valuation engagements in which the valuation analyst must use professional judgment, and the engagement results in the estimation of value, culminating in the expression of either a conclusion of value or a calculated value (see paragraph .21 of Statement on Standards of Valuation Services [SSVS] No. 1, *Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset* [AICPA, *Professional Standards*, VS sec. 100]). Examples of methods used on such engagements include, but are not limited to the following:
  - **Cash flow valuation**—Analyze the historical performance of the business; estimate the cost of capital; calculate the value of the cash flow stream; and interpret the results
  - **Specialized valuation skills and training**—Security market options; research techniques and research tools; company, industry, and economic data analysis; valuation calculations and conclusions; engagement reporting; and the AICPA Code of Professional Conduct and AICPA *Professional Standards*
  - **Analysis of financial information**—Linkage between purpose for the valuation, standard of value and ownership, and sources and uses of industry financial and operating data
  - **Financial forecasting**—Statistical techniques: simple and multiple regressions, time series analysis, AICPA Prospective Financial Reporting Guidelines, determining and documenting significant forecast assumptions, company and industry data, and sources and uses of economic data
  - **Estimating cost of capital (discount and capitalization rates)**—Understanding the sources and limitations of data; security market line; market efficiency, theoretical underpinning of discount and capitalization rates—capital asset pricing model (CAPM), multifactor models, difference and similarities of CAPM and the build-up method; sources of small firm risk premiums, firm-specific risk premiums and other adjustments to cost of capital (when and how); Beta—understanding the sources and calculations, R-squared and other potential limitations; estimating Beta for privately owned companies, including guideline companies' levered Beta (bL) and Guideline Companies' Proxy unlevered Beta (bu)
  - **Selecting and evaluating guideline company data**—Screening and selection process; goodness of fit issues; guideline companies; data to use and the proper use of the data; linkages between the Standard of Value, purpose for the valuation, selection of guideline companies and specific data; court cases involving acceptance and rejection of guideline company data
  - **Determining the proper valuation discounts or premiums**—Reasons for discounts and premiums such as marketability and control issues; Standard of Value, purpose for the valuation, ownership issues, and the proper usage of discounts; sources for estimating discounts such as identifying and understanding the empirical research of liquidity and control issues; and methods used to select and apply proper discounts and premiums
  - **Linkages between approaches, standards of value**—Purpose of Valuation and Discounts Income methods; market methods; asset-based methods; liquidity and marketability issues; control and minority ownership positions; fair market value, investment value, and fair value
  - **Entity and specialized industry issues**—ESOP plans; family limited partnerships; medical practices; professional service businesses; other service businesses; start-ups, research and development, or technology-based businesses; initial public offering (IPO) candidates; merger and acquisition valuation engagements; real estate or other holding companies; and specialized industries (construction, retail, restaurants, and so on)
  - **Report preparation and engagement administration**—Awareness of appropriate SSVS No. 1 and USPAP reporting standards, proper documentation of research, presentation of and support for the valuation conclusion, sufficient and competent evidential matter, guidelines for working paper and supporting documentation, and engagement letters and letters of representation
  - **Litigation and dispute resolution services**—Rules of evidence, qualifications of experts, roles of the consulting expert and the testifying expert, and depositions and court testimony

\* [www.aicpa.org/InterestAreas/ForensicAndValuation/Membership/Pages/default.aspx](http://www.aicpa.org/InterestAreas/ForensicAndValuation/Membership/Pages/default.aspx).

**BOX 1.2****Additional Requirements to Become an ABV** *(continued)***THE EDUCATION REQUIREMENT**

An ABV candidate must have a minimum of 75 hours of business valuation-related education. The objectives of the Education component of the program are as follows:

- Maintain competency by requiring timely updates of valuation knowledge and skills
- Provide a mechanism for monitoring maintenance of competency

In order to maintain the ABV credential, ABVs must comply with continuing professional education (CPE) standards issued by the AICPA and NASBA. It is suggested ABV credential candidates and members visit [aicpa.org/cpe](http://aicpa.org/cpe) to become familiar with these standards, the CPE requirements for AICPA members, and the specific CPE requirements for each state board and society.

The following are examples of education related to business valuation:

- **Cash flow valuation**—Analyze the historical performance of the business, forecast future performance, estimate the cost of capital, estimate the continuing value, calculate and interpret the results
- **Specialized valuation skills and training**—Security market options; research techniques and research tools; company, industry, and economic data analysis; valuation calculations and conclusions; engagement reporting; and the AICPA Code of Professional Conduct and AICPA *Professional Standards*
- **Analysis of financial information**—Linkage between purpose for the valuation, standard of value and ownership, characteristics and normalized earnings, normalizing earnings, sources and uses of industry financial and operating data
- **Financial forecasting**—Statistical techniques: simple and multiple regressions, time series analysis, exponential smoothing, AICPA Prospective Financial Reporting Guidelines, determining and documenting significant forecast assumptions, company and industry data, and sources and uses of economic data
- **Estimating cost of capital (discount and capitalization rates)**—Understanding the sources and limitations of data; security market line; market efficiency, theoretical underpinning of discount and capitalization rates—CAPM, multifactor models, difference and similarities of the CAPM and the build-up method; sources of small firm risk premiums, firm-specific risk premiums, and other adjustments to cost of capital (when and how); Beta—understanding the sources and calculations, R-squared and other potential limitations; estimating Beta for privately owned companies, including guideline companies' levered Beta (bL) and Guideline Companies' Proxy unlevered Beta (bu)
- **Selecting and evaluating guideline company data**—Screening and selection process; goodness of fit issues; guideline companies; data to use and the proper use of the data; linkages between the Standard of Value, purpose for the valuation, selection of guideline companies and specific data; court cases involving acceptance and rejection of guideline company data
- **Determining the proper valuation discounts or premiums**—Reasons for discounts and premiums such as marketability and control issues; Standard of Value, purpose for the valuation, ownership issues, and the proper usage of discounts; sources for estimating discounts such as identifying and understanding the empirical research of liquidity and control issues; and methods used to select and apply proper discounts
- **Linkages between approaches, standards of value, purpose of valuation and discounts**—Income methods, market methods, asset-based methods, liquidity and marketability issues, control and minority ownership positions, fair market value, investment value, and fair value
- **Entity and specialized industry issues**—ESOP companies; family limited partnerships; medical practices; professional service business, other service businesses; start-up, research and development, or technology-based businesses; initial public offering (IPO) candidates; merger and acquisition valuation engagements; real estate or other holding companies; and specialized industries (construction, retail, restaurants, and so on)
- **Report preparation and engagement administration**—USPAP reporting standards, proper documentation of research, presentation of and support for the valuation conclusion, sufficient and competent evidential matter, guidelines for working paper and supporting documentation, and engagement letters and letters of representation
- **Litigation and dispute resolution services**—Rules of evidence, qualifications of experts, roles of the consulting expert and the testifying expert, and depositions and court testimony
- **Attendance at annual AICPA conferences and conferences of other professional organizations focusing on valuation-related topics**

## The American Society of Appraisers

The American Society of Appraisers (ASA) is a multidisciplinary organization specializing in all types of appraisals. The organization was founded in 1936, but by 1981, there was a growing need within the organization (which was primarily a real estate dominated professional appraisal organization) to recognize business valuation as a specialty. In 1981, ASA established a business valuation committee after recognizing the business valuation discipline as a separate specialization.

ASA accredits its members by requiring candidates to pass an extensive series of written examinations, usually given at the end of four, three-day training courses. The alternative is to pass an examination that is administered in one day without taking the various training courses. Candidates are also required to submit one valuation report that the International Board of Examiners must approve and that demonstrates knowledge and compliance with valuation theory and standards.

ASA has two levels of accreditation based on the experience of the applicant. First, a designation of Accredited Member (AM) is granted to those individuals who meet the other requirements and have greater than two years, but less than five years, of full-time experience. ASA gives credit for partial years for those applicants who do not perform appraisals on a full-time basis. CPAs are given one year of valuation experience for being a CPA for five years. Financial Analysts (CFAs) are given full-time equivalent experience and are exempt from taking the examinations. Second, those applicants with five or more years of experience are granted the Accredited Senior Appraiser designation.

### The National Association of Certified Valuation Analysts/The Institute of Business Appraisers, Inc.

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Founded in 1991, the National Association of Certified Valuation Analysts (NACVA) is one of the newer organizations accrediting business appraisers. This organization has one designation. To become a Certified Valuation Analyst (CVA), the applicant must be a member in good standing with NACVA, successfully demonstrate that he or she meets NACVA's experience threshold requirement by completing a sample case study (or submitting an actual and sanitized fair market value report prepared in the last 12 months) for peer review, attend a 5-day training program, submit 3 personal and 3 business references, and pass a comprehensive examination.

Although considered a separate organization, The Institute of Business Appraisers (IBA) is effectively being run as a parallel organization to NACVA. IBA's assets were acquired several years ago, and both organizations are run under one roof. In the past, new and non-certified appraiser candidates for the Certified Business Appraiser (CBA) accreditation must have possessed a four-year college degree or equivalent; successfully completed both the written examination and the submission of two demonstration reports demonstrating a high degree of skill, knowledge, and judgment as a business appraiser; be a member in good standing of the IBA; submit an official CBA application form and fee; and provide four satisfactory references: two personal character references and two references regarding professional competence as a business appraiser.

Candidates for the CBA designation were exempt from the education and examination requirements if they were accredited by ASA, NACVA, the AICPA, the Canadian Institute of Certified Business Valuators, the CFA Institute, or if they hold the IBA's junior accreditation: Accredited by IBA.

IBA also has a Master Certified Business Appraiser (MCBA) designation, which is given to individuals who have held the CBA designation for no less than 10 years and who have 15 years of full-time experience as a business appraiser. That individual must have been endorsed by senior business appraisers as leading contributors to the profession's body of knowledge. I don't know how, but I am an MCBA. However, at the time of the writing of this chapter, NACVA sent out a notice informing the members that they would support existing accredited members, but they were discontinuing all of IBA's accreditations.

### The CFA Institute

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The CFA Institute is not really a valuation organization. This organization grants the CFA designation after an applicant passes three extensive annual examinations. The CFA designation has more of a public company orientation (mostly portfolio and asset management) than the designations of the valuation organizations that primarily deal with closely held companies. There is no report requirement, and the experience level needed for one to obtain this designation is four years.

## The Appraisal Foundation

Established in 1987, The Appraisal Foundation is not a valuation organization. This organization was set up by seven real estate organizations and ASA, which was the only multidisciplinary organization, in response to a growing problem facing the real estate appraisal world. Real estate appraisers lacked standards to provide consistency in their work product. As a result, relying on these real estate appraisals caused bad bank loans to be made, creating severe problems for lending institutions. Facing some form of regulation in the near future, The Appraisal Foundation promulgated a set of standards relative to appraisals. These standards are the USPAP. Although these were primarily intended to cover real estate appraisals, ASA used its influence to have standards included for its other disciplines as well: personal property and business valuation. The USPAP is discussed in greater detail throughout this book.

## Conclusion

Because this was only the first chapter of the book, you are probably starting to doze off. What did you expect? This is introductory stuff. It gets better. By now, you are at least familiar with some history of the profession, who values businesses, why businesses are valued, and valuation organizations. You also were told many times to consult with an attorney about certain issues. In fact, I said this many, many times. I know the suspense of the next chapter is probably killing you, so let's move on.



## Chapter 2

# Business Valuation Standards

### Learning Objectives

This is an extremely important chapter. Regardless of who you are, whether you provide or use business valuation services, this chapter is sure to have an effect on you. I have dedicated this chapter solely to business valuation standards. Therefore, this chapter is only designed to do the following:

- Familiarize you with the business valuation standards of the AICPA
- Familiarize you with some of the old, but yet required, standards of the AICPA
- Familiarize you with the standards of the other valuation organizations

Whatever you do, do not skip this chapter! Whether you are a practitioner who had the last edition of this book and you think that since you read it the last time you do not need to read it again, or if you are a student reading it for the first time, do not skip this chapter! I know that reading standards is about as exciting as watching paint dry, but if you are going to provide or use business valuation services, you really need to understand these standards to ensure that the services are performed properly. I promise that this stuff will get more exciting soon.

### Introduction

Different organizations have different standards, and so the question that often arises is: What standards should I follow? Anyone who belongs to a professional organization knows that each organization mandates that its members follow its own set of standards. The discussion that follows is intended to give some helpful suggestions, but it is up to each individual to make certain that the proper sets of standards are followed. The following standards are discussed:

- AICPA Statement on Standards for Valuation Services (SSVS) No. 1, *Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset* (AICPA, *Professional Standards*, VS sec. 100)
- AICPA Statement on Standards for Consulting Services No. 1, *Consulting Services: Definitions and Standards* (AICPA, *Professional Standards*, CS sec. 100) (and others)
- American Society of Appraisers (ASA) Standards
- *Uniform Standards of Professional Appraisal Practice* (USPAP)
- National Association of Certified Valuation Analysts (NACVA)/Institute of Business Appraisers (IBA) Standards

### AICPA Statement on Standards for Valuation Services No. 1

SSVS No. 1 was issued at the end of June 2007 and is effective for engagements entered into on or after January 1, 2008. Therefore, this standard is currently in place and must be followed by all members of the AICPA. In fact, CPAs who practice in jurisdictions whose boards of accountancy (or equivalent) adopt the AICPA standards must also follow this standard, even if they are not members of the AICPA. Therefore, I am providing you with the entire standard, with my own annotations, so that you can hopefully follow these rules in practice. My annotations are located in the boxes included within the text of the standard.

## Foreword

### Why Issued

Valuations of businesses, business ownership interests, securities, or intangible assets (hereinafter collectively referred to in this foreword as *business valuations*) may be performed for a wide variety of purposes, including the following:

- Transactions (or potential transactions), such as acquisitions, mergers, leveraged buyouts, initial public offerings, employee stock ownership plans and other share-based plans, partner and shareholder buy-ins or buyouts, and stock redemptions.
- Litigation (or pending litigation) relating to matters such as marital dissolution, bankruptcy, contractual disputes, owner disputes, dissenting shareholder and minority ownership oppression cases, and employment and intellectual property disputes.
- Compliance-oriented engagements, including (a) financial reporting and (b) tax matters such as corporate reorganizations; S corporation conversions; income, estate, and gift tax compliance; purchase price allocations; and charitable contributions.
- Planning-oriented engagements for income tax, estate tax, gift tax, mergers and acquisitions, and personal financial planning.



#### Author's Note

Do you think that the authors of the standard read chapter 1 of my book? Many of these items will be discussed throughout the book.

In recent years, the need for business valuations has increased significantly. Performing an engagement to estimate value involves special knowledge and skill.

Given the increasing number of members of the AICPA who are performing business valuation engagements or some aspect thereof, the AICPA Consulting Services Executive Committee has written this standard to improve the consistency and quality of practice among AICPA members performing business valuations. AICPA members will be required to follow this standard when they perform engagements to estimate value that culminate in the expression of a conclusion of value or a calculated value.



#### Author's Note

Notice that they said "AICPA members will be required to follow this standard." This is not optional. However, with that being said, there are many practitioners who are trying to find ways to avoid following the standard. Please don't be one of them.

The Consulting Services Executive Committee is a body designated by AICPA Council to promulgate professional standards under the "General Standards Rule" (ET sec. 1.300.001 and 2.300.001), and the "Compliance with Standards Rule" (ET sec. 1.310.001 and 2.310.001), of the AICPA Code of Professional Conduct (the code).

## Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset

### Introduction and Scope

**.01** This statement establishes standards for AICPA members (hereinafter referred to in this statement as *members*) who are engaged to, or, as part of another engagement, estimate the value of a **business**,<sup>1</sup>

<sup>1</sup> This statement includes two glossaries. Appendix B is the "International Glossary of Business Valuation Terms" (IGBVT). The IGBVT is a verbatim reproduction of the glossary jointly developed by the AICPA, the American Society of Appraisers (ASA), the Canadian Institute of Chartered Business Valuators, the National Association of Certified Valuation Analysts, and the Institute of Business Appraisers. Appendix C, "Glossary of Additional Terms," provides definitions for terms included in this statement, but not defined in the jointly developed glossary. The terms defined in appendix B are in boldface type the first time they appear in this statement; the terms defined in appendix C are in italicized boldface type the first time they appear in this statement.



**business ownership interest, security, or intangible asset** (hereinafter collectively referred to in this statement as **subject interest**). For purposes of this statement, the definition of a business includes not-for-profit entities or activities.

**Author's Note**

Don't go bouncing around looking for the definitions of the terms used in this document. Many of them will be defined in later chapters as I discuss them. This will all make sense by the time you finish this book. As much as I hate to suggest this, you may want to reread this chapter after you have finished the book because it will really make more sense at that point. I thought about putting another chapter at the back of the book with a repeat of the standard, but the accountant in me said that the cost of doing this would raise the price of the book. Although I might get more royalties, you probably would not buy the book. So, just read it again when you are done.

**.02** As described in this statement, the term **engagement to estimate value** refers to an engagement or any part of an engagement (for example, a tax, litigation, or acquisition-related engagement) that involves estimating the value of a subject interest. An engagement to estimate value culminates in the expression of either a **conclusion of value** or a **calculated value** (see paragraph .21). A member who performs an engagement to estimate value is referred to, in this statement, as a **valuation analyst**.

**.03** Valuation analysts should be aware of any governmental regulations and other professional standards applicable to the engagement, including the code and the Statement on Standards for Consulting Services (SSCS) No. 1, *Consulting Services: Definitions and Standards* (AICPA, *Professional Standards*, CS sec. 100), and the extent to which they apply to engagements to estimate value. Compliance is the responsibility of the valuation analyst.

**Author's Note**

It is really ironic that I once heard a CPA testify under pressure that as a CPA, "we have no business valuation standards." However, we certainly do now, and even back then we probably had the most rigorous set of standards of any organization that I know. Although they may not have been labeled as business valuation standards, they clearly relate to the manner in which we conduct ourselves in every assignment that we undertake.

**.04** In the process of estimating value as part of an engagement, the valuation analyst applies **valuation approaches** and **valuation methods**, as described in this statement, and uses professional judgment. The use of professional judgment is an essential component of estimating value.

## Exceptions From This Statement

**.05** This statement is not applicable to a member who participates in estimating the value of a subject interest as part of performing an attest engagement defined by the "Independence Rule" of the code (ET sec. 1.200.001) (for example, as part of an audit, review, or compilation engagement).

**Author's Note**

An attest engagement falls under a completely different set of rules. Those rules have an objective to attest to a firm's representations on its financial statements and have nothing to do with business valuation. Because the purpose of an attest engagement is so much different from a valuation engagement, this is a logical exception.

**.06** This statement is not applicable when the value of a subject interest is provided to the member by the client or a third party, and the member does not apply valuation approaches and methods, as discussed in this statement.

**Author's Note**

This exception relates to the situation, for example, when a client provides the CPA with the value of his or her business for inclusion in a bank loan application, and the CPA does nothing to establish or validate the client's value. It may also apply when the client or another person, such as a real estate appraiser, provides the value for inclusion in an "intangible" tax return.

**.07** This statement is not applicable to internal use assignments from employers to employee members not in public practice, as that term is defined in the code (ET sec. 0.400.42). See also Valuation Interpretation No. 1, "Scope of Applicable Services" (VS sec. 9100), illustrations 24 and 25 (VS sec. 9100 par. .78–.81).

**.08** This statement is not applicable to engagements that are exclusively for the purpose of determining economic damages (for example, lost profits) unless those determinations include an engagement to estimate value. See also Interpretation No. 1, illustrations 1, 2, and 3 (VS sec. 9100 par. .06–.11).

**Author's Note**

Many times, litigation assignments, particularly those calling for the calculation of economic damages, may require either a lost profits component, a lost business value component, or sometimes both. Although the lost profits portion of the assignment is clearly excluded from this standard, a determination of the loss of value pertaining to a business enterprise or part thereof is subject to this standard. Economic damages are discussed in greater detail in chapter 26.

**.09** This statement is not applicable to mechanical computations that do not rise to the level of an engagement to estimate value; that is, when the member does not apply valuation approaches and methods and does not use professional judgment. See Interpretation No. 1, illustration 8 (VS sec. 9100 par. .20–.23).

**Author's Note**

If a CPA determines the value of 100 shares of IBM stock to report on an estate tax return, he or she has made a mechanical calculation because it only involves multiplying the number of shares by the share value, which is easily ascertainable. SSVS No. 1 does not apply to this calculation. As for professional judgment, I have seen too many practitioners who should have used professional judgment in their assignments but failed to do so. You do not get to ignore this standard if you should have, but did not, use professional judgment.

This statement is not applicable when it is not practical or not reasonable to obtain or use relevant information; as a result, the member is unable to apply valuation approaches and methods that are described in this statement.<sup>2</sup>

**Author's Note**

An example of this situation could be when a valuation analyst is hired to provide a valuation of a very small interest in a foreign company for an estate tax return in which the decedent received about \$15 in distributions each year for the last 10 years, and you cannot get any other information about the investment.

## Jurisdictional Exception

**.10** If any part of this statement differs from published governmental, judicial, or accounting authority, or such authority specifies valuation development procedures or valuation reporting procedures, then the valuation analyst should follow the applicable published authority or stated procedures with respect to that part

<sup>2</sup> Unless prohibited by statute or by rule, a member may use the client's estimates for compliance reporting to a third party if the member determines that the estimates are reasonable (based on the facts and circumstances known to the member). See Interpretation No. 1, "Scope of Applicable Services" (VS sec. 9100 par. .01–.89), and Statement for Standards on Tax Services No. 4, *Use of Estimates* (TS sec. 400).

applicable to the valuation in which the member is engaged. The other parts of this statement continue in full force and effect (Interpretation No. 1 [VS sec. 9100 par. .01–.89]).



#### Author's Note

What does this really mean? If someone else makes the rules, and you are playing in their backyard, you have to follow their rules. For example, if you are engaged to value a business for a divorce in a state that excludes personal goodwill from equitable distribution, you cannot hide behind this standard to avoid carving out the personal goodwill piece of the pie. So if you represent the nonbusiness owner-spouse, don't think that you can get away with ignoring personal goodwill to pump up the value. Besides the fact that this is unethical (because advocacy for a client should never be done as an expert witness), the law of the land supercedes this standard. However, all other provisions of this standard will still apply.

## Overall Engagement Considerations

### Professional Competence

**.11** The “General Standards Rule” of the code (ET sec. 1.300.001 and 2.300.001) states that a member shall “undertake only those *professional services* that the *member* or the *member's firm* can reasonably expect to be completed with professional competence.” Performing a valuation engagement with professional competence involves special knowledge and skill. A valuation analyst should possess a level of knowledge of valuation principles and theory and a level of skill in the application of such principles that will enable him or her to identify, gather, and analyze data, consider and apply appropriate valuation approaches and methods, and use professional judgment in developing the estimate of value (whether a single amount or a range). An in-depth discussion of valuation theory and principles, and how and when to apply them, is not within the scope of this statement.



#### Author's Note

Lucky for you that even though “an in-depth discussion of valuation theory and principles, and how and when to apply them, is not within the scope of this statement,” it is covered throughout this book. Once you have read this book, you should have a much better understanding of your own level of competence to perform business valuations. Buying this book was your first step to becoming competent!

One of the most humbling experiences that we all have, as professionals, is knowing when to admit that we are really not competent to perform a particular assignment. I learned a long time ago that **CPA** does not stand for **Can Perform Anything**. There are certain types of assignments that I pass on regularly because I know that it is not in the best interest of the prospective client to have me perform the assignment because I don't have as much expertise in this area, and there may be people out there who are much more qualified to do a certain job. I also know that my malpractice carrier is much happier with me for not doing jobs that will get my firm sued.

- .12** In determining whether he or she can reasonably expect to complete the valuation engagement with professional competence, the valuation analyst should consider, at a minimum, the following:
- a. Subject entity and its industry
  - b. Subject interest
  - c. **Valuation date**
  - d. Scope of the valuation engagement
    - i. Purpose of the valuation engagement
    - ii. **Assumptions and limiting conditions** expected to apply to the valuation engagement (see paragraph .18)
    - iii. Applicable **standard of value** (for example, **fair value** or **fair market value**), and the applicable **premise of value** (for example, going concern)
    - iv. Type of valuation report to be issued (see paragraph .48), intended use and users of the report, and restrictions on the use of the report
  - e. Governmental regulations or other professional standards that apply to the subject interest or to the valuation engagement

**Author's Note**

Although many of these items seem to be common sense, valuation analysts get themselves in trouble by not truly understanding the many considerations that must enter into the process of accepting an engagement. Many of the terms that are used in the preceding section will be discussed in great detail in the next chapter, when I discuss engagement considerations. Be patient, and I will get there soon.

## Nature and Risks of the Valuation Services and Expectations of the Client

**.13** In understanding the nature and risks of the **valuation services** to be provided, and the expectations of the client, the valuation analyst should consider the matters in paragraph .12, and in addition, at a minimum, the following:

- a. The proposed terms of the valuation engagement
- b. The identity of the client
- c. The nature of the interest and ownership rights in the business, business interest, security, or intangible asset being valued, including control characteristics and the degree of **marketability** of the interest
- d. The procedural requirements of a valuation engagement and the extent, if any, to which procedures will be limited by either the client or circumstances beyond the client's or the valuation analyst's control
- e. The use of and limitations of the report, and the conclusion or calculated value
- f. Any obligation to update the valuation

## Objectivity and Conflict of Interest

**.14** The code requires objectivity in the performance of all professional services, including valuation engagements. Objectivity is a state of mind. The principle of objectivity imposes the obligation to be impartial, intellectually honest, disinterested, and free from conflicts of interest. If necessary, where a potential conflict of interest may exist, a valuation analyst should make the disclosures and obtain consent as required by the "Conflicts of Interest" interpretation (ET sec. 1.110.010 and 2.110.010) under the "Integrity and Objectivity Rule" (ET sec. 1.100.001 and 2.100.001).

**Author's Note**

I am going to address conflicts of interest in the next chapter. This is another way that valuation analysts, and more specifically, CPA valuation analysts, can get themselves in trouble.

## Independence and Valuation

**.15** If valuation services are performed for a client for which the valuation analyst or valuation analyst's firm also performs an attest engagement (defined by the "Independence Rule" of the code), the valuation analyst should meet the requirements included in the interpretations of the "Nonattest Services" subtopic (ET sec. 1.295) under the "Independence Rule" (ET sec. 1.200.001) so as not to impair the member's independence with respect to the client.

**Author's Note**

In other words, you cannot be everything to every client. The term independence is a term of art in the accounting profession. AICPA standards and state board of accountancy laws require CPAs to be independent when they perform attest services for a client. Performing a valuation for an attest client could impair the CPA's independence for the attest engagement. A CPA firm might need to decline a valuation engagement for an attest client and refer the work to someone else. Sometimes it pays to refer that client to someone else who can do a competent job so that you can continue to service the client in other areas. This is a great way to form relationships with your colleagues. You refer to them, and they will refer to you. Client sharing—what a wonderful thing!

## Establishing an Understanding With the Client

**.16** The valuation analyst should establish an understanding with the client, preferably in writing, regarding the engagement to be performed. If the understanding is oral, the valuation analyst should document that understanding by appropriate memoranda or notations in the working papers. (If the engagement is being performed for an attest client, the “General Requirements for Performing Nonattest Services” interpretation [ET sec. 1.295.040] of the “Independence Rule” [ET sec. 1.200.001] requires the engagement understanding to be in writing.) Regardless of whether the understanding is written or oral, the valuation analyst should modify the understanding if he or she encounters circumstances during the engagement that make it appropriate to modify that understanding.



### Author's Note

I have to be honest with you. You have to be nuts to perform an assignment without a written engagement letter. Although the standards allow an oral agreement, the money you save by not having your attorney draft your engagement letter should be used for your psychiatrist. Engagement letters are discussed in great detail in the next chapter.

**.17** The understanding with the client reduces the possibility that either the valuation analyst or the client may misinterpret the needs or expectations of the other party. The understanding should include, at a minimum, the nature, purpose, and objective of the valuation engagement, the client's responsibilities, the valuation analyst's responsibilities, the applicable assumptions and limiting conditions, the type of report to be issued, and the standard of value to be used.

## Assumptions and Limiting Conditions

**.18** Assumptions and limiting conditions are common to valuation engagements. Examples of typical assumptions and limiting conditions for a business valuation are provided in appendix A, “Illustrative List of Assumptions and Limiting Conditions for a Business Valuation” (par. .80). The assumptions and limiting conditions should be disclosed in the valuation report (see paragraphs .52l, .68g, and .71m).



### Author's Note

Best practices, and my attorney, say that the assumptions and limiting conditions, where appropriate, should also be part of your engagement letter to put your client on notice at the inception of the engagement. This will be discussed in more detail in the next chapter.

## Scope Restrictions or Limitations

**.19** A restriction or limitation on the scope of the valuation analyst's work, or the data available for analysis, may be present and known to the valuation analyst at the outset of the valuation engagement or may arise during the course of a valuation engagement. Such a restriction or limitation should be disclosed in the valuation report (see paragraphs .52m, .68e, and .71n).

## Using the Work of Specialists in the Engagement to Estimate Value

**.20** In performing an engagement to estimate value, the valuation analyst may rely on the work of a third party specialist (for example, a real estate or equipment appraiser). The valuation analyst should note in the assumptions and limiting conditions the level of responsibility, if any, being assumed by the valuation analyst for the work of the third party specialist. At the option of the valuation analyst, the written report of the third party specialist may be included in the valuation analyst's report.

**Author's Note**

As a valuation analyst, we are regularly faced with using other appraisers to accomplish our assignments. The standard states that using other appraisers is okay as long as we disclose the level of responsibility in the report. However, if you know that the work of the third party is wrong or does not meet professional standards, it would be foolish, and very dangerous, to try to stick your head in the sand and ignore the bad work that you will be relying upon. We had an assignment that required us to rely on a real estate appraiser to determine the underlying value of the real estate for a family limited partnership. The real estate appraisal was so bad that my partner had to tell the client's attorney that we could not use this value in our analysis. Another real estate appraiser was hired, and the job went fine thereafter. The worst that could have happened is that we would have been fired from the assignment. I would much rather have that happen than to rely on what we know is bad work.

**Development****Types of Engagement**

**.21** There are two types of engagements to estimate value—a **valuation engagement** and a **calculation engagement**. The valuation engagement requires more procedures and consideration of more information than does the calculation engagement. The valuation engagement results in a conclusion of value. The calculation engagement results in a calculated value. The type of engagement is established in the understanding with the client (see paragraphs .16 and .17):

- a. *Valuation engagement*—A valuation analyst performs a valuation engagement when (1) the engagement calls for the valuation analyst to estimate the value of a subject interest and (2) the valuation analyst estimates the value (as outlined in paragraphs .23–.45) and is free to apply the valuation approaches and methods he or she deems appropriate in the circumstances. The valuation analyst expresses the results of the valuation as a conclusion of value; the conclusion may be either a single amount or a range.
- b. *Calculation engagement*—A valuation analyst performs a calculation engagement when (1) the valuation analyst and the client agree on the valuation approaches and methods the valuation analyst will use and the extent of procedures the valuation analyst will perform in the process of calculating the value of a subject interest (these procedures will be more limited than those of a valuation engagement) and (2) the valuation analyst calculates the value in compliance with the agreement. The valuation analyst expresses the results of these procedures as a calculated value. The calculated value is expressed as a range or as a single amount. A calculation engagement does not include all of the procedures required for a valuation engagement (see paragraph .46).

**Author's Note**

Once again, you really need to apply some common sense about which type of engagement will be right for a particular circumstance. SSVS No. 1 is identifying valuation engagement and calculation engagement as terms of art, just as audit, review, and compilation are terms of art in accounting literature. Although I will discuss this in more detail in a later chapter, it is important enough for me to put it here also. On many occasions, a client does not need a comprehensive analysis; a limited analysis will suffice. The standard is flexible enough to accommodate a variety of client needs. Clients frequently suffer from sticker shock when they hear the fee for performing a valuation engagement. Therefore, they may ask for less. The valuation analyst, as the professional, must exercise good judgment to determine if performing a lesser assignment will suffice for the client's situation. The analyst should discuss this with the client. For example, the valuation analyst may be asked to quote a fee for a valuation for estate tax purposes. After hearing the fee, the client may want less, possibly a calculation engagement instead of a valuation engagement. The valuation analyst should be aware that the tax law requires an appraisal (valuation) to be done and not a calculation. The valuation analyst should advise the client that a calculation is not the proper service level required for this type of engagement.

*(Box continued)*

**Author's Note (continued)**

The valuation analyst also needs to consider how he or she and the client will come out of an assignment if less than a comprehensive analysis is done. When engaged by a client in a divorce litigation, the valuation analyst may be asked to provide calculations for mediation. If the mediation does not result in a settlement, the valuation analyst may then be asked to testify to the calculations. The one that may be hurt the most on cross-examination is the valuation analyst, when the testimony is that a comprehensive valuation analysis was not done. The judge may only hear that the valuation analyst did not do a thorough job. The fact that the client did not want to pay to have the valuation analyst perform a full valuation engagement may be forgotten, especially if the other expert did one. The valuation analyst should try to properly guide the client about the best assignment under the circumstances. If the client does not want to listen, the valuation analyst should speak with the attorney. At the end of the day, the valuation analyst should consider what is best for himself or herself and the firm and possibly turn down the assignment. The valuation analyst may also run into a problem while sitting on the witness stand, and he or she cannot provide an expert opinion (or “conclusion” as it is called in the standard) of value to a reasonable degree of certainty (the legal standard) because the valuation analyst did not perform a valuation engagement. The valuation analyst cannot provide a conclusion of value in a calculation engagement. The valuation analyst's opinion may be thrown out of court, which will lead to a very unhappy client.

## Hypothetical Conditions

**.22** Hypothetical conditions affecting the subject interest may be required in some circumstances. When a valuation analyst uses hypothetical conditions during a valuation or calculation engagement, he or she should indicate the purpose for including the hypothetical conditions and disclose these conditions in the valuation or calculation report (see paragraphs .52*n*, .71*o*, and .74).

## Valuation Engagement

**.23** In performing a valuation engagement, the valuation analyst should do the following:

- Analyze the subject interest (paragraphs .25–.30)
- Consider and apply appropriate valuation approaches and methods (paragraphs .31–.42)
- Prepare and maintain appropriate documentation (paragraphs .44–.45)

**Author's Note**

These topics are covered throughout this book. Analyzing the subject interest is covered in chapter 6. The valuation approaches and methods appear in chapters 9–12. Documentation is taught to every accountant on earth. Even if you are not an accountant, documenting your work is like motherhood and apple pie. The valuation analyst's file should contain adequate documentation (in accounting speak, we call it “sufficient relevant data”) to support the work that was done and the manner in which the valuation analyst determined the conclusion of value. The best way to avoid a problem is to make certain that the file is plastered with the appropriate documentation to support the analysis and conclusions.

**.24** Even though the list in paragraph .23 and some requirements and guidance in this statement are presented in a manner that suggests a sequential valuation process, valuations involve an ongoing process of gathering, updating, and analyzing information. Accordingly, the sequence of the requirements and guidance in this statement may be implemented differently at the option of the valuation analyst.

## Analysis of the Subject Interest

**.25** The analysis of the subject interest will assist the valuation analyst in considering, evaluating, and applying the various valuation approaches and methods to the subject interest. The nature and extent of the information needed to perform the analysis will depend on, at a minimum, the following:

- Nature of the subject interest
- Scope of the valuation engagement
- Valuation date
- Intended use of the valuation
- Applicable standard of value
- Applicable **premise of value**
- Assumptions and limiting conditions
- Applicable governmental regulations or other professional standards

**.26** In analyzing the subject interest, the valuation analyst should consider financial and nonfinancial information. The type, availability, and significance of such information vary with the subject interest.



#### Author's Note

Gathering information, both financial and nonfinancial, is discussed in several of the following chapters. Document checklists are discussed in chapter 4, gathering economic and industry information is discussed in chapter 5, gathering benchmark data is discussed in chapter 6, gathering guideline company data is discussed in chapter 9, and so forth. Notice how many times the standard tells us to “analyze” something. This does not mean buy some research and put it in a file or as an appendix to the report. This means analyze. Too many of the reports that I review are superficial when it comes to analysis. Analyze means analyze!

## Nonfinancial Information

**.27** The valuation analyst should, as available and applicable to the valuation engagement, obtain sufficient nonfinancial information to enable him or her to understand the subject entity, including the following:

- Nature, background, and history
- Facilities
- Organizational structure
- Management team (which may include officers, directors, and key employees)
- Classes of **equity** ownership interests and rights attached thereto
- Products or services, or both
- Economic environment
- Geographical markets
- Industry markets
- Key customers and suppliers
- Competition
- **Business risks**
- Strategy and future plans
- Governmental or regulatory environment



#### Author's Note

Think about this list of items that the standard suggests the valuation analyst should gather. How can the valuation analyst possibly understand anything about the subject company without this information? We will discuss this in much more detail in subsequent chapters, but this is also a pretty good time to introduce you to IRS Revenue Ruling 59-60, which also provides a discussion on factors to consider in valuing a closely held business. The nature and history of the business is the first item covered. We will discuss the revenue ruling in much greater detail. In fact, Chapter 16 includes an annotated version of this important ruling.

## Ownership Information

**.28** The valuation analyst should obtain, where applicable and available, ownership information regarding the subject interest to enable him or her to

- determine the type of ownership interest being valued and ascertain whether that interest exhibits control characteristics.
- analyze the different ownership interests of other owners and assess the potential effect on the value of the subject interest.
- understand the classes of equity ownership interests and rights attached thereto.
- understand the rights included in, or excluded from, each intangible asset.
- understand other matters that may affect the value of the subject interest, such as the following:
  - *For a business, business ownership interest, or security:* Shareholder agreements, partnership agreements, operating agreements, voting trust agreements, buy-sell agreements, loan covenants, restrictions, and other contractual obligations or restrictions affecting the owners and the subject interest.
  - *For an intangible asset:* Legal rights, licensing agreements, sublicense agreements, nondisclosure agreements, development rights, commercialization or exploitation rights, and other contractual obligations.



## Financial Information

**.29** The valuation analyst should obtain, where applicable and available, financial information on the subject entity such as the following:

- Historical financial information (including annual and interim financial statements and key financial statement ratios and statistics) for an appropriate number of years
- Prospective financial information (for example, budgets, forecasts, and projections)
- Comparative summaries of financial statements or information covering a relevant time period
- Comparative common size financial statements for the subject entity for an appropriate number of years
- Comparative common size industry financial information for a relevant time period
- Income tax returns for an appropriate number of years
- Information on compensation for owners including benefits and personal expenses
- Information on key man or officers' life insurance
- Management's response to inquiry regarding the following:
  - Advantageous or disadvantageous contracts
  - Contingent or off-balance-sheet assets or liabilities
  - Information on prior sales of company stock



### Author's Note

If you think about it, this information is a great start for a checklist of items to ask for in either the initial document request or the management interview. I will discuss these items in greater detail in the upcoming chapters. This is also a good time to introduce another important point about gathering financial information. Frequently, a valuation analyst uses the subject company's general ledger to prepare financial statements for a business valuation report, particularly when the company does not have financial statements. See the following question and answer from the AICPA Forensic and Valuation Services Executive Committee for more information:

**Q1.** If the valuation analyst uses a subject company's general ledger and prepares financial statements that will be presented as part of the business valuation report, does the valuation analyst or his/her firm have to comply with Statements on Standards for Accounting and Review Services (SSARSs), including the performance and reporting requirements for a compilation engagement with respect to those financial statements?

**A1.** Yes. Paragraph .01 of AR section 80, *Compilation of Financial Statements* states that the accountant is required to comply with the provisions of AR section 80 whenever he or she submits financial statements to a client or to third parties.

Paragraph .04 of AR section 60, *Framework for Performing and Reporting on Compilation and Review Engagements* defines submission of financial statements as "presenting to management financial statements that the accountant has prepared."<sup>3</sup>

Furthermore, SSARS No. 21, *Statements on Standards for Accounting and Review Services: Clarification and Recodification* (AICPA, *Professional Standards*), issued in October 2014, now distinguishes between an engagement to prepare client financial statements and an engagement to report on them. The engagement letter will make that determination. If the engagement letter says a CPA is being hired to prepare the financials, there is no longer an obligation to report on them. However, if the engagement letter says the CPA is retained to review or compile the financials, then there is an obligation to report on them. SSARS No. 21 is effective for financial statements ending after December 15, 2015.

This essentially means that if you are a CPA, you have to pay additional attention to other standards promulgated by the AICPA while doing business valuation assignments.

**.30** The valuation analyst should read and evaluate the information to determine that it is reasonable for the purposes of the engagement.

<sup>3</sup> AICPA, FVS News (October 5, 2011).

**Author's Note**

Although this seems to be common sense, you would be amazed at how often I have seen valuation analysts ask for a boatload of documents and never bother to look at them. The idea is to ask for relevant information for the valuation, and then review the information received to make certain that not only is it what was requested, but it is also useable. For example, in doing a valuation as of June 15, 2016, the valuation analyst may ask for an accounts receivable aging as of that date. If it is not available, the client may either send the aging for May 31, 2016, or June 30, 2016. In some cases, the schedule sent may not even be close to these time frames. The valuation analyst should review the document to make certain that it is relevant for the valuation. If June 15 data is unavailable, May 31 may be perfectly acceptable as long as the analyst inquires about any large transactions that may have occurred between June 1 and June 15. However, June 30 data may not work because, in most instances, the valuation is supposed to be based on information that is “known or knowable” as of the valuation date. Using subsequent information may be improper in many circumstances. I will discuss this point in more detail later.

## Valuation Approaches and Methods

**.31** In developing the valuation, the valuation analyst should consider the three most common valuation approaches:

- **Income (income-based) approach**
- **Asset (asset-based) approach** (used for businesses, business ownership interests, and securities) or **cost approach** (used for intangible assets)
- **Market (market-based) approach**

**Author's Note**

These are the three main approaches to business valuation. They are discussed in detail in chapters 9–12. Intangible assets are discussed in chapter 20.

**.32** The valuation analyst should use the valuation approaches and methods that are appropriate for the valuation engagement. General guidance on the use of approaches and methods appears in paragraphs .33–.41, but detailed guidance on specific valuation approaches and methods and their applicability is outside the scope of this statement.

**Author's Note**

Once again, you made the right choice by purchasing this book. Detailed guidance on specific approaches and methods and their applicability may be outside the scope of this standard, but it is included in unbelievable detail throughout this book.

**.33** *Income Approach.* Two frequently used valuation methods under the income approach include the **capitalization of benefits method** (for example, earnings or cash flows) and the **discounted future benefits method** (for example, earnings or cash flows). When applying these methods, the valuation analyst should consider a variety of factors, including but not limited to, the following:

- a. *Capitalization of benefits (for example, earnings or cash flows) method.* The valuation analyst should consider the following:
  - i. **Normalization** adjustments
  - ii. Nonrecurring revenue and expense items
  - iii. Taxes
  - iv. Capital structure and financing costs
  - v. Appropriate capital investments
  - vi. Noncash items

- vii. Qualitative judgments for risks used to compute discount and **capitalization rates**
- viii. Expected changes (growth or decline) in future benefits (for example, earnings or cash flows)
- b. *Discounted future benefits method (for example, earnings or cash flows)*. In addition to the items in item a above, the valuation analyst should consider the following:
  - i. Forecast or projection assumptions
  - ii. Forecast or projected earnings or cash flows
  - iii. **Terminal value**
- c. For an intangible asset, the valuation analyst should also consider, when relevant, the following:
  - i. Remaining useful life
  - ii. Current and anticipated future use of the intangible asset
  - iii. Rights attributable to the intangible asset
  - iv. Position of intangible asset in its life cycle
  - v. Appropriate discount rate for the intangible asset
  - vi. Appropriate **capital or contributory asset charge**, if any
  - vii. Research and development or marketing expense needed to support the intangible asset in its existing state
  - viii. Allocation of income (for example, **incremental income**, **residual income**, or **profit split income**) to intangible asset
  - ix. Whether any tax amortization benefit would be included in the analysis
  - x. Discounted multi-year excess earnings
  - xi. Market royalties
  - xii. Relief from royalty



#### Author's Note

The income approach, and its related methods, is covered in chapter 12. Discount rates and capitalization rates are covered in chapter 13. Although intangible assets are covered in chapter 20, this book is not really intended to cover this group of assets in as much detail as it deserves. This could be the subject of another entire book. In fact, there are books dedicated solely to intangible assets and intellectual property. Five of the books<sup>4</sup> in my library include *Guide to Intangible Asset Valuation*, *Intellectual Property: Valuation, Exploitation, and Infringement Damages*, *Valuing Intangible Assets*, *Valuation for Financial Reporting*, *Fair Value Measurements and Reporting*, *Intangible Assets, Goodwill and Impairments*, and *Fair Value Measurements: Practical Guidance and Implementation*.

## Asset Approach and Cost Approach

**.34** A frequently used method under the asset approach is the adjusted net asset method. When using the adjusted net asset method in valuing a business, business ownership interest, or security, the valuation analyst should consider, as appropriate, the following information related to the premise of value:

- Identification of the assets and liabilities
- Value of the assets and liabilities (individually or in the aggregate)
- Liquidation costs (if applicable)



#### Author's Note

The asset-based approach is covered in chapter 11. Identification of assets, valuation, and liquidation methods are discussed in detail.

4 See the bibliography included in appendix 15 for the complete references for these publications.

**.35** When using methods under the cost approach to value intangible assets, the valuation analyst should consider the type of cost to be used (for example, reproduction cost or replacement cost), and, where applicable, the appropriate forms of depreciation and obsolescence and the remaining useful life of the intangible asset.



#### Author's Note

Terms such as reproduction cost and replacement cost will be defined by me in the appropriate chapter. Be patient, and we will get there eventually.

## Market Approach

**.36** Three frequently used valuation methods under the market approach for valuing a business, business ownership interest, or security are as follows:

- **Guideline public company method**
- **Guideline company transactions method**
- Guideline sales of interests in the subject entity, such as business ownership interests or securities

Three frequently used market approach valuation methods for intangible assets are as follows:

- Comparable uncontrolled transactions method (which is based on arm's-length sales or licenses of guideline intangible assets)
- Comparable profit margin method (which is based on comparison of the profit margin earned by the subject entity that owns or operates the intangible asset to profit margins earned by guideline companies)
- **Relief from royalty method** (which is based on the royalty rate, often expressed as a percentage of revenue that the subject entity that owns or operates the intangible asset would be obligated to pay to a hypothetical third-party licensor for the use of that intangible asset).

For the methods involving guideline intangible assets (for example, the comparable profit margin method), the valuation analyst should consider the subject intangible asset's remaining useful life relative to the remaining useful life of the guideline intangible assets, if available.

**.37** In applying the methods listed in paragraph .36 or other methods to determine valuation pricing multiples or metrics, the valuation analyst should consider the following:

- Qualitative and quantitative comparisons
- Arm's-length transactions and prices
- The dates and, consequently, the relevance of the market data



#### Author's Note

Not sure what this means? Don't worry, neither do I. All kidding aside, these items will all be discussed in chapters 9 and 10 (and possibly elsewhere).

**.38** The valuation analyst should set forth in the report the rationale and support for the valuation methods used (see paragraph .47).

**.39 Rules of Thumb.** Although technically not a valuation method, some valuation analysts use rules of thumb or industry benchmark indicators (hereinafter, collectively referred to as **rules of thumb**) in a valuation engagement. A rule of thumb is typically a reasonableness check against other methods used and should generally not be used as the only method to estimate the value of the subject interest.

**Author's Note**

I am going to state this again later, but rules of thumb are so badly misused that I am going to state it here also. A rule of thumb is nothing more than a sanity check for the many hours that the valuation analyst will spend performing a valuation assignment. It should never, and I mean never, be used as a standalone method of valuation. Depending on whom you speak with, many businesses have multiple rules of thumb. For example, the older versions of the *Business Reference Guide*<sup>5</sup> listed as many as 31 different rules of thumb for restaurants, based on the type of restaurant, and that excludes franchise operations. Even the authors realized that it was silly to have so many rules of thumb for the same category. Now, they just list every different franchise restaurant and type so that the reader does not see 31 different rules of thumb in the same place.

**Valuation Adjustments**

**.40** During the course of a valuation engagement, the valuation analyst should consider whether valuation adjustments (discounts or premiums) should be made to a **pre-adjustment** value. Examples of valuation adjustments for valuation of a business, business ownership interest, or security include a **discount for lack of marketability or liquidity** and a **discount for lack of control**. An example of a valuation adjustment for valuation of an intangible asset is obsolescence.

**Author's Note**

Valuation adjustments (premiums and discounts) are discussed in chapters 14 and 15.

**.41** When valuing a controlling ownership interest under the income approach, the value of any **non-operating assets**, non-operating liabilities, or **excess or deficient operating assets** should be excluded from the computation of the value based on the operating assets and should be added to or deleted from the value of the operating entity. When valuing a non-controlling ownership interest under the income approach, the value of any non-operating assets, non-operating liabilities, or excess or deficient operating assets may or may not be used to adjust the value of the operating entity depending on the valuation analyst's assessment of the influence exercisable by the non-controlling interest. In the asset-based or cost approach, it may not be necessary to separately consider non-operating assets, non-operating liabilities, or excess or deficient operating assets.

**Author's Note**

Topics such as controlling or non-controlling ownership interests, non-operating assets and liabilities, as well as excess or deficient operating assets are also discussed in this book. These topics will make much more sense once you have had the opportunity to read about them.

**Conclusion of Value**

**.42** In arriving at a conclusion of value, the valuation analyst should

- a. correlate and reconcile the results obtained under the different approaches and methods used.
- b. assess the reliability of the results under the different approaches and methods using the information gathered during the valuation engagement.
- c. determine, based on items *a* and *b*, whether the conclusion of value should reflect
  - i. the results of one valuation approach and method, or
  - ii. a combination of the results of more than one valuation approach and method.

**Subsequent Events**

**.43** The valuation date is the specific date at which the valuation analyst estimates the value of the subject interest and concludes on his or her estimation of value. Generally, the valuation analyst should consider only circumstances existing at the valuation date and events occurring up to the valuation date. An event

<sup>5</sup> See the bibliography included in appendix 18 for the complete reference for this publication.

that could affect the value may occur subsequent to the valuation date; such an occurrence is referred to as a **subsequent event**. Subsequent events are indicative of conditions that were not known or knowable at the valuation date, including conditions that arose subsequent to the valuation date. The valuation would not be updated to reflect those events or conditions. Moreover, the valuation report would typically not include a discussion of those events or conditions because a valuation is performed as of a point in time—the valuation date—and the events described in this subparagraph, occurring subsequent to that date, are not relevant to the value determined as of that date. In situations in which a valuation is meaningful to the intended user beyond the valuation date, the events may be of such nature and significance as to warrant disclosure (at the option of the valuation analyst) in a separate section of the report in order to keep users informed (see paragraphs .52*p*, .71*r*, and .74). Such disclosure should clearly indicate that information regarding the events is provided for informational purposes only and does not affect the determination of value as of the specified valuation date.



#### Author's Note

This gets back to the concept of using information that is “known or knowable.” The standard is saying that it is okay to disclose this item, but it should not affect your value conclusion. For example, I once valued a bicycle shop for a divorce as of December 31, 1997. On January 3, 1998, there was a fire that destroyed the business. Because a fire was not known or knowable on December 31, 1997, it would not have affected my valuation. However, if I was representing a prospective purchaser of the business, wouldn't common sense dictate that I disclose to my client the fact that the business burned down? Even in a divorce, wouldn't the judge who has to determine equitable distribution want to know that an asset has been destroyed? This is an instance in which a subsequent event needs to be disclosed. By the way, in this situation, the spouse of the business owner torched the place, was convicted of arson, and my client received the full value of the bicycle shop in equitable distribution as of December 31, 1997. The insurance proceeds were sufficient to restore and probably increase the value of the shop. But with that said, sometimes subsequent information is used to corroborate value indications that should have been “known or knowable” as of the valuation date. The subsequent information is merely confirming the fact that value existed at the valuation date. USPAP Frequently Asked Question 142 states the following regarding retrospective value opinions:

A retrospective appraisal is complicated by the fact that the appraiser already knows what occurred in the market after the effective date of the appraisal. Data subsequent to the effective date may be considered in developing a retrospective value as a confirmation of trends that would reasonably be considered by a buyer or seller as of that date... [emphasis added].<sup>6</sup>

Various other valuation treatises discuss the use of subsequent data, as well. Box 1 contains excerpts from these publications. Box 2 contains a list of relevant court cases that should also be considered.

#### BOX 1

#### Excerpts From Various Treatises About Subsequent Events

- David Laro and Shannon P. Pratt, *Business Valuation and Taxes: Procedure, Law and Perspective*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, Inc., 2011): 27.
  - “Subsequent events are used as evidence of value rather than as factors affecting value.”
- Jay E. Fishman, Shannon P. Pratt, and William J. Morrison, *Standards of Value: Theory and Applications* (Hoboken, NJ: John Wiley & Sons, Inc., 2013): 65.
  - “Subsequent events that were foreseeable at the valuation date may be considered in a valuation.”
- Shannon Pratt and Alina V. Niculita, *The Lawyer's Business Valuation Handbook: Understanding Financial Statements, Appraisal Reports and Expert Testimony*, 2nd ed. (Chicago: American Bar Association, 2010): 280.
  - “Readers should be put on notice that the Tax Court frequently relies on subsequent sales as evidence of value. The court distinguishes between subsequent sales that affected the value and those that are merely evidence of value.”
- James R. Hitchner, *Financial Valuation: Applications and Models*, 3rd ed. (Hoboken, NJ: John Wiley & Sons, Inc., 2011): 41.
  - “...events that are reasonably foreseeable at the date of valuation should be considered.”

See appendix 15 for a complete bibliography.

(Box continued)

<sup>6</sup> *Uniform Standards of Professional Appraisal Practice* (2016–17 edition): FAQ 142, 276.



## Author's Note

**BOX 2** Court Cases Addressing Subsequent Events *(continued)*

Date	Jurisdiction	Refers to Case(s)	Reference to Use of Subsequent Information
1956	United States Court of Appeals, Eighth Circuit	FITTS' Estate v. Commissioner, 237 F.2d 729 (8th Cir. 1956)	It was determined in this case that actual sales made in reasonable amounts in arm's-length transactions, in the normal course of business, within a reasonable time frame after or before the date of value, are the best criteria of market value.
1975	United States Supreme Court	LOWE v. Commissioner (4236 U.S. 827 (1975))	Sales after the valuation date "may be used to corroborate the ultimate determination of value."
1983	United States Tax Court	Estate of JEPHSO v. Commissioner (81 TCM 999)	The tax court ruled that "...subsequent events may be considered for the limited purpose of substantiating reasonable expectations." (emphasis added)
1987	United States Tax Court	Estate of Saul R. GILFORD (88 TCM 38)	In this case, the price of decedent's stock was determined by the price it was sold for in a merger six months after the date of death.
1992	United States Tax Court	Estate of Bessie I. MUELLER (63 TCM (CCH) 3027)	In this case, subsequent events, which occurred 67 days after the date of death, were admissible by the tax court and allowed to set the value of the shares of stock in question at the date of death on the premise that merger negotiations were initiated prior to the date of death.
1993	United States Tax Court	Estate of JUNG v. Commissioner (101 TCM 412 (1993))	A common argument as evidenced by this case is that a subsequent sale does not affect the value on an earlier valuation date; rather, it is evidence to that value.
1995	United States Federal District Court, Seventh Circuit	The FIRST NATIONAL BANK OF KENOSHA v. U.S. (763 F.2d 891)	In this case, the estate had been approached 15 months after the valuation date about a purchase of the property. The court allowed the postmortem event into evidence, thus, affecting the jury's determination of value.
1996	United States Tax Court	Estate of Arthur G. SCANLAN v. Commissioner (TCM 1996-331 (July 25, 1996))	Decedent died in July 1991. The court relied on an offer to buy the entire company in March 1993 (resulting in a sale consummated in January 1994) and discounted the sale price by 30 percent to account for both a marketability and a minority discount, as well as the change in setting from the date of the decedent's death.

*(Box continued)*



Author's Note (continued)

**BOX 2** Court Cases Addressing Subsequent Events (continued)

Date	Jurisdiction	Refers to Case(s)	Reference to Use of Subsequent Information
1997	United States Tax Court	Nathan and Geraldine MORTON v. Commissioner (TCM 1997-166 (April 1, 1997))	The tax court stated "...Subsequent events which merely provide evidence of the value of the property on the valuation date can be taken into account regardless of whether they are foreseeable on the valuation date."
1997	U.S. Court of Appeals, First District	Ansin et. al. v. River Oaks Furniture, Inc., et al.	Anticipated IPO considered in determining fair value.
1999	New Jersey Supreme Court	Lawson Mardon Wheaton, Inc. v. Smith (II)	Merger price in 1996 was considered in the determination of the fair value of the dissenters stock on December 5, 1991.
2005	United States Tax Court	Estate of Helen M. Noble, et al. v. Commissioner (TCM 2005-2 (2005))	IRS's estate tax valuation of decedent's stock interest in closely held bank based on post-death outside sale price was upheld, as adjusted for inflation: post-death sale, occurring a little over one year after death, was sufficiently contemporaneous and most relevant transaction for evaluating stock's price because that sale involved decedent's actual interest and was effected in arm's length transaction, whereas pre-death transfers involved relatively small number of shares and were sold at prices well below appraised value.

## Documentation

**.44** Documentation is the principal record of information obtained and analyzed, procedures performed, valuation approaches and methods considered and used, and the conclusion of value. The quantity, type, and content of documentation are matters of the valuation analyst's professional judgment. Documentation may include the following:

- Information gathered and analyzed to obtain an understanding of matters that may affect the value of the subject interest (paragraphs .25–.30)
- Assumptions and limiting conditions (paragraph .18)
- Any restriction or limitation on the scope of the valuation analyst's work or the data available for analysis (paragraph .19)
- Basis for using any **valuation assumption** during the valuation engagement
- Valuation approaches and methods considered
- Valuation approaches and methods used including the rationale and support for their use



- If applicable, information relating to subsequent events considered by the valuation analyst (paragraph .43)
  - For any rule of thumb used in the valuation, source(s) of data used, and how the rule of thumb was applied (paragraph .39)
  - Other documentation considered relevant to the engagement by the valuation analyst
- .45** The valuation analyst should retain the documentation for a period of time sufficient to meet the needs of applicable legal, regulatory, or other professional requirements for records retention.

## Calculation Engagement

**.46** In performing a calculation engagement, the valuation analyst should consider, at a minimum, the following:

- a. Identity of the client
- b. Identity of the subject interest
- c. Whether or not a business interest has ownership control characteristics and its degree of marketability
- d. Purpose and intended use of the calculated value
- e. Intended users of the report and the limitations on its use
- f. Valuation date
- g. Applicable premise of value
- h. Applicable standard of value
- i. Sources of information used in the calculation engagement
- j. Valuation approaches or valuation methods agreed upon with the client
- k. Subsequent events, if applicable (paragraph .43)

In addition, the valuation analyst should comply with the documentation requirements listed in paragraphs .44 and .45. The quantity, type, and content of documentation are matters of the valuation analyst's professional judgment.



### Author's Note

I have said it before, and I will say it again—the valuation analyst needs to make sure that the client does not influence him or her to provide a calculation engagement in which a valuation engagement is required. The client wants cheap! If the analyst is required to provide a conclusion of value (as in a court of law, also known as an “expert opinion” to a reasonable degree of certainty), he or she cannot get away with a calculation engagement. This does not rise to the level of allowing the analyst to provide a conclusion of value. If the client cannot afford the fees for a valuation engagement, he will find a lawyer on a contingent fee basis to sue the analyst for malpractice when the court rejects his or her opinion. It is not worth the analyst trying to save the client a few dollars while putting his or her reputation on the line.

## The Valuation Report

**.47** A valuation report is a written or oral communication to the client containing the conclusion of value or the calculated value of the subject interest. Reports issued for purposes of certain controversy proceedings are exempt from this reporting standard (see paragraph .50).

**.48** The three types of written reports that a valuation analyst may use to communicate the results of an engagement to estimate value are as follows: either a detailed report or a summary report for a valuation engagement and a calculation report for a calculation engagement:

- a. *Valuation engagement—detailed report.* This report may be used only to communicate the results of a valuation engagement (conclusion of value); it should not be used to communicate the results of a calculation engagement (calculated value) (paragraph .51).
- b. *Valuation engagement—summary report.* This report may be used only to communicate the results of a valuation engagement (conclusion of value); it should not be used to communicate the results of a calculation engagement (calculated value) (paragraph .71). For a valuation engagement, the determination of whether to prepare a detailed report or a summary report is based on the level of reporting detail agreed to by the valuation analyst and the client.

c. *Calculation engagement—calculation report.* This type of report should be used only to communicate the results of a calculation engagement (calculated value); it should not be used to communicate the results of a valuation engagement (conclusion of value) (see paragraph .73).

**.49** The valuation analyst should indicate in the valuation report the restrictions on the use of the report (which may include restrictions on the users of the report, the uses of the report by such users, or both) (paragraph .65d).



#### Author's Note

The detailed report, referred to previously, is a more formal or comprehensive report than the summary report. Over the years, detailed reports have been called formal, comprehensive, self-contained, and who knows what else depending on the set of standards or the textbook that you were looking at. Regardless of what it is called, the detailed report is detailed. It should contain what an uninformed user of the report needs to know and explain it clearly. Paragraph .51 of SSVS No. 1, as well as chapter 17 of this book, describes what should be included in a detailed report. A sample detailed report is included in the downloadable ancillary material.

A summary report has less detail than a detailed report. Previously, you may have seen this also called a “letter report” or an “informal report.” A sample summary report is also provided in the ancillaries. Someone once asked me what the difference was between a detailed report and a summary report. My response was about \$3,000. All kidding aside, the difference is the amount of time it might take to write a 100-page report versus a 15-page report. You still must do all the work required to provide a supportable conclusion of value. It is only the document that changes.

A calculation report has also been included in the ancillaries. With all three reports being included, you really got your money's worth for this book!

## Reporting Exemption for Certain Controversy Proceedings

**.50** A valuation performed for a matter before a court, an arbitrator, a mediator or other facilitator, or a matter in a governmental or administrative proceeding, is exempt from the reporting provisions of this statement. The reporting exemption applies whether the matter proceeds to trial or settles. The exemption applies only to the reporting provisions of this statement (see paragraphs .47–.49 and .51–.78). The developmental provisions of the statement (see paragraphs .21–.46) still apply whenever the valuation analyst expresses a conclusion of value or a calculated value (Interpretation No. 1 [VS sec. 9100 par. .01–.89]).



#### Author's Note

This is an important paragraph. What it basically states is that if the valuation analyst is doing the job as part of a litigation, arbitration, mediation, or the like, the reporting requirements of this standard do not have to be followed. This means that because the valuation analyst may be subject to testimony, including cross-examination, the analyst and the client's attorney must determine how much (or how little) to put into a report, if you do a report at all. Be aware, however, that there are certain rules, such as Rule 26 of the Rules of Federal Civil Procedure that might require certain inclusions in the report. Also, reports that are to be used in the U.S. Tax Court become your direct testimony. Therefore, if it is not in the report, the court will not consider it. The valuation analyst does not get a second bite of the apple if it was left out of the report. Despite the type of report, the valuation analyst still must follow all of the developmental provisions of the standard. Essentially, the valuation analyst still must do the proper job. The valuation analyst should make sure that the client's attorney is consulted regarding how much detail should be in the report. This is not a judgment call that a valuation analyst should make without input from legal counsel.

## Detailed Report

**.51** The *detailed report* is structured to provide sufficient information to permit intended users to understand the data, reasoning, and analyses underlying the valuation analyst's conclusion of value. A detailed report should include, as applicable, the following sections titled using wording similar in content to that shown:

- Letter of transmittal
- Table of contents
- Introduction

- Sources of information
- Analysis of the subject entity and related nonfinancial information
- Financial statement or financial information analysis
- Valuation approaches and methods considered
- Valuation approaches and methods used
- Valuation adjustments
- Non-operating assets, non-operating liabilities, and excess or deficient operating assets (if any)
- Representation of the valuation analyst
- Reconciliation of estimates and conclusion of value
- Qualifications of the valuation analyst
- Appendixes and exhibits

The report sections previously listed and the detailed information within the sections described in the following paragraphs .52–.77 may be positioned in the body of the report or elsewhere in the report at the discretion of the valuation analyst.

## Introduction

**.52** This section should provide an overall description of the valuation engagement. The information in the section should be sufficient to enable the intended user of the report to understand the nature and scope of the valuation engagement, as well as the work performed. The introduction section may include, among other things, the following information:

- a. Identity of the client
- b. Purpose and intended use of the valuation
- c. Intended users of the valuation
- d. Identity of the subject entity
- e. Description of the subject interest
- f. Whether the business interest has ownership control characteristics and its degree of marketability
- g. Valuation date
- h. Report date
- i. Type of report issued (namely, a detailed report) (paragraph .51)
- j. Applicable premise of value
- k. Applicable standard of value
- l. Assumptions and limiting conditions (alternatively, these often appear in an appendix) (paragraph .18)
- m. Any restrictions or limitations in the scope of work or data available for analysis (paragraph .19)
- n. Any hypothetical conditions used in the valuation engagement, including the basis for their use (paragraph .22)
- o. If the work of a specialist was used in the valuation engagement, a description of how the specialist's work was relied upon (paragraph .20)
- p. Disclosure of subsequent events in certain circumstances (paragraph .43)
- q. Any application of the jurisdictional exception (paragraph .10)
- r. Any additional information the valuation analyst deems useful to enable the user(s) of the report to understand the work performed

If the items previously listed are not included in the introduction, they should be included elsewhere in the valuation report.



### Author's Note

Keep in mind that this list is not meant to be all inclusive, and the order is flexible and at the discretion of the valuation analyst.

## Sources of Information

**.53** This section of the report should identify the relevant sources of information used in performing the valuation engagement. It may include, among other things, the following:

- a. For valuation of a business, business ownership interest, or security, whether and to what extent the subject entity's facilities were visited

- b. For valuation of an intangible asset, whether the legal registration, contractual documentation, or other tangible evidence of the asset was inspected
- c. Names, positions, and titles of persons interviewed and their relationships to the subject interest
- d. Financial information (paragraphs .54 and .56)
- e. Tax information (paragraph .55)
- f. Industry data
- g. Market data
- h. Economic data
- i. Other empirical information
- j. Relevant documents and other sources of information provided by or related to the entity

**.54** If the financial information includes financial statements that were reported on (audit, review, compilation, or attest engagement performed under the Statements on Standards for Attestation Engagements [SSAEs] [AT section 20–701]) by the valuation analyst’s firm, the valuation report should disclose this fact and the type of report issued. If the valuation analyst or the valuation analyst’s firm did not audit, review, compile, or attest under the SSAEs (AT sec. 20–701) to the financial information, the valuation analyst should so state and should also state that the valuation analyst assumes no responsibility for the financial information.



#### Author’s Note

The vast majority of valuations that are performed will generally include a limiting condition in the report that the financial statements were accepted, without independent verification and are being accepted as is. This is especially important for CPAs because many clients will use “CPA” and “auditor” as being synonymous. The valuation analyst wants to make sure that the reader of the report is very clear on what was and was not done as part of the assignment.

**.55** The financial information may be derived from, or may include information derived from, tax returns. With regard to such derived information and other tax information (see paragraph .53e), the valuation analyst should identify the tax returns used and any existing relationship between the valuation analyst and the tax preparer. If the valuation analyst or the valuation analyst’s firm did not audit, review, compile, or attest under the SSAEs (AT section 20–701) to any financial information derived from tax returns that is used during the valuation engagement, the valuation analyst should so state and should also state that the valuation analyst assumes no responsibility for that derived information.



#### Author’s Note

According to the Forensic and Valuation Services Executive Committee, using tax returns to present comparative financial information in a valuation assignment does not fall under the same rules that I discussed before regarding using general ledgers. Also, do not forget about SSARS No. 21. A report is not necessary if the information comes from tax returns. It is still considered to be a “best practice” to have a limiting condition stating that you are accepting the information without independent verification, list the source of the financial data as being from the tax returns, and that it is being presented only in the context of the business valuation report.

**.56** If the financial information used was derived from financial statements prepared by management that were not the subject of an audit, review, compilation, or attest engagement performed under the SSAEs, the valuation report should do the following:

- Identify the financial statements
- State that, as part of the valuation engagement, the valuation analyst did not audit, review, compile, or attest under the SSAEs (AT sec. 20–710) to the financial information and assumes no responsibility for that information

## Analysis of the Subject Entity and Related Nonfinancial Information

**.57** The valuation analyst should include a description of the relevant nonfinancial information listed and discussed in paragraph .27.

## Financial Statement or Financial Information Analysis

**.58** This section should include a description of the relevant information listed in paragraph .29. Such description may include the following:

- a. The rationale underlying any normalization or **control adjustments** to financial information
- b. Comparison of current performance with historical performance
- c. Comparison of performance with industry trends and norms, where available

## Valuation Approaches and Methods Considered

**.59** This section should state that the valuation analyst has considered the valuation approaches discussed in paragraph .31.

## Valuation Approaches and Methods Used

**.60** In this section, the valuation analyst should identify the valuation methods used under each valuation approach and the rationale for their use.

**.61** This section should also identify the following for each of the three approaches (if used):

- a. Income approach:
  - Composition of the representative benefit stream
  - Method(s) used, and a summary of the most relevant risk factors considered in selecting the appropriate **discount rate**, the capitalization rate, or both
  - Other factors as discussed in paragraph .33
- b. Asset-based approach or cost approach:
  - *Asset-based approach*: Any adjustments made by the valuation analyst to the relevant balance sheet data
  - *Cost approach*: The type of cost used, how this cost was estimated, and, if applicable, the forms of and costs associated with depreciation and obsolescence used under the approach and how those costs were estimated
- c. Market approach:
  - For the guideline public company method:
    - The selected guideline companies and the process used in their selection
    - The pricing multiples used, how they were used, and the rationale for their selection. If the pricing multiples were adjusted, the rationale for such adjustments
  - For the guideline company transactions method, the sales transactions and pricing multiples used, how they were used, and the rationale for their selection; if the pricing multiples were adjusted, the rationale for such adjustments
  - For the guideline sales of interests in the subject entity method, the sales transactions used, how they were used, and the rationale for determining that these sales are representative of arm's length transactions

**.62** When a rule of thumb is used in combination with other methods, the valuation report should disclose the source(s) of data used and how the rule of thumb was applied (see paragraph .39).

## Valuation Adjustments

**.63** This section should (a) identify each valuation adjustment considered and determined to be applicable, for example, discount for lack of marketability, (b) describe the rationale for using the adjustment and the factors considered in selecting the amount or percentage used, and (c) describe the pre-adjustment value to which the adjustment was applied (see paragraph .40).

## Non-Operating Assets and Excess Operating Assets

**.64** When the subject interest is a business, business ownership interest, or security, the valuation report should identify any related non-operating assets, non-operating liabilities, or excess or deficient operating assets and their effect on the valuation (see paragraph .41).

## Representation of the Valuation Analyst

**.65** Each written report should contain the representation of the valuation analyst. The representation is the section of the report wherein the valuation analyst summarizes the factors that guided his or her work during the engagement. Examples of these factors include the following:

- a. The analyses, opinions, and conclusion of value included in the valuation report are subject to the specified assumptions and limiting conditions (see paragraph .18), and they are the personal analyses, opinions, and conclusion of value of the valuation analyst.
- b. The economic and industry data included in the valuation report have been obtained from various printed or electronic reference sources that the valuation analyst believes to be reliable (any exceptions should be noted). The valuation analyst has not performed any corroborating procedures to substantiate that data.
- c. The valuation engagement was performed in accordance with the American Institute of Certified Public Accountants Statement on Standards for Valuation Services.
- d. The parties for which the information and use of the valuation report is restricted are identified; the valuation report is not intended to be and should not be used by anyone other than such parties (see paragraph .49).
- e. The analyst's compensation is fee-based or is contingent on the outcome of the valuation.
- f. The valuation analyst used the work of one or more outside specialists to assist during the valuation engagement. (An outside specialist is a specialist other than those employed in the valuation analyst's firm.) If the work of such a specialist was used, the specialist should be identified. The valuation report should include a statement identifying the level of responsibility, if any, the valuation analyst is assuming for the specialist's work.
- g. The valuation analyst has no obligation to update the report or the opinion of value for information that comes to his or her attention after the date of the report.
- h. The valuation analyst and the person(s) assuming responsibility for the valuation should sign the representation in their own name(s). The names of those providing significant professional assistance should be identified.



### Author's Note

Under the various other sets of standards, this section is frequently called "appraiser's certification." The accounting profession does not like the word "certification" because the reader may get confused because the auditor certifies financial statements. Certify and certification are terms of art in the accounting profession, so the AICPA valuation standard avoids these terms. Therefore, it is called a "representation." If it looks like a duck, quacks like a duck. . . . Just be clear that you did not do an audit or even appear to do an audit.

## Representations Regarding Information Provided to the Valuation Analyst

**.66** It may be appropriate for the valuation analyst to obtain written representations regarding information that the subject entity's management provides to the valuation analyst for purposes of his or her performing the valuation engagement. The decision whether to obtain a representation letter is a matter of judgment for the valuation analyst.

**Author's Note**

Representation letters are considered to be risk management tools within the accounting profession. However, although I am clearly risk adverse, I do not like to get representation letters when I perform valuation services because I believe that it is a procedure that is covered under the attestation standards. I do not want anyone to misconstrue the service that I am providing to look like an audit or review. However, there are many CPAs who feel more comfortable getting a representation letter from the client. This is clearly a professional preference. Many of my friends think that I am nuts. Maybe I am, but that does not change the way I feel. For those accountants who are reading this book with a few gray hairs, like me, I used to work for Max Rothenberg & Company CPAs (look up in your old auditing textbook the matter referred to as 1136 Tenants Cooperative v. Max Rothenberg & Company CPAs). That firm got clobbered in a malpractice suit for providing services that appeared to be an audit even though the firm was not engaged to do an audit. My general feeling is that if the client does not give me good information, the end result will be a bad valuation. I will be covering myself with documentation, memos to the file, and, where appropriate, sending sections of my report (for example, history of the business) to the client to verify the accuracy. Do what you believe is right for your circumstances. Don't just follow what I say because I said it.

**Qualifications of the Valuation Analyst**

**.67** The report should contain information regarding the qualifications of the valuation analyst.

**Author's Note**

This is the part of the report where you get to tell the reader how great you are. Just be careful not to exaggerate your experience or credentials. Let the reader know that you are qualified, but puffery is both unethical and likely to get you sued. If you received a credential in business valuation from one of the organizations that I discussed in the last chapter, congratulations! However, if you do not have a lot of experience performing business valuation assignments, be careful not to make your client think that you are very experienced. If the assignment ends up with you being on the wrong side of a malpractice verdict, you will probably be held to a higher standard because you are credentialed. There are several organizations that credential people with little to no experience. All the people have to do is show up to a course. If you are one of those folks, be careful.

**Conclusion of Value**

**.68** This section should present a reconciliation of the valuation analyst's estimate or various estimates of the value of the subject interest. In addition to a discussion of the rationale underlying the conclusion of value, this section should include the following or similar statements:

- a. A valuation engagement was performed, including the subject interest and the valuation date.
- b. The analysis was performed solely for the purpose described in this report, and the resulting estimate of value should not be used for any other purpose.
- c. The valuation engagement was conducted in accordance with the Statement(s) on Standards for Valuation Services of the American Institute of Certified Public Accountants.
- d. A statement that the estimate of value resulting from a valuation engagement is expressed as a conclusion of value.
- e. The scope of work or data available for analysis is explained, including any restrictions or limitations (see paragraph .19).
- f. A statement describing the conclusion of value, either a single amount or a range.
- g. The conclusion of value is subject to the assumptions and limiting conditions (see paragraph .18) and to the valuation analyst's representation (see paragraph .65).
- h. The report is signed in the name of the valuation analyst or the valuation analyst's firm.
- i. The date of the valuation report is included.
- j. The valuation analyst has no obligation to update the report or the conclusion of value for information that comes to his or her attention after the date of the report.

**Author's Note**

What is important to remember about this section of the standard is that we are being provided with the information that should be contained in a good valuation report. The task force that wrote this standard really bent over backwards to provide all of us with guidance in this document, eliminating much of the guess work regarding what are the true meanings behind the standard. They are not telling us that we must make our reports look like cookie cutters, but, rather, that each valuation report must contain an appropriate level of information to allow the intended reader to understand not only what the valuation analysis is all about but also what steps we perform in rendering our services.

**.69** The following is an example of report language that could be used, but is not required, when reporting the results of a valuation engagement:

We have performed a *valuation engagement*, as that term is defined in the Statement on Standards for Valuation Services (SSVS) of the American Institute of Certified Public Accountants, of [DEF Company, GHI business ownership interest of DEF Company, GHI security of DEF Company, or GHI intangible asset of DEF Company] as of [valuation date]. This valuation was performed solely to assist in the matter of [purpose of the valuation]; the resulting estimate of value should not be used for any other purpose or by any other party for any purpose. This valuation engagement was conducted in accordance with the SSVS. The estimate of value that results from a valuation engagement is expressed as a conclusion of value.

[If applicable] We were restricted or limited in the scope of our work or data available for analysis as follows: [describe restrictions or limitations].

Based on our analysis, as described in this valuation report, the estimate of value of [DEF Company, GHI business ownership interest of DEF Company, GHI security of DEF Company, or GHI intangible asset of DEF Company] as of [valuation date] was [value, either a single amount or a range]. This conclusion is subject to the Statement of Assumptions and Limiting Conditions found in [reference to applicable section of valuation report] and to the Valuation Analyst's Representation found in [reference to applicable section of valuation report]. We have no obligation to update this report or our conclusion of value for information that comes to our attention after the date of this report.

[Signature]

[Date]

## Appendixes and Exhibits

**.70** Appendixes or exhibits may be used for required information or information that supplements the detailed report. Often, the assumptions and limiting conditions and the valuation analyst's representation are provided in appendixes to the detailed report.

## Summary Report

**.71** A summary report is structured to provide an abridged version of the information that would be provided in a detailed report, and therefore, need not contain the same level of detail as a detailed report. However, a summary report should, at a minimum, include the following:

- a. Identity of the client
- b. Purpose and intended use of the valuation
- c. Intended users of the valuation
- d. Identity of the subject entity
- e. Description of the subject interest
- f. The business interest's ownership control characteristics, if any, and its degree of marketability
- g. Valuation date
- h. Valuation report date



- i.* Type of report issued (namely, a summary report) (paragraph .48)
- j.* Applicable premise of value
- k.* Applicable standard of value
- l.* Sources of information used in the valuation engagement
- m.* Assumptions and limiting conditions of the valuation engagement (paragraph .18)
- n.* The scope of work or data available for analysis including any restrictions or limitations (paragraph .19)
- o.* Any hypothetical conditions used in the valuation engagement, including the basis for their use (paragraph .22)
- p.* If the work of a specialist was used in the valuation (paragraph .20), a description of how the specialist's work was used, and the level of responsibility, if any, the valuation analyst is assuming for the specialist's work
- q.* The valuation approaches and methods used
- r.* Disclosure of subsequent events in certain circumstances (paragraph .43)
- s.* Any application of the jurisdictional exception (paragraph .10)
- t.* Representation of the valuation analyst (paragraph .65)
- u.* The report is signed in the name of the valuation analyst or the valuation analyst's firm
- v.* A section summarizing the reconciliation of the estimates and the conclusion of value as discussed in paragraphs .68 and .69
- w.* A statement that the valuation analyst has no obligation to update the report or the calculation of value for information that comes to his or her attention after the date of the valuation report

**.72** Appendixes or exhibits may be used for required information (see paragraph .70) or information that supplements the summary report. Often, the assumptions, limiting conditions, and the valuation analyst's representation are provided in appendixes to the summary report.

## Calculation Report

**.73** As indicated in paragraph .48, a calculation report is the only report that should be used to report the results of a calculation engagement. The report should state that it is a calculation report. The calculation report should include the representation of the valuation analyst similar to that in paragraph .65, but adapted for a calculation engagement.

**.74** The calculation report should identify any hypothetical conditions used in the calculation engagement, including the basis for their use (paragraph .22), any application of the jurisdictional exception (paragraph .10), and any assumptions and limiting conditions applicable to the engagement (paragraph .18). If the valuation analyst used the work of a specialist (paragraph .20), the valuation analyst should describe in the calculation report how the specialist's work was used and the level of responsibility, if any, the valuation analyst is assuming for the specialist's work. The calculation report may also include a disclosure of subsequent events in certain circumstances (paragraph .43).

**.75** Appendixes or exhibits may be used for required information (paragraph .72) or information that supplements the calculation report. Often, the assumptions and limiting conditions and the valuation analyst's representation are provided in appendixes to the calculation report.

**.76** The calculation report should include a section summarizing the calculated value. This section should include the following (or similar) statements:

- a.* Certain calculation procedures were performed; include the identity of the subject interest and the calculation date.
- b.* Describe the calculation procedures and the scope of work performed or reference the section(s) of the calculation report in which the calculation procedures and scope of work are described.
- c.* Describe the purpose of the calculation procedures, including that the calculation procedures were performed solely for that purpose and that the resulting calculated value should not be used for any other purpose or by any other party for any purpose.
- d.* The calculation engagement was conducted in accordance with the Statement on Standards for Valuation Services of the American Institute of Certified Public Accountants.

- e. A description of the business interest's characteristics, including whether the subject interest exhibits control characteristics, and a statement about the marketability of the subject interest.
- f. The estimate of value resulting from a calculation engagement is expressed as a calculated value. A general description of a calculation engagement is given, including that
  - i. a calculation engagement does not include all of the procedures required for a valuation engagement and
  - ii. had a valuation engagement been performed, the results may have been different.
- g. The calculated value, either a single amount or a range, is described.
- h. The report is signed in the name of the valuation analyst or the valuation analyst's firm.
- i. The date of the valuation report is given.
- j. The valuation analyst has no obligation to update the report or the calculation of value for information that comes to his or her attention after the date of the report.

**.77** The following is an example of report language that could be used, but is not required, in reporting a calculation engagement:

We have performed a *calculation engagement*, as that term is defined in the Statement on Standards for Valuation Services (SSVS) of the American Institute of Certified Public Accountants. We performed certain calculation procedures on [DEF Company, GHI business ownership interest of DEF Company, GHI security of DEF Company, or GHI intangible asset of DEF Company] as of [calculation date]. The specific calculation procedures are detailed in paragraphs [reference to paragraph numbers] of our calculation report. The calculation procedures were performed solely to assist in the matter of [purpose of valuation procedures], and the resulting calculation of value should not be used for any other purpose or by any other party for any purpose. This calculation engagement was conducted in accordance with the SSVS. The estimate of value that results from a calculation engagement is expressed as a calculated value.

In a calculation engagement, the valuation analyst and the client agree on the specific valuation approaches and valuation methods the valuation analyst will use and the extent of valuation procedures the valuation analyst will perform to estimate the value of the subject interest. A calculation engagement does not include all of the procedures required in a *valuation engagement*, as that term is defined in the SSVS. Had a valuation engagement been performed, the results might have been different.

Based on our calculations, as described in this report, which are based solely on the procedures agreed upon as referred to above, the resulting calculated value of [DEF Company, GHI business ownership interest of DEF Company, GHI security of DEF Company, or GHI intangible asset of DEF Company] as of [valuation date] was [calculated value, either a single amount or a range]. This calculated value is subject to the Statement of Assumptions and Limiting Conditions found in [reference to applicable section of valuation report] and to the Valuation Analyst's Representation found in [reference to applicable section of valuation report]. We have no obligation to update this report or our calculation of value for information that comes to our attention after the date of this report.

[Signature]

[Date]

## Oral Report

**.78** An oral report may be used in a valuation engagement or a calculation engagement. An oral report should include all information the valuation analyst believes necessary to relate the scope, assumptions, limitations, and the results of the engagement so as to limit any misunderstandings between the analyst and the recipient of the oral report. The member should document in the working papers the substance of the oral report communicated to the client.

**Author's Note**

I was going to include an oral report on the downloadable materials that came with this book, but then I realized that this was not a book-on-tape. Use your imagination, and read one of the sample reports aloud; that should suffice.

**Effective Date**

**.79** This statement applies to engagements to estimate value accepted on or after January 1, 2008. Earlier application is encouraged.

**Author's Note**

This standard has been effective for a long time by now. The valuation analyst needs to follow these rules if he or she belongs to the AICPA or if licensed in a state that follows the AICPA rules. If the analyst is not an accountant, these rules are a good guide to performing valuation services. The analyst probably will be following most of these rules anyway because the different appraisal organizations have similar rules.

This standard includes several appendixes that are also important. However, it is not yet time to read each one individually. Appendix A is an "Illustrative List of Assumptions and Limiting Conditions for a Business Valuation." This will be covered in chapter 17 when I discuss reports. Appendix B is the "International Glossary of Business Valuation Terms." I already have this as appendix 2 in this book, so I am not going to repeat it here. Appendix C is a "Glossary of Additional Terms." I have included this as appendix 3 in this book.

**Author's Note**

Now, just when you thought that we were done with this AICPA standard, here comes what I consider to be the bonus that was included with the standard: Interpretation No. 1-01, "Scope of Applicable Services," of SSVS No. 1. This is an important part of the document because it explains many of the areas that CPAs who perform valuation services only occasionally are concerned with. It also contains sections that pertain to business valuers, so don't stop reading yet!

## **VS Section 9100, *Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset: Valuation Services Interpretations of Section 100***

### **1. Scope of Applicable Services**

#### **Background**

**.01** The Statement on Standards for Valuation Services (SSVS) No. 1, *Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset* [VS section 100] establishes standards of performance and reporting for all AICPA members performing those valuation services that are within the scope of the Statement. When originally proposed on March 30, 2005, the Exposure Draft contained a list of questions and answers (Appendix A of the March 30, 2005 Exposure Draft) that were intended to assist members in determining if an engagement, particularly with regard to litigation or tax engagements, fell within the scope of the Statement. Through the Exposure Draft process, it was determined that the questions and answers were an integral part of the Statement and should be made authoritative. This Interpretation is part of the AICPA's continuing efforts at self-regulation of its members in valuation practice, and its desire to provide guidance to members when providing valuation services. The Interpretation does not change or elevate any level of conduct prescribed by any standard. Its goal is to clarify existing standards.

### General Interpretation

**.02** The SSVSs apply to an engagement to estimate value if, as all or as part of another engagement, a member determines the value of a business, business ownership interest, security, or intangible asset (SSVS No. 1, paragraphs 1 and 2 [VS section 100.01–.02]). In the process of estimating value, professional judgment is used to apply valuation approaches and valuation methods as described in the SSVS No. 1, paragraph 4 [VS section 100.04].

**.03** In determining whether a particular service falls within the scope of the Statement, a member should consider those services that are specifically excluded:

- Audit, review, and compilation engagements (SSVS No. 1, paragraph 5 [VS section 100.05])
- Use of values provided by the client or a third party (SSVS No. 1, paragraph 6 [VS section 100.06])
- Internal use assignments from employers to employee members not in the *practice of public accounting* (SSVS No. 1, paragraph 7 [VS section 100.07])
- Engagements that are exclusively for the purpose of determining economic damages (for example, lost profits) and that do not include an engagement to estimate value (SSVS No. 1, paragraph 8 [VS section 100.08])
- Mechanical computations that do not rise to the level of an engagement to estimate value (SSVS No. 1, paragraph 9(a) [VS section 100.09a])
- Engagements where it is not practical or reasonable to obtain or use relevant information and, therefore, the member is unable to apply valuation approaches and methods described in this Statement. (SSVS No. 1, paragraph 9(b) [VS section 100.09b])
- Engagements meeting the jurisdictional exception (SSVS No. 1, paragraph 10 [VS section 100.10])

**.04** A member should be diligent in determining if an engagement falls within the scope of the Statement. Unless specifically excluded by the SSVS, if the engagement requires a member to apply valuation approaches and methods, and use professional judgment in applying those approaches and methods, the SSVS would apply. In determining the scope and requirements of the engagement, a member should consider the client's needs, or the requirements of a third party for which the valuation is intended, including governmental, judicial, and accounting authorities. In addition, a member should consider other professional standards that might apply.

### Specific Illustrations

**.05** The following illustrations address general fact patterns. Accordingly, the application of the guidance discussed in the “General Interpretation” section to variations in general facts, or to particular facts and circumstances, may lead to different conclusions. In each illustration, there is no authority other than that indicated.

#### Illustrations Relating to Litigation Engagements and Certain Controversy Proceedings

**.06** *Illustration 1.* Do lost profits damage computations fall within the scope of the Statement?

**.07** *Conclusion.* No, unless the computations are undertaken as part of an engagement to estimate value (SSVS No. 1, paragraphs 1, 2, and 8 [VS section 100.01, .02, and .08]).



#### Author's Note

This means that if the valuation analyst, who would otherwise be subject to this standard, performs litigation support services in the form of lost profit analysis, the service performed is excluded from this standard. However, the valuation analyst probably wants to make sure that he or she follows the guidance in the other applicable AICPA standards and practice aids. Let's face it, we probably have rules for just about everything!

**.08** *Illustration 2.* Is an economic damages computation that incorporates a terminal value within the scope of the Statement?

**.09** *Conclusion.* The use of a terminal value exclusively for the determination of lost profits is not within the scope of this statement unless that determination will be used as part of an engagement to estimate value (*Illustration 1*).

**Author's Note**

If you do not know what a terminal value is, you probably should not be doing this type of work until you meet the competency provisions of the AICPA standards. However, do not worry. I will be discussing terminal values in chapter 12 as part of the income approach. After you read that chapter, you can start doing the work. (Only kidding!)

**.10 Illustration 3.** If a start-up business is destroyed, is the economic damages computation within the scope of the Statement?

**.11 Conclusion.** There are two common measures of damages: lost profits and loss of value. If a valuation analyst performs an engagement to estimate value to determine the loss of value of a business or intangible asset, the Statement applies. Otherwise, the Statement does not apply (*Illustration 1*). In order to determine whether the Statement applies, a member acting as an expert witness should evaluate whether the particular damages calculation constitutes an engagement to estimate value with respect to the business, business interest, security, or intangible asset or whether it constitutes a lost profits computation.

**Author's Note**

If you perform this type of work, do not let the standard determine whether you choose between a lost profits analysis or a business valuation. The case law of the presiding jurisdiction, as well as the facts and circumstances of the case, must be the determining factors. Speak with legal counsel to get the answer. If it is lost business value, then follow the standards.

**.12 Illustration 4.** Does the Statement include any exceptions relating to litigation or controversy proceedings?

**.13 Conclusion.** Yes, the Statement includes a reporting exemption for certain controversy proceedings (SSVS No. 1, paragraph 50 [VS section 100.50]); however, there is no litigation or controversy proceeding exemption from the developmental provisions of the Statement (SSVS No. 1, paragraphs 21–46 [VS section 100.21–.46]) in circumstances in which an engagement to estimate value is performed (*Illustration 1*).

**Author's Note**

Notice that this is only a reporting exemption. It is not an exemption to allow the valuation analyst to ignore the standards. This means that the valuation analyst still has to do everything necessary to develop a conclusion of value. The valuation analyst only has flexibility regarding how much or how little is put in the report. The valuation analyst should make sure to speak with the attorney handling the litigation before deciding what to exclude from the report. Certain jurisdictions require everything to be included in the report and do not care about the AICPA's litigation reporting exemption.

**.14 Illustration 5.** Is the Statement's reporting exemption for litigation or controversy proceedings (see SSVS No. 1, paragraph 50 [VS section 100.50]) the same as the "litigation exemption" in the AICPA attestation standards?

**.15 Conclusion.** No, the so-called "litigation exemption" is provided for in the AICPA attestation standards and is further discussed in the attestation interpretations. The attestation standards do not apply to engagements in which a practitioner is engaged to testify as an expert witness in accounting, auditing, taxation, or other matters, given certain stipulated facts. This is clarified in the attestation interpretation, which states, in part, that the attestation standards do not apply to litigation services engagements when (among other requirements) the practitioner "has not been engaged to issue and does not issue an examination, a review, or an agreed upon procedures report on the subject matter, or an assertion about the subject matter that is the responsibility of another party." (Interpretation No. 3, "Applicability of Attestation Standards to Litigation Services," of chapter 1, "Attest Engagements," of Statement on Standards for Attestation Engagements No. 10, *Attestation Standards: Revision and Recodification*, as revised [AT section 9101.34–.42].) However, unlike

the AICPA attestation standards, which do not apply in any capacity to litigation or controversy proceeding situations, as discussed above, the Statement's exemption for litigation or certain controversy proceedings is an exemption from the reporting provisions of the Statement (SSVS No. 1, paragraphs 47–78 [VS section 100.47–.78]).

### Illustrations Relating to Tax Engagements

**.16 Illustration 6.** When does the Statement apply to members who determine values related to tax reporting and planning engagements?

**.17 Conclusion.** The Statement applies when the member is engaged to estimate the value of a business, business ownership interest, security, or intangible asset (SSVS No. 1, paragraph 1 [VS section 100.01]). The application of valuation approaches and methods and the use of professional judgment (SSVS No. 1, paragraph 4 [VS section 100.04]) are required, unless an exception applies (SSVS No. 1, paragraphs 5–10 [VS section 100.05–.10]).



#### Author's Note

Tax practitioners, like business valuers, who are members of the AICPA are subject to this standard if the services rendered fall within the services covered by this standard. This is similar to the fact that if I prepare a tax return, there are rules that I must follow. The first rule is “Go to a psychiatrist because I must be going nuts!” I do not even do my own tax return. My wife does ours. I'm an innocent spouse!

However, if a tax practitioner is engaged to determine a value for estate or gift tax purposes, the same standards need to be followed whether the tax practitioner performs the service or a valuation analyst does it. It would make no sense to have different sets of standards for the same organization depending on the section that the member practices under.

What about the tax practitioner who is going to prepare an intangibles tax return for the client and needs the value of the business for inclusion in the return? If the client does not want to pay for a valuation engagement, let the client estimate the value and provide it to the tax practitioner for inclusion in the tax return. Just make sure to get it in writing from the client and have them sign an engagement letter indicating use of the value they provide.

**.18 Illustration 7.** If the sole purpose of an engagement is reporting a value in a tax return and the Statement applies to this engagement, are any separate reports (specifically, valuation reports) required to be issued? To whom are those reports required to be provided? Is a report required to be attached to the tax return? Are any specific disclosures required?

**.19 Conclusion.** The Statement requires the preparation of a written or oral valuation report (SSVS No. 1, paragraphs 47–78 [VS section 100.47–.78]) that is communicated to the client (SSVS No. 1, paragraph 47 [VS section 100.47]) but does not require that any report be attached to the tax return or mandate any other tax-specific disclosures. In limited circumstances, a taxing authority may require its own report, which would obviate the need for a separate valuation report (SSVS No. 1, paragraph 10 [VS section 100.10] and *Illustration 18*). There is also a reporting exemption for certain controversy proceedings (SSVS No. 1, paragraph 50 [VS section 100.50] and *Illustration 4*).

**.20 Illustration 8.** Are mechanical computations of value, for example, computations using actuarial tables, excluded from the Statement?

**.21 Conclusion.** Mechanical computations of value are excluded from the Statement if they do not rise to the level of an engagement to estimate value, that is, if the member does not apply valuation approaches and methods, and does not use professional judgment, as described in the Statement (SSVS No. 1, paragraph 9(a) [VS section 100.09a]).

**.22** Examples of services that do not rise to the level of an engagement to estimate value include:  
(a) computations of a remainder interest under a grantor retained annuity trust (GRAT) using actuarial tables;

(b) determining the value of relatively small blocks (relative to the total amount of corporate stock outstanding) of publicly traded stock whose per share price is readily ascertainable; (c) preparing a tax return using the valuation of a business that was provided by a third-party appraiser, or by the client (SSVS No. 1, paragraph 6 [VS section 100.06]); and (d) calculating cash “hold back” requirements for tax contingencies (SSVS No. 1, paragraphs 1, 4, and 9(a) [VS section 100.01, .04, and .09a]).

**.23** Examples of services that rise to the level of an engagement to estimate value include: (a) valuing a block of publicly traded stock, if the analysis includes consideration of a discount for blockage, lock-up, or other contractual or market restrictions such that valuation approaches and methods are applied, and professional judgment is used to determine the fair value, fair market value, or other applicable standard of value; (b) valuing stock that is not publicly traded; and (c) computing the fair market value of assets in a charitable remainder trust (CRT), if the engagement requires the application of valuation approaches and methods, and the use of professional judgment to estimate the fair market value.

**.24** *Illustration 9.* Does the “jurisdictional exception” (SSVS No. 1, paragraph 10 [VS section 100.10]) provide that an engagement to estimate value is not subject to the Statement if a member determines and reports values using procedures mandated or allowed by the Internal Revenue Code (IRC), Internal Revenue Service (IRS) regulations, court cases, or other published guidance and other sources of federal, state, and local law solely for purposes of tax return preparation and other tax services using these methods?

**.25** *Conclusion.* No, the “jurisdictional exception” would not exempt the engagement from this Statement, even if the engagement’s sole purpose was to value a subject interest (SSVS No. 1, paragraph 1 [VS section 100.01]) for tax reporting purposes. Only the portion of the Statement that differs from the published governmental or judicial authority is superseded for purposes of the engagement. The remainder of the Statement applies to the engagement.



#### Author's Note

So what the standard is really saying is that if all you are doing is opening up The Wall Street Journal and multiplying the number of shares times the share price, then that is a mechanical calculation not covered by the standard. However, if you plan to take a discount, for example, blockage (discussed in chapter 15), you just became subject to the standard. If you have to think, rather than merely use your calculator, you are subject to the standard.

**.26** *Illustration 10.* Is an interest in a publicly traded partnership whose shares are frequently traded considered a “security” under the Statement? Is an interest in a family limited partnership (FLP), or in another non-traded partnership, considered a “security” under the Statement?

**.27** *Conclusion.* Whether interest constitutes a “security” is a legal determination. However, where the value of a security is readily ascertainable, a valuation analyst does not need to apply valuation approaches and methods and use professional judgment. Accordingly, the valuation of such an interest would not be subject to the Statement (SSVS No. 1, paragraphs 1 and 9(a) [VS section 100.01 and .097]). An interest in a non-publicly traded partnership, such as an FLP, whether considered a security or not, is a business ownership interest. The valuation of such nonpublicly traded interest requires the application of valuation approaches and methods and the use of professional judgment, and, accordingly, would be subject to the Statement (SSVS No. 1, paragraphs 1, 4, [VS section 100.01 and .04], and Illustration 6), unless the exception under SSVS No. 1, paragraph 9(b) [VS section 100.09b] applies (*Illustration 13e*). If the engagement requires the valuation analyst to consider and apply adjustments, for example, valuation discounts or premiums, then the engagement would be subject to the Statement.

**.28** *Illustration 11.* A client engages a member to provide advice for planning purposes (such as estate planning, personal financial planning, or merger and acquisitions planning). The client holds an ownership interest in a family business being operated as a limited liability company, an interest in a private real estate limited partnership, publicly traded stock, a personal residence, and a retirement account (not an IRA). Is this a valuation engagement subject to the Statement?

**.29 Conclusion.** It depends. Providing technical advice, without reference to values for the various assets, is not subject to the Statement. However, if a member calculates a value to illustrate various planning options, he or she may fall under the Statement with regard to various assets. If one or more of the assets for which value is to be determined for purposes of the plan illustrations is a business, business ownership interest, security, or intangible asset, and the client or a third party does not provide the values for these assets, or the member does not use assumed or hypothetical values as part of the overall engagement, the member performing the valuation(s) is subject to the Statement with regard to these assets (SSVS No. 1, paragraph 1 [VS section 100.01] and *Illustration 6*). In this example, if the member applies valuation approaches and methods and uses professional judgment to determine the value of the ownership interest in the family business or the interest in the private real estate limited partnership in order to provide planning advice, the Statement would apply. In contrast, if the client or a third party provides the values for these assets, or the member uses assumed or hypothetical values, the Statement would not apply because the member would not be applying valuation approaches and methods and using professional judgment. In addition, the exception under SSVS No. 1, paragraph 9(b), [VS section 100.09b] where it is not practical or reasonable to obtain or use relevant information, could apply (see *Illustration 13e*). The computation of the “estimated estate tax” or other taxes once the values have been determined, assumed, or provided is not subject to the Statement, as the computation is a tax computation but would be subject to the Statement on Standards for Tax Services [TS sections 100–900] (*Illustration 10* at paragraph .27 of this interpretation).

**.30 Illustration 12.** There are many instances where a tax engagement involves the need for a member to estimate value. The estimation of value may not be the primary purpose of the engagement, but rather a necessary task to perform or item to consider, when making a tax determination concerning the reporting of a transaction on a tax return. Consider the following practice situations:

**.31 Illustration 12a.** A member has been engaged to determine the deductibility of interest on a nonrecourse loan. Under applicable regulations, interest on a nonrecourse loan cannot be deducted if it is clear that the company will be unable to service the debt. For purposes of tax reporting, a conclusion must be reached concerning the ability of the company to service the debt. Is this considered a valuation engagement subject to the Statement?

**.32 Conclusion.** This is not a valuation engagement covered by the Statement because it is not the valuation of a subject interest (SSVS No. 1, paragraph 1 [VS section 100.01]). This example is a debt service analysis.

**.33 Illustration 12b.** There are compliance filings that require an estimate of the value of a company. For example, the “market value” of “intangible personal property,” as defined by a state’s taxing authority may need to be reported annually on an intangible personal property tax return. A client has a subject interest that is considered intangible personal property for purposes of the return. The member has been engaged to prepare the tax return. Is this a valuation engagement subject to the Statement?

**.34 Conclusion.** It depends. If the state requires an estimation of the value of a subject interest, and the estimation of value requires the application of valuation approaches and methods and the use of professional judgment (SSVS No. 1, paragraphs 1 and 4 [VS section 100.01 and .04]), the Statement applies. If, however, the client or a third-party appraiser provides the value of the subject interest to the member, the Statement does not apply (SSVS No. 1, paragraphs 1 and 6 [VS section 100.01 and .06]). In addition, the exception under SSVS No. 1, paragraph 9(b), [VS section 100.09b] where it is not practical or reasonable to obtain or use relevant information, could apply (*Illustration 13e*). Alternatively, if the state follows more informal rules where the application of valuation approaches or valuation methods are not necessary, the Statement does not apply (SSVS No. 1, paragraph 4 [VS section 100.04]).



#### Author's Note

I told you so! Get the value from the client, and you can skate!



**.35 Illustration 12c.** There are times when a member must allocate value among various assets. For example, IRC sections 1060 and 338 require the allocation to assets, based on relative values, of consideration paid. In partnership taxation, there may be allocations under IRC sections 754, 743, and 734 and special tax basis adjustments for partnerships (sales or exchanges and transfers at or upon death) may require an allocation of value among various partnership assets. Are these types of allocations engagements to estimate value subject to the Statement?

**.36 Conclusion.** It depends. If one or more of the assets to which value is to be allocated is a subject interest (that is, a business, business ownership interest, security, or intangible asset), and the client or a third party did not provide the member with a value for those assets, then the member performing the allocation would be subject to the Statement, and the member is required to apply valuation approaches and methods, and use professional judgment to value those assets (SSVS No. 1, paragraphs 1, 4, [VS section 100.01 and .04] and *Illustration 6*), unless an exception applies (SSVS No. 1, paragraphs 5–10 [VS section 100.05–.10]). For example, in an IRC section 1060 allocation, after the allocation of purchase price to cash, receivables, inventory, and depreciable tangible assets, there is a residual amount of value allocable to goodwill or going concern. The mechanical assignment of the residual amount to goodwill or going concern is not subject to the Statement. However, if the member allocates this residual amount to specific intangible assets (such as to various customer-based and supplier-based intangibles), such allocation is based on the assets' relative values. Because the member applies valuation approaches and methods and uses professional judgment to value those specific intangible assets, the Statement applies.



#### Author's Note

Time for a pop quiz. Can you tell me how many times the answer to any of the preceding questions is “It depends?” Welcome to my world. The correct answer most of the time is that it depends. You will really know that you are starting to understand this stuff when you know what it depends on.

**.37 Illustration 12d.** If the member does not apply any discount and simply computes the fair market value of an interest in a FLP for tax purposes, is this a valuation engagement subject to the Statement?

**.38 Conclusion.** Yes, the Statement applies if the member determines the value of the FLP or an interest in an FLP. The application of valuation approaches and methods, and the use of professional judgment are required, unless an exception applies (SSVS No. 1, paragraphs 5–10 [VS section 100.05–.10]). The fact that the member does not apply a discount does not exempt the engagement from the Statement (SSVS No. 1, paragraphs 1–4 and 9(a) [VS section 100.01–.04 and .09a]).

**.39 Illustration 12e.** Would the Statement apply to the computation of the fair market value of assets in, or the computation of the required distribution of, a charitable remainder trust (CRT)?

**.40 Conclusion.** It depends on the underlying assets held by the CRT. The Statement would apply only if the member determines the value of a business, business ownership interest, security, or intangible asset (SSVS No. 1, paragraph 1 [VS section 100.01]). To the extent that the CRT holds assets that, to be valued, require the application of valuation approaches and methods, and the use of professional judgment, such as an interest in a limited liability corporation (LLC), the Statement would apply. However, if the CRT only holds publicly traded stock with a readily ascertainable value, the Statement would not apply because valuation approaches and methods and professional judgment would not be needed in the computation (SSVS No. 1, paragraphs 1 and 4, [VS section 100.01 and .04] and *Illustration 6*).

**.41 Illustration 12f.** In circumstances in which the value of assets contributed by partners to a partnership differ from their cost basis, each difference must be tracked for tax purposes under IRC section 704(c) so that amounts of gain or loss can be properly assigned to the contributing partners. Are these types of asset value assignments valuation engagements subject to the Statement?

**.42 Conclusion.** It depends. If one or more of the assets for which value is relevant under IRC section 704(c) is a subject interest, that is, a business, business ownership interest, security, or intangible asset, and the client or a third party does not provide the valuation, and the member applies valuation approaches and methods and uses professional judgment to value these assets for IRC section 704(c) tax purposes, then the Statement applies (SSVS No. 1, paragraphs 1 and 6, [VS section 100.01 and .06 and *Illustration 6*]).

**.43 Illustration 12g.** A member has been engaged to perform a cost segregation study. The study involves an analysis of the costs of building a structure and the allocation of such costs to the real and personal property components of the structure so that depreciation of those components may be properly computed. Is this a valuation engagement subject to the Statement?

**.44 Conclusion.** No, none of the assets constitutes a subject interest (SSVS No. 1, paragraph 1 [VS section 100.01]).

**.45 Illustration 12h.** A member has been engaged to provide advice to a company regarding the tax planning for income from discharge of indebtedness under IRC section 108. The company has advised the member that the company will be able to negotiate a settlement in complete satisfaction of an obligation at 30 cents on the dollar. Is this a valuation engagement subject to the Statement?

**.46 Conclusion.** It depends. Under IRC section 108(a), gross income of the company excludes income from discharge of indebtedness only under certain circumstances. One of those circumstances is the insolvency of the company. Under IRC section 108(d)(3), insolvency results from an excess of liabilities over the fair market value of assets. If (a) the company must rely on the insolvency provisions of IRC section 108; (b) one or more of the assets for which value is relevant under IRC section 108 is a subject interest (that is, a business, business ownership interest, security, or intangible asset); (c) the company or a third party does not provide the valuation; and (d) the member applies valuation approaches and methods, and uses professional judgment to value the subject interest(s) for purposes of the IRC section 108(d)(3) insolvency determination, the Statement applies.

**.47 Illustration 13.** An executor has engaged a member to prepare an estate tax return, which requires determining values for the following estate assets: (a) shares in a publicly traded company, “TI Corporation,” whose shares are infrequently traded; (b) a large block of stock in “LB Corporation,” a publicly traded company; (c) a brokerage account consisting of shares in various publicly traded companies; (d) “CHB Corporation,” a closely held business owned by the decedent and the decedent’s family; and (e) a 5 percent interest in “RP,” a privately held rental real estate partnership. Does the Statement apply to any of the following assets owned by the estate? (See *Illustration 10* at paragraph .27 of this Interpretation regarding the valuation of a security.)



#### Author's Note

By now, you should realize that this standard does not apply where the value of a security is readily ascertainable; a valuation analyst does not need to apply valuation approaches and methods and use professional judgment. Accordingly, the valuation of such an interest would not be subject to the standard (SSVS No. 1, paragraphs 1 and 9a). An interest in a non-publicly-traded partnership, such as a family limited partnership, whether considered a security or not, is a business ownership interest. The valuation of such non-publicly-traded interest requires the application of valuation approaches and methods and the use of professional judgment in the application of valuation approaches and methods and, accordingly, would be subject to the standard (SSVS No. 1, paragraphs 1, 4, and *Illustration 6*), unless the exception under SSVS No. 1, paragraph 9b applies (*Illustration 13e*). This does not apply to professional judgment in, for example, applying the tax law. If the engagement requires the valuation analyst to consider and apply adjustments, for example, valuation discounts or premiums, then the engagement would be subject to the standard. Don't bother to look back at paragraph .27—I just gave it to you.

**.48 Illustration 13a.** Does the Statement apply to shares in a publicly traded company, “TI Corporation,” whose shares are traded infrequently?

**.49 Conclusion.** It depends; although the price of a share of publicly traded stock is ascertainable from published sources, there are no definitive criteria that would indicate when the Statement applies to shares that are infrequently traded. A key consideration is the average daily trading volume of TI Corporation stock on or around the valuation date. The concept of fair market value incorporates the notions that (1) cash could have been received for the stock at the valuation date, and (2) the share price of an infrequently traded stock could decrease if a relatively large block of the stock were to be put on the market on that date. If the subject shares held by the estate do not represent a significant percentage of the daily trading volume of TI stock on or around the valuation date, and the price of a share of the stock is readily ascertainable on the valuation date, then the resulting value (the quoted share price times the number of shares owned) represents a cash price that could have been received at the valuation date for the block, and the Statement does not apply because the calculation of value is mechanical (SSVS No. 1, paragraph 9(a) [VS section 100.09a]). If, however, the subject shares held by the estate represent a large percentage of the average daily trading volume of the stock, the quoted market price for a share may not be adequate for purposes of determining the fair market value of the block of shares on the valuation date. In that case, the Statement applies because valuation approaches and methods need to be applied, and professional judgment needs to be used in determining the value of the block (SSVS No. 1, paragraphs 1 and 4 [VS section 100.01 and .04]) (See *Illustration 10* at paragraph .27 of this interpretation regarding the valuation of a security.)

**Author's Note**

What is actually being said here is that if the public company stock is thinly traded, the market price of the stock may not be reflective of its fair market value. If you have to determine a different value, you would be subject to this standard. I just said it in a lot less words!

**.50 Illustration 13b.** Does the Statement apply to a large block of stock in “LB Corporation,” a publicly traded company?

**.51 Conclusion.** The answer depends on the amount of shares to be valued in relation to the average daily trading volume in LB Corporation on or around the valuation date. There are no definitive criteria that would indicate when the Statement applies to the valuation of a large block of publicly traded stock. The concept of fair market value incorporates the notion that cash could have been received from a sale of the block on the valuation date. A large block could decrease the share price if sold on the valuation date. The Statement would typically not apply to the valuation of a large block (for example, 200,000 shares) of a large and actively traded public company. Even though the value of the estate’s stock may be large in absolute terms, the daily trading volume in such stock on the valuation date may be sufficiently high that a sale of the block on the valuation date would not affect the market price of a company’s shares. In such a case, the quoted market price of a share times the number of shares held by the estate may be considered to reflect the fair market value of the subject block of stock, and because it would not be the case that valuation approaches and methods would need to be applied and professional judgment used, the Statement would not apply. If, however, the large block of publicly traded shares represents a significant percentage of the daily trading volume, the Statement would apply because valuation approaches and methods would need to be applied and professional judgment used to determine the value (SSVS No. 1, paragraphs 1 and 4 [VS section 100.01 and .04]).

**Author's Note**

That is a lot of words to say that because a blockage discount may need to be applied, the valuation analyst would be subject to the standard. Blockage is discussed in chapter 15.

**.52 Illustration 13c.** Does the Statement apply to a brokerage account consisting of shares in various publicly traded companies?

**.53 Conclusion.** The Statement would not apply to the determination of the value of a brokerage account consisting of publicly traded securities, except as discussed in paragraphs .49 and .51 of this interpretation. Absent certain scenarios involving infrequently traded securities or large blocks of stock, the application of valuation approaches and methods and the use of professional judgment are not necessary in that determination (SSVS No. 1, paragraphs 1 and 4 [VS section 100.01 and .04]).

**.54 Illustration 13d.** Does the Statement apply to “CHB Corporation,” a closely held business owned by the decedent and the decedent’s family?

**.55 Conclusion.** The Statement would apply to the determination of value of CHB Corporation because valuation approaches and methods need to be applied, and professional judgment needs to be used to determine the fair market value of the ownership interest in CHB (SSVS No. 1, paragraphs 1 and 4 [VS section 100.01 and .04]).

**.56 Illustration 13e.** Does the Statement apply to a 5 percent interest in a privately held rental real estate partnership (RP)?

**.57 Conclusion.** The Statement would apply to the determination of value of the 5 percent interest in rental real estate partnership (RP) because valuation approaches and methods need to be applied and professional judgment needs to be used to determine the fair market value of the ownership of a fractional interest in a privately held partnership (SSVS No. 1, paragraphs 1 and 4 [VS section 100.01 and .04]). However, where it is not practical or not reasonable to obtain or use relevant information and, therefore, the member is unable to apply valuation approaches and methods, the Statement would not apply. For example, the member has requested from RP’s general partner financial information the member needs in order to apply valuation approaches and methods. The general partner is not responsive to the member’s requests, and the due date for filing the estate tax return is near. Given the small ownership interest, and given that RP is likely a relatively small percent of the total estate, unless prohibited by statute or by rule, the member may then use the taxpayer’s estimates if the member determines that the estimates are reasonable (based on the facts and circumstances known to the member) (SSVS No. 1, paragraph 9(b) [VS section 100.09b]).



#### Author’s Note

This is an interesting example. Very often, we are asked to value things that probably have little to no value, but we cannot get the cooperation that we need to do our jobs. For an estate tax return, I agree with the notion that if the client provides something that is reasonable, and the effect is relatively minor (remember materiality?), then we can go ahead and perform the job and not be concerned with this standard. However, be careful if this is your problem in a litigation assignment. If you are impeached on a small item, the judge may start to doubt you on the larger ones. Keep this interpretation in perspective for the tax practitioners for whom it is intended.

**.58 Illustration 14.** Would the answers to *Illustration 13* change if the values were provided by the client or a client-engaged third party?

**.59 Conclusion.** The Statement would not apply if the values were provided by the client or by a client-engaged third party because the member is not applying valuation approaches and methods and using professional judgment to determine value (SSVS No. 1, paragraphs 1 and 4 [VS section 100.01 and .04]). However, the member would be subject to Statement on Standards for Tax Services No. 3, *Certain Procedural Aspects of Preparing Returns* [TS section 300], in providing appropriate due diligence with respect to the values provided to the member. It is also recommended that the understanding between member and client in these circumstances include documentation of the fact that the member is not determining but rather is being provided with the value of the subject interest.

**.60 Illustration 15.** Would the answers to *Illustration 13* change if the values were provided by an outside third-party specialist hired by the member?

**.61 Conclusion.** If the member engages an outside third-party specialist to assist with the member's work, and it is the member expressing a conclusion or calculated value, the member will be applying valuation approaches and methods and using professional judgment; thus, the Statement would apply (SSVS No. 1, paragraphs 1 and 4 [VS section 100.01 and .04]; SSVS No. 1, paragraph 20, "Using the Work of Specialists in the Valuation Engagement" [VS section 100.20]). If, however, the third-party specialist is determining the value in his or her own name and providing that value to the client, and the member will not be applying valuation approaches and methods or using professional judgment (SSVS No. 1, paragraphs 1 and 4 [VS section 100.01 and .04], and *Illustration 6*), the Statement would not apply, but the member would be subject to Statement on Standards for Tax Services No. 3, *Certain Procedural Aspects of Preparing Returns* [TS section 300] in providing appropriate due diligence with respect to the values provided.

**.62 Illustration 16.** The client and the member agree that the member will value a partnership interest and then apply an "average" discount that the member is to determine (based on the results of various studies and case law). Does the Statement apply? If so, is this a valuation engagement or a calculation engagement?

**.63 Conclusion.** Yes, the Statement applies because the member determined the value of the partnership interest by applying valuation approaches and valuation methods and using professional judgment. This would be considered a calculation engagement because the member and the client have agreed on the specific valuation approaches or valuation methods the valuation analyst will use and the extent of valuation procedures the valuation analyst will perform (SSVS No. 1, paragraph 21(b) [VS section 100.21b] and *Illustration 6*).



#### Author's Note

A calculation engagement is conceptually similar to an agreed upon procedures engagement in the AICPA's attestation standards, where the valuation analyst and the client agree that certain procedures will be applied. Anything less than an engagement that allows the valuation analyst complete discretion over the methods and procedures to be applied is considered to be a calculation engagement.

**.64 Illustration 17.** Would the Statement apply if a member has an informal conversation or communicates in writing with a client regarding the alternative tax consequences of gifting versus selling a business using a presumption of a specific value of the business?

**.65 Conclusion.** No, the Statement would not apply. The member is providing tax advice using an assumed or hypothetical value of a business and is not determining value, applying valuation approaches and methods, and using professional judgment to value a business (SSVS No. 1, paragraphs 1 and 4, [VS section 100.01 and .04] and *Illustration 6*).

**.66 Illustration 18.** Would the Statement apply to a transfer pricing study (IRC section 482) that involves the use of specific methodologies, data, terminology, and documentation requirements that are provided in the IRS regulations and procedures, and whose methodologies and documentation requirements differ from those contained in the Statement?

**.67 Conclusion.** No. To the extent that the transfer pricing study applies, for example, to the valuation of inventory or services, the Statement would not apply (see SSVS No. 1, paragraph 1 [VS section 100.01] and *Illustration 6*). To the extent that the transfer pricing study applies to the valuation of intangible assets, the Statement would normally apply. However, because the IRS regulations require that the taxpayer reasonably calculate an arm's-length price according to the best method that is determined using third-party comparable data under explicit IRS rules and documentation procedures, and to the extent these IRS rules and procedures differ from the Statement, the jurisdictional exception (SSVS No. 1, paragraph 10 [VS section 100.10]) would exempt the valuation of the intangible assets from the developmental provisions of the Statement (SSVS No. 1, paragraphs 25–48 [VS section 100.25-.48]). In addition, to the extent that the IRS regulations (such as IRS regulation section 1.6662-6(d) (2) (iii)) and procedures provide specific documentation requirements for avoiding potential penalties, and if a transfer pricing report is provided to a client according to such IRS documentation requirements, the jurisdictional exception would apply to the reporting provisions of the Statement (SSVS No. 1, paragraphs 50–78 [VS section 100.50-.78]) and thus a valuation report would not be necessary.

**Author's Note**

My sincere apologies to the non-CPAs reading this part of the book. I would not have started with IRS regulation section numbers, but the accountant-types put it in the interpretation. Boy, I forgot how ugly code and regulation sections are! The bottom line is that if the IRS regulations tell us what to do and how to do it, as well as how to report it, the jurisdictional exception applies, and the standard does not.

**.68 Illustration 19.** In a situation where the Statement applies to members who determine value as part of tax engagements, would the member also be required to be in compliance with the Statements on Standards for Tax Services (SSTs) [TS sections 100–900]?

**.69 Conclusion.** Yes, the Statement would apply only to the valuation determination and reporting aspects of the engagement, but the SSTs would apply to all aspects of the engagement. For example, even though the Statement would govern the determination of value of an applicable asset reported on a tax return, the member would also have to be in compliance with SSTs No. 1, *Tax Return Positions*, [TS section 100] for that valuation.

**.70 Illustration 20.** Do settlements or negotiations of value in offers-in-compromise or tax disputes fall under the Statement? (Appears as *Illustration 21* in original publication.)

**.71 Conclusion.** No, settlements or negotiations of value in offers-in-compromise or tax disputes are part of a tax process. However, if a member prepares a valuation in preparation for a settlement or negotiation of value, and the valuation involves the application of valuation approaches and methods and the use of professional judgment, the valuation would fall under the developmental aspects of the Statement. The settlement or negotiation process itself is not a valuation and would not fall under the Statement. In addition, the Statement's reporting exemption for certain controversy proceedings would apply as the valuation was performed specifically for the administrative matter (SSVS No. 1, paragraph 50 [VS section 100.50]).

**Illustrations Relating to Other Engagements**

**.72 Illustration 21.** Does determining the value of accounts receivable fall under the Statement? (Appears as *Illustration 20* in original publication.)

**.73 Conclusion.** No, accounts receivable constitute **tangible assets** under the Statement (SSVS No. 1, Appendix B [VS section 100.81]), and do not constitute a subject interest (SSVS No. 1, paragraph 1 [VS section 100.01]).

**.74 Illustration 22.** In the course of performing a valuation under the Statement, if a valuation analyst prepares prospective financial information (for example, as part of a discounted cash flow or discounted earnings analysis within the income approach), does this require the valuation analyst to examine or compile such information in accordance with the Statements on Standards for Attestation Engagements (SSAEs) [AT sections 20–701]?

**.75 Conclusion.** No, chapter 1, “Attest Engagements,” of SSAE No. 10, *Attestation Standards: Revision and Recodification*, as amended [AT section 101.01] states that the attestation standards apply when a practitioner is “engaged to issue or does issue an examination, a review, or an agreed-upon procedures report on subject matter, or an assertion about the subject matter..., that is the responsibility of another party.” If the valuation analyst has not been engaged to examine, compile, assemble, review, or apply agreed upon procedures to prospective financial information, and does not issue an examination, compilation, assembly, or agreed upon report on prospective financial information, the SSAEs [AT sections 20–701] do not apply (SSARS No. 14 AR section 120)).

**Author's Note**

Notice that the wording in this illustration states “if a valuation analyst prepares prospective financial information...” This means that the valuation analyst can prepare prospective information. I will discuss this later in chapters 8 and 12 under forecasts and the discounted future benefits method. Many accountants (and some valuation analysts) try to hide behind the fact that if management does not give them prospective financial statements, they cannot use this method. That is a bunch of nonsense!

**.76 Illustration 23.** Under a valuation engagement, a valuation analyst is free to select any and all valuation approaches and methods the valuation analyst deems appropriate in the circumstances. Under a calculation engagement, the valuation analyst and the client agree to the specific approaches or methods the valuation analyst will use or the extent of calculation procedures the valuation analyst will perform. (SSVS No. 1, paragraph 21 [VS section 100.21].) Under SSVS No. 1, paragraph 18 [VS section 100.18], a restriction or limitation on the scope of the valuation analyst’s work, or the data available for analysis may be present and known to the valuation analyst at the outset of the engagement, or may arise during the course of an engagement (and such restriction or limitation should be disclosed in the report). Is it possible to have a restriction or limitation that is of such a degree that a valuation analyst engaged to perform a valuation engagement should propose altering the engagement to be a calculation engagement?

**.77 Conclusion.** Although the two engagements represent two different types of service performed by valuation analysts, the possibility exists. If, in the course of a valuation engagement, restrictions, or limitations on the scope of the valuation analyst’s work or the data available for analysis are so significant that the valuation analyst believes that he or she cannot, even with disclosure in the valuation report of the restrictions or limitations, adequately perform a valuation engagement leading to a conclusion of value, the valuation analyst should determine whether he or she has the ability to adequately complete the engagement as a calculation engagement or should consider resigning from the engagement.

**.78 Illustration 24.** If a member employed in industry, government, or education “moonlights” doing engagements to estimate value, do the standards apply?

**.79 Conclusion.** Yes, the standard applies. By moonlighting, the member is holding him or herself out as a certified public accountant and as being in public practice. The standard would apply just as it would to any other member in public practice unless one of the exceptions applies.

**.80 Illustration 25.** Does the Statement apply to an assignment from an employer to an employee member not in public practice to prepare a valuation for internal financial reporting purposes?

**.81 Conclusion.** No, SSVS No. 1, paragraph 7 [VS section 100.07] exempts internal use assignments from an employer to an employee member not in the practice of public accounting. However, if the valuation is to be used for financial reporting purposes, the employer and the employee may wish to consider whether the work will be accepted by the employer’s outside auditors if the Statement is not followed.

### Illustrations for PFP-Specific Engagements

*These illustrations assume the member has not been engaged to perform a business valuation.*

**.82 Illustration 26.** When does the Statement apply to members who determine values related to personal financial planning engagements?

**.83 Conclusion.** The Statement applies to personal financial planning engagements when the member determines the value of a business, business ownership interest, security, or intangible asset (SSVS No. 1, paragraph 1 [VS section 100.01]) and in the process of determining the value applies valuation approaches and methods and uses professional judgment (SSVS No. 1, paragraph 4 [VS section 100.04]) unless an exception applies (SSVS No. 1, paragraphs 5–10 [VS section 100.05–.10]).

**Author's Note**

Gee. What a surprise! If this standard is going to apply to tax practitioners, moonlighting professionals, and business valuers, why wouldn't it apply to personal financial planners as well? Bottom line—when ANY AICPA member determines the value of a business, business ownership interest, security, or intangible asset and in the process of determining the value applies valuation approaches and methods and uses professional judgment, this standard applies, unless an exception applies.

**.84 Illustration 27.** If a member is engaged to provide personal financial planning services to a client and, in the course of the engagement, estimates the proceeds from a hypothetical future sale of the client's business interest, does the Statement apply?

**.85 Conclusion.** No. The Statement does not apply because estimate of future sales proceeds does not in itself constitute a valuation engagement (SSVS No. 1, paragraphs 1 and 4 [VS section 100.01 and .04]).

**.86 Illustration 28.** A member is engaged to provide personal financial planning services to a client and, in the course of the engagement, estimates the proceeds from a hypothetical future sale of the client's business interest. As part of that engagement, the member shares general industry knowledge to assist the client in estimating the current value of the business interest. Does the Statement apply?

**.87 Conclusion:**

- a. If, in the process of determining the current value from which the member estimates future sales proceeds, the member applies valuation approaches and methods and uses professional judgment, the Statement applies to the determination of the current value (SSVS No. 1, paragraph 4 [VS section 100.04]). However, the Statement does not apply when the member shares general industry knowledge with the client instead of applying professional judgment.
- b. If the client or another party provides the current value, and the member does not apply valuation approaches and methods, the Statement does not apply (SSVS No. 1, paragraphs 4 and 6 [VS section 100.04 and .06]).
- c. If the member uses a hypothetical or assumed value as the starting point for the calculation of future sales proceeds and does not apply valuation approaches and methods, the Statement does not apply (SSVS No. 1, paragraphs 1 and 4 [VS section 100.01 and .04]). The Statement does not apply to a general discussion with the client of valuation concepts or industry price multiples based on the member's industry knowledge, which assists the client in determining a hypothetical or assumed value (SSVS No. 1, paragraphs 4 and 6 [VS section 100.04 and .06]).

**.88 Illustration 29.** The client has asked the member to prepare a personal financial plan that includes an estimate of future proceeds from a sale of the business interest at retirement. The member estimates the future proceeds based on an estimate of the business' current value by applying a rule of thumb for the business' industry, but the member does not consider the risk factors of the subject interest or exercise other professional judgment in applying the multiple. Does the Statement apply?

**.89 Conclusion.** No, the Statement does not apply because the member did not use professional judgment (SSVS No. 1, paragraph 4 [VS section 100.04]). If the member considers specific risk factors of the business interest in applying the price multiple, the Statement applies.

*This Statement titled Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset was unanimously adopted by the assenting votes of the AICPA Consulting Services Executive Committee.*

**Author's Note**

By now, you are probably sick of standards. However, we only have a little bit more to go. Please hang in there, and we will be finished shortly. The good news is that we are done with the most important standard in this book (particularly if you are a member or a future member of the AICPA). For the rest of this chapter, I am going to minimize these boxes around what I have to say. You will know if I am quoting the other standards.



## AICPA Statement on Standards for Consulting Services

The AICPA promulgated Statement on Standards for Consulting Services No. 1, *Consulting Services: Definitions and Standards* (AICPA, *Professional Standards*, CS section 100), to cover a broad range of consulting services that its members provide, not just business valuations. Therefore, this standard is extremely general and deals with a wide variety of issues, such as due care and proper staffing for consulting engagements. This standard follows the format of other accounting-oriented standards but cannot be used to provide guidance or direction, other than on a superficial level. This standard is reproduced in appendix 1.

Besides these standards, there are other standards that should guide AICPA members to perform these assignments properly. Although they are not all-inclusive, some of the more important standards include the following:

### AICPA Code of Professional Conduct

CPAs are required to follow the Code of Professional Conduct when performing any service for a client, including business valuations and litigation work. The AICPA Code of Professional Conduct (the code) was rewritten and reissued effective December 15, 2014. A copy of the AICPA Code of Professional Conduct is available at [www.aicpa.org](http://www.aicpa.org).

The code covers ethical considerations (integrity and objectivity). It requires that in the performance of any professional service a member shall maintain objectivity and integrity, shall be free of conflicts of interest, and shall not knowingly misrepresent facts or subordinate his or her judgment to others. This is important because valuation analysts should understand the differences between the responsibility of the attorney and the accountant related to conflicts of interest—the attorney is an advocate for the client, whereas the valuation analyst (accountant) is only an advocate for his or her opinion.

### Professional Competence

As stated in the AICPA Consulting Services Practice Aid 93-3, *Conducting a Valuation of a Closely Held Business*, which I have modified to bring the references to the current literature, (written by yours truly, but unfortunately no longer in print, although I still have some copies in my library that I am willing to sell you):

In performing business valuation engagements, practitioners are advised to determine whether the competency provisions of the preface to the AICPA Code of Professional Conduct, found in Section 0.300.060 are met. Although accountants have a thorough understanding of financial statements and related matters, they also need to be proficient in the area of appraisals to competently complete an engagement. Usually, being proficient requires an in-depth knowledge of finance, economics, and security analysis and an understanding of appraisal principles and methods.

As described in Section 0.300.060.03 of the AICPA Code of Professional Conduct, in order for the practitioner to obtain competency required to accept a business valuation engagement, appropriate education is required.

Professional competence is also covered in SSVS No. 1. About 14 years later, and competence is still important! Who would have thought?

### Select Components of the Code

In 2003, The AICPA issued *Consulting Services Special Report 03-1, Litigation Services and Applicable Professional Standards*. Although this publication has been retired, the concepts covered in it have not been. Many of the sections that are discussed in this publication stem from the AICPA Code of Professional Conduct. The following discussion is an adaptation of that really good publication. Too bad it was retired.

The AICPA Code of Professional Conduct applies to all services rendered by AICPA members. The following sections of the code have particular applicability to the practice of litigation services:

- The “Integrity and Objectivity Rule” (ET section 1.100.001)
- The “Compliance With Standards Rule” (ET section 1.310.001)
- Principles and Rules of Conduct (ET section 0.100.010)
- The definition of “confidential client information” (ET section 0.400.09)
- The “Contingent Fees Rule” (ET section 1.510.001)
- The “Acts Discreditable Rule” (ET section 1.400.001)

In some instances, the following also apply:

- The “Independence Rule” (ET section 1.200.001)
- The “Accounting Principles Rule” (ET section 1.320.001)

An understanding and appreciation of the importance of all rules contained in the code will assist valuation analysts in their efforts to provide opinions that are relevant and reliable, and that assist the trier of fact (judge or jury).

### The “Independence Rule” (ET section 1.200.001)

Independence, as set forth in the AICPA Code of Professional Conduct, is ordinarily not required when performing litigation service engagements. As a result of the Sarbanes-Oxley Act of 2002, the valuation analyst should be aware that, in some instances, if the valuation analyst or the valuation analyst’s firm provides audit services, statutes may preclude the provision of litigation services.

Lack of independence from the client may be used to question the valuation analyst’s credibility and objectivity. The valuation analyst should carefully consider the potential difficulties inherent in serving as an expert witness for a party. If the valuation analyst lacks independence, or could appear to lack independence in relation to that party, the analyst should discuss these issues with the client or the client’s attorney, or both, before accepting an engagement. In addition, independence notwithstanding, the valuation analyst’s working paper files relating to other engagements for the same client may be subject to the discovery process.

### “The Integrity and Objectivity Rule” (ET section 1.100.001)

To maintain integrity is to adhere to an ethical code and be free from corrupting influences and motives. Service and public trust should not be subordinated to personal gain and advantage.

The roles of valuation analysts differ from attorneys in the litigation process, which is an adversarial proceeding in which the best case for each party is put before the trier of fact. The litigating attorney is the client’s advocate.

The valuation analyst does not serve as an advocate for the client’s position and, therefore, should not subordinate his or her judgment to the client. The valuation analyst, who is hired as an expert, is engaged as someone who has specialized knowledge, skills, training, and experience in a particular area and presents conclusions and judgments with integrity and objectivity. The expert’s function is to assist the trier of fact in understanding complex or unfamiliar concepts after having applied reliable principles and methods to sufficient relevant data.

### Principles and Rules of Conduct (ET section 0.100.010)

The Principles of Professional Conduct (ET section 0.300.010), applies to litigation services as well as to all other services rendered by CPAs to their clients. The principles cover a preamble, professional responsibilities, the public interest, integrity, objectivity and independence, due care, and the scope and nature of services.

### Due Care (ET section 0.300.060)

Valuation analysts should undertake only those litigation services that they reasonably can expect to complete with professional competence. Consequently, valuation analysts may be unprepared to meet client needs adequately in every area and in every phase of litigation engagements. To comply with this standard in providing litigation services, practitioners may need the assistance of other individuals with the required education and experience.

Professional competence includes, among other things, identifying client needs. The valuation analyst should be aware that, in some instances, if the valuation analyst's firm provides audit services, statutes or other such rules may preclude the provision of litigation services.

As a result of *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), and *Kumho Tire Company, Ltd. v. Patrick Carmichael*, 526 U.S. 137 (1999), the valuation analyst should consider that the reliability and relevance of the expected testimony is likely to be subjected to careful judicial scrutiny before it will be allowed to be presented at trial. When deciding whether to accept a litigation services engagement, the valuation analyst should consider whether it is likely that he or she has the knowledge and skills necessary to provide a reasonable basis to present relevant and reliable testimony on the issues to be presented in the particular case.

A valuation analyst exercises due professional care in the performance of professional services. Due care requires diligence and critical analysis of all work performed. It also requires that all work be completed in accordance with the provisions of the applicable professional standards of the AICPA, including the code.

In a litigation engagement, valuation professionals are often the only professionals capable of quantifying the impact of the events that led to the dispute. Therefore, their work product is important in the litigation process. Each party to the proceedings may retain professionals to quantify and analyze the economic impact of events. Valuation analysts need to be able to evaluate and challenge the assumptions and calculations of other professionals as well as defend their own assumptions and calculations under rigorous cross-examination.

## Planning and Supervision

A valuation analyst adequately plans and supervises the performance of professional services. Planning is essential in a litigation engagement. Planning consists of developing engagement objectives and translating them into the activities necessary for the CPA to form an opinion. Planning guides the conduct, supervision, control, and completion of the engagement.

The facts and circumstances of each litigation engagement are unique. Planning is essential to ensure the quality of the performance of professional services in each engagement. Planning includes obtaining information from the counsel of the client. Plans continually change in a litigation engagement and usually are not written because the litigation process is dynamic.

As with any professional services, the supervision of assistants helps to ensure quality performance. The extent of the supervision will vary according to the number of assistants, their experience, and the complexity of the engagement. Ultimately, the valuation analyst, as the potential expert witness or consultant, is responsible for the work performed.

## Sufficient Relevant Data

A valuation analyst attempts to obtain relevant data that is sufficient to provide a reasonable basis for conclusions or recommendations for any professional services performed. In litigation, data are usually obtained through discovery, including depositions, interrogatories, and document production motions. In addition, the data-gathering process may include a review of relevant documents, research and analysis, and interviews. The nature and extent of the data will vary with each engagement and may include the valuation analyst's computations and analysis and other information-supporting conclusions.

The expert needs to base his or her conclusions and judgments on sufficient relevant data. The expert should rely on the attorney to comply with the applicable rules of evidence.

- a. *Legal evidence.* The courts have established rules for the determination of admissible evidence and expert testimony.

The expert can generally rely on documents that have been authenticated by the parties to the proceeding or that are acceptable to the court under the various rules of evidence. Each legal jurisdiction may have different rules governing what the expert may and must rely on. It is important to communicate to the attorney what evidence is necessary to properly support the expert's conclusions and

judgments. Different rules of evidence may apply in different jurisdictions, and the valuation analyst is not expected to be a legal expert.

- b. *Assumptions.* Experts can base opinion testimony on either facts or assumptions. Experts may base assumptions on facts, presumptions from facts, or assumptions provided by the client, other experts, or counsel. For example, some analyses require the use of assumptions about what would have happened if certain behavior or activities had been different. Counsel may provide the expert assumptions that may be proven from other evidence. In any case, the expert should identify the source of the information. The valuation analyst should consider analyzing key assumptions to determine whether they are reasonable. In several recent cases, experts had their testimony excluded because their opinions were based on assumptions that were deemed not reasonable. Ultimately, the trier of fact will determine the reasonableness of the assumptions.
- c. *Documentation.* The valuation analyst should prepare and maintain documentation, the form and content of which should be designed to meet the circumstances of the particular engagement. Results of research and working paper documentation (including electronic mail, spreadsheets, and correspondence) are the principal records of the procedures applied, information obtained, and the conclusions reached by the valuation analyst in the engagement. The quantity, type, and content of documentation are determined by several factors, including the valuation analyst's professional judgment, the nature of the engagement, and the directives of counsel.

The expert should understand that his or her conclusions and judgments are subject to discovery and cross-examination by the opposing counsel and evaluation by the trier of fact. The expert may have to defend these conclusions and judgments and in so doing maintain objectivity and integrity. Documentation that is fundamental to the expert's conclusions and judgments should be retained.

The valuation analyst should adopt a policy on the retention of records in litigation matters; the existence of subpoenas or agreements between litigant parties may affect the valuation analyst's retention policy.

### The “Compliance With Standards Rule” (ET section 1.310.001)

This Rule requires all CPAs to comply with standards promulgated by bodies designated by the AICPA Council. For valuation analysts, that body is the Consulting Services Executive Committee. This committee issued SSCS No. 1, *Consulting Services: Definition and Standards* (AICPA, *Professional Standards*, CS sec. 100), and all valuation analysts are required to adhere to its standards.

### The “Accounting Principles Rule” (ET section 1.320.001)

To the extent that generally accepted accounting principles are applicable in a litigation services engagement, the valuation analyst shall apply the appropriate accounting principles.

### Definition of “Confidential Client Information” (ET section 0.400.09)

The valuation analyst may not disclose confidential client information without the client's consent. Due to the ethical obligation to preserve client confidences, valuation analysts may be confronted with the risk of breaching client confidentiality.

The expert brings to the courtroom prior experience and knowledge of clients and their practices, operations, and trade secrets. Although such experiences may enable the expert to render expert opinions, confidential client information obtained in prior engagements for nonparty clients must be protected. Thus, the expert has the dual responsibility to be both truthful and honest while preserving past and present nonparty client confidences. If the expert relies on specific information obtained in an unrelated prior engagement and uses that information as the basis for his or her opinion, the trier of fact may require the expert to disclose the source. If the expert refuses, the trier of fact may preclude the testimony because discovery could not be taken as the basis of the expert's opinion. So, the expert should consider such a circumstance and either obtain the consent of the nonparty client to reveal its confidences or abandon any effort to use such information as the basis of his or her opinions.

The valuation analyst should evaluate any prior or existing relationship with the parties to a litigation matter before accepting the engagement. Assuming there is no conflict, the valuation analyst is free to be retained.

There may be circumstances in which the very fact of a prior relationship may be confidential; the valuation analyst may be forced to reject an engagement without giving the attorney a specific reason because he or she may not disclose information gained from another client. The valuation analyst is required to adhere to the profession's confidentiality standards and confidentiality agreements executed during the course of an engagement. During the course of an engagement, there is the potential for an unknown party to become an opposing party, so continuing sensitivity to newly arising conflicts is necessary, particularly in engagements that are lengthy or involve many parties.

If you have not figured it out yet, because so many valuation analysts perform their services in a litigation environment, all of the standards previously mentioned come into play for CPAs. The item that I run into on a regular basis is *Sufficient Relevant Data*. Frequently, we have trouble getting enough documentation from the opposing party in a litigation assignment to allow us to feel comfortable providing a conclusion of value about the subject company. In those instances, we speak with our client's attorney so that The Court can be petitioned to get those missing documents, we have to include an extraordinary limiting condition, or we may even be forced to withdraw from the engagement.

## Consulting Standards

In addition to the general standards, specific consulting standards apply to the consulting process and are established by SSCS No. 1 under the "Compliance With Standards Rule" (AICPA, *Professional Standards*, ET sec. 1.310.001). These standards include serving the client's interest, entering into an understanding with the client, and communicating with the client.

The general standards are related to the quality of the performance of any professional service. The consulting standards apply specifically to the consulting process to guide valuation analysts in their relationships with consulting clients.

## Defining the Client

Each of the consulting standards refers to the client. The valuation analyst needs to have an understanding of who the client is to comply with the consulting standards. The code (ET section 0.400.07) defines a *client* as "any person or entity, other than the member's employer, that engages a member or a member's firm to perform professional services and, if different, the person or entity with respect to which professional services are performed."

The client in a litigation services engagement may be the attorney, the attorney's client (litigant), or both. It is important to define who the client is in a litigation services engagement depending on the issue(s), given the requirements of SSCS No. 1 that the valuation analyst (a) define the client, (b) serve the client interest, (c) establish an understanding with the client, and (d) communicate with the client (footnote omitted). For example:

- a. In determining conflicts and client interests, the litigant is generally deemed to be the client, although relationships with the attorneys for each party should be considered.
- b. The party with whom the valuation analyst obtains an understanding is dependent upon an assessment of the facts and circumstances of the engagement. This often leads to an understanding with either the attorney or the litigant, or both. In addition, if the valuation analyst is to protect his or her status as a consultant to counsel, the analyst should consider discussing with counsel how the understanding should be secured in order to protect any privilege that may be asserted.
- c. The valuation analyst's responsibility to communicate with the client is generally viewed to extend only to the attorney. SSCS No. 1 is not intended to cause the valuation analyst to pierce the attorney-client relationship. In many litigation services engagements, the valuation analyst's contact with the litigant is minimal or nonexistent. To clarify the communication responsibility, the valuation analyst may determine that it is appropriate to advise the attorney that any communication with the attorney will be deemed communication with the litigant. The valuation analyst may also consider having the attorney's client co-sign the engagement letter.
- d. SSCS No. 1 calls for the valuation analyst to communicate significant engagement findings and events to the client. As noted previously, the professional standards do not intend this to cause the valuation analyst to interfere with the unique attorney-client relationship. Therefore, the expert's communication with the client, unless otherwise required by the terms of the engagement, should be with

the attorney. This is even more important when acting in a consulting capacity if there is usually a desire to maintain a privilege between the attorney-consultant communications.

## Understanding With the Client

The valuation analyst should establish a written or an oral understanding with the client, who may be the attorney representing the litigant, about the responsibilities of the parties and the nature of the services to be performed. The understanding (written or oral) could encompass the following:

- a. The attorney's client
- b. The attorney for the retaining litigant
- c. The title of the litigation including the litigants' names and the court
- d. A description of the nature of the litigation services to be provided or a statement that the services will be as the attorney may direct
- e. The expert witness or the willingness of the person who will be the expert witness, if necessary
- f. The absence of conflicts of interest
- g. Restrictions on the use of the valuation analyst's work
- h. The valuation analyst's right to withdraw from and terminate the engagement in certain circumstances
- i. Administration and fee matters, including a description of fees, the fact that these are not contingent upon the successful resolution of the matter, and billing arrangements
- j. A description of the valuation analyst's records retention policy

The valuation analyst should check with his or her own firm's legal counsel to determine what should be put into the understanding with the client (also known as the *engagement letter*).

If circumstances require a significant change during the engagement, the understanding, whether written or oral, should be modified accordingly.

## Communication With the Client

In compliance with the "Conflicts of Interest for Members in Public Practice" interpretation (AICPA, *Professional Standards*, ET sec. 1.110.010) .010 of the code and interpretations thereof, the valuation analyst informs the client of any conflicts of interest. A conflict of interest may occur if a significant relationship could be viewed as impairing the valuation analyst's objectivity in the performance of a professional service. The valuation analyst should carefully evaluate each engagement request with sensitivity to the possibility of such conflicts.

A conflict of interest might arise in the performance of litigation services if the valuation analyst has a relationship with one of the parties to the dispute, the court, attorneys, or witnesses, and, thus, may not be an impartial expert. The responsibility of the valuation analyst is to decline litigation engagements that involve a conflict of interest; otherwise, the valuation analyst might disclose confidential client information in the litigation process through discovery or testimony.

When the conflict is uncertain, the valuation analyst should disclose the possible conflict of interest, which allows the prospective client or counsel to consider the potential impact on the litigation. Nothing in the professional standards requires a valuation analyst to accept any engagement, so the valuation analyst can, without stating specific reasons, refuse an engagement for any reason. On the other hand, a valuation analyst who wishes to accept an engagement, but is concerned about possible conflicts, should evaluate those possibilities before acceptance.

In addition to assessing possible conflicts of interest, valuation analysts consider whether it is otherwise in their best interest to accept the engagement. The goals and objectives of their practice might conflict with the performance of services in the proposed engagement. Although there may be no conflict with the attorneys or parties to the litigation, the issues in dispute may be areas that the valuation analysts are uncomfortable about pursuing or that may conflict with their philosophy, practice, or business interest.

Consistent with SSCS No. 1, before accepting the engagement or during the engagement, the valuation analyst should communicate to the client any serious reservations concerning the scope or benefits of the engagement. During the performance of the engagement, communications, ordinarily oral, should include significant engagement findings and events.

**Author's Note**

We are going to discuss engagement letters in the next chapter. Therefore, I am not going to elaborate on this very important section at this point.

## ASA Standards

The most recent version of the ASA Standards can be obtained from their website ([www.appraisers.org](http://www.appraisers.org)). They are a well-thought-out set of standards that must be followed by members of ASA. These standards do not provide the same level of guidance that is included in the AICPA standards, but they are essentially the same. A similar group of individuals, appraisers, CPAs, and brokers strongly influenced the creation of these standards. ASA also has one other requirement imposed on its members that the AICPA does not have. Because ASA is a sponsoring member of The Appraisal Foundation, all of its members must comply with the USPAP in all appraisals. Fortunately, the USPAP and the ASA standards do not contradict each other. All ASA members must take a comprehensive, 15-hour USPAP course and pass a USPAP examination to become a candidate member of ASA. Afterwards, there are requirements to take additional USPAP courses every five years. International members have to follow the rules of either their own country or the International Valuation Standards, which are beyond the scope of this book.

## Uniform Standards of Professional Appraisal Practice

The 2016–17 USPAP publication is approximately 378 pages long. This entire publication used to be under 150 pages. The price at the time this book was published was \$75. If you wish to obtain a copy (and every valuation analyst should), this amount should be sent to:

The Appraisal Foundation  
Distribution Center  
P.O. Box 381  
Annapolis Junction, Maryland 20701-0381

Don't forget to tell them what you want! If you want to order it online, go to [www.appraisalfoundation.org](http://www.appraisalfoundation.org). In my opinion, if you are considering business valuation assignments, you should not only be familiar with the USPAP, but you should also attempt to follow these standards in all your assignments. By following the other sets of standards, you will also be complying with most of the provisions of the USPAP.

Standards 9 and 10, as well as Standard 3 and all of the prefatory materials, pertain to business valuations. Various other sections of the USPAP also apply. The essence of Standards 9 and 10 is to do your job in a competent manner and communicate it properly. Several government agencies have adopted provisions requiring the USPAP to be followed for all appraisals performed for their agencies. More and more courts are also becoming familiar with the USPAP. Also, the IRS has specifically mentioned the USPAP in Notice 2006-96, which was issued as a result of the Pension Protection Act of 2006 to provide guidance regarding the definition of a qualified appraiser and a qualified appraisal. As a result, business valuation analysts are advised to follow these standards.

## NACVA/IBA Standards

NACVA has its own set of standards, which have been greatly expanded over the years. Most of these standards come from the AICPA and are the very standards that I referred to previously. Take the time to read them. These standards are available on their website ([www.nacva.com](http://www.nacva.com)). The IBA uses the same standards, and you can get them from the same website.

## Glossary of Business Valuation Terms

In an attempt to assist users of valuation services at being better able to understand the terminology used by our profession, various organizations came together to form a committee whose purpose was to establish a single set of terminology that is recommended for use by its members. These organizations include the AICPA, IBA, ASA, NACVA, and the Canadian Institute of Chartered Business Valuators. The glossary is reproduced as appendix 2.

This is the appendix that is part of the AICPA standards.

## Conclusion

By now, you are probably at your wit's end. Imagine, this is only chapter 2. Standards make our profession better, and if you have not figured it out yet, standards will also provide you with the necessary guidance to make sure that you do a good job and stay out of trouble. Obviously, I have spent a great deal of time on the AICPA standards. What did you expect? The AICPA is the publisher of this book. Truthfully, my hat comes off to the various individuals who drafted this standard and put it in its final form. This is one heck of a document, and I believe that it adds a tremendous amount to the standards in our field. To demonstrate what a great job was done on the business valuation standard, the only changes that have been made since its release have been purely cosmetic in nature. It just goes to show how much thought went into the process of getting it done correctly the first time. Although certain sections clearly apply only to accountants, I believe that anyone who performs business valuation assignments will benefit by following the guidance provided in this document. Time to get off my soapbox and move on.



# Chapter 3

## Getting Started

### Learning Objectives

In this chapter, I will attempt to explain the following:

- Learning about the engagement
- Deciding whether to accept the engagement
- Defining the engagement
- Writing engagement letters
- Creating the initial document request

### Introduction

Before we can get to the good stuff, it is important to get some of the preliminary items out of the way. Let's start off with some items that should be addressed at the beginning of this process.

### Learning About the Engagement

After the telephone rings, and after the caller tells you that he or she needs the services of a good valuation analyst, what should you do? Should the valuation analyst find out more about the assignment, automatically accept it, or recommend a good valuation analyst? Believe it or not, these are serious considerations that the valuation analyst must be taken into account. If you have read chapter 2, you have seen that professional standards address many issues that the valuation analyst must consider before just saying yes to every assignment that comes through the door. The beginning of the assignment, or should I say the pre-beginning of the assignment, is the most important part of the valuation process for several reasons.

First and foremost, the valuation analyst needs to properly understand the nature of the assignment to determine if he or she is competent to perform it. The analyst must take a step back and ask if the assignment can be completed with competence. We all like to think that we are competent to do every assignment that comes through the door, but, truthfully, we are not. The analyst cannot possibly possess the competence to take on every assignment that comes his or her. If the proper level of competence can be obtained, the analyst can accept the assignment. All of the valuation organizations (and especially the AICPA) have competency standards for their members.

Furthermore, the *Uniform Standards of Professional Appraisal Practice* (USPAP) requires the valuation analyst to disclose any deficiencies to the client in his or her level of competence, as well as what he or she will do to compensate for it. Imagine telling the client, "Although I am incompetent, I really want to do this job for you." If the client hires that valuation analyst, the client deserves what he or she gets. However, full disclosure to the client is essential. At that point, it is up to the client to decide if he or she is comfortable with the valuation analyst handling the assignment.

After the client has decided to go forward with the valuation analyst, and assuming that the analyst does a good job, there should be no reason for the client to have the opportunity at a later date to question why the analyst didn't tell him or her something. Can you imagine the client, sitting in a courtroom on the witness stand, stating that "the valuation analyst never told me that this was the first valuation he had ever done?" If you are new to this business, do not feel intimidated because of your inexperience. We all have to start

somewhere. Unfortunately, we are in a more litigious society than we were in when I got started, and, as a result, we have to be especially careful not to find ourselves as a party to a lawsuit. I prefer to be the expert in a litigation, rather than the defendant.

If the client is not comfortable with the valuation analyst or the analyst's experience level at the start, the worst mistake that the valuation analyst can make is to oversell his qualifications to get the assignment. If anything can go wrong, it probably will; as a result, the analyst is staring a malpractice suit in the eyes. The worst thing an analyst can do is to try to boost his level of experience to impress a potential client. Doing so raises serious ethical considerations that go far beyond just the assignment.

## Deciding Whether to Accept the Engagement

Before a valuation analyst accepts an assignment, considerations include, but should not be limited to, the following:

- The possibility of a conflict of interest or the appearance of a conflict of interest
- The purpose and function of the engagement
- The amount of time required to do the job
- The scope of the assignment, including the possibility of giving expert testimony
- The type of report to be issued

These items will be addressed over and over again throughout this book, and they must be understood at the start of the assignment, especially because many of these issues will affect the ability to accept the engagement. You can tell from the last chapter that many of these items are discussed in the standards. Clearly, they are important!

### Conflicts of Interest

The telephone rings, and the valuation analyst is asked to do a business valuation for a litigation that is pending. The attorney asks the analyst to perform a conflict check to determine if the analyst knows any of the parties. The analyst says no. Does this mean only the valuation analyst, or does it mean someone in the valuation analyst's firm, on staff, the firm's partners, or the analyst's cousin or great uncle? The valuation analyst better check for conflicts! Conflicts are a great way to get sued. Sometimes, the conflict is immediately apparent. Other times, conflicts are well hidden. The first step in avoiding a problem is to make certain that the valuation analyst's firm employs some form of conflict of interest verification form for use in all assignments. Trugman Valuation Associates' form is reproduced as exhibit 3.1.

First of all, let me give attribution where it belongs. Our forms (and many of the other forms that you may see in this book) have been adapted from Thomson PPC's *Guide to Business Valuations*.<sup>1</sup> There is no reason to start from scratch when we have good tools that we can use as a jumping-off point. They should be customized for the valuation analyst's firm.

In addition to checking with all professional staff, it is a good idea to make certain that nonprofessional staff do not present a problem. What if one of the parties is the valuation analyst's administrative assistant's next door neighbor? Or what if it is the assistant's child's godfather?

Let's stick with conflicts of interest for a little longer. Checking with all staff becomes critically important, especially when you have multiple offices. Imagine your staff in New York being hired against your staff in Chicago. Or, what happens when you are asked to represent an existing client? I even encountered one situation in which two firms merged, and they were on opposite sides of a divorce engagement and had to refund a large fee and get out of the case completely.

The appearance of impropriety is almost as bad as the act itself. Litigation services is an area that the SEC has suggested may impair an auditor's independence. Think about the cross-examining attorney who is in front of the valuation analyst, almost salivating, asking him or her the following questions:

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<sup>1</sup> Fishman, J. et al.: *Guide to Business Valuations*. Fort Worth: Thomson Practitioner's Publishing Co., updated annually.

- You receive current income from this client for accounting services, don't you?
- This company has been your firm's client for the last 10 years?
- Isn't it true that they paid you about \$80,000 in fees last year?
- Do you consider them a good client?
- You wouldn't want to lose this client, would you?
- Do you expect this jury to believe that you can sit on this witness stand and be objective with respect to this client when your opinion in this matter may hurt your client?

**EXHIBIT 3.1 Trugman Valuation Associates, Inc. Business Valuation Engagement Acceptance Form: Conflict of Interest Verification**

**INSTRUCTIONS:** This form should be completed for a prospective new client and sent to ALL staff for confirmation that there are no conflicts of interest with any of the parties or entities involved in this matter. If the referral source, attorneys, CPAs or others associated with these individuals/entities are known, list them also for conflict verification. ALL staff must immediately respond via e-mail to the sender of the original e-mail.

TRUGMAN VALUATION ASSOCIATES, INC. has been requested to perform services with respect to the following individuals and/or entities:

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	Yes	No
1. Do you know any of these individuals/entities?		
2. Do you have any personal knowledge about these individuals/entities that would cause our firm to have information that another firm would not readily have?		
3. Are we doing any work for any of these individuals/entities currently?		
4. Have we done any work for them in the past?		
5. Have we been approached by any of these individuals/entities to do work for them in the past?		
6. Do you know of any reason that we should not do this assignment?		

If you answered yes to any of these questions, please explain and give details.

(Adapted from *PPC's Guide to Business Valuations*, Copyright © 2017 Thomson Reuters. All Rights Reserved. For subscription information, call (800) 431-9025 or visit [tax.thomsonreuters.com](http://tax.thomsonreuters.com).)

Even if the valuation analyst can be objective, he or she is dead in the water. No juror will believe that the analyst is not acting as an advocate for the client. It is often difficult to prove that as a paid expert we are objective, even when we are truly independent from the client. The burden becomes that much more difficult when the valuation analyst is the client's accountant. Even in non-litigation jobs (for example, estate tax valuation), a perceived conflict can arise. Imagine being the tax return preparer taking a deduction on a return for officer's compensation of \$1 million and then adjusting it in the valuation to reflect reasonable compensation of \$250,000. Even though the standard for deductible compensation for income tax purposes is very different from the concept of a replacement salary on a prospective basis for valuation purposes, the valuation analyst

needs to think about the reader of the report who does not know better. If the valuation analyst thinks that he or she will educate the reader, think again.

Let's discuss one more conflict that is sure to get the valuation analyst in trouble. As past chairman of the ethics committee of two of the valuation organizations, I saw this example more often than you can imagine. An accountant's business client is going through a divorce. The accounting firm prepares the corporate tax returns. The accounting firm also prepares the personal tax returns for the stockholders. The accounting firm has been preparing joint income tax returns for the clients, who are about to get divorced. The business client turns to the partner in the firm who handles this account, the trusted business adviser, to perform various divorce-related services, perhaps even a business valuation. Because the partner expects the firm to remain the company's accountant, and because the owner is a good client, the partner says, "Sure, we'll do it." Guess what? What about the spouse? The accounting firm has also been the spouse's accountant because the couple has been filing joint income tax returns. The accounting firm cannot suddenly say, "Sorry, but we are no longer going to be your accountant, so that we can represent your soon-to-be ex-spouse against you in the divorce."

There is no easy way to avoid appearances of conflict other than to stick with my motto: "Perception is reality." If it can, in any way, be perceived to be a conflict, you probably want to protect yourself. Protection can come in many different forms. First, stay away from the engagement. Second, stay away from the engagement. Third, if you decide not to stay away from the engagement, have the client(s) sign a waiver acknowledging that there may be a conflict and that they have been made aware of it, and, despite that, they still want you to proceed.

Let me give you a real example of how to protect yourself. We were retained by a former accounting client (back in the days when we performed traditional tax and accounting services) to assist him as his expert in a litigation in which he was being accused of fraud relating to the sale of a laundromat (a cash business—imagine that!). I was afraid not only of the appearance of a conflict of interest, but also that I could be asked on the witness stand why his tax returns had different amounts than the current information sheet he had put together for prospective purchasers (like many clients, he got honest when he went about selling the business). In our retainer agreement (and we will discuss these agreements in much more detail soon), we put in the following language:

The client also acknowledges that a discussion took place between himself and Gary Trugman regarding the possible appearance of a conflict of interest. The client, by signing this agreement, acknowledges that Gary Trugman has expressed his concern about the appearance of conflict of interest, and despite this, the client has expressed his desire to have Trugman Valuation Associates, Inc. perform services in this matter. The client agrees to completely indemnify Trugman Valuation Associates, Inc., its officers, its directors, and its shareholders, as well as Trugman & Company CPAs (a partnership) and its partners, Gary and Linda Trugman, from any liability that may arise out of the client's request to these parties or firms involved as a result of this litigation engagement.

Fortunately, the case settled before we had to go to court. But do not expect to be so lucky—protect yourself.

Sometimes, something as simple as an engagement letter signed by two parties will help. We are often hired as a mutual valuation analyst by both sides of a litigation. We use the retainer agreement (engagement letter) in exhibit 3.2 on the following page, which we have each party sign individually.

Let me share one more conflict that actually happened to me just to demonstrate how well hidden they can be at times. I am based out of our Florida office but had an assignment in Pennsylvania. I was allowed to interview the management of the company at their attorney's office in Philadelphia. I was representing a shareholder who sued the company to be bought out. I was conducting the management interview, and we took a quick break. While we were waiting for the other side's attorney to come back into the room, I was chatting with the father and son management team that I was interviewing. We were not talking about anything that would require the attorney to be in the room.

### EXHIBIT 3.2 Mutually Retained Business Valuation Retainer Agreement

The undersigned clients (The Clients) acknowledge this engagement of Trugman Valuation Associates, Inc. (The Valuation Analyst) to perform a business valuation of <<DEFINE THE PROPERTY TO BE VALUED>> as of <<VALUATION DATE(S)>> to be used <<PURPOSE OF VALUATION>>. Our conclusion of value will be communicated to you in a <<DETAILED OR SUMMARY>> report.

All of the undersigned clients, by signing this agreement, acknowledge the mutual retention of The Valuation Analyst to perform this assignment. This means that the clients waive any and all potential conflict of interest claims against The Valuation Analyst, its owners, directors, principals, and employees. It is further recognized that The Valuation Analyst cannot represent any one client more than the other, and therefore, no services will be rendered as part of this assignment that would place The Valuation Analyst in a position of a conflict of interest.

#### PARAGRAPH TO BE INCLUDED IF LESS THAN A DETAILED REPORT TO BE ISSUED

Since The Clients have requested that the conclusion of value be communicated in less than a detailed report, valuation standards that must be adhered to by The Valuation Analyst require that this report be restricted in its distribution. A summary report can easily be misunderstood by individuals who are not well-informed about the subject property, and therefore, valuation standards require that this type of report not be distributed to anyone other than The Clients for their own use. **THIS REPORT IS FOR OUR CLIENT'S EYES ONLY.** Distribution to any other party is expressly prohibited.

The standard of value for this assignment shall be fair market value. Said fair market value is defined as a value at which a willing seller and willing buyer, both being informed of the relevant facts about the business, could reasonably conduct a transaction, neither party acting under any compulsion to do so.

The standard of value is frequently determined by law. For example, the Internal Revenue Code requires fair market value to be used for all valuation assignments for tax purposes. In some instances, the standard of value may be determined by state statute, and in other instances, it may be subject to the interpretation of case law. As such, since The Valuation Analyst is not authorized to practice law, the standard of value should be determined by your legal advisor. The Valuation Analyst assumes no liability as a result of the incorrect standard of value being used in this assignment. Before signing this retainer agreement, consult your legal advisor.

Furthermore, the valuation date is also frequently subject to legal interpretation. Therefore, it is essential that The Clients also make sure that the correct valuation date(s) is used in this retainer agreement for the performance of this assignment. The Valuation Analyst will be valuing the subject property based on whichever date(s) appear in this retainer agreement without any consideration as to the correctness of this date. The Valuation Analyst assumes no liability if incorrect dates are used as long as The Valuation Analyst uses the date(s) provided in this retainer agreement.

It is understood that Trugman Valuation Associates, Inc. is not being engaged to perform an audit as defined by the AICPA, but rather, the necessary tests of the accounting records that will be performed for the purpose of issuing a valuation report, and not a statement regarding the fairness of presentation of the financial statements of the above business.

Certain values, derived from reports of others, and which are so designated, will be included in our report. The Valuation Analyst takes no responsibility for those items. Nor does the Valuation Analyst take responsibility to update the report or disclose any events or circumstances occurring after the date of the report.

It is the responsibility of The Clients to provide the necessary documentation that will be requested by The Valuation Analyst to perform this assignment. This documentation must be provided on a timely basis in order for The Valuation Analyst to conduct the assignment in an efficient manner. Additional fees could result from delays in receiving requested information. If this assignment is part of a litigation where the clients do not control the books and records of the company that is the subject of the valuation, it is The Clients' responsibility to ensure that legal counsel obtains the necessary documentation requested by The Valuation Analyst for The Valuation Analyst to feel that it has satisfied its compliance with valuation standards with regard to "sufficient relevant data." In the event sufficient records and/or documentation cannot be supplied to The Valuation Analyst, no such valuation report will be issued. The Valuation Analyst assumes no liability for not issuing a report on a timely basis if The Valuation Analyst believes that it would be in violation of valuation standards to issue a report where The Valuation Analyst cannot meet the "sufficient relevant data" standard.

*(continued)*

**EXHIBIT 3.2 Mutually Retained Business Valuation Retainer Agreement** *(continued)*

This valuation will be subject to, at least, the following contingent and limiting conditions, which will be included in the report as an appendix:

1. The conclusion of value arrived at herein is valid only for the stated purpose as of the date of the valuation.
2. Financial statements and other related information provided by the business or its representatives, in the course of this engagement, have been accepted without any verification as fully and correctly reflecting the enterprise's business conditions and operating results for the respective periods, except as specifically noted herein. The Valuation Analyst has not audited, reviewed, or compiled the financial information provided to us and, accordingly, we express no audit opinion or any other form of assurance on this information.
3. Public information and industry and statistical information have been obtained from sources we believe to be reliable. However, we make no representation as to the accuracy or completeness of such information and have performed no procedures to corroborate the information.
4. We do not provide assurance on the achievability of the results forecasted by or for the subject company because events and circumstances frequently do not occur as expected; differences between actual and expected results may be material; and achievement of the forecasted results is dependent on actions, plans, and assumptions of management.
5. The conclusion of value arrived at herein is based on the assumption that the current level of management expertise and effectiveness would continue to be maintained, and that the character and integrity of the enterprise through any sale, reorganization, exchange, or diminution of the owners' participation would not be materially or significantly changed.
6. This report and the conclusion of value arrived at herein are for the exclusive use of The Clients for the sole and specific purposes as noted herein. They may not be used for any other purpose or by any other party for any purpose. Furthermore, the report and conclusion of value are not intended by the author and should not be construed by the reader to be investment advice in any manner whatsoever. The conclusion of value represents the considered opinion of The Valuation Analyst, based on information furnished to them by the subject company and other sources.
7. Neither all nor any part of the contents of this report (especially the conclusion of value, the identity of any valuation specialist(s), or the firm with which such valuation specialists are connected or any reference to any of their professional designations) should be disseminated to the public through advertising media, public relations, news media, sales media, mail, direct transmittal, or any other means of communication without the prior written consent and approval of The Valuation Analyst.
8. Future services regarding the subject matter of this report, including, but not limited to testimony or attendance in court, shall not be required of The Valuation Analyst unless previous arrangements have been made in writing.
9. The Valuation Analyst is not an environmental consultant or auditor, and it takes no responsibility for any actual or potential environmental liabilities. Any person entitled to rely on this report, wishing to know whether such liabilities exist, or the scope and their effect on the value of the property, is encouraged to obtain a professional environmental assessment. The Valuation Analyst does not conduct or provide environmental assessments and has not performed one for the subject property.
10. The Valuation Analyst has not determined independently whether the subject company is subject to any present or future liability relating to environmental matters (including, but not limited to CERCLA/Superfund liability) nor the scope of any such liabilities. The Valuation Analyst's valuation takes no such liabilities into account, except as they have been reported to The Valuation Analyst by the subject company or by an environmental consultant working for the subject company, and then only to the extent that the liability was reported to us in an actual or estimated dollar amount. Such matters, if any, are noted in the report. To the extent such information has been reported to us, The Valuation Analyst has relied on it without verification and offers no warranty or representation as to its accuracy or completeness.
11. The Valuation Analyst has not made a specific compliance survey or analysis of the subject property to determine whether it is subject to, or in compliance with, the American Disabilities Act of 1990, and this valuation does not consider the effect, if any, of noncompliance.
12. No change of any item in this appraisal report shall be made by anyone other than The Valuation Analyst, and we shall have no responsibility for any such unauthorized change.
13. Unless otherwise stated, no effort has been made to determine the possible effect, if any, on the subject business due to future federal, state, or local legislation, including any environmental or ecological matters or interpretations thereof.
14. We have conducted interviews with the current management of the subject company concerning the past, present, and prospective operating results of the company. Except as noted, we have relied on the representations of these individuals.
15. Except as noted, we have relied on the representations of the owners, management, and other third parties concerning the value and useful condition of all equipment, real estate, investments used in the business, and any other assets or liabilities, except as specifically stated to the contrary in this report. We have not attempted to confirm whether or not all assets of the business are free and clear of liens and encumbrances or that the entity has good title to all assets.

### EXHIBIT 3.2 Mutually Retained Business Valuation Retainer Agreement

16. All facts and data set forth in the report are true and accurate to the best of the Valuation Analyst's knowledge and belief. We have not knowingly withheld or omitted anything from our report affecting our value estimate.
17. Possession of this report, or a copy thereof, does not carry with it the right of publication of all or part of it, nor may it be used for any purpose without the previous written consent of the Valuation Analyst, and in any event only with proper authorization. Authorized copies of this report will be signed in blue ink by a principal of The Valuation Analyst. Unsigned copies, or copies not signed in blue ink, should be considered to be incomplete.
18. Unless otherwise provided for in writing and agreed to by both parties in advance, the extent of the liability for the completeness or accuracy of the data, opinions, comments, recommendations, and conclusions shall not exceed the amount paid to the Valuation Analysts for professional fees and, then, only to the party(s) for whom this report was originally prepared.
19. The conclusion reached in this report is based on the standard of value as stated and defined in the body of the report. An actual transaction in the business or business interest may be concluded at a higher value or lower value, depending on the circumstances surrounding the company, the appraised business interest, and the motivations and knowledge of both the buyers and sellers at that time. The Valuation Analyst makes no guarantees as to what values individual buyers and sellers may reach in an actual transaction.
20. No opinion is intended to be expressed for matters that require legal or other specialized expertise, investigation, or knowledge beyond that customarily employed by the Valuation Analysts valuing businesses.

It is possible that additional contingent and limiting conditions will be required, and The Clients agree that all conditions disclosed by The Valuation Analyst will be accepted as incorporated into the Valuation Analyst's report.

For all business valuation assignments that are being used as part of a litigation assignment, particularly where testimony is expected to be provided by The Valuation Analyst, The Clients acknowledge that The Valuation Analyst will not be held responsible if a court excludes the testimony of The Valuation Analyst for circumstances that are beyond the control of The Valuation Analyst. For example, a court may exclude The Valuation Analyst as a result of not being an industry expert in the subject company's industry. While we are valuation experts, we do not hold ourselves out to be industry experts except in our own industry.

For non-litigation assignments, The Clients acknowledge that The Valuation Analyst will not be held responsible for a finding by another party, such as a taxing authority, based on a difference of opinion as to the value conclusion reached or a negotiated value. Since The Valuation Analyst is generally not part of negotiations between the taxing authority and The Clients, we cannot assume any liability when we are not part of that process.

**BY SIGNING THIS RETAINER AGREEMENT, THE CLIENTS ACKNOWLEDGE THAT THE VALUATION ANALYST WILL NOT BE EXPECTED TO TESTIFY IN ANY LEGAL PROCEEDING WHERE THE CLIENTS HAVE ADVERSE INTERESTS. FOR EXAMPLE (AND FOR EXAMPLE ONLY), IF ONE CLIENT DOES NOT AGREE WITH THE OPINIONS OF THE VALUATION ANALYST, THE OTHER PARTY CANNOT HIRE THE VALUATION ANALYST TO TESTIFY AGAINST A PARTY TO THIS AGREEMENT. THEREFORE, NO TESTIMONY SHALL BE RENDERED AS PART OF THIS ENGAGEMENT UNLESS THE VALUATION ANALYST'S TESTIMONY SHALL BE ON BEHALF OF ALL CLIENTS SIGNING THIS AGREEMENT.**

The Valuation Analyst's goal is to be as fair as possible in its billing practices with respect to this assignment. It is our intention to perform this engagement as quickly and affordably as possible, but these services take a reasonable amount of time to render. We will make certain that the appropriate personnel in our firm render those services that will comply with the level of expertise required by this engagement. In that regard, hourly rates will be charged based on the billing rates in effect at the time that the services are rendered. Currently those hourly rates range from \$XXX to \$YYY per hour depending on the level of staff performing the assignment.

While The Valuation Analyst does its best to estimate fees in these types of assignments, there will be times that the fees may be greater than the range estimated. This is especially true in litigation assignments where The Valuation Analyst has a difficult time obtaining records, or where it takes a long time to get those records requiring The Valuation Analyst to constantly pick up and put down the file. This is not the only reason for assignments to go over budget. If The Valuation Analyst believes that the fees will exceed an estimated range, we will try to notify The Clients as soon as practical to discuss the overage. However, when The Valuation Analyst sends an invoice to The Clients, unless the clients question said invoice within 14 days of the date of the invoice, The Valuation Analyst assumes that The Clients have accepted the invoice as being reasonable and expects it to be paid in accordance with this retainer agreement.

*(continued)*

### EXHIBIT 3.2 Mutually Retained Business Valuation Retainer Agreement *(continued)*

Hourly rates are charged portal to portal from our Plantation, Florida office. In addition to these hourly rates, the following charges may be applicable:

- a. Fees for appearance at depositions and/or trial testimony shall be charged based on our standard billing rates. Although payment for deposition testimony is usually the responsibility of the adverse party in a litigation, the undersigned clients guarantee payment of the same to The Valuation Analyst.
- b. Any out-of-pocket expenses relating to this valuation. It is expected that we will perform research through computer databases, and that we may be required to purchase research materials relating to this engagement. These and other such costs will be billed to you at our cost. Regardless of which office this assignment is billed from, there is an expectation that only normal travel expenses will be incurred by The Valuation Analyst. Any additional expenses that are incurred by The Valuation Analyst will be billed to The Clients. For example, higher than normal fares due to last minute travel or change fees due to changes to travel that were not initiated by The Valuation Analyst will be billed at our cost to you. These costs also assume a limited number of trips to the business, court, an attorney's office, etc. We want to be fair with our clients but we also expect that our clients will be fair with us and not expect abnormally high expenses to be incurred by The Valuation Analyst.

Payment terms shall be as follows:

\$<<RETAINER AMOUNT>> due in advance as a retainer. **This retainer shall be allocated against the final payment** that will be due to The Valuation Analyst. All amounts shall be billed regularly. The Valuation Analyst reserves the right to request additional retainers pertaining to this assignment at any time, particularly if the clients do not pay our invoices in accordance with the terms of this agreement.

Since it is considered unethical for us to perform these services on a contingency basis, it is important to us that our fees are paid promptly. The appearance of independence is of considerable importance for our firm to maintain our credibility, and therefore, we reserve the right to stop providing services at any time that there is a balance due our firm. In the event that we continue to provide services, we do not waive our right to stop at a later date. Furthermore, in order to ensure that our fees are not misconstrued to be on a contingency basis, **we will require all fees that are outstanding at the time of trial to be paid before we testify. We will also require a sufficient retainer to cover all anticipated time and expenses relating to a trial so that all fees are paid prior to our testifying.** Any unused retainer will be refunded to the clients once our involvement has been considered to be finished.

**The Valuation Analyst requires that all fees be paid before we release our report.** This is our regular practice and we request that our clients understand this practice before we are retained. This is not a personal reflection of The Client, but it is a practice that avoids a discriminatory collection practice. Chasing clients for fees is not our intention, and we believe that this practice assists us in providing our services in a manner that prevents concern about our ability to remain independent due to unpaid fees.

The Clients must understand that professional business valuation services are not inexpensive and unless other arrangements are made, in writing, with our firm, services rendered by our firm will be invoiced regularly, and are due upon presentation of our invoice to you. Balances outstanding beyond 30 days will have a service charge added at the rate of 1-1/2 percent per month or part thereof.

In the event that The Valuation Analyst must turn collection of fees over to an attorney, the undersigned will be responsible for all reasonable costs and fees associated with the collection action. Reasonable fees will be deemed to be up to 33 percent of the amount collected. Any collection action that is required due to nonpayment of fees shall be venued in Broward County, Florida.

The undersigned clients agree to indemnify The Valuation Analyst from any legal expenses incurred as a result of this engagement, other than those relating to the conduct of this assignment. This would include, but not be limited to, any legal expenses required to protect the confidentiality of this or any other client who becomes an issue in this matter.

The final report is copyrighted by The Valuation Analyst. It shall remain the property of The Valuation Analyst and no copies or reproductions shall be allowed without the written consent of The Valuation Analyst until such time as any outstanding balance is paid.

The Valuation Analyst reserves the right to withdraw from this engagement at any time. It is not our intention to withdraw. All workpapers created by The Valuation Analyst will remain in the possession of The Valuation Analyst. In the event of a withdrawal, we would only be liable to return those materials and documents supplied by The Clients and the unused portion of the retainer.



### EXHIBIT 3.2 Mutually Retained Business Valuation Retainer Agreement

The undersigned gives The Valuation Analyst the right to discuss this matter with the clients' attorney, accountant, other individuals so designated by The Clients and any professional colleagues of The Valuation Analyst from whom professional information is sought.

If this is acceptable, please sign the acknowledgment below and return a signed copy of this retainer agreement with your check in the amount of \$<<RETAINER AMOUNT>> to our office.

TRUGMAN VALUATION ASSOCIATES, INC.

\_\_\_\_\_  
Principal

#### ACKNOWLEDGMENT:

The undersigned accepts the terms of this retainer agreement and guarantees full payment of the fees with respect to this engagement.

_____	_____
<<CLIENT NAME>>	Date
_____	
Address and phone number	
_____	_____
Social Security number	Driver's license number
_____	_____
<<CLIENT NAME>>	Date
_____	
Address and phone number	
_____	_____
Social Security number	Driver's license number

**THIS BUSINESS VALUATION RETAINER AGREEMENT CONSISTS OF SEVEN (7) PAGES INCLUDING THIS ONE. ALL SEVEN (7) PAGES MUST BE RETURNED TO TRUGMAN VALUATION ASSOCIATES, INC. AFTER EXECUTION OF THIS DOCUMENT WITH THE REQUESTED RETAINER IN ORDER TO RETAIN OUR FIRM. IF THIS DOCUMENT IS NOT RECEIVED BY TRUGMAN VALUATION ASSOCIATES, INC. FULLY EXECUTED BY THE CLIENT WITH THE REQUESTED RETAINER BY <<DATE>>, TRUGMAN VALUATION ASSOCIATES, INC. RESERVES THE RIGHT TO DEEM THE TERMS OF THIS AGREEMENT AND THE OFFER TO PERFORM BUSINESS VALUATION SERVICES NULL AND VOID.**

During the conversation, the father says to me "I have a son who is an attorney in Miami. Maybe you know him? His name is John Smith." Two things immediately went through my head. First, one of the defendants in this lawsuit was a trust for the benefit of John Smith (the son). Second, I was currently working with John Smith on a case in Florida where John Smith retained me as the expert to maintain the work-product privilege of a client and attorney. At that point, realizing that John Smith was a client of mine and a small defendant in the pending matter, I stopped the interview. I immediately disclosed to the parties at the interview that I had a conflict, and I would have to resign from the assignment. I told my client that I would refund, all fees paid to our firm in full, and I would assist him in getting a new expert.

The next day, when I was back in Florida, I called John Smith to disclose what had happened. Ironically, he had already spoken with his father and knew about it. Both attorneys talked, and it was agreed that both sides felt that it was in the best interest of the case to ignore the conflict of interest and for me to continue the job. My client was comfortable with the fact that I could continue to do my job without any bias attributable to the other assignment in which John Smith was my client. John Smith actually convinced them that they were better off with me as the expert for the defendant's side because John knew that I would be impartial and

call it the way I saw it. Everybody signed (both sides and John Smith) a conflict waiver that I had my attorney prepare. The case settled with a happy ending for all.

This is just one more situation in which a conflict can come up. Who would have put together an attorney in Miami with a trust for the benefit of a child of the principal shareholder of a business in Pennsylvania? The moral of this story is: Just be careful.

## Purpose and Function of the Engagement

When the valuation analyst is first approached about a valuation assignment, it is important for the individual to gain a clear understanding of the purpose and function of the engagement. In simple terms: What is the valuation analyst going to be doing, and how will the analysis or report be used? This also raises the question what is going to be valued? Very often, an entire company will be valued; this is frequently referred to as the *equity* of the company. There are other times when the valuation analyst may be asked to value the entire capital structure of the business; this is referred to as the *invested capital* of the company (this will be discussed in more detail later).

There will also be times when only a portion of the equity will be valued. This may involve valuing a fractional interest in the company (less than 100 percent) or valuing only certain assets and liabilities. For example, the valuation analyst may be approached to value a 40 percent interest in the company. This is not as simple as taking 40 percent of the value of the entire company. A minority interest may be worth less than a pro rata share of the entire company. This will also be discussed later.

Another alternative might be that the valuation analyst is asked to value a company for a sale in which the owner will be keeping certain assets, such as a company car or cash in the bank. Many, if not most, small businesses are sold as *asset sales* as opposed to *stock sales*. This means that the purchaser will generally transfer the assets—and possibly liabilities—that were part of the deal to a new entity. There are several reasons why this is done, but this book is not the forum for that discussion. A proper understanding of the valuation subject is essential if the valuation analyst is going to do a good job.

Another important consideration is the intended use of the valuation. The intended use can affect the manner in which the job is performed. For example, if the valuation assignment is for a divorce litigation in a jurisdiction that does not recognize goodwill, the valuation analyst will have to conduct the valuation in a manner that would meet the requirements of that jurisdiction. However, if the same company is being valued for a sale, the methodologies employed in the valuation will most likely be different. Because goodwill is part of the sales price of the company, the valuation result would be different. After all, one includes goodwill and the other does not.

The intended use is also important to know so that the valuation analyst can perform the appropriate assignment. For example, I would not perform a calculation engagement for a litigation. I believe that a valuation engagement is more appropriate.

## Amount of Time Required to Do the Job

Knowing how much time is required to do the job properly is an important part of the planning stage for the assignment. Understanding the assignment will provide the valuation analyst with the ability to budget staff time and meet any deadlines that are imposed on the assignment. The client will also want to know how much the valuation will cost. Unfortunately, an answer such as “How high is up?” is generally unacceptable. Sometimes, budgeting time is probably more difficult than the valuation assignment itself because you never know what type of research problems or document production problems you may run into, particularly in litigation assignments. In chapter 5, I will discuss data gathering and expand on the research portion of the assignment.

## The Scope of the Assignment

Understanding the scope of the assignment, including the possibility of giving expert testimony, will help the valuation analyst determine whether he or she can accept the assignment. If a client tells the valuation analyst at the beginning that he or she will have severe scope restrictions but is expected to testify in court, the valuation analyst may want to think twice about taking the assignment. The valuation analyst may end up on the short end of the stick if he or she allows the client to limit the scope. Clients frequently look to save money and will often ask the valuation analyst to streamline the process. If expert testimony is anticipated, the judge or jury will remember only that the valuation analyst did not do a complete job. Regardless of whether the valuation analyst qualifies the conclusion of value because of the client's scope restrictions, the valuation analyst's reputation will be the most damaged element in the litigation. I had one case in which the client did not want me to perform a piece of analysis that I thought was important, and I was foolish enough to not do it because the client did not want to pay me to do it. When the judge asked me about the analysis and I said that I did not do it, he looked at me and said, "Am I supposed to do it? You're the expert." That case did not end very well. Be selective when you allow scope limitations.

Exhibit 3.3 contains a business valuation engagement acceptance form, which may make your life a whole lot easier.

### EXHIBIT 3.3 Trugman Valuation Associates, Inc. Business Valuation Engagement Acceptance Form

Prospective Client: \_\_\_\_\_

Completed by: \_\_\_\_\_ Date: \_\_\_\_\_

**INSTRUCTIONS:** This form should be completed for a prospective new client or a prospective engagement for an existing client. The person completing this checklist need only complete those parts of the form that apply to the proposed engagement.

#### I. PROSPECTIVE CLIENT DATA

[The following data should be obtained for the prospective client (the person or company that will be engaging our firm). That client may not be the actual entity being valued. Accordingly, a separate section of the form is designed for documenting information about the entity being valued.]

Prospective Client's Name: \_\_\_\_\_ Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

Business Address: \_\_\_\_\_

Referral Source: \_\_\_\_\_

Is the prospective client the same entity that is to be valued?

\_\_\_\_\_ Yes Proceed to Section II of this form (Entity to Be Valued). The remaining portion of Section I does not need to be completed.

\_\_\_\_\_ No Complete the remaining portion of Section I before proceeding to Section II.

Briefly explain the prospective client's relationship to the entity to be valued (for example, the client's ownership interest in the entity, if any; whether the entity is a proposed acquisition candidate of the entity, among others).

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(continued)

### EXHIBIT 3.3 Trugman Valuation Associates, Inc. Business Valuation Engagement Acceptance Form *(continued)*

#### II. ENTITY TO BE VALUED

(If the prospective client and the entity to be valued are the same, it is not necessary to repeat the data obtained in the preceding section of this form.)

Name of Entity to Be Valued: \_\_\_\_\_

Type of Legal Entity (Corp., S Corp., Partnership, or Proprietorship): \_\_\_\_\_

Business Address: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

Contacts at the entity with whom we would work (state name and title): \_\_\_\_\_

Brief description of the entity's business: \_\_\_\_\_

Entity's Accounting Firm: \_\_\_\_\_

Address: \_\_\_\_\_

Phone No: \_\_\_\_\_

Contact: \_\_\_\_\_

Entity's Primary Attorney: \_\_\_\_\_

Address: \_\_\_\_\_

Phone No: \_\_\_\_\_

Contact: \_\_\_\_\_

Other Contact: \_\_\_\_\_

Address: \_\_\_\_\_

Phone No: \_\_\_\_\_

#### III. SCOPE OF THE ENGAGEMENT

Briefly describe the purpose of the engagement (for example, determination of a party's interest in a divorce proceeding, valuation of a company for a proposed sale or acquisition, or determination of a value for an estate tax return).

Describe the interest to be valued (that is, the ownership percentage being valued and whether it is a controlling or minority interest).

Valuation Date(s): \_\_\_\_\_ Proposed Deadline: \_\_\_\_\_

Describe any obvious difficulties that may be associated with the valuation date (for example, the date may be at an interim period when no financials are available). \_\_\_\_\_

Does there appear to be enough historical financial statements and tax returns to assess the financial background and trend of the company? Yes \_\_\_\_\_ No \_\_\_\_\_

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**EXHIBIT 3.3 Trugman Valuation Associates, Inc. Business Valuation Engagement Acceptance Form**

If the answer to the preceding question is “No,” explain how this absence will affect the scope of the engagement. \_\_\_\_\_

How are the valuation conclusions to be communicated? (Check one.)

\_\_\_\_ Oral report    \_\_\_\_ Detail report    \_\_\_\_ Summary report

What is the intended distribution of a written report? (Check one.)

\_\_\_\_ It will be restricted to internal use or to use solely by a court of law.

\_\_\_\_ It will be distributed to third parties.

Based on your knowledge of the company to be valued, what valuation methods appear to be appropriate for the engagement? \_\_\_\_\_

Will an asset appraiser be needed? Yes \_\_\_\_\_ No \_\_\_\_\_

Is it likely that we will be asked to provide expert witness testimony? Yes \_\_\_\_\_ No \_\_\_\_\_

What will our role be on this proposed engagement? (Check one.)

\_\_\_\_ We will be objective, third-party valuation analysts.

\_\_\_\_ We will be client advisors and, accordingly, will not be able to render an independent valuation conclusion or act as expert witnesses.

**IV. ACCEPTANCE CONSIDERATIONS**

**Yes**

**No**

- |   |       |       |
|---|-------|-------|
| 1. Are we aware of any independence problems or conflicts of interest?  | _____ | _____ |
| 2. Are we aware of any potential fee collection problems?   | _____ | _____ |
| 3. Is the professional competence (expertise) necessary to perform the engagement beyond our capabilities?  | _____ | _____ |
| 4. Is the staffing commitment required by the engagement beyond our capabilities?   | _____ | _____ |
| 5. Do the terms of the proposed engagement, including fee arrangements, violate applicable professional standards?  | _____ | _____ |
| 6. Is the fee arrangement unacceptable given the scope of the engagement?   | _____ | _____ |
| 7. Is there anything about the engagement that subjects us to undue legal risk or causes us to be uncomfortable about being associated with the engagement? | _____ | _____ |

**COMMENTS**—A “Yes” answer does not necessarily indicate that the prospective engagement should be rejected. However, for any “Yes” answer, explain the steps that we plan to take to mitigate the situation (for example, closer supervision, a substantial fee deposit before work can start, renegotiation of the fee, or use of specialists).

**V. CONCLUSION**

We should accept \_\_\_\_\_ not accept \_\_\_\_\_ the engagement.

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

**Note: If “Yes” was answered to any question in Section IV, an officer other than the original contact must approve acceptance.**

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## The Type of Report to Be Issued

Knowing the type of report that is expected to be issued is important for several reasons. First, long narrative reports take a considerable amount of time to write. This affects not only the fee to be charged, but also your time budget for meeting deadlines. In chapter 17, I will discuss different types of reports (including the suggested content of each type), as well as their applicability to various types of assignments. The standards in the previous chapter should have already whet your appetite.

## Engagement Letters

Always—and I mean *always*—have the client sign an engagement letter (sometimes called a *retainer agreement*) in order to avoid any potential misunderstanding between the valuation analyst and the client. I cannot emphasize strongly enough the need for a good engagement letter. Exhibits 3.4 and 3.5 contain sample engagement letters for use in valuation and calculation engagements. These can be changed to meet the specific needs of each business valuation or calculation engagement. A well-constructed engagement letter should be perceived to be the contract that it is. Any modifications to the agreement should be in writing and agreed to by both parties. It may also be a good idea to have an attorney review the engagement letter so that the valuation analyst and the firm are legally protected in the jurisdiction in which the firm operates. Our standard engagement letter is six pages long. If you think that it is long, you're right. We had an attorney draft it for us, and he charged us by the word! An engagement letter is a written contract between the valuation analyst's firm and the client. As with any legal contract, it should be taken seriously. The valuation analyst should be clear about what will be done for the client, and in some cases, what the client is expected to do for the valuation analyst. When we have a very tight deadline, we generally will include language that outlines that the client is responsible for getting us the requested information by a certain date, or we cannot be held responsible for a missed deadline. Missed deadlines can have your report excluded from a litigation, they can cause an estate tax return to be filed late, generating penalty and interest, and they can get the valuation analyst sued.

If the engagement is to include forensic accounting work, this should be properly explained in the engagement letter. If the assignment does not include forensics, make sure that it is clear that the valuation analyst will be relying on the information that is provided. The assumptions and limiting conditions in the report should be clear about what the valuation analyst did or did not do. This book is not intended to cover forensic accounting issues, but I need to make just one point: In litigation assignments, be very careful not to blindly accept information from a client without performing the necessary forensics to verify the information. Because forensics can be so very broad, I cannot begin to do it justice in this book.

This is probably a good time to discuss assumptions and limiting conditions. Exhibits 3.4 and 3.5 contain the limiting conditions included in the AICPA business valuation standard (appendix A). There are a few modifications that we made as well. The AICPA's recommended list from the standard is included in exhibit 3.6.

The assumptions and limiting conditions included in the exhibits may not be applicable to every engagement. Our assumption and limiting conditions include a few other items that are not included here.

It is generally advisable to have the assumptions and limiting conditions included in your engagement letter. There are certain items that will be standard for all assignments. That can become part of your boilerplate. We include a statement in our engagement letter that states, "It is possible that additional contingent and limiting conditions will be required, and the client agrees that all conditions disclosed by The Valuation Analyst will be accepted as incorporated into The Valuation Analyst's report." This will allow you to add any additional items that may become necessary as the engagement proceeds.

There will be times that a special limiting condition may be necessary in the report, but the valuation analyst cannot anticipate it for the engagement letter. We had the following special limiting condition on page 1 of a report that we did for a litigation engagement:

### SPECIAL LIMITING CONDITION OF THIS REPORT

Despite requesting a considerable amount of information required to properly analyze the valuation subject, we were not provided with much of the data. As far as we can tell, there were two main reasons for this, namely:

- I. The Court largely denied our request for data that we deemed necessary to perform this valuation in accordance with professional valuation standards, and
- II. XYZ Company, Inc. failed to provide requested documentation that would support its operations.

Appendix 2, at the back of this report, includes a complete list of those items that were requested and the reason that we requested them.

We consider this lack of documentation to rise to the level of a “Scope Restriction” in accordance with our professional standards. Had we received the requested information, our conclusion of value may have been different.

Accepting the financial information without independent verification does not mean that we will not perform the necessary due diligence required as a valuation analyst. We look for the items that may require adjustments in the valuation process, but we certainly are not going to try to find unreported income as part of the assignment unless it is spelled out. Be careful here also because if you are mutually retained by both parties, trying to find unreported income may cause you to be working more as an advocate for one of the clients because any finding may assist the other client in furthering his or her position.

### EXHIBIT 3.4 Business Valuation Retainer Agreement

The undersigned client (The Client) acknowledges this engagement of Trugman Valuation Associates, Inc. (The Valuation Analyst) to perform a business valuation of <<DEFINE THE PROPERTY TO BE VALUED>> as of <<VALUATION DATE(S)>> to be used <<PURPOSE OF VALUATION>>. Our conclusion of value will be communicated to you in a <<DETAILED OR SUMMARY>> report.

#### PARAGRAPH TO BE INCLUDED IF LESS THAN A DETAILED REPORT TO BE ISSUED

Since The Client has requested that the conclusion of value be communicated in less than a detailed report, valuation standards that must be adhered to by The Valuation Analyst require that this report be restricted in its distribution. A summary report can easily be misunderstood by individuals who are not well-informed about the subject property, and therefore, valuation standards required that this type of report not be distributed to anyone other than The Client for his/her own use. **THIS REPORT IS FOR OUR CLIENT’S EYES ONLY.** Distribution to any other party is expressly prohibited.

The standard of value for this assignment shall be fair market value. Said fair market value is defined to be a value at which a willing seller and willing buyer, both being informed of the relevant facts about the business, could reasonably conduct a transaction, neither party acting under any compulsion to do so.

The standard of value is frequently determined by law. For example, the Internal Revenue Code requires fair market value to be used for all valuation assignments for tax purposes. In some instances, the standard of value may be determined by state statute, and in other instances, it may be subject to the interpretation of case law. As such, since The Valuation Analyst is not authorized to practice law, the standard of value should be determined by your legal advisor. The Valuation Analyst assumes no liability as a result of the incorrect standard of value being used in this assignment. Before signing this retainer agreement, consult your legal advisor.

Furthermore, the valuation date is also frequently subject to legal interpretation. Therefore, it is essential that The Client also makes sure that the correct valuation date(s) is used in this retainer agreement for the performance of this assignment. The Valuation Analyst will be valuing the subject property based on whichever date(s) appear in this retainer agreement without any consideration as to the correctness of this date. The Valuation Analyst assumes no liability if incorrect dates are used as long as we use the date(s) provided in this retainer agreement.

*(continued)*

**EXHIBIT 3.4 Business Valuation Retainer Agreement** *(continued)*

It is understood that The Valuation Analyst is not being engaged to perform an audit as defined by the AICPA, but, rather, the necessary tests of the accounting records that will be performed for the purpose of issuing a valuation report and not a statement regarding the fairness of presentation of the financial statements of the above business.

Certain values, derived from reports of others, and which are so designated, will be included in our report. We take no responsibility for those items. Nor do we take responsibility to update the report or disclose any events or circumstances occurring after the date of the report.

It is the responsibility of The Client to provide the necessary documentation that will be requested by The Valuation Analyst to perform this assignment. This documentation must be provided on a timely basis in order for The Valuation Analyst to conduct the assignment in an efficient manner. Additional fees could result from delays in receiving requested information. If this assignment is part of a litigation where The Client does not control the books and records of the company that is the subject of the valuation, it is The Client's responsibility to ensure that legal counsel obtains the necessary documentation requested by The Valuation Analyst for The Valuation Analyst to feel that it has satisfied its compliance with valuation standards with regards to "sufficient relevant data." In the event sufficient records and/or documentation cannot be supplied to The Valuation Analyst, no such valuation report will be issued. The Valuation Analyst assumes no liability for not issuing a report on a timely basis if The Valuation Analyst believes that it would be in violation of valuation standards for issuing a report where it cannot meet the "sufficient relevant data" standard.

This valuation will be subject to, at least, the following contingent and limiting conditions, which will be included in the report as an appendix:

1. The conclusion of value arrived at herein is valid only for the stated purpose as of the date of the valuation.
2. Financial statements and other related information provided by the business or its representatives, in the course of this engagement, have been accepted without any verification as fully and correctly reflecting the enterprise's business conditions and operating results for the respective periods, except as specifically noted herein. The Valuation Analyst has not audited, reviewed, or compiled the financial information provided to us and, accordingly, we express no audit opinion or any other form of assurance on this information.
3. Public information and industry and statistical information have been obtained from sources we believe to be reliable. However, we make no representation as to the accuracy or completeness of such information and have performed no procedures to corroborate the information.
4. We do not provide assurance on the achievability of the results forecasted by or for the subject company because events and circumstances frequently do not occur as expected; differences between actual and expected results may be material; and achievement of the forecasted results is dependent on actions, plans, and assumptions of management.
5. The conclusion of value arrived at herein is based on the assumption that the current level of management expertise and effectiveness would continue to be maintained, and that the character and integrity of the enterprise through any sale, reorganization, exchange, or diminution of the owners' participation would not be materially or significantly changed.
6. This report and the conclusion of value arrived at herein are for the exclusive use of our client for the sole and specific purposes as noted herein. They may not be used for any other purpose or by any other party for any purpose. Furthermore, the report and conclusion of value are not intended by the author and should not be construed by the reader to be investment advice in any manner whatsoever. The conclusion of value represents the considered opinion of The Valuation Analyst, based on information furnished to them by the subject company and other sources.
7. Neither all nor any part of the contents of this report (especially the conclusion of value, the identity of any valuation specialist(s), or the firm with which such valuation specialists are connected or any reference to any of their professional designations) should be disseminated to the public through advertising media, public relations, news media, sales media, mail, direct transmittal, or any other means of communication without the prior written consent and approval of The Valuation Analyst.
8. Future services regarding the subject matter of this report, including, but not limited to, testimony or attendance in court, shall not be required of The Valuation Analyst unless previous arrangements have been made in writing.
9. The Valuation Analyst is not an environmental consultant or auditor, and it takes no responsibility for any actual or potential environmental liabilities. Any person entitled to rely on this report, wishing to know whether such liabilities exist, or the scope and their effect on the value of the property, is encouraged to obtain a professional environmental assessment. The Valuation Analyst does not conduct or provide environmental assessments and has not performed one for the subject property.



**EXHIBIT 3.4 Business Valuation Retainer Agreement**

10. The Valuation Analyst has not determined independently whether the subject company is subject to any present or future liability relating to environmental matters (including, but not limited to CER-CLA/Superfund liability) nor the scope of any such liabilities. The Valuation Analyst's valuation takes no such liabilities into account, except as they have been reported to The Valuation Analyst by the subject company or by an environmental consultant working for the subject company, and then only to the extent that the liability was reported to us in an actual or estimated dollar amount. Such matters, if any, are noted in the report. To the extent such information has been reported to us, The Valuation Analyst has relied on it without verification and offers no warranty or representation as to its accuracy or completeness.
11. The Valuation Analyst has not made a specific compliance survey or analysis of the subject property to determine whether it is subject to, or in compliance with, the American Disabilities Act of 1990, and this valuation does not consider the effect, if any, of noncompliance.
12. No change of any item in this valuation report shall be made by anyone other than The Valuation Analyst, and we shall have no responsibility for any such unauthorized change.
13. Unless otherwise stated, no effort has been made to determine the possible effect, if any, on the subject business due to future federal, state, or local legislation, including any environmental or ecological matters or interpretations thereof.
14. We have conducted interviews with the current management of the subject company concerning the past, present, and prospective operating results of the company. Except as noted, we have relied on the representations of these individuals.
15. Except as noted, we have relied on the representations of the owners, management, and other third parties concerning the value and useful condition of all equipment, real estate, investments used in the business, and any other assets or liabilities, except as specifically stated to the contrary in this report. We have not attempted to confirm whether or not all assets of the business are free and clear of liens and encumbrances or that the entity has good title to all assets.
16. All facts and data set forth in the report are true and accurate to the best of the Valuation Analyst's knowledge and belief. We have not knowingly withheld or omitted anything from our report affecting our value estimate.
17. Possession of this report, or a copy thereof, does not carry with it the right of publication of all or part of it, nor may it be used for any purpose without the previous written consent of The Valuation Analyst, and in any event, only with proper authorization. Authorized copies of this report will be signed in blue ink by a principal of The Valuation Analyst. Unsigned copies, or copies not signed in blue ink, should be considered to be incomplete.
18. Unless otherwise provided for in writing and agreed to by both parties in advance, the extent of the liability for the completeness or accuracy of the data, opinions, comments, recommendations, and conclusions shall not exceed the amount paid to the Valuation Analysts for professional fees and, then, only to the party(s) for whom this report was originally prepared.
19. The conclusion reached in this report is based on the standard of value as stated and defined in the body of the report. An actual transaction in the business or business interest may be concluded at a higher value or lower value, depending on the circumstances surrounding the company, the appraised business interest, and the motivations and knowledge of both the buyers and sellers at that time. The Valuation Analyst makes no guarantees as to what values individual buyers and sellers may reach in an actual transaction.
20. No opinion is intended to be expressed for matters that require legal or other specialized expertise, investigation, or knowledge beyond that customarily employed by Valuation Analysts valuing businesses.

It is possible that additional contingent and limiting conditions will be required, and the client agrees that all conditions disclosed by the Valuation Analyst will be accepted as incorporated into the Valuation Analyst's report.

For all business valuation assignments that are being used as part of a litigation assignment, particularly where testimony is expected to be provided by The Valuation Analyst, The Client acknowledges that The Valuation Analyst will not be held responsible if a court excludes the testimony of The Valuation Analyst for circumstances that are beyond the control of The Valuation Analyst. For example, a court may exclude The Valuation Analyst as a result of not being an industry expert in the subject company's industry. We are valuation experts, we do not hold ourselves out to be industry experts except in our own industry.

For non-litigation assignments, The Client acknowledges that The Valuation Analyst will not be held responsible for a finding by another party, such as a taxing authority, based on a difference of opinion as to the value conclusion reached or a negotiated value. The Valuation Analyst is generally not part of negotiations between the taxing authority and The Client, we cannot assume any liability when we are not part of that process.

*(continued)*

### EXHIBIT 3.4 Business Valuation Retainer Agreement *(continued)*

The Valuation Analyst's goal is to be as fair as possible in its billing practices with respect to this assignment. It is our intention to perform this engagement as quickly and affordably as possible, but these services take a reasonable amount of time to render. We will make certain that the appropriate personnel in our firm render those services that will comply with the level of expertise required by this engagement. In that regard, hourly rates will be charged based on the billing rates in effect at the time that the services are rendered. Currently those hourly rates range from \$XXX to \$YYY per hour depending on the level of staff performing the assignment.

While The Valuation Analyst does its best to estimate fees in these types of assignments, there will be times that the fees may be greater than the range estimated. This is especially true in litigation assignments where The Valuation Analyst has a difficult time obtaining records, or where it takes a long time to get those records requiring The Valuation Analyst to constantly pick up and put down the file. This is not the only reason for assignments to go over budget. If The Valuation Analyst believes that the fees will exceed an estimated range, we will try to notify The Client as soon as practical to discuss the overage. However, when The Valuation Analyst sends an invoice to The Client, unless the client questions said invoice within 14 days of the date of the invoice, The Valuation Analyst assumes that The Client has accepted the invoice as being reasonable and expects it to be paid in accordance with this retainer agreement.

Hourly rates are charged portal to portal from our Plantation, Florida office. In addition to these hourly rates, the following charges may be applicable:

- a. Fees for appearance at depositions and/or trial testimony shall be charged based on our standard billing rates. Although payment for deposition testimony is usually the responsibility of the adverse party in a litigation, the undersigned client guarantees payment of the same to The Valuation Analyst.
- b. Any out-of-pocket expenses relating to this valuation. It is expected that we will perform research through computer databases, and that we may be required to purchase research materials relating to this engagement. These and other such costs will be billed to you at our cost. Regardless of which office this assignment is billed from, there is an expectation that only normal travel expenses will be incurred by The Valuation Analyst. Any additional expenses that are incurred by The Valuation Analyst will be billed to The Client. For example, higher than normal airfares due to last minute travel or change fees due to changes to travel that were not initiated by The Valuation Analyst will be billed at our cost to you. These costs also assume a limited number of trips to the business, court, an attorney's office, etc. We want to be fair with our clients, but we also expect that our clients will be fair with us and not expect abnormally high expenses to be incurred by The Valuation Analyst.

Payment terms shall be as follows:

\$<<RETAINER AMOUNT>> due in advance as a retainer. **This retainer shall be allocated against the final payment** that will be due to The Valuation Analyst. All amounts shall be billed regularly. The Valuation Analyst reserves the right to request additional retainers pertaining to this assignment at any time, particularly if the client does not pay our invoices in accordance with the terms of this agreement.

Since it is considered unethical for us to perform these services on a contingency basis, it is important to us that our fees are paid promptly. The appearance of independence is of considerable importance for our firm to maintain our credibility, and therefore, we reserve the right to stop providing services at any time that there is a balance due our firm. In the event that we continue to provide services, we do not waive our right to stop at a later date. Furthermore, in order to ensure that our fees are not misconstrued to be on a contingent basis, **we will require all fees that are outstanding at the time of trial to be paid before we testify. We will also require a sufficient retainer to cover all anticipated time and expenses relating to a trial so that all fees are paid prior to our testifying.** Any unused retainer will be refunded to the client once our involvement has been considered to be finished.

**The Valuation Analyst requires that all fees be paid before we release our report.** This is our regular practice, and we request that our clients understand this practice before we are retained. This is not a personal reflection of The Client, but it is a practice that avoids a discriminatory collection practice. Chasing clients for fees is not our intention, and we believe that this practice assists us in providing our services in a manner that prevents concern about our ability to remain independent due to unpaid fees.

**EXHIBIT 3.4 Business Valuation Retainer Agreement**

The client must understand that professional business valuation services are not inexpensive and unless other arrangements are made, in writing, with our firm, services rendered by our firm will be invoiced regularly and are due upon presentation of our invoice to you. Balances outstanding beyond 30 days will have a service charge added at the rate of 1½ percent per month or part thereof.

In the event that The Valuation Analyst must turn collection of fees over to an attorney, the undersigned will be responsible for all reasonable costs and fees associated with the collection action. Reasonable fees will be deemed to be up to 33½ percent of the amount collected. Any collection action that is required due to nonpayment of fees shall be venued in Broward County, Florida.

The undersigned client agrees to indemnify The Valuation Analyst from any legal expenses incurred as a result of this engagement, other than those relating to the conduct of this assignment. This would include, but not be limited to, any legal expenses required to protect the confidentiality of this or any other client who becomes an issue in this matter.

The final report is copyrighted by The Valuation Analyst. It shall remain the property of The Valuation Analyst, and no copies or reproductions shall be allowed without the written consent of The Valuation Analyst until such time as any outstanding balance is paid.

The Valuation Analyst reserves the right to withdraw from this engagement at any time. It is not our intention to withdraw. All workpapers created by The Valuation Analyst will remain in the possession of The Valuation Analyst. In the event of a withdrawal, we would only be liable to return those materials and documents supplied by the client and the unused portion of the retainer.

The undersigned gives The Valuation Analyst the right to discuss this matter with The Client's attorney, accountant, other individuals so designated by The Client, and any professional colleagues of The Valuation Analyst from whom professional information is sought.

If this is acceptable, please sign the acknowledgment below and return a signed copy of this retainer agreement with your check in the amount of \$<<RETAINER AMOUNT>> to our office.

TRUGMAN VALUATION ASSOCIATES, INC.

\_\_\_\_\_  
Principal

**ACKNOWLEDGMENT:**

The undersigned accepts the terms of this retainer agreement and guarantees full payment of the fees with respect to this engagement.

\_\_\_\_\_  
<<CLIENT NAME>>

\_\_\_\_\_  
Date

\_\_\_\_\_  
Address and phone number

\_\_\_\_\_  
Social Security number

\_\_\_\_\_  
Driver's license number

THIS BUSINESS VALUATION RETAINER AGREEMENT CONSISTS OF SEVEN (7) PAGES INCLUDING THIS ONE. ALL SEVEN (7) PAGES MUST BE RETURNED TO TRUGMAN VALUATION ASSOCIATES, INC. AFTER EXECUTION OF THIS DOCUMENT WITH THE REQUESTED RETAINER IN ORDER TO RETAIN OUR FIRM. IF THIS DOCUMENT IS NOT RECEIVED BY TRUGMAN VALUATION ASSOCIATES, INC. FULLY EXECUTED BY THE CLIENT WITH THE REQUESTED RETAINER BY <<DATE>>, TRUGMAN VALUATION ASSOCIATES, INC. RESERVES THE RIGHT TO DEEM THE TERMS OF THIS AGREEMENT AND THE OFFER TO PERFORM BUSINESS VALUATION SERVICES NULL AND VOID.

### EXHIBIT 3.5 Business Valuation Calculation Agreement

The undersigned acknowledges this engagement of Trugman Valuation Associates, Inc. (The Valuation Analyst) to perform limited business valuation services of <<DEFINE THE PROPERTY TO BE VALUED>> as of <<VALUATION DATE(S)>> to be used <<PURPOSE OF CALCULATION>>. These services are described in the Statement on Standards for Valuation Services No. 1, as promulgated by the AICPA. This type of service is explained in this standard as follows:

Calculation Engagement—A valuation analyst performs a calculation engagement when (1) the valuation analyst and the client agree on the valuation approaches and methods the valuation analyst will use and the extent of procedures the valuation analyst will perform in the process of calculating the value of a subject interest (these procedures will be more limited than those of a valuation engagement) and (2) the valuation analyst calculates the value in compliance with the agreement. The valuation analyst expresses the results of these procedures as a calculated value. The calculated value is expressed as a range or as a single amount. A calculation engagement does not include all of the procedures required for a valuation engagement.

Our calculation of value will be communicated to you in a calculation report. A calculation report will contain less information than would be included in a detailed report under a valuation engagement. Our standard does not permit a detailed report to be used for this type of engagement, and therefore, this report is only appropriate for the client's review. This limited report may be misunderstood by those who are not familiar with all of the facts surrounding this engagement.

Unless otherwise noted in this agreement, this calculation engagement is expected to be performed by The Valuation Analyst considering an income approach methodology and a market approach methodology, if sufficient relevant data can be located using the transaction databases that we subscribe to. We will not be performing a site visit, nor will we be performing independent research regarding the industry of the subject company. We will utilize our knowledge of the subject company's industry without gathering additional data beyond our current level of it.

Although the purpose of this calculation engagement is to determine the reasonable value of the subject property, the client has requested only limited analyses to be performed. Based on these limitations, The Valuation Analyst will also not be rendering a conclusion (opinion) of value based on the standards established by the Uniform Standards of Appraisal Practice, the American Society of Appraisers, or The Institute of Business Appraisers.

The Valuation Analyst will perform limited analyses to estimate the negotiable price that can be used by the client in lieu of the more definitive estimate of fair market value of the subject property. Said fair market value is defined to be a value at which a willing seller and willing buyer, both being informed of the relevant facts about the business, could reasonably conduct a transaction, neither party acting under any compulsion to do so.

**It is understood that as a result of this assignment, no expert testimony shall be provided. Any required expert testimony shall be the subject of a different retainer agreement.**

It is also understood that The Valuation Analyst is not being engaged to perform an audit as defined by the AICPA, but, rather, the necessary analysis of only those records deemed necessary to perform this calculation engagement.

In the event sufficient records and/or documentation cannot be supplied to The Valuation Analyst, no such calculation report will be issued.

Certain values, derived from reports of others, and which are so designated, will be included in our report. We take no responsibility for those items. Nor do we take responsibility to update the report or disclose any events or circumstances occurring after the date of the report.

This calculation engagement will be subject to, at least, the following contingent and limiting conditions, which will be included in the report as an appendix:

1. The calculation of value arrived at herein is valid only for the stated purpose as of the effective date of the calculations.

**EXHIBIT 3.5 Business Valuation Calculation Agreement**

2. Financial statements and other related information provided by the business or its representatives, in the course of this engagement, have been accepted without any verification as fully and correctly reflecting the enterprise's business conditions and operating results for the respective periods, except as specifically noted herein. The Valuation Analyst has not audited, reviewed, or compiled the financial information provided to us and, accordingly, we express no audit opinion or any other form of assurance on this information.
3. Public information and industry and statistical information have been obtained from sources we believe to be reliable. However, we make no representation as to the accuracy or completeness of such information and have performed no procedures to corroborate the information.
4. We do not provide assurance on the achievability of the results forecasted by or for the subject company because events and circumstances frequently do not occur as expected; differences between actual and expected results may be material; and achievement of the forecasted results is dependent on actions, plans, and assumptions of management.
5. The calculation of value arrived at herein is based on the assumption that the current level of management expertise and effectiveness would continue to be maintained, and that the character and integrity of the enterprise through any sale, reorganization, exchange, or diminution of the owners' participation would not be materially or significantly changed.
6. This report and the calculation of value arrived at herein are for the exclusive use of our client for the sole and specific purposes as noted herein. They may not be used for any other purpose or by any other party for any purpose. Furthermore, the report and calculation of value are not intended by the author and should not be construed by the reader to be investment advice in any manner whatsoever. The calculation of value represents the considered opinion of The Valuation Analyst, based on limited information furnished to them by the subject company and other sources.
7. Neither all nor any part of the contents of this report (especially the calculation of value, the identity of any valuation specialist(s), or the firm with which such valuation specialists are connected or any reference to any of their professional designations) should be disseminated to the public through advertising media, public relations, news media, sales media, mail, direct transmittal, or any other means of communication without the prior written consent and approval of The Valuation Analyst.
8. Future services regarding the subject matter of this report, including, but not limited to, testimony or attendance in court shall not be required of The Valuation Analyst as a result of this engagement.
9. The Valuation Analyst is not an environmental consultant or auditor, and it takes no responsibility for any actual or potential environmental liabilities. Any person entitled to rely on this report, wishing to know whether such liabilities exist, or the scope and their effect on the value of the property, is encouraged to obtain a professional environmental assessment. The Valuation Analyst does not conduct or provide environmental assessments and has not performed one for the subject property.
10. The Valuation Analyst has not determined independently whether the subject company is subject to any present or future liability relating to environmental matters (including, but not limited to, CER-CLA or Superfund liability) nor the scope of any such liabilities. The Valuation Analyst's calculation takes no such liabilities into account, except as they have been reported to The Valuation Analyst by the subject company or by an environmental consultant working for the subject company, and then only to the extent that the liability was reported to us in an actual or estimated dollar amount. Such matters, if any, are noted in the report. To the extent such information has been reported to us, The Valuation Analyst has relied on it without verification and offers no warranty or representation as to its accuracy or completeness.
11. The Valuation Analyst has not made a specific compliance survey or analysis of the subject property to determine whether it is subject to, or in compliance with, the American Disabilities Act of 1990, and this valuation does not consider the effect, if any, of noncompliance.
12. No change of any item in this calculation report shall be made by anyone other than The Valuation Analyst and we shall have no responsibility for any such unauthorized change.
13. Unless otherwise stated, no effort has been made to determine the possible effect, if any, on the subject business due to future federal, state, or local legislation, including any environmental or ecological matters or interpretations thereof.
14. We have conducted limited interviews by telephone with the current management of the subject company concerning the past, present, and prospective operating results of the company. Except as noted, we have relied on the representations of these individuals.

*(continued)*

**EXHIBIT 3.5 Business Valuation Calculation Agreement** *(continued)*

15. Except as noted, we have relied on the representations of the owners, management, and other third parties concerning the value and useful condition of all equipment, real estate, investments used in the business, and any other assets or liabilities, except as specifically stated to the contrary in this report. We have not attempted to confirm whether or not all assets of the business are free and clear of liens and encumbrances or that the entity has good title to all assets.
16. Possession of this report, or a copy thereof, does not carry with it the right of publication of all or part of it, nor may it be used for any purpose without the previous written consent of the Valuation Analyst, and in any event, only with proper authorization. Authorized copies of this report will be signed in blue ink by a director of The Valuation Analyst. Unsigned copies, or copies not signed in blue ink, should be considered to be incomplete.

It is possible that additional contingent and limiting conditions will be required, and the client agrees that all conditions disclosed by the valuation analyst will be accepted as incorporated into the analyst's report.

It is our intention to perform this engagement as quickly and affordably as possible, but these services take a reasonable amount of time to render. We will make certain that the appropriate personnel in our firm render those services that will comply with the level of expertise required by this engagement. In that regard, hourly rates will be charged based on the billing rates in effect at the time that the services are rendered. Currently those hourly rates range from \$xxx to \$xxx per hour depending on the level of staff performing the assignment.

In addition to these hourly rates, any out of pocket expenses relating to this assignment will be billed to you at our cost. It is expected that we will perform some research through computer databases, and that we may be required to purchase research materials relating to this engagement. We will do everything possible to minimize these expenses, but the client is advised that they most likely will exist.

Payment terms shall be as follows:

\$x,xxx due in advance as a retainer. **This retainer shall be allocated against the final payment that will be due to The Valuation Analyst.** All amounts shall be billed regularly. Since it is considered unethical for us to perform these services on a contingency basis, it is important to us that our fees are paid promptly. The appearance of independence is of considerable importance for our firm to maintain our credibility, and therefore, we reserve the right to stop providing services at any time that there is a balance due our firm. In the event that we continue to provide services, we do not waive our right to stop at a later date.

The client must understand that professional services are not inexpensive and unless other arrangements are made, in writing, with our firm, services rendered by our firm will be invoiced regularly and are due upon presentation of our invoice to you. Balances outstanding beyond 30 days will have a service charge added at the rate of one and a half percent per month or part thereof.

**The Valuation Analyst requires that all fees be paid before we release our report.** This is our regular practice, and we request that our clients understand this practice before we are retained. This is not a personal reflection of this client, but it is a practice that avoids a discriminatory collection practice. Chasing clients for fees is not our intention, and we believe that this practice assists us in providing our services in a manner that prevents concern about our ability to remain independent due to unpaid fees.

In the event that The Valuation Analyst must turn collection of fees over to an attorney, the undersigned will be responsible for all reasonable costs and fees associated with the collection action. Reasonable fees will be deemed to be up to 33.33 percent of the amount collected. Any collection action that is required due to nonpayment of fees shall be venued in Broward County, Florida.

The undersigned client agrees to indemnify The Valuation Analyst from any legal expenses incurred as a result of this engagement other than those relating to the conduct of this assignment. This would include, but not be limited to, any legal expenses required to protect the confidentiality of this or any other client who becomes an issue in this matter.

**EXHIBIT 3.5 Business Valuation Calculation Agreement** *(continued)*

The Valuation Analyst has estimated the cost of this assignment to approximate \$x,xxx to \$x,xxx plus out-of-pocket costs. Although we cannot guarantee the exact fee, we will do everything reasonably possible to minimize this expense without jeopardizing the quality of the services rendered. In the event that it appears that the fee will deviate upwards by more than 20 percent, we will call it to your attention as soon as we become aware of the extra time required to complete the assignment.

The Valuation Analyst reserves the right to withdraw from this engagement at any time. It is not our intention to withdraw. All working papers created by The Valuation Analyst will remain in the possession of The Valuation Analyst. In the event of a withdrawal, we would only be liable to return those materials and documents supplied by the client and the unused portion of the retainer.

The undersigned gives The Valuation Analyst the right to discuss this matter with the client's attorney, accountant, other individuals so designated by the client, and any professional colleagues of the Valuation Analyst from whom professional information is sought.

If this is acceptable, please sign the acknowledgment below and return a signed copy of this retainer agreement with your check in the amount of \$x,xxx to our office.

TRUGMAN VALUATION ASSOCIATES, INC.

\_\_\_\_\_  
Principal

**ACKNOWLEDGMENT:**

The undersigned accepts the terms of this retainer agreement and guarantees full payment of the fees with respect to this engagement.

\_\_\_\_\_  
<<CLIENT NAME>>

\_\_\_\_\_  
Date

\_\_\_\_\_  
Address and phone number

\_\_\_\_\_  
Social Security number

\_\_\_\_\_  
Driver's license number

**THIS CALCULATION OF VALUE RETAINER AGREEMENT CONSISTS OF FIVE (5) PAGES, INCLUDING THIS ONE. ALL FIVE PAGES MUST BE RETURNED TO TRUGMAN VALUATION ASSOCIATES, INC. AFTER EXECUTION OF THIS DOCUMENT WITH THE REQUESTED RETAINER IN ORDER TO RETAIN OUR FIRM. IF THIS DOCUMENT IS NOT RECEIVED BY TRUGMAN VALUATION ASSOCIATES, INC. FULLY EXECUTED BY THE CLIENT WITH THE REQUESTED RETAINER BY <<DATE>>, TRUGMAN VALUATION ASSOCIATES, INC. RESERVES THE RIGHT TO DEEM THE TERMS OF THIS AGREEMENT, AND THE OFFER TO PERFORM THESE SERVICES, NULL AND VOID.**

### EXHIBIT 3.6 Statement on Standards for Valuation Services No. 1— Appendix A

The valuation report or calculation report should include a list of assumptions and limiting conditions under which the engagement was performed. This appendix includes an illustrative list of assumptions and limiting conditions that may apply to a business valuation.

#### ILLUSTRATIVE LIST OF ASSUMPTIONS AND LIMITING CONDITIONS

1. The conclusion of value arrived at herein is valid only for the stated purpose as of the date of the valuation.
2. Financial statements and other related information provided by [ABC Company] or its representatives, in the course of this engagement, have been accepted without any verification as fully and correctly reflecting the enterprise's business conditions and operating results for the respective periods, except as specifically noted herein. [Valuation Firm] has not audited, reviewed, or compiled the financial information provided to us, and, accordingly, we express no audit opinion or any other form of assurance on this information.
3. Public information and industry and statistical information have been obtained from sources we believe to be reliable. However, we make no representation as to the accuracy or completeness of such information and have performed no procedures to corroborate the information.
4. We do not provide assurance on the achievability of the results forecasted by [ABC Company] because events and circumstances frequently do not occur as expected; differences between actual and expected results may be material; and achievement of the forecasted results is dependent on actions, plans, and assumptions of management.
5. The conclusion of value arrived at herein is based on the assumption that the current level of management expertise and effectiveness would continue to be maintained, and that the character and integrity of the enterprise through any sale, reorganization, exchange, or diminution of the owners' participation would not be materially or significantly changed.
6. This report and the conclusion of value arrived at herein are for the exclusive use of our client for the sole and specific purposes as noted herein. They may not be used for any other purpose or by any other party for any purpose. Furthermore, the report and conclusion of value are not intended by the author and should not be construed by the reader to be investment advice in any manner whatsoever. The conclusion of value represents the considered opinion of [Valuation Firm], based on information furnished to them by [ABC Company] and other sources.
7. Neither all nor any part of the contents of this report (especially the conclusion of value, the identity of any valuation specialist(s), or the firm with which such valuation specialists are connected or any reference to any of their professional designations) should be disseminated to the public through advertising media, public relations, news media, sales media, mail, direct transmittal, or any other means of communication without the prior written consent and approval of [Valuation Firm].
8. Future services regarding the subject matter of this report, including, but not limited to, testimony or attendance in court, shall not be required of [Valuation Firm] unless previous arrangements have been made in writing.
9. [Valuation Firm] is not an environmental consultant or auditor, and it takes no responsibility for any actual or potential environmental liabilities. Any person entitled to rely on this report, wishing to know whether such liabilities exist, or the scope and their effect on the value of the property, is encouraged to obtain a professional environmental assessment. [Valuation Firm] does not conduct or provide environmental assessments and has not performed one for the subject property.
10. [Valuation Firm] has not determined independently whether [ABC Company] is subject to any present or future liability relating to environmental matters (including, but not limited to, CER-CLA or Superfund liability) nor the scope of any such liabilities. [Valuation Firm]'s valuation takes no such liabilities into account, except as they have been reported to [Valuation Firm] by [ABC Company] or by an environmental consultant working for [ABC Company], and then only to the extent that the liability was reported to us in an actual or estimated dollar amount. Such matters, if any, are noted in the report. To the extent such information has been reported to us, [Valuation Firm] has relied on it without verification and offers no warranty or representation as to its accuracy or completeness.
11. [Valuation Firm] has not made a specific compliance survey or analysis of the subject property to determine whether it is subject to, or in compliance with, the American Disabilities Act of 1990, and this valuation does not consider the effect, if any, of noncompliance.
12. [Sample wording for use if the jurisdictional exception is invoked.] The conclusion of value (or the calculated value) in this report deviates from Statement on Standards for Valuation Services No. 1 as a result of published governmental, judicial, or accounting authority.
13. No change of any item in this appraisal report shall be made by anyone other than [Valuation Firm], and we shall have no responsibility for any such unauthorized change.



### EXHIBIT 3.6 Statement on Standards for Valuation Services No. 1— Appendix A

14. Unless otherwise stated, no effort has been made to determine the possible effect, if any, on the subject business due to future federal, state, or local legislation, including any environmental or ecological matters or interpretations thereof.
15. If prospective financial information approved by management has been used in our work, we have not examined or compiled the prospective financial information, and therefore, do not express an audit opinion or any other form of assurance on the prospective financial information or the related assumptions. Events and circumstances frequently do not occur as expected, and there will usually be differences between prospective financial information and actual results, and those differences may be material.
16. We have conducted interviews with the current management of [ABC Company] concerning the past, present, and prospective operating results of the company.
17. Except as noted, we have relied on the representations of the owners, management, and other third parties concerning the value and useful condition of all equipment, real estate, investments used in the business, and any other assets or liabilities, except as specifically stated to the contrary in this report. We have not attempted to confirm whether or not all assets of the business are free and clear of liens and encumbrances or that the entity has good title to all assets.

The easiest trap to fall into in a valuation engagement is when the attorney asks the valuation analyst for a ballpark opinion. Next thing the analyst knows, the so-called “ballpark” becomes an expert report without the analyst even realizing that it has been submitted to the other side in a litigation. If the engagement letter and report are not crystal clear regarding what the valuation analyst will and will not do and what restrictions are placed on the use of the report, the valuation analyst is looking for trouble. The valuation analyst’s reputation will be the most impaired part of the litigation. How many times have I now said this? When the valuation analyst finds himself in court trying to explain that this report was not intended to be used for the litigation, the only thing that everyone will remember is that the expert did a poor job. The valuation analyst does not want to find himself doing a calculation engagement when a valuation engagement is called for. Who needs the grief?

The engagement letter should also include the “as of” date for the valuation. The valuation analyst does not want to start doing research and analysis as of a certain date, have the client’s attorney tell the analyst that he or she should be using a different date, and then not be able to collect fees from the client because the analyst did the work twice. In some states, valuations for certain types of litigation can be a moving target. For example, in Connecticut, a divorce valuation starts out at the current date but will frequently be updated at the time of the trial. This can cause several valuations to be done as part of the same engagement. The engagement letter should clearly spell out that the valuation assignment may require additional dates to be used and that the client acknowledges and gives the valuation analyst his or her permission to do whatever needs to be done.

The engagement letter should be updated every so often as needed. We changed parts of our engagement letter since the last edition of this book to spell out the fact that standards of value and valuation dates, particularly in a litigation setting, are determined legally and not by the valuation analyst. Note the language in the engagement letter telling the client to check certain things with the attorney before signing the engagement letter. We merely want to protect ourselves from being provided incorrect information.

Another way to fall into a trap is the engagement to critique the other side’s report without being hired to give a separate opinion of value because the client does not want to spend the money to have the valuation analyst do a full valuation. Besides having the assignment spelled out in the engagement letter—for example, “we are being retained only to critique the report of XYZ Valuation Firm, and we are not being hired to provide a conclusion of value of the company”—some of the language that goes into our report may look like this:

Dear Ms. Smith:

Pursuant to your request, I have reviewed the valuation report of Roberts, Green & Co., CPAs, regarding your interest in Smith Jones & Associates, P.A. The purpose of my review was to determine if I could find any glaring errors in the valuation report. I have not performed a valuation of your interest, and accordingly, I am not offering a conclusion of value in this critique.

Other items that should be spelled out in the engagement letter include the standard of value, payment terms, dispute resolution, and indemnification provisions. The standard of value is as important as the date of the valuation. Is the valuation analyst being hired to determine fair market value or fair value? This stuff is discussed in chapter 4. The valuation analyst needs the client's attorney to tell him or her which standard of value the analyst should be using for the valuation. Though we all want to be helpful, some of these items require legal decisions. As an accountant or valuation analyst, one is generally not qualified (by education and training) to provide legal determinations about standards of value. Though we know that fair market value will be used for estate tax issues, different states have different standards of value for ownership disputes. Sometimes, even within the same standard of value there can be many different jurisdictional interpretations. This is the kind of stuff that can get the analyst in trouble. Imagine the judge knocking out the valuation analyst's report because he or she used the wrong standard of value. Hello, lawsuit!

Do not forget to put payment terms in the engagement letter, unless you like to work for free. I like to choose what pro bono (free) work our firm does. I try not to let the client decide that we should work for free. Get a retainer. In fact, it is becoming more common to consider the retainer as a *back-end retainer*. This means that it is applied at the end of the job, rather than at the beginning. Our retainer agreements also contain a provision that says, "An additional invoice will be rendered once the valuation analyst has completed the valuation report. Payment in full is due prior to the release of said report to the client." This means we get paid before we release the report. I do not like to chase fees. In fact, my insurance carrier would probably prefer that I do not chase fees. They say that one of the biggest reasons that clients sue their accountants for malpractice is because the clients are counter-suing due to a collection dispute. The valuation analyst should get paid before he or she gets sued!

Let me point out some other important stuff about the engagement letter. In the first paragraph, the name of the valuation firm—not the valuation analyst—should appear because it is the firm and not the individual being engaged. This will allow the staffing to be determined by the firm. This will also allow someone else in the firm to step into the assignment if the valuation analyst is unable to complete it. In addition, a good engagement letter at a minimum should include the following:

- A description of the scope of the assignment
- A detailed description of the valuation subject
- The standard of value that will be used, including the definition of that standard
- The effective date(s) of the valuation
- The type of report that will be issued to communicate the value estimate
- The responsibilities of the client, in particular, to provide requested documentation on a timely basis

## Description of the Scope of the Assignment

This section of the engagement letter describes the purpose and function of the valuation assignment. The best way to differentiate between the purpose and function of the valuation is as follows:

Purpose = Type of value (standard of value)

Function = How the valuation will be used

This is probably a good time to introduce another concept that fits into this section. It is called the *highest and best use* of the business. We also call this the *premise of value*. Whenever you pick up a real estate appraisal, the real estate appraiser discusses the concept of highest and best use. This is described as follows:

### Highest and Best Use

This section of the report must be complete and thorough. It should begin with a proper definition of *highest and best use* and include the source of the definition.

Two separate studies are mandatory for this section:

- A highest and best use analysis of the site as vacant
- A highest and best use analysis of the property as improved

### Highest and Best Use of the Land as Vacant

This analysis must address four criteria. The highest and best use must be

- physically possible,
- legally permissible,
- financially feasible, and
- maximally productive.

This analysis should end with a conclusion on the ideal improvement, which would represent the highest and best use of the land if it were vacant.

### Highest and Best Use of the Property as Improved

Through an analysis of the four criteria for highest and best use, this discussion should establish which use is maximally productive. This analysis should reach a highest and best use conclusion that includes curing any curable deficiencies, making repairs, or renovating the structures. A comparison of the existing improvements with the ideal improvements should identify functional obsolescence, which is shown in the cost approach. Any deficiencies must also be considered in the sales comparison and income approaches.<sup>2</sup>

The concept is to value the property in the manner in which it would generate the greatest return to the owner of the property. Logically, if a land purchaser wanted to maximize the return on his or her investment in a vacant lot, the maximum return would be to build an office building, rather than a single family house, assuming that the zoning (what is legally permissible) allows it to be built. The land becomes worth more because of its allowed usage.

The business valuation analyst should determine the highest and best use of the business enterprise in a manner similar to how the concept is used in real estate appraisal. This is not to say that a hardware store should become a manufacturer of plastics, but, rather, the question to be considered is "Should the business be valued as a going concern or as if it were in liquidation?" Some businesses are clearly worth more dead than alive and, therefore, should be valued based on their highest and best use in order to provide the maximum return to the investors. For example, if a business is losing money each year and there is no turnaround in sight, the owner of the business would maximize his or her return by liquidating the company, rather than losing equity each year by going forward. This assumes, however, that the interest being valued has the ability to control the direction of the business. A minority interest usually cannot. I have a really good example of this concept in chapter 11.

The scope section of the engagement letter should also describe the level of service, as well as (in some instances) whatever the valuation analyst will not be doing. In most instances, the analyst will be performing a valuation or a calculation engagement. The non-accountants may be doing an appraisal, a limited appraisal, or a calculation, which will soon be defined. For accountants and valuation analysts, language relating to financial statement opinions should be included pursuant to Statement on Standards for Valuation Services (SSVS) No. 1, *Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset* (AICPA, *Professional Standards*, VS sec. 100). Non-CPAs who are reading this book do not need to include the section that discusses audits and the AICPA in their engagement letter. Yours truly has those CPA letters after my name, so I worry a little bit more than the typical valuation analyst that my work is not being misconstrued as an accounting type of service. For CPAs, better to be safe than sorry!

<sup>2</sup> Appraisal Institute: *A Guide to Demonstration Appraisal Reporting: Residential*, January 2005.

There will be times when the valuation analyst will be requested to do less than a valuation engagement. Considering the fact that we need to make a living, and that the spirit of the standards is to allow us to do less than valuation engagements under certain circumstances, it seems acceptable to do less than valuation engagements when applicable. What does that mean? The valuation analyst should never do less than a valuation engagement if the end result will be misleading or prone to error.

SSVS No. 1 distinguishes between a valuation engagement and a calculation engagement. The writers of this standard considered another category called a *limited engagement*, but there was more confusion about this than it was worth. Nobody could answer the question that was raised regarding what the difference was between a limited engagement and a *calculation engagement*. Think about it—how much less does the scope of work have to be for each of these categories? It was decided that there should only be two types of engagements in the standards.

For members of the American Society of Appraisers, there are three levels of service that are defined as follows:

The nature and scope of the assignment must be adequately defined. Acceptable scopes of work would generally be of three types as delineated below. Other scopes of work should be explained and described.

1. Appraisal

- a. The objective of an appraisal is to express an unambiguous opinion as to the value of the business, business ownership interest, or security, which is supported by all procedures that the appraiser deems to be relevant to the valuation.
- b. An appraisal has the following qualities:
  - (1) It is expressed as a single dollar amount or as a range.
  - (2) It considers all relevant information as of the appraisal date available to the appraiser at the time of performance of the valuation.
  - (3) The appraiser conducts appropriate procedures to collect and analyze all information expected to be relevant to the valuation.
  - (4) The valuation is based upon consideration of all conceptual approaches deemed to be relevant by the appraiser.

2. Limited Appraisal

- a. The objective of a limited appraisal is to express an estimate as to the value of a business, business ownership interest, or security, which lacks the performance of additional procedures that are required in an appraisal.
- b. A limited appraisal has the following qualities:
  - (1) It is expressed as a single dollar amount or as a range.
  - (2) It is based upon consideration of limited relevant information.
  - (3) The appraiser conducts only limited procedures to collect and analyze the information, which such an appraiser considers necessary to support the conclusion presented.
  - (4) The valuation is based upon the conceptual approach(es) deemed by the appraiser to be most appropriate.

3. Calculations

- a. The objective of calculations is to provide an approximate indication of value based upon the performance of limited procedures agreed upon by the appraiser and the client.
- b. Calculations have the following qualities:
  - (1) They may be expressed as a single dollar amount or as a range.
  - (2) They may be based upon consideration of only limited relevant information.
  - (3) The appraiser performs limited information collection and analysis procedures.
  - (4) The calculations may be based upon conceptual approaches as agreed upon with the client.<sup>3</sup>

<sup>3</sup> American Society of Appraisers Standards. "BVS-I, General Requirements for Developing a Business Valuation," in Business Valuation Standards, (Herndon, VA: American Society of Appraisers, 2009), Sec. II.B.

This information should be clearly spelled out in an engagement letter with the client. For the accountants, remember that there is no such thing as a limited engagement in SSVS No. 1. Rather, it is a calculation engagement.

## Detailed Description of the Valuation Subject

To avoid confusion, a detailed description of the valuation subject should be included in the engagement letter whenever possible. Stating that the valuation analyst is valuing XYZ Corporation is very ambiguous. Is the valuation analyst valuing the common stock of the company? Maybe he or she is valuing only those assets that will be sold as part of an asset sale. Maybe certain liabilities are supposed to be transferred as well. As you can see, a good description is essential for the reader to understand the valuation report. Putting the description in the engagement letter not only requires the valuation analyst to get a proper understanding of the assignment early in the process, but also prevents the client or the client's attorney from changing the nature of the assignment, which changes the amount of time for which the valuation analyst will have to bill.

Defining the property to be valued includes being very specific about the valuation subject. If the entity being valued (in whole or in part) is a corporation, the valuation analyst must be precise about what the valuation subject is. Is it the common stock, preferred stock, specific assets, specific liabilities, or the invested capital? The valuation analyst must also know if 100 percent of the stock or a fractional interest is being valued. The valuation process will depend on the property being valued. For partnerships, LLCs, and proprietorships, the valuation analyst will need to know whether he or she is valuing total capital, specific assets, specific liabilities, or a combination of these.

Good guidance can be obtained from the valuation standards. These standards tell us what we should consider and what should be included in a valuation report.

## Standard of Value That Will Be Used, Including the Definition of That Standard

One of the advantages of being the author of this book is that I get to choose when we cover each topic. Because I do not want to cover standards of value until chapter 4, all I will say at this point is that you need to determine the appropriate standard of value with the guidance of the client's legal counsel as part of defining the assignment if it is to be used in a litigation assignment. For non-litigation assignments, the valuation analyst should still try to make sure that he or she is not the one to choose which standard of value should be used for the job. Either have the client make the determination or have the client get one of its advisers to assist in the process. This standard, as well as its definition, should be spelled out in the engagement letter. It is also a good idea to reference where the definition comes from. Be patient. We will discuss everything in due time.

## Effective Date(s) of the Valuation

Business valuations are similar to balance sheets in that they are as of a specific point in time. Both internal and external factors affect the value of a company; therefore, the valuation date is a critical component of the valuation process. Changing values are easily illustrated in the public stock market. The constant movement of the price of a share of stock illustrates the potential volatility of the value of the stock. Think about what happened to the stock market on a single day: September 11, 2001. What a difference a day makes!

## Type of Report That Will Be Issued to Communicate the Value Estimate

The engagement letter should also include what type of report the valuation analyst is expected to issue. Our firm's policy is to issue a detailed report as part of our standard engagement letter. If the client requests something less, we will include the lower level of reporting in our engagement letter. We are particularly concerned when a client wants a lower level of service to save money, but the end result may be less than what is required for those circumstances.

This is probably a good time to discuss the difference between the scope of work and the level of reporting. The *scope of work*, regardless of whether the valuation analyst is a CPA, is the assignment at hand. Will it be a detailed valuation, a calculation engagement, or something else? The *level of reporting* relates to the deliverable. The valuation analyst may be asked to do a detailed valuation engagement and provide only an oral report. However, the various standards discuss what must be included in the working papers if the valuation analyst provides an oral report.

## Client Responsibilities

There is nothing worse than a client who does not cooperate with his or her own valuation analyst in providing the requested documentation on a timely basis. The attorney calls the valuation analyst and tells him or her that the report is due in 2 weeks. The valuation analyst asks the client for the information, and it is delivered to his or her office at 5 p.m. on the 13th day. To prevent this from happening, the valuation analyst may need to put some language in the engagement letter requiring the client to respond to the information requests by a certain date, especially when the turnaround is short.

In a litigation engagement, the valuation analyst's problem may be getting the other side to provide vital information for the analyst to do the job properly. Although this problem can take up a book by itself, we are not going to discuss it in any great detail. Make sure the engagement letter includes language stating that if the valuation analyst does not get the information requested, there will be no obligation to issue a report.

## Method of Determining Fees and the Terms of Payment

Don't forget this stuff. We are not charitable organizations. The manner in which the valuation analyst will be billing the client should be clearly spelled out in the engagement letter. Some of the alternatives that I have seen include the following:

- Straight hourly rates
- Flat fees
- Hourly rates with a ceiling
- Hourly rates with a floor

Regardless of the manner in which the billing takes place, it is customary for out-of-pocket costs to be added to these rates. Furthermore, requesting a retainer of approximately 50 percent of the estimated fee is quite normal. This way, the out-of-pocket costs (and then some) are in the bank. For many litigation assignments, the valuation analyst may want to keep a replenishing retainer so that the client does not end up behind in paying fees. A smarter alternative is to have a back end retainer. I would much rather refund the excess at the end of an assignment than chase the client for the balance after they no longer need me!

## The Five Steps of a Valuation Assignment

As you can tell from our engagement letter, the initial part of the valuation process is not to be taken lightly. In the introduction, we outlined the five steps of a valuation assignment. Many of the items for defining the valuation assignment are required before the valuation analyst begins the job so that he or she can include this important stuff in the engagement letter.

## Engagement Letter Considerations for Litigation Reports

The previous discussion addressed engagement letters for any type of engagement. Those readers who are CPAs are probably more familiar with engagement letters than any other professional group. In a business valuation litigation engagement, it is important that the engagement letter clearly defines the type of report that will be expected from the valuation analyst. The different types of reports are discussed in chapter 17. A detailed report is a very time-consuming document to create, and, consequently, the client should acknowledge the fact that the valuation analyst is being engaged to render these services.

Many times, a client does not want to spend the money to have the valuation analyst render a long report, and he or she may be asked to provide a summary report. These types of reports are not always appropriate.

A summary report that is used in Tax Court may be tossed out by the judge for not complying with the *Federal Rules of Civil Procedure*.<sup>4</sup> If this is the case, the valuation analyst can count on having a very unhappy client. The client may even sue for malpractice! The valuation analyst should protect himself or herself by using the engagement letter to avoid this problem.

In our practice, because we also follow the USPAP, we issue either an appraisal report (the full detailed version) or a restricted use appraisal report (anything less than a detailed report is restricted in its circulation). Our engagement letter will expressly prohibit the client from using the summary report as an expert report. When the valuation analyst steps into the courtroom, the only thing that the judge will remember is a poor report. The valuation analyst will not be given time to explain that the client was too cheap to allow the valuation analyst to do the job the right way. Our engagement letter will advise the client that in the event of a litigation, we will have to expand our report so that it will qualify with the appropriate standards. This is generally a good compromise for the client because he or she does not have to pay for the detailed report if it is not needed. This entire subject matter could fill up a full chapter, and many of the readers would be bored silly, so I am not going to do that. Just make sure that the valuation report that is produced is consistent with the rules that the attorney should advise the valuation analyst about.

## The Initial Document Request

Once the valuation analyst has been retained, the next step is to request information from the client. There are several schools of thought regarding the document request. Many valuation analysts send out a general request for information, such as the one that appears in exhibit 3.7. They also might include a document such as the one that appears in exhibit 3.8. Other valuation analysts make the initial request much smaller. Depending on the facts of the situation, all of these methodologies make sense.

### EXHIBIT 3.7 General Document Request

#### ABC Manufacturing Company Business Valuation Valuation Date: November 30, 2016

In order for Trugman Valuation Associates, Inc. to render a meaningful opinion relating to the estimate of value of ABC Manufacturing Company, it is important that as much of the following information be supplied as may be available. In the event certain information is not available as of the valuation date, please provide this information for the time period as close to the valuation date as possible.

#### FINANCIAL STATEMENTS

1. Annual financial statements for the years ended December 31, 2011–2015
2. Interim financial statements for the most recent and the previous 11 months
3. A balance sheet as of November 30, 2016 (if not available, as close as possible)
4. Federal income tax returns for the years ended December 31, 2011–2015; state income tax returns, if applicable
5. Copies of any forecasts or projections prepared by or for the company within the last three years and, in particular, a forecast or projection for the five-year period beginning at the valuation date
6. List of subsidiaries or other businesses in which the subject company has an ownership interest, together with their financial statements.

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(continued)

4 The Committee on the Judiciary House of Representatives. *Federal Rules of Civil Procedure*. Washington, D.C.: U.S. Government Printing Office, 2011.

**EXHIBIT 3.7 General Document Request** *(continued)***OTHER FINANCIAL DATA**

7. Accounts receivable listing as of the valuation date, preferably aged
8. List of items comprising inventory (quantity, description, and cost) and information on inventory accounting policies as of the valuation date
9. Fixed asset register or depreciation schedule, or both, including real estate and equipment lists, date of acquisition, cost, depreciation method, useful life, and accumulated depreciation that corresponds to the financial statements and tax returns requested above
10. List of items comprising significant other asset balances as of the valuation date
11. Accounts payable listing as of the valuation date, preferably aged
12. Analyses of significant accrued liabilities as of the valuation date
13. List of notes payable and other interest-bearing debt as of the valuation date
14. List of items comprising significant other liability balances as of the valuation date
15. Copies of sales, capital, or operating budgets for at least the next fiscal year
16. Copies of any business plans prepared within the last five years that may continue to be applicable at the valuation date
17. Schedule of officers' or owners' compensation, or both, corresponding to the financial statements and tax returns requested previously
18. Schedule of key man life insurance
19. Reports of other professionals:
  - a. Appraisals on specific assets
  - b. Reports of other consultants

**OTHER OPERATING DATA**

20. Brochures, price lists, catalogs, or other product information
21. List of shareholders showing the number of shares owned by each person
22. Organization chart for the company at the valuation date
23. List of five largest customers over the past three years and the total amount of sales to each customer in each year
24. List of five largest suppliers over the past three years and the total amount purchased from each supplier in each year
25. Details of transactions with related parties

**LEGAL DOCUMENTS**

26. Copies of significant leases or loans, including notes receivable and notes payable
27. Copies of shareholder agreements
28. Minutes of board of directors' meetings
29. Copies of any buy-sell agreements or written offers, or both, to purchase the entire company or any portion thereof
30. Copies of key managers' employment contracts
31. Copies of any major sale or purchase contracts
32. Details of any litigation, including pending or threatened lawsuits
33. Details of any employee benefit plans, including pension plans, profit sharing plans, and employee stock option plans
34. Collective bargaining agreement
35. Reports of examination issued by government agencies such as the Environmental Protection Agency, Occupational Safety and Health Administration, IRS, and Equal Employment Opportunity Commission

**OTHER COMPANY DATA**

36. List of any of the following: patents, copyrights, trademarks, or other similar intangibles
37. Details of any contingent liabilities (such as guarantees or warranties) or off-balance-sheet financing (such as letters of credit) as of the valuation date
38. Resumes or a summary of the background and experience of all key personnel
39. Copies of other value indicators, such as property tax appraisals

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### EXHIBIT 3.7 General Document Request

#### INDUSTRY DATA

40. List of trade associations
41. List of trade publications
42. Standard industrial classification code or North American industry classification code
43. Copies of any surveys received as part of a membership in a trade association

#### MISCELLANEOUS

44. Any other information that is deemed to be pertinent in order for us to fairly express our opinion of value

There may be additional information requested during the appraisal process. In addition to the information above, we will want access to all books of original entry, including but not limited to, cash receipts journals, cash disbursements journals, payroll journals, sales journals, general journals, general ledgers, bank statements, cancelled checks, deposit tickets, and other records that may exist.

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### EXHIBIT 3.8 Business History Checklist

- I. Background
  - a. Brief description of the business' purpose
  - b. Discuss significant events from inception to the valuation date
- II. Products and Services
  - a. Listing of products and services with a brief discussion of each.
  - b. Breakdown of sales by product line.
  - c. Proprietary products (for example, distribution rights, patents, and trademarks)
  - d. Discuss product seasonality or cyclicalities.
  - e. Are sales dependent on any specific economic factors?
- III. Customers
  - a. Describe the target market and how the business fits in the market (for example, size or market share).
  - b. Is the business in a niche market?
  - c. Is the market growing or shrinking?
  - d. List the business' five largest customers and discuss the evolution of each customer, including relationship and primary contact, among others.
  - e. Discuss dependence on key customers (would the loss of any customer dramatically affect continuing operations?).
- IV. Competition
  - a. Discuss the business' direct and indirect competition.
  - b. List the business' largest competitors with a description, including location, products, and services.
  - c. Discuss barriers to entry into this market.
- V. Marketing
  - a. How are products and services sold?
  - b. Discuss the business' marketing activities (for example, advertising, word of mouth, and direct sales).
- VI. Suppliers
  - a. What does the business need to supply its services?
  - b. Have there been any problems obtaining the products and services that the business needs?
  - c. How much does price volatility of inputs affect sales and profit margins?
- VII. Facilities
  - a. List all locations, including intended use and square footage.
  - b. Are there any planned capital expenditures?
  - c. Discuss the condition of the existing facilities.
  - d. Is there sufficient capacity at the existing facilities to support continuing operations?

(continued)

**EXHIBIT 3.8 Business History Checklist** *(continued)*

- VIII. Personnel
- a. Discuss the business' personnel (for example, unskilled, skilled, or union).
  - b. List number of employees.
  - c. Provide organizational chart.
  - d. Discuss depth and competence of management.
  - e. Are there employment contracts with any personnel?
  - f. Are there any key employees (loss of a key employee would have a material effect on operations)?
  - g. Has the business had any difficulty hiring and retaining personnel?
- IX. Financial Information
- a. Discuss the capital structure of the business (debt and equity or ownership structure).
  - b. List all types of securities issued by the business (for example, debt, preferred stock, and common stock).
  - c. Discuss the business' dividend-paying history.
  - d. Discuss any historic stock sales or offers to purchase the business' stock.
- X. Related Parties
- a. Discuss any related parties, including subsidiaries, affiliates, business partners, or family members.
  - b. What effect do these related parties have on operations?
- XI. Strengths and Weaknesses
- List and discuss the business' strengths and weaknesses. This should include specific items that differentiate the business from its competition (for example, strength—the business has proprietary processes that allow it to make its products less expensively than its competition; weakness—the business has not been able to retain skilled employees).
- XII. Other
- Describe any other important issues that may affect the valuation of this business (for example, technology, research and design, contingent litigation, nonrecurring events, accounting changes, acquisitions, credit problems, expected changes in the business' market or changes in federal, state, or municipal legislation that may affect sales). As previously discussed, these examples are illustrative and are not exhaustive. Please include any topics that may be important to the valuation.
- XIII. Conclusion
- Summarize the business history, including forward-looking statements indicating the expected performance of the business.

**Using a Standard Checklist**

Using a standard checklist is an easy way to request all of the things that the valuation analyst might need to perform a business valuation. However, several problems are associated with standard checklists. The valuation analyst frequently does not know much about the company that is being valued. Sending out a standard checklist may demonstrate a lack of interest on the part of the valuation analyst if he or she asks for many items that are totally irrelevant to the assignment. Think about how the client might feel if the valuation analyst asks for stockholder agreements when the analyst was told that the business is a partnership or sole proprietorship. These entities do not have stockholders.

Using this type of document in a litigation may also prove to be dangerous. I learned the hard way when an attorney went down my checklist and asked me whether I had received each requested item that was included in my document request. This particular assignment was so small that much of the information either did not exist or did not matter. After I said that I had not received about 70 percent of the items on my checklist, he had to ask me only two questions to embarrass me while I was on the witness stand. This is what happened:

*Attorney:* Mr. Trugman, you must think these items are important in performing a valuation engagement if you ask for them as a general rule, do you not?

*Trugman:* Yes, sir, I do.

*Attorney:* Well then, Mr. Trugman, if you consider these items important to your valuation, and you did not receive them from my client, how can you expect this court to believe that you did a credible job when you were missing about 70 percent of what you asked for?

*Trugman:* Gulp!

We all make mistakes. The idea is to learn from them. In fact, if I learned from all of my mistakes, I would now be a genius! And I keep getting smarter every day. Asking for too much information can prove to be as dangerous as not asking for enough. It is important to analyze each situation and act accordingly for that assignment. If the valuation analyst tries to standardize this process too much, he or she is doomed.

As an alternative to sending out a massive document request at the beginning of the assignment, some valuation analysts prefer to send out an initial request for tax returns and financial statements only. This allows the valuation analyst to review these documents and get a feel for the financial side of the company. If the company's revenues are \$80,000, a massive document request may be overkill. However, do not let the small valuations fool you. Sometimes, as much work goes into these types of assignments as the big ones. Other times, a company with no revenues can be quite big. We valued a thinly traded public company with a market capitalization of \$1.8 billion that had no revenues.

After the valuation analyst has a feel for the company, a second document request might make sense. Before the valuation analyst sends out this request, however, he or she may want to perform a site inspection and interview the management (the management interview is discussed further in chapter 6). Either the valuation analyst's fieldwork may streamline the document request or the analyst may find that additional documentation is required because something came to his or her attention during the interview.

## Setting Up Multiple Checklists

As long as the valuation analyst remembers to customize each checklist for the particular assignment, he or she may find it to be a time saver to have multiple checklists set up on his or her word processor for those types of jobs that are done over and over again. These can be set up to request common items for a particular type of valuation assignment. For example, the valuation analyst may want to request unbilled work in process for a CPA or law firm, medical supplies and drugs for a medical practice, and so forth. Separate lists keep you from having to modify a generic request every time you get a new engagement. By the way, chapter 23 includes a discussion of the valuation of professional practices.

## Conclusion

By now, you should have more of an idea about how the valuation analyst gets the job started. Please do not underestimate the importance of the contents of an engagement letter. It is more important to the valuation analyst than the valuation report. You should also have an idea of the type of information that will be requested in the initial stages of the valuation assignment.



# Chapter 4

## Valuation Principles and Theory

### Learning Objectives

In this chapter, I will attempt to do the following:

- Explain the principles of valuation
- Explain various standards of value
- Explain how the purpose of the valuation influences the standard of value
- Discuss the concept of subsequent events (items that are known or knowable)
- Discuss the IRS's influence on business valuations and expose the reader to many of the key revenue rulings

### Introduction

Before a valuation analyst can proceed with a business valuation assignment, there are certain items that are important to consider so that the analyst can get the job done properly. Understanding valuation principles is critical to having an understanding of what the valuation analyst is trying to accomplish. Making sure that the correct standard of value is being used is as important as understanding when to use a golf club versus a baseball bat. These very important concepts will be discussed as we move along.

### Principles of Valuation

Three main valuation principles constitute the foundation of valuation theory. Each of these principles is as important to valuation as the law of supply and demand is to economics. These very important principles are (1) the principle of alternatives, (2) the principle of substitution, and (3) the principle of future benefits.

#### Principle of Alternatives

The principle of alternatives states that in any contemplated transaction, each party has alternatives to consummating the transaction.<sup>1</sup> This indicates that there are generally alternatives to the investment. This concept is relatively simple and does not need to be belabored. Assume that I want to sell my boat. I have alternatives for whether I sell the boat, how much I sell it for, and to whom I sell it. In *Basic Business Appraisal*, Miles points out

Because it is one of the fundamental principles that form the basis of almost all appraisals, including those under circumstances that do not actually involve a contemplated sale or other transaction, the appraiser needs to be aware of its existence.<sup>2</sup>

#### Principle of Substitution

The principle of substitution is a presupposition of appraisal practice, expressing a generalized prediction concerning behavior related to an event involving economic choices and values. It predicts how people will

<sup>1</sup> Raymond C. Miles, *Basic Business Appraisal* (Boynton Beach, FL: Institute of Business Appraisers, 1989).

<sup>2</sup> *Ibid.*, 22.

normally choose among comparable properties when prices vary.<sup>3</sup> In English, prudent individuals will not pay more for something than they would pay for an equally desirable substitute. To illustrate how the principle of substitution operates to determine value, assume that an individual wants to purchase a paint store. That person begins looking at various stores that are for sale and narrows down the choice to two of these stores. Both have good inventory, geographic location, and profits and are equally acceptable as purchase alternatives. One is listed for sale for \$800,000, and the other is listed for \$900,000. Which one do you think that person will most likely try to buy? This stuff is not rocket science!

The principle of substitution, in essence, states that nobody will pay more for something than he or she would pay for an equally desirable substitute. Logically, if two items are identical except for the price, a willing buyer will gravitate to the item with the lower price.

This is also illustrated in the investment field. If two investments have equal risk, an investor will invest in the item that will provide the greatest return on investment. Try to remember this stuff. It will be really important in chapter 13.

## Application of the Principle of Substitution

There are three approaches to value (market, asset-based, and income) that should be considered when one performs a business valuation. These were discussed in the standards discussed in chapter 2. Each of these approaches, when applied, illustrates the principle of substitution.

The market approach estimates the value of the business being valued from information derived from the market about prices actually paid for other similar businesses. The asset-based approach simulates the starting of an equivalent business from scratch. In this approach, the value of the business being valued is determined from the estimated cost of replacing (duplicating) the business asset by asset, liability by liability.

The income approach looks to financial equivalents (not necessarily a business) to estimate the value of the subject business or business interest. The value of the business being valued is estimated by either capitalizing a single-period benefit stream or discounting a multi-period benefit stream. The rates used to capitalize or discount the benefit stream are determined from alternative investments based on the risk factors attributable to the stream being capitalized or discounted. This will begin to make more sense in a little while.

## Principle of Future Benefits

The principle of future benefits is the third valuation principle that is fundamental to the valuation process. This principle states that “economic value reflects anticipated future benefits.”<sup>4</sup> This valuation principle can best be illustrated by assuming that someone wants to buy a particular business. Would historic earnings be as important as prospective earnings in determining value? Probably not. The valuation analyst would not care what the business generated for the prior owner as much as what it can generate for the purchaser.

There are only three economic reasons that investors will invest in a certain stock: (1) dividends (future cash flows to the investor), (2) capital appreciation (future cash flows to the investor upon sale), or (3) a combination of the two (future cash flows). Remember: Valuation is based on the future outlook of the business.

This is the foundation for making any financial investment. I will soon discuss standards of value and the approaches to value, but the bottom line is that regardless of how the valuation analyst approaches it, economic value should be determined based on the anticipated future cash flow that is expected from an investment. This means that the discounted cash flow methodology that I will discuss in chapter 12 is theoretically the most sound method, because it measures the present value of the future cash flows to the investor. Unfortunately, as will be shown, it is really easy to make a mistake in the application of this method if the valuation analyst is not careful.

<sup>3</sup> Richard Rickert, “Appraisal and Valuation: An Interdisciplinary Approach” (unpublished textbook from my graduate school days at Lindenwood College, St. Charles, Missouri).

<sup>4</sup> Miles, *Basic Business Appraisal*, 27.

## Standards of Value

A good place to start in any book on valuation is to define what is meant by a valuation. A valuation is a supportable opinion about the worth of something. In this book, and in much of the valuation literature, the term *valuation* is used synonymously with the term *appraisal*. Therefore, a business valuation is the same as a business appraisal.

It is not enough to state that the valuation analyst will determine the *value* of what is being valued. The term *value* has many different meanings in the valuation field. One of the first lessons to be learned relates to what are called *standards of value*. These are also called *definitions of value*. Before an assignment can be started, it is imperative that the standard of value that will be used in the assignment is clearly defined. In chapter 3, I recommended that the standard of value, including a definition, be included in the engagement letter. In addition to discussing standards of value, a valuation analyst must also consider the ownership characteristics of the valuation subject and the premise of value that will be used.

The ownership characteristics refer to whether the valuation will be conducted using the actual buyer and seller versus some hypothetical buyer and seller. Believe it or not, this makes a really big difference. There have been many court battles over this stuff. Using real or hypothetical individuals changes the standard of value.

The premise of value relates to the concept of highest and best use, which I mentioned earlier. Will the valuation analyst be valuing the company as a going concern or as if in liquidation? This, too, is an important concept because there are instances when a business that can be sold for its parts may be worth more than a business that is up and running. Let me give you a quick example. Assume that the valuation analyst has a client that delivers home heating oil. The company has been losing money for the last seven years with no turnaround in sight. The industry has changed, and small independent dealers are struggling because they have these really big trucks that they are sending out to customers, half-full due to the lack of volume. The big players in the industry are purchasing the customer lists for substantial multiples of revenue because they feel that they can fill up their trucks and have their drivers stop at a few more customers on the route, and the incremental sales will only cost them the price of the fuel oil. If the client sells the customer list, in addition to all the other assets of the business, the money from the sale, after satisfying the liabilities, could be invested at a profit. This would provide a greater return than running the business at a loss each year. This is the concept of highest and best use.

According to Merriam-Webster's Dictionary, the definition of *value* is "a fair return or equivalent in goods, services, or money for something exchanged." In business valuation, the following standards of value are the most frequently used:

- Fair market value
- Fair value
- Investment value
- Intrinsic value

This stuff is important. In fact, there is an entire book, *Standards of Value: Theory and Applications*,<sup>5</sup> that addresses it. This book only covers standards of value. So, is this important?

### Fair Market Value

Probably the most commonly used standard of value is fair market value. Revenue Ruling 59-60, a very important tax ruling issued by the Treasury Department in 1959, defines *fair market value* as "[t]he amount at which the property would change hands between a willing buyer and a willing seller, when the former is not under any compulsion to buy, and the latter is not under any compulsion to sell, both parties having reasonable knowledge of relevant facts."

<sup>5</sup> Jay E. Fishman, Shannon P. Pratt, and William J. Morrison, *Standards of Value: Theory and Applications*, 2nd ed. (Hoboken: John Wiley & Sons, Inc., 2013).

This definition implies that the value is the most probable price in cash or cash equivalent that would be paid if the property were placed on the open market for a reasonable period and, in all likelihood, assumes the existence of a covenant not to compete. If it did not assume a covenant not to compete, why would a buyer pay for any portion of a business that could be taken by the seller, who could then open a competing business across the street? Usually, the price is allocated for income tax purposes after each party to the transaction agrees to the negotiated figure. In certain jurisdictions, and for certain types of valuation assignments, this definition assumes the highest price, rather than the most probable price. The valuation analyst needs to make sure that the correct definition is used.

The concept of fair market value is frequently misunderstood; therefore, the inexperienced valuation analyst commits many errors trying to estimate the fair market value of the valuation subject. First and foremost, the definition of fair market value considers the *hypothetical* willing buyer and the *hypothetical* willing seller as opposed to *actual* buyers and sellers. In addition to these hypothetical players being willing, they must also be able to consummate the particular transaction. This will be discussed more throughout this book. To illustrate the concept of fair market value, a real-life example can be used. A number of years ago, I was engaged in a matrimonial matter to determine to what extent an offer to purchase a business, made during the course of negotiating a settlement, was to be considered the fair market value of the business. What rendered this situation especially interesting and unusual was that the offer was made by the wife for the husband's business.

The court had appointed an accountant to value the husband's car wash business. After the accountant arrived at a value, the wife put together a group of potential investors and, during the negotiations, offered the husband \$200,000 more than what was, in the court-appointed accountant's opinion, the fair market value of the car wash. The question was whether this offer should have been considered bona fide and representative of the fair market value of the business.

The answers to these questions lay in the definition of fair market value. In the specific facts and context of this case, I concluded that fair market value would probably not be represented by the wife's offer. I say "probably" because I was not asked to determine the fair market value of the car wash per se, only whether the wife's offer could constitute fair market value. I really did not know what the value of the business was because I did not value it.

Working from expert reports, courts frequently use fair market value as the basis for property distribution in marital dissolution cases. The most frequently used definition of fair market value is the one I cited previously. A similar definition can be found in Miles's *Basic Business Appraisal*:

Fair market value is the price, in cash or equivalent, that a buyer could reasonably be expected to pay and a seller could reasonably be expected to accept, if the property were exposed for sale on the open market for a reasonable period of time with buyer and seller being in possession of the pertinent facts, and neither being under any compulsion to act.<sup>6</sup>

Both of these definitions are regularly accepted by the valuation profession and used interchangeably. These definitions contain the following components: (1) cash or equivalent, (2) exposure for sale on the open market, and (3) neither party under compulsion to act. The concept of fair market value will be understood better through an analysis of these components.

## Cash or Equivalent

The valuation analyst's assignment is to determine the equivalent of cash that would be paid for the item being valued as of the valuation date. Often, a property may be sold with the seller holding a mortgage at a rate of interest below the market rate to induce the buyer to enter into the transaction. This situation requires a present-value calculation because some of the value will not be received until a future date. Valuation theory is founded on the principle of future benefits, with the value of any property constituted by the sum of the benefits that will be obtained by its owner in the future. No one will buy property if there will be no future benefits, whether in the form of income or the appreciation to be realized upon subsequent resale of the property.

.....  
<sup>6</sup> *Ibid.*, 43.



Present-value theory can be illustrated by comparing the sale of two businesses, each for \$100,000—one with a five-year payout and the other a seven-year payout. The value of these businesses can be determined using the present-value formula:

$$PV = \frac{FV}{(1 + k)^n}$$

$PV$  = Present value

$FV$  = Future value

$k$  = Rate of return (sometimes called “discount rate”)

$n$  = Number of periods into the future for which the discounting is being computed

A discount rate of 10 percent would yield the following present values:

<b>Business 1</b>	<b>Business 2</b>
$PV = \frac{FV}{(1 + k)^n}$	$PV = \frac{FV}{(1 + k)}$
$PV = \frac{\$100,000}{(1 + 0.10)^5}$	$PV = \frac{\$100,000}{(1 + 0.10)^7}$
$PV = \$62,092$	$PV = \$51,316$

The example illustrates that the cash equivalent of these two businesses are quite different in today's dollars. This part of the definition of fair market value is frequently overlooked. For a value to be representative of fair market value, it must be reasonable. Simply put, an offer to buy or sell will not represent fair market value if both parties do not feel that the offer is fair. Obviously, a unilateral offer cannot represent the true value of an asset.

The willing buyer and willing seller are hypothetical persons dealing at arm's length, rather than any particular buyer or seller. In other words, a price would not be considered representative of fair market value if influenced by special motivations not characteristic of a typical buyer or seller.<sup>7</sup>

## Exposure for Sale on the Open Market

The concept of *market* is extremely important to the definition of fair market value. In many situations, the valuation subject is not for sale. This is usually the case when property is valued as part of a divorce proceeding. To estimate fair market value, the valuation analyst must assume that the property has been placed on the open market.

The valuation analyst also assumes that a number of similar properties are available in the open market under the principle of substitution. This principle, as previously discussed, is based on the theory that no person will pay more for a property than he or she would have to pay for an equally desirable substitute.

This principle can be illustrated by the following scenario. Let's assume that the wife wants to purchase a car wash. In addition to the one that is owned by the husband, five other car washes are for sale in the general area. All of these car washes have similar revenues, similar locations, and the same overall characteristics. The principle of substitution dictates that the wife would purchase the one that is offered for the lowest price. Let's also assume a number of prospective buyers. The interaction of the buyers with the sellers of these car washes will eventually establish the fair market value for this type of business. However, for the price offered to be representative of fair market value, all the other attributes of fair market value must be present.

<sup>7</sup> Shannon P. Pratt, and Alina V. Niculita, *Valuing a Business*, 5th ed. (New York: McGraw Hill, Inc., 2008-0): 42.

The term *open market* must also be explored. The market for a \$30 billion business would be very small because there would be few buyers who are willing and able to make such a purchase. There would also be very few “equally desirable substitutes.” However, the size of the market does not prevent the valuation analyst from assuming an “open market.” Although limited, the valuation analyst’s environment is the hypothetical market, the price at which the property would change ownership if it actually was offered for sale.

The definition of fair market value also assumes that the subject property would be exposed on the open market for a reasonable amount of time. This means that the property should be made available for a time period long enough for all potential purchasers to be aware of its availability, rather than be offered to a select group of prospective purchasers. The property should remain on the market “for a sufficient length of time to allow the action of market forces to have full effect,” according to Miles, who adds that this may even be “in contrast to some actual situations in which the property may be on the market only a short time before it is sold, possibly even being sold to the first potential buyer who makes an offer, at a price that may very well be lower than its actual open market value.”<sup>8</sup>

### Neither Party Under Compulsion to Act

If a seller is under compulsion to sell a business, he or she may accept an offer that represents a *distress sale*. Similarly, if, because of over-indebtedness, the only way a transaction could occur is if the seller finds a buyer willing to pay more than fair market value for the business, the buyer may also be “under compulsion to act” if he or she needs to acquire a business to earn a living. Under these circumstances, a buyer may overpay.

Returning to the original car wash example, the wife’s offer cannot be considered fair market value. Although her offer does constitute value, it is what Pratt refers to as *investment value* or “the specific value of an investment to a particular investor or class of investors based on individual investment requirements; distinguished from market value, which is impersonal and detached.”<sup>9</sup> Her offer would establish a *price* for this business but would not reflect the value of the business.

The distinction between price and value is crucial. These terms are also to be distinguished from cost. Value will vary depending on the perceived value to a specific type of investor. There are strategic buyers, financial buyers, distress buyers, ego buyers, and so on. The intangible assets being purchased probably have a different value to each of them. The value of any financial asset is equal to the net present value of the expected future cash flows derived from the asset, discounted at the required rate of return, which is also referred to as the *discount rate*. The required rate of return will vary depending on the type of buyer.

*Price* is a term that is used differently in varying situations. Common variations of this term include *offering price*, *market price*, *dealer’s price*, and *fair market value price*. Offering price simply represents a number that a seller is asking for an asset. This can be illustrated by a sticker price on a new automobile or a store price tag on a garment. The unsophisticated layperson believes that if there is a wide enough gap between the asking price and the cost that she will actually pay (in effect, a discount), she is receiving value. So, just remember, when you go to a department store and see a shirt that is marked down from \$295 to \$250, this is a deal. Two hundred fifty dollars for a shirt? Not in my lifetime! (Too many books to sell to get that much in royalties.) In the business valuation world, price is most commonly thought of as the value received as adjusted for the terms of the transaction. For example, Owner A sells his company for \$2 million cash, and Owner B sells his business for \$2 million on a noninterest-bearing note for 10 equal annual payments of \$200,000. Both owners paid the same price, but the underlying value is different. This is simple present-value theory. A dollar is worth more today than in the future.

Next, we get to deal with the concept of *cost*. One viable perspective on the concept of cost is the fact that it simply represents a historical fact. The fact that you paid X dollars for an asset one day, one year, or one decade ago has little, if any, relationship to its current value. Several examples of this are real estate appreciation or new car depreciation one minute after driving it off the sales lot. In a business context, the balance sheet simply represents a historical tracking of costs incurred to acquire certain assets. Some people correctly consider the book value of the stockholders’ equity account to be a misnomer. “Book cost” would be the more accurate title.

<sup>8</sup> Miles, *Basic Business Appraisal*, 44.

<sup>9</sup> Pratt et al., *Valuing a Business*, 43.

So, in the real world, businesses are bought and sold for a price. The valuation analyst's role is to estimate value. The accountants record the purchase at cost. Compared to the valuation environment required by the definition of fair market value, the conditions that exist in the real world often influence price without affecting value. According to The Institute of Business Appraisers, "Price is what you pay; value is what you hope to get."<sup>10</sup>

The determination of fair market value is a process in which the valuation analyst is frequently forced to make a determination of fair market value, but to whom? An excellent lesson can be learned from court cases dealing with this issue. In chapter 27, I have included a discussion about one of my favorite court cases, *Estate of Samuel B. Newhouse*,<sup>11</sup> which illustrates that fair market value can result in different values to different classes of investors. This is a really good case that should be read.

## Fair Value

Fair value has several distinct meanings in the valuation field. For financial reporting, fair value guidance was provided from the AICPA's website, as follows:

FASB ASC 820-10-20 defines *fair value* as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. FASB ASC 820-10-35-5 states that a fair value measurement assumes that the transaction to sell the asset or transfer the liability either occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability. The FASB ASC glossary defines the *principal market* as the market in which the reporting entity would sell the asset or transfer the liability with the greatest volume and level of activity for the asset or liability. The principal or most advantageous market (and thus, market participants) should be considered from the perspective of the reporting entity, thereby allowing for differences between and among entities with different activities.

FASB ASC 820-10-35-3 and 820-10-30-2 provide that the hypothetical transaction to sell the asset or transfer the liability is considered from the perspective of a market participant that holds the asset or owes the liability. Therefore, the objective of a fair value measurement focuses on the price that would be received to sell the asset or paid to transfer the liability (an exit price), not the price that would be paid to acquire the asset or received to assume the liability (an entry price). Conceptually, entry prices and exit prices are different. However, FASB ASC 820-10-30-3 explains that, in many cases, at initial recognition a transaction price (entry price) will equal the exit price and, therefore, will represent the fair value of the asset or liability. In determining whether a transaction price represents the fair value of the asset or liability at initial recognition, the reporting entity should consider facts specific to the transaction and the asset or liability.

Paragraphs 7–8 of FASB ASC 820-10-35 explain that the price should not be adjusted for transaction costs. However, if location is an attribute of the asset or liability (as might be the case for a commodity), the price in the principal (or most advantageous) market used to measure the fair value of the asset or liability should be adjusted for the costs, if any, that would be incurred to transport the asset or liability to (or from) its principal (or most advantageous) market.

The other arena where we see the term *fair value* used is in corporate, limited liability company, and partnership dissolution statutes and ownership disputes. However, the definition of fair value in this context varies from state to state. The definition has been developed from case law, primarily in dissenting and oppressed stockholder actions. The Delaware Chancery Court probably hears more dissenting shareholder cases than any other jurisdiction. In fact, many jurisdictions cite Delaware case law in its own case law. However, the valuation analyst should not make the broad assumption that this will be followed in the jurisdiction of the litigation that the valuation analyst is dealing with. This concept is also used in many corporate dissolution statutes, but here also, the definition is an enigma. The valuation analyst should obtain the definition of value from the client's legal counsel based on the corporate statutes and case law in the jurisdiction where the litigation will take place. It is a very bad practice to try to get this definition from a textbook because it is very difficult for any

<sup>10</sup> Institute of Business Valuation Appraisers Inc. newsletter, January 1986.

<sup>11</sup> *Estate of Samuel I. Newhouse v. IRS Commissioner*, 94 T.C. 193 (1990).

book to address this in more than general terms. I have seen many inexperienced valuation analysts quote one of the leading valuing books to define fair value as “fair market value with no discounts.” If the valuation analyst does this, he or she will be wrong more often than right.

The American Law Institute’s concept of fair value as explained in the *Principles of Corporate Governance* (1992), under the “Appraisal Remedy” section, defines fair value as

... the value of the eligible holder’s proportionate interest in the corporation, without any discount for minority status or, absent extraordinary circumstances, lack of marketability...fair value should be determined using the customary valuation concepts and techniques generally employed in the relevant securities and financial markets for similar businesses in the context of the transaction giving rise to appraisal.<sup>12</sup>

Now don’t get too excited about seeing this definition. Not all jurisdictions follow it. The valuation analyst really needs to check with the client’s legal counsel to make certain that the appropriate definition is being used. What we do know is that one of the fundamental differences between fair value and fair market value is that in a litigation setting, there is rarely a willing seller in a fair value appraisal. Most courts are concerned with the concept of fairness, and as a result, the valuation is intended to be equitable for the disadvantaged party. We also see certain jurisdictions placing much more emphasis on the discounted future benefits method (income approach), rather than the guideline public company method (market approach) in the determination of fair value. Some of the differences between fair value and fair market value are illustrated in box 4.1.

#### BOX 4.1 Differences Between Fair Market Value and Fair Value

##### Fair Market Value

1. Willing buyer
2. Willing seller
3. Neither under compulsion
4. Assumes a typical hypothetical buyer and seller
5. A price equitable to both buyer and seller
6. Assumes buyer and seller have equal knowledge
7. Assumes reasonable knowledge of both parties
8. Applicable to controlling interests or minority blocks
9. Applies to all federal tax valuations

##### Fair Value

1. Not always a willing buyer
2. Not a willing seller
3. Buyer not always compelled; seller under compulsion
4. The impact of the proposed transaction not considered; the concept of fairness to the seller a possible consideration
5. A concept of fairness to the seller, considering the inability to keep the stock
6. No such assumption
7. No such assumption
8. Applicable to minority blocks
9. The most common value standard in state dissenting and oppressed shareholder statutes

The concept of fair value is driven by case law, and it is ever-evolving. The valuation analyst should never take it upon himself or herself to take the legal positions regarding the interpretation of the standard or the case law. However, the valuation analyst needs to be aware of when not to use a standard of value that is incorrect. A great example of this was when I was approached to do a valuation for gift tax purposes using a fair value standard. My question to the attorney was “when did the law change?” He thought about it for a minute and said “I guess fair market value is built into the Internal Revenue Code.” Duh! He was looking for a valuation of

<sup>12</sup> The American Law Institute, *Principles of Corporate Governance: Analysis and Recommendations*, vol. 1 and 2, (Washington, D.C., May 13, 1992): 315.

a minority interest without discounts. If the valuation analyst is not sure about the standard of value, I cannot emphasize strongly enough the need to get advice from legal counsel. There are times when even qualified valuation analysts are given incorrect marching orders. That is what engagement letters are for. See, here it is again, the need for a good understanding in the engagement letter. This is why I added language to our engagement letters telling the client that the standard of value is a legal determination that should be verified with the client's attorney. Chapter 24 covers additional issues regarding ownership disputes.

## Investment Value

The investment value of a closely held company is the value to a particular buyer, as compared with the population of willing buyers, as is the case in fair market value. This is one of those instances when the valuation analyst will determine the value to a particular person or entity, instead of the hypothetical person or entity. This value definition would be applicable when an investor has specific investment criteria that must be fulfilled in an acquisition. For example, a purchaser may decide that, as owner-manager, his or her compensation must be at least \$95,000 per year. In addition, the business must have the ability to pay any indebtedness resulting from the purchase from operating cash flow over a period of no longer than five years.

A valuation analyst will frequently use this standard of value when he or she represents a buyer who wants to know, "how much is the business worth to me?" The fact that the buyer is specific about the business value to him or her changes the standard of value to investment value, as opposed to fair market value, which may be the value to everyone else.

Another manner in which to think about this standard of value is to think that every transaction that takes place is specific to the actual buyer and seller, who have specific criteria that cause both of them to consummate the deal. If there are many transactions taking place at about the same time, there is a market. If there are many transactions, it is assumed that a normal distribution will take place for the price that these similar transactions are consummated at. We will discuss statistics in chapter 7, but, for now, the assumption is that in an active market, any special motivations of the individual buyers or sellers would be eliminated as outliers, allowing the price to reach a normative state that would represent fair market value. The market value would cluster around the same point, at a particular moment in time, creating what we consider to be the fair market value of the property. Now, with that being said, market value will change with time because of the mix of buyers and sellers in the marketplace. For example, if all the buyers in the marketplace are synergistic buyers, meaning that making the purchase would enhance their value because of the synergies between the target and the acquirer, the prices paid by this group of buyers would be greater than the price to the financial buyers. This creates greater investment value for the buyers and results in upward pressure on the prices paid in the marketplace for similar properties. This should sound very much like the law of supply and demand that we learned in Economics 101.

Investment value is being examined more closely by many family courts as the standard of value that is appropriate in divorce situations. In a divorce, the elements of fair market value are rarely present; the owner is not a willing seller, nor will there be a sale. We frequently hear the concept of the *value to the owner* used as an alternative to fair market value. Essentially, value to the owner is the investment value to that individual. The valuation analyst should consult with the client's attorney before using this standard of value. Virginia may be the only state whose case law definitively addresses this issue at the current time, but others have discussed aspects of it. These concepts are discussed in much more detail in chapter 22, which addresses valuations for divorces.

## Intrinsic Value

If you have ever heard the expression "Beauty is in the eye of the beholder," you will probably understand the term *intrinsic value*. This term is frequently used by financial analysts. The intrinsic value of a stock is generally considered to be the value based on all the facts and circumstances (sometimes considered to be based on a technical analysis) of the business or the investment. Financial analysts in brokerage firms often ignore the fluctuations of the stock market in determining the intrinsic value of a specific stock. When you watch CNBC and the analyst makes a statement such as "IBM is currently selling at \$80 per share, but we believe that its intrinsic value is \$95," the analyst is basically telling the audience that in the opinion of the analyst, the shares of IBM are being underpriced by the market, and they are really worth more. This is considered a buying opportunity by the particular analyst.

Although I knew what intrinsic value meant, it was not until recently that this definition became more important to a valuation assignment than ever before. The issue was the determination of fair value of a client's interest in a family owned business. Using the market approach, based on public companies, we estimated the value of the company to be about \$75 million. Using the income approach, we estimated the value of the company at about \$125 million. After spending a considerable amount of time trying to reconcile these values, we realized that the publicly traded companies were selling at very low multiples, despite having solid growth expectations. The market was undervaluing these companies. In fact, the investment banking firms that followed this industry had strong buy recommendations for most of the public comparables that we used in our analysis. This means that the intrinsic value of the public companies was greater than the market value. While we were doing a critique of the opposing side's valuation (who only used the market approach to value the business), we reread *Valuing a Business*.

It is truly amazing how much we learn by rereading books that we read on a regular basis. Pratt et al. discuss intrinsic value. On page 44, they explain the following about intrinsic or fundamental value.<sup>13</sup>

*Intrinsic Value.* The amount that an investor considers, on the basis of an evaluation of available fact, to be the “true” or “real” worth of an item, usually an *equity security*. The value that will become the market value when other investors reach the same conclusions. The various approaches to determining intrinsic value of the finance literature are based on expectations and discounted cash flows.

As can be seen from the preceding definition, Pratt et al. indicate that “the various approaches to determining intrinsic value in the finance literature are based on expectations and discounted cash flows.” Clearly, expected earnings are of critical importance, but other variables such as dividends, capital structure, management quality, and so on, are also considered in a fundamental analysis. What is striking is that Pratt et al. state, “If the market value is below what the analyst concludes is the intrinsic value, the analyst considers the stock a ‘buy.’” This is exactly what takes place when an investment banking firm gives a strong buy recommendation on a company's stock. If the market price of this stock is low enough to warrant this type of recommendation, using multiples (discussed in chapter 7), without proper adjustment, may undervalue the subject company.

## How the Purpose of the Valuation Influences the Standard of Value

There should be little doubt that the purpose and function of a valuation will have a dramatic influence on the standards of value that may be applicable in a particular assignment. Table 4.1 highlights how the purpose and standard of value relate to each other.

**TABLE 4.1 Valuation Purpose and Standard of Value Relationships**

Valuation Purpose		Applicable Standard of Value
Estate and gift taxes	☞	Fair market value
Inheritance taxes	☞	Fair market value
Ad valorem taxes	☞	Fair market value
Employee stock ownership plans (ESOPs)	☞	Fair market value
Financial acquisitions	☞	Fair market value
Stockholder disputes	☞	Fair value (in most states)
Corporate or partnership dissolutions	☞	Fair value (in most states)

(Table continued)

<sup>13</sup> Pratt, et al., *Valuing A Business*, 5th ed.

**TABLE 4.1 Valuation Purpose and Standard of Value Relationships**  
(continued)

Valuation Purpose		Applicable Standard of Value
Going private	☞	Fair value (in most states)
Strategic acquisitions	☞	Investment value
Buy-sell agreements	☞	Whatever the parties agree to
Marital dissolutions (divorce)	☞	No specific standard in most states; look to case law
Financial reporting	☞	Fair value



#### Author's Note

Throughout this book, unless otherwise noted, fair market value will be the standard of value applicable to the valuation methodologies discussed.

## Subsequent Events (Known or Knowable)

The issue of subsequent events comes up so often that I decided to include a section about this topic in this book. According to Statement on Standards for Valuation Services (SSVS) No. 1, *Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset* (AICPA, *Professional Standards*, VS sec. 100):

### Subsequent Events

**.43** The valuation date is the specific date at which the valuation analyst estimates the value of the subject interest and concludes on his or her estimation of value. Generally, the valuation analyst should consider only circumstances existing at the valuation date and events occurring up to the valuation date. An event that could affect the value may occur subsequent to the valuation date; such an occurrence is referred to as a *subsequent event*. Subsequent events are indicative of conditions that were not known or knowable at the valuation date, including conditions that arose subsequent to the valuation date. The valuation would not be updated to reflect those events or conditions. Moreover, the valuation report would typically not include a discussion of those events or conditions because a valuation is performed as of a point in time—the valuation date—and the events described in this subparagraph, occurring subsequent to that date, are not relevant to the value determined as of that date. In situations in which a valuation is meaningful to the intended user beyond the valuation date, the events may be of such nature and significance as to warrant disclosure (at the option of the valuation analyst) in a separate section of the report in order to keep users informed (paragraphs .52*p*, .71*r*, and .74). Such disclosure should clearly indicate that information regarding the events is provided for informational purposes only and does not affect the determination of value as of the specified valuation date.

This is an important concept that should not be overlooked. The concept is really quite simple. Only information that was *known* or *reasonably knowable* should be considered in the development of the valuation analyst's conclusion of value. Keep in mind that many valuations that valuation analysts perform are retrospective in nature. As a result, time has gone by since the valuation date and it would be very tempting to use the knowledge of what really happened to influence the conclusion of value. However, cheating is not allowed. Let me give you some illustrations to help point you in the right direction. Assume that we are performing a valuation as of December 31, 2016. You are actually doing the work in June 2017. You run into several documents that you want to use in developing your valuation, such as the following:

1. Economic data about the area discussing 2016, but published in March 2017
2. An industry report based on data through December 31, 2016, published in May 2017
3. Public company data included in the 2016 Form 10-K but filed on March 15, 2017
4. Subject company financial statements as of December 31, 2016, issued in March 2017
5. Several emails that were provided to you dated October 2016 through June 2017 discussing an offer to purchase part of the subject company that was ultimately rejected by the company as being too low

Under normal circumstances, you would think that this is easy to understand. However, there is a considerable amount of debate about which items from the preceding list could be used for the ongoing valuation. Let me apologize in advance because if you are looking for absolute guidance in this area, you are probably not going to like this discussion.

The economic data can technically be used only if the data was available from another source as of the valuation date. There are purists in this world that would suggest you not use that source because it was published after the valuation date. The government generally has a lag regarding when information about the economy is released. The non-purists will tell you that it is usable because it was close to the valuation date, and regular forecasts are being published that can get you very close to that date. However, with that being said, where does the valuation analyst draw the line regarding what constitutes being close to the valuation date: one month, two months, six months, a year? Personally, I think it depends on the purpose and function of the valuation. I would be more reluctant to use subsequent data for an estate tax valuation than I would for a valuation for an acquisition. The former valuation is as of a certain date, and, if I use information past that date, I believe I am opening the doors for the IRS to do the same. For an acquisition, I would hate to see my client buy the business after ignoring something that may have happened recently that could affect the value.

Most valuation analysts would agree to not use the industry report because that information would not have been available until the report was published. The valuation analyst might have been able to get some advanced sheets from the publication, but I doubt that the publisher would release them many months before the publication date unless the analyst was a regular subscriber.

The public company filing should technically be off limits because it was not available until March 2017, but many valuation analysts use it anyway based on the premise that public company financial information is never more than three months away (based on Form 10-Q filings), and the analysts on Wall Street generally have good information about earnings estimates before year-end. The valuation analyst has to decide this one on his or her own.

The subject company financial statements will generally be used. Now, the valuation analyst may think that this is a contradiction to the public company data, but technically, if he or she went into the subject company with a SWAT team of accountants with their pencils drawn, the analyst could put a financial statement together between the close of business on December 31, 2016, and the end of the day. The valuation analyst would certainly get close enough for military work!

The emails about a possible deal are another issue that can be argued. However, notice that the first emails were sent before the valuation date. The question is whether the information in these emails is required to value the company, or if the information is used to confirm the value. *Uniform Standards of Professional Appraisal Practice* FAQ 142 states the following regarding retrospective value opinions:

A retrospective appraisal is complicated by the fact that the appraiser already knows what occurred in the market after the effective date of the appraisal. Data subsequent to the effective date may be considered in developing a retrospective value as a confirmation of trends that would reasonably be considered by a buyer or seller as of that date...<sup>14</sup>

.....  
 14 *Uniform Standards of Professional Appraisal Practice*, 2016–17 edition, FAQ 142, 276.



Pratt and Laro indicate that “Some courts find certain later events, transactions, and circumstances relevant to the valuation if they were reasonably foreseeable as of the valuation date (footnoting the *Estate of Spruill v. Comm’r*, 88 T.C. 1197 [1987]) (subsequent events “could not have been reasonably foreseen at the time of the decedent’s death”).”<sup>15</sup> Pratt, Fishman, and Morrison state that “Subsequent events that were foreseeable at the valuation date may be considered in a valuation.”<sup>16</sup> Pratt and Niculita state that “Readers should be put on notice that the Tax Court frequently relies on subsequent sales as evidence of value. The court distinguishes between subsequent sales that *affected* the value and those that are merely *evidence of value*.”<sup>17</sup>

Other quotes were provided in chapter 2, but I felt that a reminder would not hurt. I would argue, and I have argued, that the emails are evidence of value and not information that affected value. This situation actually occurred in a litigation assignment that I was involved in. My client was thrown out of the business and obtained emails that went back and forth between his brother, who was the controlling stockholder, and a possible buyer for a portion of the business. Based on the emails, it was apparent that the brother and the company’s accountant had put together their own forecasts and discounted cash flow analysis of the value of that portion of the business. What a surprise when we learned that they did not share this information with us for our valuation. The other side argued that the forecasts and calculations were not known or knowable at the valuation date and should not be considered. Our argument was that the company put these forecasts together during the negotiations, and they certainly could have done the same forecasts at the valuation date. The company’s own calculations indicated to us that management knew that this portion of the business was very valuable, and they were able to value it. We made a couple of technical corrections to the calculations and used this information as an indication of value.

So, as can be seen, this known or knowable stuff is controversial. There are many court cases that address this issue. In the *Estate of Jung v. Commissioner* (101 TCM 412 [1993]), the Tax Court used a transaction that was years after the valuation date to support what should have been known or knowable. See box 2 in chapter 2 for a list of some of the court cases addressing subsequent events. The actual cases make great reading if you are an insomniac!

## IRS Influence on Business Valuations

When most people think about the IRS, they think of April 15. Believe it or not, the IRS does more than just pick our pockets at tax time. Because so many valuations are performed for tax-related matters, the IRS is actively involved in business valuations. Many valuations are performed that may ultimately be used to defend a position before the IRS. Valuation analysts need to be familiar with the various IRS promulgations that may also be applicable, by reference, to other types of valuations.

The following summary of the key IRS revenue rulings and procedures is intentionally brief because the important stuff will be highlighted throughout this book. Many of these rulings and procedures are included in their entirety as appendixes.

### Revenue Ruling 59-60

Revenue Ruling 59-60 is probably the greatest treatise ever issued on valuation. It is almost hard to believe that something this good came out of our government. It’s even better than the first four editions of this book! This ruling started out providing guidance on the minimum factors to consider for one to perform a competent valuation for estate and gift tax purposes. Its application was subsequently expanded to other tax matters. After reading this revenue ruling, reread it. After that, I suggest that the valuation analyst get into the habit of rereading it on a regular basis if he or she plans to perform business valuations. This ruling not only contains good stuff but also really emphasizes what the valuation process is all about. And the best part is that it is only seven pages long. Concise and great!

<sup>15</sup> David Laro and Shannon P. Pratt, *Business Valuation and Taxes: Procedure, Law and Perspective*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, Inc., 2011): 21.

<sup>16</sup> Fishman et al., *Standards of Value: Theory and Applications*, 65.

<sup>17</sup> Shannon Pratt and Alina V. Niculita, *The Lawyer’s Business Valuation Handbook: Understanding Financial Statements, Appraisal Reports and Expert Testimony*, 2nd ed. (Chicago: American Bar Association, 2010): 280.

Revenue Ruling 59-60 has so many important factors that you will see references to it throughout this book. One of the most important points made in the ruling is that “valuation is a prophecy as to the future.” Even in 1959, the Treasury Department recognized that a willing buyer purchases the future, not the past. This may seem pretty logical, but there are an awful lot of individuals who regularly rely on history to perform valuations because they feel that forecasting the future is too speculative. If the valuation analyst believes that history is more important than the future in valuing a business or an investment, can I interest the analyst in buying some stock in Blockbuster?

Revenue Ruling 59-60 is also well known in the valuation field for its discussion of the eight factors to consider, as a minimum, in valuing closely held businesses. Throughout much of this book, I will be discussing the eight factors to consider. If nothing else, know and understand these eight factors. Consideration of these factors is required if the valuation analyst is going to perform a competent business valuation. Even though they will be seen again and again, let’s start the learning process by examining these factors for the first time. Acronyms will help a great deal with remembering some of this stuff. Let’s start with those.

When determining the fair market value of a business or business interest, the valuation analyst should consider NEBEDISM (box 4.2). The applicability of NEBEDISM will be discussed in many of the methods of valuation that will be addressed. I will point them out as we proceed. When you reread chapter 2, and you should do this, at a minimum, when you get to the end of this book, or sooner if you are studying for a test, you will find that the standards require us to consider these factors in the development stage of the process and report on them in a detailed report. Chapter 16 contains an annotation of this important document, which is also reproduced in appendix 4.

**BOX 4.2****NEBEDISM Factors for Determining Fair Market Value**

- (N) The nature of the business and history of the enterprise since its inception
- (E) The economic outlook in general and the condition and outlook of the specific industry in particular
- (B) The book value of the stock and the financial condition of the business
- (E) The earning capacity of the company
- (D) The dividend-paying capacity of the company
- (I) Whether the enterprise has goodwill or other intangible value
- (S) Sales of the stock and the size of the block of stock to be valued
- (M) The market price of stocks of corporations engaged in the same or a similar line of business and having their stocks actively traded in a free and open market, either on an exchange or over the counter\*

\* Revenue Ruling 59-60, 1959-1 C.B. 237, Sec. 4(01).

## Revenue Ruling 65-192

Revenue Ruling 65-192 modifies Revenue Ruling 59-60 by providing that the theory in Revenue Ruling 59-60 is applicable to income and other taxes, as well as to estate and gift taxes. This revenue ruling also indicates that the formula approach described in Appeals and Review Memorandums (ARMs) 34 and 68 has no valid place in valuing a business or business interest unless the intent is to value the intangibles. The ruling states that, even then, the formula approach should not be used if there is a better basis for valuing the intangibles. This revenue ruling was superseded by Revenue Ruling 68-609, which reiterates these points. See appendix 5.

## Revenue Ruling 65-193

Revenue Ruling 65-193 modifies Revenue Ruling 59-60 by deleting several statements about the separation of tangible and intangible assets. See appendix 6.

## Revenue Ruling 66-49

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Revenue Procedure 66-49 is to be used as a guideline by all persons making appraisals of donated property for federal income tax purposes. It also provides additional insight into what is expected to be included in a formal appraisal report that is used to support the values determined by the valuation analyst.

This revenue procedure discusses factors to consider in arriving at the fair market value of the property. It states that “as to the measure of proof in determining the fair market value, all factors bearing on value are relevant including, where pertinent, the cost, or selling price of the item, sales of comparable properties, cost of reproduction, opinion evidence, and appraisals. Fair market value depends upon value in the market and not on intrinsic worth.” See appendix 7.

## Revenue Ruling 68-609

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Revenue Ruling 68-609 covers what is known as the *formula approach* or *excess earnings method* of valuation. This is the successor to ARM 68. For most valuation analysts, this revenue ruling has become our nemesis. It is so frequently misapplied that even the IRS states that this method should not be used if there is a better method to value the intangible assets of the valuation subject. This is similar to the language found in Revenue Ruling 65-192.

First, how about a little history lesson? I’ll bet you did not expect history in a valuation book. Anyway, ARM 34, the predecessor to ARM 68, was promulgated in 1920. What happened in this year? Prohibition, that’s what. As a result of Prohibition, the Treasury Department needed to provide a methodology to help calculate the lost value attributable to the intangible assets of breweries and distilleries. Actually, because the government employees, like so many of us “normal” folks, could not drink, they came up with guidance on valuation. They probably would have been better off being drunk!

The ruling discusses the return on tangible assets and capitalization rates for intangibles. (Please note that the rates provided in Revenue Ruling 68-609 are examples only and are not intended to be the only rates used in the application of this methodology.) A detailed discussion of this revenue ruling appears in the discussion of the excess earnings method in chapter 12. Discount rates for intangible assets are discussed in chapter 13. See appendix 8.

## Revenue Ruling 77-12

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Revenue Procedure 77-12 describes the acceptable methods for allocating a lump sum purchase price to inventories. This revenue procedure sets forth guidelines for taxpayers and IRS personnel to use “in making fair market value determinations in situations where a corporation purchases the assets of a business containing inventory items for a lump sum, or where a corporation acquires assets including inventory items by the liquidation of a subsidiary pursuant to the provisions of section 332 of the Internal Revenue Code (IRC) of 1954 and the basis of the inventory received in liquidation is determined under section 334(b)(2).” See appendix 9.

## Revenue Ruling 77-287

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Revenue Ruling 77-287 was intended “to provide information and guidance to taxpayers, IRS personnel, and others concerned with the valuation, for Federal tax purposes, of securities that cannot be immediately resold because they are restricted from resale pursuant to Federal security laws.” This revenue ruling covers marketability discounts related to restricted stock. It recognizes the reduced value of closely held stocks as a result of not having an active trading market. Reference is made to “restricted securities” and other types of securities that are issued at a discount from their freely traded counterparts. This reduction in value is known as a *discount for lack of marketability* and is discussed further in chapter 15. See appendix 10.

## Revenue Ruling 83-120

Revenue Ruling 83-120 amplifies Revenue Ruling 59-60 by specifying additional factors that should be considered in valuing the common and preferred stock of a closely held corporation for gift tax and recapitalization purposes. This revenue ruling emphasizes that the value of preferred stock is determined by considering its yield, its dividend coverage, and the protection of its liquidation preference. See appendix 11.

## Revenue Ruling 85-75

Revenue Ruling 85-75 basically provides that the IRS will not be bound to accept values that it accepted for estate tax purposes as the basis for determining depreciation deductions or income taxes on capital gains from a subsequent asset sale. In this particular instance, a taxpayer relied on a valuation of depreciable property that was overstated for estate tax purposes. Because the IRS did not play “gotcha” on the estate tax return, they got their second chance on the beneficiary’s individual return. See appendix 12.

## Revenue Ruling 93-12

Revenue Ruling 93-12, which supersedes Revenue Ruling 81-253, allows appropriate lack of control discounts to be applied when minority interests of family members in a closely held corporation are valued. Formerly, the IRS looked to family attribution rules as a means to disallow these minority discounts. Revenue Ruling 81-253, which described the IRS’s position on the allowance of minority discounts in valuing a closely held family corporation’s stock that has been transferred to the donor’s children for federal gift tax purposes, was superseded by Revenue Ruling 93-12. Previously, the IRS’s long-standing position was that no minority discount should be allowed when a gift of minority shares was passed between family members. It was not a surprise that the IRS finally acquiesced on this point because they constantly lost this battle in court.

Fair market value assumes any hypothetical willing buyer, not the actual recipient of a gift. An actual buyer would be investment value. Therefore, even though a gift may be given to a taxpayer’s child, the block should be valued without regard to the family relationship. Unfortunately, the IRS did not see things this way until 1993, when they issued Revenue Ruling 93-12. Revenue Ruling 93-12 was a long time coming in light of the IRS’s inability to win cases involving Revenue Ruling 81-253. Do not get too comfortable, however, until you read Technical Advice Memorandum 94-36005. See appendix 13.

## Technical Advice Memorandum 94-36005

In 1994, the Treasury Department issued Technical Advice Memorandum 94-36005, which discusses the concept of applying a “swing premium” in a case in which a gift of a minority interest among family members creates a swing vote among the stockholders. This was the Treasury Department’s effort to circumvent Revenue Ruling 93-12 in which they finally acquiesced regarding minority discounts among family members. This technical advice memorandum does not have the same weight as a revenue ruling, but it shows that the Treasury Department is looking for ways to circumvent Revenue Ruling 93-12. Nobody really believed that they would give up on Revenue Ruling 81-253 that easily! This memorandum appears in appendix 14.

## Chapter 14 of the IRC

Readers are advised to become familiar with the Chapter 14 requirements of the IRC. Some of the more important provisions are covered in chapter 21 of this book in the discussion of estate and gift tax valuations.

## Conclusion

If I did my job, you now have more of an idea about the principles of valuation, standards of value, subsequent events, and the various IRS promulgations. By now, you must realize that the IRS has had a significant impact on the valuation process. Although the valuation analyst is bound to follow the mandates of the IRS only for valuation assignments that involve taxes, some of these revenue rulings make enough sense that it is actually good practice to follow them in many valuations.

# Chapter 5

## Data Gathering

### Learning Objectives

In this chapter, I will attempt to do the following:

- Explain which items have an impact on value
- Discuss internal information sources for gathering data
- Discuss external information sources for gathering data
- Inform you about some types of data sources

Let me caution you that the information contained in this chapter changes faster than I can write about it. As far as I know, this stuff was current when it was written. I will apologize in advance if you go to look for something and you can no longer find it, or it has significantly changed. That is beyond even my control. With that said, let's get started.

### Introduction

This chapter includes a discussion of internal and external sources of information that the valuation analyst will gather. Numerous references are provided about where you can locate information. This chapter lists all types of sites on the Internet for doing the required research.

### What Items Affect Value?

An important part of the valuation assignment is to determine the proper amount of information necessary to do the job competently. The information-gathering part of the assignment will generally require the valuation analyst to demonstrate knowledge about the subject company and the factors affecting its value. Both internal and external factors affect the value of a business or business interest. During the information-gathering step of the valuation process, a variety of information will be requested by the valuation analyst.

### Internal Information

Internal information obtained during the data-gathering process will consist of both nonfinancial and financial information. Each type of information will play an important role in the valuation process. In some instances, the valuation analyst should consider the nonfinancial information to be as important as, or more important than, the financial information. Too often, a telephone call comes in from the attorney who states, "I got you 5 years of tax returns and financial statements. Can you give me the value?" After you stop laughing, the attorney should be told, "Of course I can give you the value, but not until I get the other 47 things that are on my checklist." Although not every job will require 47 other items, there will always be more information needed.

### Nonfinancial Information

Nonfinancial information may be gathered through a document request, a management interview, or through independent research by the valuation analyst. Some of the more important information that the valuation analyst should gather includes the following:

- Legal documents
- Products and services
- Markets and marketing

- Physical facilities
- Equipment
- Personnel
- Other stuff

## Legal Documents

Some of the first pieces of information that an analyst needs in order to begin the valuation process include the various legal documents that determine how a business is organized and governed, what restrictions are placed on investors, and what the company can and cannot do. Some of the legal documents that are commonly requested include the following (this is not an all-encompassing list):

- Articles of incorporation and formation
- Shareholder, operating, and partnership agreements
- Bylaws
- Franchise agreements
- Management services agreements
- Employment agreements
- Non-competition agreements
- Buy-sell agreements

The form of ownership is an important component of the business valuation process because during the valuation process, the valuation analyst will have to consider the comparability of information obtained about other companies (known as *guideline companies* or, previously, *comparables*) or industry composite data. Good comparability must be maintained to ensure the quality of the data that will be used for comparison purposes during the valuation process.

Another reason to know the form of organization is that the legal rights applicable to the interest being valued must be considered by the valuation analyst for the determination of possible restrictions that apply to the subject company or the owners. For example, a minority (non-controlling) owner in a corporation normally does not have the ability to force the liquidation of a corporation. Therefore, that minority interest will most likely be valued using an approach that is not based on the value of the assets, which would have to be sold to realize their value. On the other hand, a minority interest in a general partnership is controlled by the Uniform Partnership Act, which states that any partner who withdraws from the partnership can cause a winding down and dissolution of the partnership, thus, providing him or her with the ability to obtain the proportionate share of the proceeds from the partnership's dissolution.

The ownership of the business is also important because the valuation analyst will need to assess considerations such as control, minority, or swing vote issues. This can be illustrated by considering the value of a 2 percent interest in a corporation. If there are 50 stockholders with a 2 percent interest in the company, each 2 percent interest would probably be worth very little. However, what if the 2 percent interest were to be valued when the other stockholders each own 49 percent? The 2 percent interest could have swing value, which could be very valuable to one of the other stockholders because it would give one of them control of the company. This could cause a premium to be associated with the 2 percent interest.

Let me give you another example of a real-life situation in which the rights of ownership can affect value. Years ago, I had the occasion to value a 1.6 percent beneficial interest in a trust for the IRS. Well, in that same job, the trust owned a 90 percent interest in a closely held investment holding company that owned, among other things, a 47.3 percent block of a thinly traded public company (*thinly traded* means that there are not too many shares trading on any given day). Because the stock was thinly traded, the valuation analyst who represented the taxpayer deducted a blockage discount. (This will be discussed in more detail in chapter 15, but, in the meantime, a blockage discount is a reduction in value because it will take a long time to sell.) When I first received the assignment, I asked the attorneys for the IRS for a copy of the bylaws of the public corporation so that I could see what rights, if any, were spelled out in this legal document. I was told that they would get the document for me, but until they did, because the company was incorporated in the state of Delaware, I should assume that a simple majority constitutes a controlling interest. By the way, the second largest block of stock (8 percent) was owned by the trustee of the trust that I was valuing an interest in. Got it so far? This is

the type of assignment that you either live for or die doing. Anyway, because the 47.3 percent interest in this public company had effective control (all they really had to do was show up to a stockholders meeting and they would carry the vote), and because the trustee owned the next largest block of stock, I took the position that the prudent thing for the board of directors to do was to find someone to purchase the company because it was undervalued according to my intrinsic analysis.

To make a long story short, I added a control premium to the publicly traded value instead of taking a blockage discount. To put things into perspective, the difference in value between my valuation and the other valuation analyst for the publicly traded stock alone was \$150 million. So where am I going with this story? A week before I was getting ready to testify in tax court, I received a phone call from the attorney for the IRS. He said, "I finally tracked down those bylaws that you asked me for (3 months ago!). Let me read something to you and see if it changes anything that you have done." I knew I was in trouble. The bylaws were from 1896 and had not been updated. They required an 80 percent supermajority to sell, liquidate, or merge the company. I said, "Settle the case." The rights of the shareholders made a difference of about \$150 million in this case. This will make more sense to you after reading chapters 14 and 15, but this was the logical place for this story, and it is my book, so I put it here.

Franchise agreements often dictate what the company must do as a part of its normal operations. Car dealerships are often required to update the appearance of their showrooms as the manufacturer changes its logos, branding, and image. This would necessitate occasional capital investments to update the facility, which would need to be accounted for in a forecast of net cash flow. McDonald's franchises had to update their facilities to put in a McCafé® when the franchisor decided to compete with its own coffee bar. In other franchise agreements, an analyst might come across a provision like the one shown in exhibit 5.1.

### EXHIBIT 5.1 Our Right to Purchase Business

- (1) **Exercise of Option.** Upon termination or expiration of this Agreement in accordance with its terms and conditions, we have the option, exercisable by giving written notice thereof to you (by the later of (a) sixty (60) days from the date of such termination or expiration or (b) seven (7) days after determination of the purchase price), to purchase the BUSINESS from you, including the leasehold rights to the Location, free and clear of all liens, restrictions or encumbrances. (The date on which we notify you whether or not we are exercising our option is referred to in this Agreement as the "Notification Date.") We have the unrestricted right to assign this option to purchase the BUSINESS. We will be entitled to all customary warranties and representations in connection with our asset purchase, including, without limitation, representations and warranties as to ownership and condition of and title to assets; liens and encumbrances on assets; validity of contracts and agreements; and liabilities effecting the assets, contingent or otherwise.
- (2) **Leasehold Rights.** You agree, at our election, to assign your leasehold interest in the Location to us or, to enter into a sub-lease for the remainder of the lease term on the same terms (including renewal options) as the prime lease.
- (3) **Purchase Price.** The purchase price for the BUSINESS will be its fair market value, determined in a manner consistent with reasonable depreciation of the BUSINESS's equipment, signs, inventory, materials and supplies, provided that the BUSINESS will be valued as an independent business and its value will not include any value for the Franchise or any rights granted by this Agreement, the Marks, or participation in the network of **DELICIOUS RESTAURANT** businesses.
- (4) **Fair Market Value.** The BUSINESS's fair market value will include the reasonable goodwill you developed since your commencement of operations that exists independent of the goodwill of the Marks and the System. The length of the remaining term of the lease for the Location will also be considered in determining the BUSINESS's fair market value.
- (5) **Exclusions.** We may exclude from the assets purchased hereunder cash or its equivalent and any equipment, signs, inventory, materials and supplies that are not reasonably necessary (in function or quality) to the BUSINESS's operation or that we have not approved as meeting standards for **DELICIOUS RESTAURANT** businesses, and the purchase price will reflect such exclusions.

(continued)

**EXHIBIT 5.1 Our Right to Purchase Business** *(continued)*

- (6) Valuation. If we and you are unable to agree on the BUSINESS's fair market value, its fair market value will be determined by a valuation analyst agreeable to both parties. If we and you are unable to agree on a valuation analyst, then the BUSINESS's fair market value will be determined by three (3) independent valuation analysts who collectively will conduct one (1) valuation. We will appoint one valuation analyst, you will appoint one valuation analyst and the two party appointed analysts will appoint the third valuation analyst. You and we agree to select our respective valuation analysts within fifteen (15) days after the date we determine that we are unable to agree on the BUSINESS's fair market value, and the two valuation analysts so chosen are obligated to appoint the third valuation analyst within fifteen (15) days after the date on which the last of the two party appointed valuation analysts was appointed. You and we will bear the cost of our own valuation analysts and share equally the reasonable fees and expenses of the third valuation analyst chosen by the two party appointed valuation analysts. You and we will take reasonable actions to cause the valuation analysts to complete their appraisal within thirty (30) days after the third valuation analyst's appointment.
- (7) Closing. The purchase price will be paid at the closing of the purchase, which will take place not later than ninety (90) days after determination of the purchase price. We have the right to set off against the purchase price, and thereby reduce the purchase price by, any and all amounts you or your Owners owe to us.
- (8) Instruments. At the closing, you agree to deliver instruments transferring:
- (a) good and merchantable title to the assets purchased, free and clear of all liens and encumbrances (other than liens and security interests acceptable to us, if any), with all sales and other transfer taxes paid by you; and
  - (b) all licenses and permits of the BUSINESS which may be assigned or transferred; and
  - (c) the leasehold interest in the Location and improvements thereon.
- (9) Escrow. If you cannot deliver clear title to all of the purchased assets, or if there are other unresolved issues, the closing of the sale will, at our election, be accomplished through an escrow arrangement with an independent escrow agent selected by us.
- (10) Releases. You and your owners agree to execute general releases, in form satisfactory to us, of any and all claims against us and our shareholders, officers, directors, employees, agents, successors and assigns.

So, what do the terms in exhibit 5.1 mean? This franchise agreement gave the franchisor the right to purchase the business at fair market value at the end of its 15-year term. This would provide the franchisee with a potential exit opportunity, which is a good thing, right? Well, not quite. This particular business was relatively capital-intensive, with about a \$1.5 million initial capital investment and a requirement to upgrade and renovate its facility every 5 years, which could cost anywhere between \$300,000 and \$500,000. All of the costs associated with advertising and building out the facility were the responsibility of the franchisee. Due to the nature of the business, revenues tended to peak in the third or fourth year and then gradually declined as competing businesses opened up in the area. At 10 years, many of these types of businesses were generating declining revenues and minimal (if any) profitability. This gave the franchisor the ability to purchase the business (equipment and all) at a depressed fair market value. In addition, the company would be valued as a standalone business without the use of any franchise trademarks. As an investor, would you be willing to make a \$2 million to \$3 million capital investment if, at the end of the franchise agreement term, you were obligated to sell the business and all of its assets for a depressed value? This would certainly affect the value of the business.

Some companies provide services to other companies under contracts that define the extent and cost of those services. In these cases, the agreement between the two companies can be very important to the valuation, especially if the company providing the service has only one or two clients. Selected portions of an agreement between a hospital and a health care management company are shown in exhibit 5.2. In this case, the management company made operational decisions for two hospitals, so the terms of the management agreements were extremely important to the valuation.



**EXHIBIT 5.2 Management Agreement****ARTICLE V  
COMPENSATION**

5.1 Management Fees. Subject to Section 5.2 below, as full and exclusive compensation for all of the services to be rendered by Manager during the Term, Company shall pay to Manager by the 15th day of each calendar month, beginning on January 1, 2012, at its principal office, or at such other place as Manager may from time to time designate in writing a monthly fee (the "Management Fee") equal to four percent (4%) of Revenues of the Facility derived for each calendar month of the Term. The Management Fee shall be calculated based upon the estimated Revenues of the Facility for such month. The Management Fee shall be reconciled on a quarterly basis based upon actual Revenues for the Facility. For the purposes of determining the Management Fee, "Revenues" means all revenues collected by Company in accordance with generally accepted accounting principles ("GAAP"), including, without limitation, all patient and/ or resident revenues received or receivable for the use of, or otherwise by reason of, all rooms, beds, units and other facilities provided, meals served, services performed, space or facilities subleased or goods sold on or from the Facility and all revenues for graduate medical education that are received or receivable by the Facility; provided, however, that Revenues shall not include non-operating revenues such as interest income or gain from the sale of assets not sold in the ordinary course of business; and provided, further, that there shall be excluded or deducted (as the case may be) from such revenues; (i) contractual allowances for billings not paid by or received from the governmental authorities or third party payors, (ii) allowances according to GAAP for uncollectible accounts, (iii) all proper patient or resident billing credits and adjustments according to GAAP related to health care accounting, (iv) deposits refundable to patients/ residents of the Facility, (v) provider discounts for hospital or other medical facility utilization contracts and (vi) any Grants and Subsidies (as defined herein). "Grants and Subsidies" includes all state and local charity care subsidies, hospital relief subsidies, mental health subsidies, stabilization grants, and any other similar grants or subsidies received by the Facility from whatever source derived, and any and all grants, subsidies or incentive payments received by the Facility, from a governmental source, in connection with the Facility's implementation of an electronic based medical records or electronic-based prescription system at the Facility.

**ARTICLE VI  
TERMINATION RIGHTS**

6.1 Termination by Company. (a) After the Initial Term of this Agreement, this Agreement may be terminated at Company's option, without cause and for any reason, upon one hundred twenty (120) days prior written notice to Manager.

(b) If at any time or from time to time during the Term Manager shall fail to keep, observe, or perform any material covenant, agreement, term or provision of this Agreement to be kept, observed, or performed by Manager, and such default shall continue for a period of thirty (30) days after written notice thereof by Company to Manager or, if such default is not subject to cure within thirty (30) days, such longer period as may be required to effect a cure, provided that Manager initiates certain action within such 30-day period and thereafter is diligently and in good faith pursuing such cure, then Company shall have the right to terminate this Agreement immediately and without any notice.

Although there were other terms in the agreement that had to be considered in the valuation, the terms associated with compensation and termination had the largest impact. The agreement tied the management company's revenue potential to the revenues of the hospital it was managing. This required us to analyze the hospital's future revenue potential. The termination clause allowed the hospital to exit the agreement with 120 days' notice for any reason, which was a primary source of risk for the management company. The two hospitals managed by the subject company in this case were related by common ownership. Therefore, if the owners of one hospital did not like the way the management company was running one facility, they could very well decide to cancel both contracts, which would have effectively reduced the management company's earning potential to zero.

Non-competition agreements, or covenants not to compete, can have a huge impact on the value of a business that depends on key managers or owners. Think about a medical practice with a single doctor, who has

developed professional relationships with his or her patients over 20 years. If another firm was to purchase the practice without the use of a non-compete agreement, the doctor could open up next door, and many of the patients at the purchased practice would leave to follow their long-time doctor. However, there are a number of factors to consider in valuing a non-compete agreement (which I will not go into in depth here) and, in some cases, those factors can only be considered through a review of the actual agreement. One such factor is whether or not the non-compete agreement is enforceable under state law. Depending on statutes (or case law, if no statutes exist), there is a chance that the terms of the governing agreement are too restrictive or not adequately defined, which may result in an agreement that is not considered to be enforceable (and, thus, would have zero value). Non-competition agreements will be discussed further in chapter 22.

All the preceding scenarios are meant to illustrate the importance of legal documents to any valuation. It is imperative that the valuation analyst consider all legal documents pertinent to the valuation subject and its value.

## Products and Services

It is generally a good idea to understand information about the products and services that the valuation subject sells to its customers. Besides the fact that you need to know this information to select guideline companies, it is also imperative that the valuation analyst understand information about factors that affect these products and services. For example, how do changes in the economy affect the demand for the products? A rise in interest rates would certainly have an impact on an automobile dealership. In fact, rising interest rates will cause new car sales to go down. However, rising interest rates will also cause people to keep their cars for a longer amount of time, thereby requiring more maintenance. That could cause the repair bays to become busier. It is also important to understand what alternative products are available in the marketplace to assess the future success of the products. If you were valuing a company that sold a standalone digital music device and did not have the ability to sell other more versatile mobile media devices, for example, Android phones and tablets, the likelihood that the company would continue to be successful in the future is slim because everyone and their mothers (even me) now own some type of mobile media device.

## Markets and Marketing

Part of the valuation process includes understanding the markets served by the valuation subject. Geographic diversification frequently does not exist for very small businesses. However, understanding the market for the products or services allows the valuation analyst to assess the degree of risk relevant to the lack of diversification. Understanding the market will also allow the valuation analyst to determine if there are alternative products in the marketplace that will have an effect on the subject company. Keep in mind that even smaller businesses are now able to diversify geographically, particularly with the Internet as a resource.

The marketing efforts of the subject company should also be considered because a large, visible company in the market will frequently attract more new customers than an obscure company that the public has never heard of.

## Physical Facilities

Factors to be considered in a business valuation assignment include information about the physical plant. This information would pertain to the plant's size and whether it is owned or rented, as well as the amount of room available for expansion. The valuation process requires the use of projections, which must consider whether the facilities are large enough to meet the expected production forecasts. If a plant is at full capacity and management provides the valuation analyst with forecasts that include significant growth, how can that growth be achieved without either expanding the current facilities or relocating to larger quarters? Either way, there will be an additional expense incurred by the company if it is to meet its expansion projections.

## Equipment

It is generally a good idea for a valuation analyst to learn about the equipment that is employed by the business to accomplish its business purposes. Even if an appraisal of the equipment is unnecessary, the valuation analyst should find out information about the type of equipment used, the age of the equipment, its capacity,

its maintenance schedules, the availability of parts, and its approximate replacement cost. The valuation analyst should also inquire about whether there is newer technology being used by the competition.

Older equipment usually means higher maintenance costs and a lower level of productive capacity. This could be an essential component of a cash flow forecast because asset replacement can be costly. Older equipment could mean difficulty in getting parts and service, which could force the replacement of equipment, creating a financial hardship for the company. However, there are many companies that can continue to use older equipment for a long time without a problem. These companies generally have a well-established maintenance schedule, and by examining the equipment, you can generally tell whether it is regularly maintained.

The valuation analyst should ask to review insurance policies to get an idea of the amount of coverage the company is carrying so that the valuation analyst can “ballpark” the replacement cost of these assets. The valuation analyst should also make certain that these policies have been kept up to date. Otherwise, the company may be exposed to an additional risk attributable to the replacement of the equipment in the event of a loss. This should be self-explanatory, but let me give you a true example. Over the course of a valuation I completed a while back, I discussed with management the fact that they received a \$3.2 million insurance settlement as a result of Hurricane Wilma. Since then, the company’s insurance premiums had risen so much that they had to lower the coverage to \$1.0 million. Think about the added exposure that the company has in the event of another hurricane. Although the valuation analyst does not necessarily forecast hurricanes, the business is in Florida (home of the hurricanes—and I do not mean the type you drink!).

## Personnel

The valuation analyst should seek information about the personnel requirements of the company. This includes gaining an understanding of the role of key persons in the company. In smaller companies, the owner is frequently the key person. The valuation analyst must determine what it would take to replace that individual with someone who is capable of getting the job done. Sometimes this may take two or more people. Other times, it may take people with different skills from those the owner has.

For example, in valuing an internal medicine practice, the valuation analyst may find that the doctor does not trust anyone in his or her office to do the bookkeeping. Therefore, the doctor performs this function in addition to all of the duties of being a doctor. What if the doctor is turning away new patients due to a lack of time because the bookkeeping is taking up 10 hours per week? The valuation analyst would consider replacing the doctor not only with another doctor but also with a part-time bookkeeper, which would allow the new doctor to spend the additional 10 hours seeing new patients. You are probably asking yourself, “What kind of doctor would do this?” If I had not seen this in reality, I could not have provided you with this example!

## Other Stuff

The valuation analyst should pay particularly close attention to other items that may exist for the valuation subject. These may include, but should not be limited to, operating data about the company’s products, competitors, suppliers, and customers so that you can demonstrate a clear understanding of the valuation subject. These items will help you make a determination regarding the risk involved in the subject company’s business. For example, few products, many competitors, high employee turnover, few sources of supply, and dependence on key customers add up to a lot of risk. This will affect value.

Other stuff can include information about patents, copyrights, proprietary processes, pending litigation, and environmental exposure. These items will either increase or decrease the value of a company, depending on the competitive advantage or disadvantage that may come with these items. Sometimes a valuation analyst will find that the competition holds an important patent in the field; therefore, breaking into the field may be impossible without different technology. All of these situations should be considered during the valuation process.

If the valuation is for an employee stock ownership plan (ESOP), make sure you get a copy of the plan documents so that you fully understand the terms. This will have an impact on marketability discounts, as well as

on other factors affecting your valuation. Because most small- and medium-sized businesses do not have ESOPs, I have not included a discussion about them in this book.<sup>1</sup>

As noted earlier, legal documentation (including copies of legal contracts and agreements affecting the company) should also be obtained. This will allow the valuation analyst to determine if there are any restrictions on the operations of the business, any restrictions on the owners, or any commitments that will require the company to perform in a certain manner that can affect operations in the future. You saw what a difference it made in my IRS job. Find out if there are any lawsuits against the company, either pending or threatened. A lawsuit may affect the financial success of the company and should be considered as a risk factor even if it cannot be quantified.

## Financial Information

The financial information requested will include annual financial statements for a relevant period of years. Most often, five years of data is obtained, but the valuation analyst should consider whether to ask for a longer or shorter period of time, if appropriate. This information should be from the most recent years preceding the valuation date. Ideally, the analyst would like to get as many years' financial statements as may be applicable to the subject's business cycle. This way, a more complete picture of the company can be obtained. Frequently, we ask for six years of financial statements so we can calculate a five-year compound annual growth rate. The procedures for performing this calculation will be discussed later.

Tax returns for the same period should be requested, so that any differences between tax and financial reporting that need investigation can be determined. Tax returns will also identify any subsidiaries that are part of a consolidated tax return or any other companies that are part of a controlled group of companies, as defined by the IRC. This may make the valuation analyst aware of other companies that may need to be considered during the valuation process. Even if the valuation assignment does not include the other companies, there can be transfer-pricing issues, dependence on the other companies, or a splitting of costs that would be discontinued if the valuation subject was sold.

Interim financial statements should be obtained for the period prior to the valuation date, and, if possible, for the same period in the prior year. This provides financial statements that may be closer to the effective date of the valuation, as opposed to the prior year-end, and also allows the valuation analyst to calculate the financial statements on a latest 12-month basis. I will demonstrate this shortly, so just be patient. Internal financial statements should be more carefully scrutinized because they may exclude many of the adjustments that the outside accountant makes at the reporting period. External financial statements must also be analyzed to ensure consistency in the reporting between the year-end and interim periods. For example, the interim financial statements may record inventory using the gross profit method (as a reasonable shortcut), whereas at year-end the company takes a physical inventory and values it properly.

Copies of forecasts or projections should be requested for several reasons. First, valuation is a prophecy of the future, and there may be no better indication than management's estimate of what it expects to happen. Second, reviewing prior budgets or forecasts and projections may provide the valuation analyst with a better understanding of how well management is able to direct the company's activities. I previously mentioned the forecast that management did in a litigation case that we finally got our hands on. They even valued a piece of the business for us.

The valuation analyst should request supporting information for the balance sheet items that may require fair market value adjustments. This is more important in valuing a controlling interest than a minority interest because the minority interest generally does not have the ability to liquidate the assets to realize the fair market value.

<sup>1</sup> For more information about employee stock ownership plans (ESOPs), see Willamette Management Associates, *Guide to ESOP Valuation* (self-published); Larry R. Cook, *Financial Valuation of Employee Stock Ownership Plan Shares* (Hoboken, NJ: John Wiley & Sons, 2005); or The National Center for Employee Ownership, *ESOP Valuation*, 3rd ed.

The valuation analyst should also request supporting information for income statement items that may require normalization adjustments. We will discuss the normalization process in chapter 6. For now, accept the fact that normalization is the process of removing those items from the financial statements that do not contribute to the economic earnings of the subject company on a prospective basis. This will make more sense in a little while.

## External Information

During the valuation process, the valuation analyst will also be required to perform research to obtain information about the environment in which the business operates. This information is known as *external information*. Some of the more important information that should be explored includes (1) economic data, (2) industry data, (3) publicly traded guideline company data, (4) transaction data, and (5) other miscellaneous data.

Revenue Ruling 59-60 specifically states that one of the factors to be considered in the valuation of a closely held business is “the economic outlook in general and the condition and outlook of the specific industry in particular.” Economic and industry information are key components of a business valuation assignment. Analysis of these items is discussed in the next chapter.

## Economic Data

Various economic data should be gathered by the valuation analyst. This data will allow an assessment of how the subject company will be affected by changes in the economy. For example, rising residential mortgage interest rates may adversely affect a construction company that is primarily engaged in building new houses. Changes in consumer confidence can affect a retail business.

An analysis should be performed to see how the subject company has performed in light of past economic cycles, and the past performance may be used to project how the company is expected to do based on economic forecasts. The analysis should consider all aspects of the economy that directly or indirectly affect the valuation subject. The valuation analyst should also think in terms of the factors that might affect the subject company’s customers or suppliers. Too often, these factors are overlooked.

A global approach to considering economic data is illustrated in figure 5.1. A broad spectrum of information should be considered with respect to the economy. Starting with the big picture, the valuation analyst should consider the international economic factors that may affect either the valuation subject or its customers or suppliers. The availability of supply, exchange rates, fluctuations in economic conditions abroad, and trade restrictions will all affect a global company.

**Figure 5.1**



After the global aspects of the economy are considered, the national economy should be next. After that, the geographic regions get smaller and smaller, but even the town in which the business operates could be extremely relevant to the valuation. What if a company depends on a military base for its business and the government announces a base closure? This can have a devastating effect on the company as well as on the community in which the company operates. The same holds true for communities after a layoff is announced by a major employer. However, this could be good news if the valuation subject has experienced a shortage of qualified labor and people now become available to them.

The local economy becomes an important component in the valuation of a small neighborhood business. Some of the factors and key economic indicators that should be considered and reviewed regarding the local economy can be found in box 5.1. For each of the items in box 5.1, the relevance to the valuation subject is important. Rarely will all of these factors be included in one valuation. The valuation analyst should not use a boilerplate discussion of the economy. I have seen a growing number of valuation analysts purchase an economic report from one of the data providers and merely slap it into an appendix at the back of their report. This is a very poor practice and is nothing more than a lazy way to try to comply with standards and the factors from Revenue Ruling 59-60. The economic data that should be included in a report should be relevant to the valuation subject and not merely boilerplate. Clearly, the economic factors that affect a construction company will be substantially different from the economic factors that affect a medical practice. When was the last time mortgage rates affected whether a person went to the doctor? Even with the high cost of health care, mortgage rates are not yet part of the discussion in the valuation of a medical practice.

There is a tremendous amount of economic data available on the Internet, but that does not mean you should abandon your local library. Often, the local public or business school library is the best place to find items that have not yet made their way on to the Internet or to gain access to otherwise prohibitively expensive databases. Also, I have found that a good librarian is invaluable. Whether he or she uses personal library resources, relies on the Internet, or uses a public library, box 5.2 includes sources that should be familiar to the valuation analyst.

The items included in box 5.2 should provide some idea of the abundance of information that is readily available. Although most of these resources started out as print publications, many are also available on the Internet.

## Statistical Abstract of the United States

This publication provides statistical data on various subjects, including population, education, the labor force, prices, vital

### BOX 5.1

#### Key Economic Indicators

- Foreign trade
- Foreign currency
- Gross domestic product
- Federal deficit and debt burden
- Inflation—consumer price index
- Unemployment
- Consumer confidence
- Business investment
- Interest rates
- Housing starts
- Building permits
- Demographics
- Health care
- Gross state product
- Labor supply
- Local unemployment
- Disposable income
- Wages
- Availability of materials
- Taxes
- Growth trends

### BOX 5.2

#### Sources of Economic Data

- Statistical Abstract of the United States
- Economic Report of the President
- Federal Reserve
- Congressional Budget Office
- Survey of Current Business
- Annual Metro, City, and County Data Book
- Business Conditions Digest
- Monthly Labor Review
- The Wall Street Journal
- Business magazines
- Trade magazines
- Professional magazines:
  - Medical Economics
  - Electrical World
- State agency reports:
  - Employment
  - Planning
  - Economic development
  - State websites
- Chambers of commerce
- Blue Chip Economic Indicators
- Blue Chip Financial Forecasts
- Value Line Investment Survey
- Stocks, Bonds, Bills, and Inflation Yearbook
- Valuation Handbook: U.S. Guide to Cost of Capital
- Valuation Handbook: U.S. Industry Cost of Capital
- Standard & Poor's Industry Surveys, Trends and Projections
- The Complete Economic and Demographic Data Source
- Consensus Forecasts—USA

statistics, the environment, income, gross domestic product (GDP), science, transportation, agriculture, construction and housing, trade, business enterprise, and energy. In addition to statistics, each subject contains a brief explanation of the contents of the data.

The statistical data is presented in various ways (graphs, tables, charts, and maps), depending on what is appropriate for the subject being analyzed. The data is also shown historically as percentage changes computed annually and monthly; in some cases, projections are given. The data is also divided into such classifications as age, race, marital status, sex, and religion. This book can be a useful resource tool because a huge collection of data regarding the nation is compiled into one reference source.

Until 2011, the *Statistical Abstract of the United States* was issued by the U.S. Department of Commerce, along with the Economics and Statistics Administration and the Bureau of the Census, and was made available for distribution by the U.S. Government Printing Office in Washington, D.C. In 2011, the Bureau of the Census determined that it would no longer prepare this publication due to budget cuts. The last version published by the U.S. Department of Commerce (fiscal 2011) and prior editions of the *Statistical Abstract of the United States* are available online at [www.census.gov/library/publications/time-series/statistical\\_abstracts.html](http://www.census.gov/library/publications/time-series/statistical_abstracts.html). This website also contains links to the sources that were previously used to compile the data contained within the abstract, which makes it a good (free!) starting point for economic research.

If you absolutely must have the *Statistical Abstract of the United States* in its published form, ProQuest has taken over the task of updating and releasing the publication. For more information, visit the ProQuest website online at [www.proquest.com/products-services/statabstract.html](http://www.proquest.com/products-services/statabstract.html). If you want this resource for free, steal it from your local library if they have it (only kidding!). Your local library may have a subscription.

## Economic Report of the President

This publication, which includes the *Annual Report of the Council of Economic Advisers*, contains the President's report on the economic condition of the United States to the Speaker of the House of Representatives and the President of the Senate. The *Annual Report of the Council of Economic Advisers* is an excellent source of various economic data relating to the nation. In this report, the council provides summarizations and corresponding charts on the various aspects of the U.S. economy for a specific time period, as well as the indicators that affect economic growth. Health care reform, income, inflation, monetary policy, trade policy, taxes, employment, economic trends, and the status of the United States in the global marketplace are discussed.

In addition, the book provides tables, charts, and boxes (highlighted captions that give further explanations and the views of the U.S. administration) pertaining to the economic condition at the time. The data in these tables and charts gives historical, current, and projected figures and is presented on an annual basis; for more current years, it is also presented on either a monthly or quarterly basis. The *Economic Report of the President* is a useful tool in the search for the economic condition of the nation, as well as for its future outlook and data relating to it.

The *Economic Report of the President*, including the *Annual Report of the Council of Economic Advisers*, is distributed by the U.S. Government Printing Office in Washington, D.C. It is available free online at [www.gpo.gov/erp/](http://www.gpo.gov/erp/). I like free!

## Federal Reserve

The Federal Reserve provides a wealth of economic data and commentary on various aspects of the U.S. economy via a number of publications. These publications provide detailed insight into monetary policy, economic outlook, and past economic performance and include the *Monetary Policy Report to the Congress*, *Summary of Commentary on Current Economic Conditions by Federal Reserve District* (commonly referred to as the Beige Book), minutes of Federal Open Market Committee meetings, and the *Federal Reserve Bulletin*.

The Federal Reserve also provides historical data on various business and financial subjects, such as money, stock and bank credit, GDP, the consumer price index, unemployment, interest rates, real estate, financial

markets, the stock market, securities, production, consumer credit, and income. This data is presented historically, annually, quarterly, monthly, or in combination and may be downloaded in spreadsheet format from the Federal Reserve's website at [www.federalreserve.gov](http://www.federalreserve.gov), and it is all available for free (there's that word again!).

## Congressional Budget Office

The Congressional Budget Office (CBO) provides information about the U.S. economy and federal budget. Anticipated levels of government expenditures, labor force and population growth, GDP growth and inflation, among other economic indicators, are provided through the various reports published by the CBO. Additionally, the CBO provides insight into government involvement in key industries, such as energy, health care, defense, and housing. Data provided by the CBO differs from other economic projections in that it often provides scenarios of economic consequences under different legislative actions. This information can all be found at [www.cbo.gov/topics](http://www.cbo.gov/topics).

It should go without saying that the figures provided within the Congressional budget should be used cautiously. Budgets frequently change, as has been quite evident with bipartisan turmoil in Congress regarding federal deficits and debt. Nonetheless, the CBO can provide a general indication about the direction in which spending is headed in the future and its effect on the economy or a certain industry. This can be particularly important for companies reliant on Medicare reimbursements, energy subsidies, or defense contractors.

## Survey of Current Business

This publication contains information from the National Income and Products Accounts (NIPA), which is used to add up GDP. A regular feature of this monthly publication is a description of the business situation, which is done in summary, tabular, and chart form. Economic growth as measured by the GDP, consumption expenditures, investments, interest rates, housing, imports and exports, the gross state product, involvement of the United States in foreign business, and other data that can be of use in analyzing the nation's economy can also be found in this publication.

*Survey of Current Business* is issued by the U.S. Department of Commerce, Economics and Statistics Administration and the Bureau of Economic Analysis (BEA) and is distributed by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. This monthly publication is also available at no cost on the BEA website at [www.bea.gov/scb/index.htm](http://www.bea.gov/scb/index.htm).

## Stocks, Bonds, Bills, and Inflation® Yearbook

This publication is an annual yearbook that contains historical data about returns in the capital markets since 1926 and through the current year. It supplies useful investment information and features sections reflecting highlights of the current year's market, major events, and highlights from the previous decade, along with corresponding charts and tables for further explanation.

A section of the book is devoted to returns on stocks and bonds of various types, along with statistical data and formulas, returns for different sizes of firms, and cost of capital and discount rate information. I discuss this publication in greater detail in chapter 13.

*Stocks, Bonds, Bills, and Inflation® Yearbook* (SBBI Yearbook) is published annually by John Wiley & Sons, Inc. More information on SBBI can be found on the Wiley website at [www.wiley.com/WileyCDA/WileyTitle/productCd-1119316405.html](http://www.wiley.com/WileyCDA/WileyTitle/productCd-1119316405.html). As will be discussed in chapter 13, Morningstar previously published a valuation edition of SBBI, which was discontinued in 2014.

## Valuation Handbook: U.S. Guide to Cost of Capital

After Morningstar discontinued the valuation edition of SBBI, Duff & Phelps picked up the reigns and began compiling the *Valuation Handbook: U.S. Guide to Cost of Capital*, which is published by Duff & Phelps. This publication contains much of the information that was previously contained within the valuation edition of SBBI. It will be discussed in much greater detail in chapter 13. For now, it is important to note this publication as an additional source of historical data related to rates of returns.



## Valuation Handbook: U.S. Industry Cost of Capital

This book is compiled annually by Duff & Phelps and is published by Duff & Phelps, with quarterly updates also available. The purpose of the book is to provide additional data that can be used to estimate the cost of capital. It does this by providing cost of capital information that is broken down by various industries. Within each of these industries, the data is also broken down by company size.

The information provided includes compound annual equity returns, five-year growth in net sales, and operating income and net income, as well as margins, capital structure ratios, equity valuation ratios, and betas.

*Valuation Handbook: U.S. Industry Cost of Capital* is a continuation of Morningstar's *Cost of Capital Quarterly*, which was discontinued along with the valuation edition of SBBI in 2014. I'll discuss the *U.S. Industry Cost of Capital* publication again in chapter 13.

## Newspapers and Magazines

*Business Week* publishes a number of articles that offer regular analysis on economic conditions, including "Economic Trends" and "Business Outlook." In addition, *Business Week* publishes a special edition in January covering a variety of industries. *The Wall Street Journal* publishes a column called "Tracking the Economy Statistics" on a weekly basis. Columns such as these can provide good additional perspective about how others are interpreting raw macroeconomic data.

## Internet Sources of Economic Information

The federal government collects vast amounts of economic and demographic data for the United States as a whole, as well as for states, counties, and many cities. Data is also collected on various industries. The information is available in print form and electronically on the government's many websites. Although the government-produced data may be available through other vendors' online services and print or electronic products, there is little reason to ever pay for this data, unless what you are looking for is very old. In that case, you might be better off in the public library.

Every department, bureau, and section of the federal government has a website. Every state in the United States has a website containing a variety of information about the state. Almost every U.S. county and many U.S. cities have websites as well. These may contain information of interest only to a tourist or other visitor, but some may also have economic or business information.

This section deals exclusively with electronic data sources located on the Internet. Let's begin with the U.S. federal government and then review private sources of data. Some of these websites are free and others are subscription services, which charge either a flat annual fee or a fee per use or article. Many of these websites are so rich that inclusion of the addresses of individual pages would become cumbersome. Therefore, I am only giving you the address of the home page and inviting you to visit the sites and explore them by clicking on the links. Do it in your spare time.

The discussion is subdivided into sections as follows:

- International information
- National information
- State and local information
- Market data (stocks and bonds)

## International Information

### *International Data*

Many of the websites I mentioned earlier include international information, as well as U.S. information. The Federal Reserve Board's website includes links to foreign central banks, which may have data on conditions in the countries in which they are located.

### **International Trade Administration** (<http://trade.gov>)

This site helps U.S. businesses participate fully in the growing global marketplace. The mission of the International Trade Administration of the Department of Commerce is to strengthen the competitiveness of U.S. industry, promote trade and investment, and ensure fair trade and compliance with trade laws and agreements. A related site, the U.S. Government Export Portal at <http://export.gov>, provides information for those businesses wanting to expand their export markets.

### **Organization for Economic Cooperation and Development** ([www.oecd.org](http://www.oecd.org))

This website has economic surveys for all member countries and some nonmember countries. Select data is available for free at [www.oecd.org/statistics/](http://www.oecd.org/statistics/). In most cases, you can download data in Microsoft Excel format, which makes for easier analysis.

### **CIA** (<https://www.cia.gov/library/publications/the-world-factbook/index.html>)([www.cia.gov/library/publications/the-world-factbook/index.html](http://www.cia.gov/library/publications/the-world-factbook/index.html))

*The World Factbook* is produced by the Central Intelligence Agency (CIA) and provides information on every country on the planet. Topics include geography, the people, government, economy, communications, transportation, military, and transnational issues. Some of the information might be a year or two old, but it will give a good overview of the country. *The World Factbook* is produced annually and can be downloaded from the CIA website starting with the 2000 edition at [www.cia.gov/library/publications/the-world-factbook/](http://www.cia.gov/library/publications/the-world-factbook/). Who knows, with this website, you may even learn how to become a spy!

### **Countries' Embassies**

Every country that has an embassy in the United States has a website, and these websites have a wealth of good information about the countries and, quite often, data on trade with the United States. You can find these using a search engine, such as Google.

## **National Information**

### **FedStats** (<http://fedstats.sites.usa.gov/>)

FedStats, perhaps the most comprehensive and easy-to-use government website, provides the full range of official statistical information available to the public from the federal government. Use the Internet's powerful linking and searching capabilities to track economic and population trends, health care costs, aviation safety, foreign trade, energy use, farm production, and more. Access official statistics collected and published by more than 100 federal agencies without having to know in advance which agency produces them. All of the statistical information available through FedStats is maintained and updated solely by federal agencies on their own web servers. And it's all free. The FedStats home page begins with easy-to-use links to statistics and statistical agencies, which are summarized in box 5.3.

Three principal statistical agencies gather data on economic activity, demographic trends, and industry developments in the United States, nationally, and on the state and local levels. These are as follows:

#### **Bureau of Economic Analysis (BEA)** ([www.bea.gov](http://www.bea.gov))

The BEA measures, presents, and interprets gross domestic product, personal income, corporate profits, and related items in the context of the NIPA. The BEA also maintains personal income and related measures for states and localities, the U.S. balance of payments accounts, and the foreign direct

#### **BOX 5.3**

#### **Related Resources Accessible Through FedStats**

- Topic links—A to Z (direct access to statistical data on topics of your choice—there are more than 400 of them)
- MapStats (statistical profiles of states, counties, Congressional districts, and federal judicial districts)
- Program/Subject areas are linked to summaries of the major statistical programs, such as agriculture, education, energy, and income, among many others
- Search by key words or phrases across all linked agency websites
- Agencies listed alphabetically (with descriptions of the statistics they provide and links to their websites, contact information, and key statistics)
- Press releases (the latest news and announcements from individual agencies)

investments accounts. Data is released monthly in the *Survey of Current Business* (available both in print and on the Internet) and can be downloaded in spreadsheet format using the website's interactive tables.

#### ***Bureau of Labor Statistics (BLS)*** ([www.bls.gov](http://www.bls.gov))

The BLS produces statistics on employment and unemployment, consumer expenditures, prices and living conditions, wages and employee benefits, productivity and technological changes in U.S. industries, projections of economic growth, the labor force, employment by industry and occupation, and occupational injuries and illnesses. This data can be downloaded in spreadsheet format using the website's interactive tables.

#### ***Bureau of the Census*** ([www.census.gov](http://www.census.gov))

The Census Bureau provides information on the number, geographic distribution, and social and economic characteristics of the nation's population. It conducts several periodic censuses every 5 years, covering the years ending in "2" and "7." The Economic Censuses include those of manufacturing, mineral industries, construction industries, retail and wholesale trade, service industries, and transportation and other businesses. The Census of Governments collects state and local data on public finance, public employment, and governmental organization, powers, and activities. Thousands of data series can be accessed by using the American FactFinder tool on the website.

The Census Bureau operates the Census Information Center (CIC) program, which is a cooperative effort between the U.S. Census Bureau and 52 national, regional, and local nonprofit organizations (including universities). These are listed at [www.census.gov/about/partners/cic.html](http://www.census.gov/about/partners/cic.html) and can be sources of additional, more specific data. The organizations range from the Arab American Institute to the William C. Velazquez Institute; contact information is available, including email addresses and websites.

A number of other statistical agencies collect data on more specific areas of the economy. For example, the Bureau of Transportation Statistics gathers data on the nation's transportation systems, and the Energy Information Administration collects information on energy reserves, production, consumption, and so on. Each of these agencies' websites can be accessed through FedStats. Most recent years' statistics and contact information are available.

#### ***USA.gov*** ([www.usa.gov](http://www.usa.gov))

This is an official U.S. government website that allows visitors to browse by topic and includes topics from Agriculture and Food (farms, food, and nutrition) to the United States in the World (defense, trade, and immigration). These topics provide links to the agency involved. There are links to the executive, legislative, and judicial branches of the federal government, as well as links to state and local governments. This site is free.

#### ***Federal Reserve*** ([www.federalreserve.gov](http://www.federalreserve.gov))

As I pointed out earlier in this section, the Federal Reserve provides numerous publications related to economic data, interest rates, monetary policy information, and international information. These publications, as well as all of the Federal Reserve's statistical releases (daily, monthly, quarterly, and so on) are available online. There are also links to each of the 12 regional Federal Reserve District Banks ([www.federalreserveeducation.org/about-the-fed/structure-and-functions/districts/](http://www.federalreserveeducation.org/about-the-fed/structure-and-functions/districts/)). Federal Reserve District Banks' websites contain district economic activity and other economic research. Many of the research pieces are very academic and technical, but some may be useful in a valuation analysis.

#### ***The Conference Board*** ([www.conference-board.org](http://www.conference-board.org))

This is a not-for-profit, worldwide research and business membership organization and a leading private source of economic and business intelligence. The Economics Program is a recognized source of business economics research and objective indicators, analyses, and forecasts. Several widely watched economic indicators are published by this program, including Consumer Confidence, Help-Wanted Advertising, U.S. Leading Economic Indicators, U.S. Regional Performance, and Business Executives' Expectations. U.S. Leading Economic Indicators were once produced by the Bureau of Economic Analysis. Business cycle indicators and general information about the economy are located at [www.conference-board.org/data/bci.cfm](http://www.conference-board.org/data/bci.cfm) as a public service. A subscription to Business Cycle Indicators is \$908 annually.

**Economagic** ([www.economagic.com](http://www.economagic.com))

This is a free service where you can browse over 400,000 data series within your Internet browser. You can browse by region or by source. Most of the data is from U.S. federal statistical agencies, but there are some links to foreign sources and a few trade associations and private companies. Although there is a lot of free data here, not all of it is currently updated.

According to the website, Economagic is meant to be a comprehensive site of easy-to-access economic time series data useful for economic research, particularly economic forecasting. The core data sets contain macroeconomic data at the national level; however, much of it is at the local level. Although data is visible within an Internet browser, a subscription is needed to download the data in spreadsheet format or to access economic forecasts. A one-year subscription to access all information offered on this site is \$200.

**Moody's Analytics** ([www.economy.com](http://www.economy.com))

This site has sections that are free and others that offer reports for a fee. Some specific areas of this website are as follows:

- *FreeLunch.com* ([www.freelunch.com](http://www.freelunch.com)). Free access to over one million economic time series in Excel file format—easy to use. Who says there is no such thing as a free lunch?
- *The Dismal Scientist* ([www.dismal.com](http://www.dismal.com)). Covers detailed information on the U.S. and global economies. This website is excellent because it includes analyses as well as raw data.

**Mercer Capital** ([www.mercercapital.com](http://www.mercercapital.com))

*The National Economic Review*, an overview of the national economy prepared specifically for the business valuation profession, is available on the Mercer Capital website. The reports take information from many business publications and government-produced data, are about 9 to 10 pages long, and include tables of statistics and references. They are offered on a subscription basis (quarterly issues), and quarterly reports can be obtained by request all the way back to 1992. A 1-year subscription costs \$250 (2 years for \$399), and individual quarterly reviews sell for \$150 each. The subscriptions may be worth it if you are not comfortable with interpreting the myriad statistics that are released each quarter on the nation's economy.

**BV Resources** ([www.bvresources.com](http://www.bvresources.com))

*Economic Outlook Update* is a quarterly update on the national economy that provides excellent support for the economic outlook section of a valuation report. This publication also has a monthly update. The quarterly report includes general economic indicators, consumer prices, inflation rates, interest rates, unemployment, consumer spending, the stock and bond markets, construction, manufacturing, future outlook, and more. A one-year subscription costs \$339.

## State and Local Information

**U.S. Census Bureau** ([www.census.gov](http://www.census.gov))

This site gathers and provides data at the state and local levels through the Economic Census link on its home page. This data includes industries in the area, number of establishments, number of employees, annual payroll, and sales. Data comes from the most recent economic census (year ending in 2 or 7). Data on population trends, employment, income, and other demographics is available at the county level as well.

The Census Bureau operates the State Data Center (SDC) program, a cooperative effort between the states and the Census Bureau that was created in 1978 to make data available locally to the public through a network of state agencies, universities, libraries, and regional and local governments. More information about this program and access to links to each SDC are available at [www.census.gov/about/partners/sdc.html](http://www.census.gov/about/partners/sdc.html). This web page has a map of the United States, and one mouse click will bring the visitor to the state of interest. Many states have more than one data center.

**Bureau of Economic Analysis** ([www.bea.gov](http://www.bea.gov))

Regional accounts data is available at [www.bea.gov/regional/index.htm](http://www.bea.gov/regional/index.htm). GDP by state and metropolitan area is available, as well as personal income information. The BEARFACTS reports consist of computer-generated narratives for states, counties, and metropolitan statistical areas. The narratives describe an area's personal income using current estimates, growth rates, and a breakdown of the sources of personal income.

**State and Local Government on the Net** ([www.statelocalgov.net](http://www.statelocalgov.net))

This is a guide to government-sponsored Internet sites maintained by Hello Metro. State and local links are to servers that are controlled and managed by state or local governmental agencies. They exclude personal sites, neighborhood pages, political advocacy and campaign pages, promotion and travel sites, and Chamber of Commerce sites. Although the State and Local Government on the Net pages are updated frequently, they are not as up to date as the information contained on individual state and local government servers.

**State Websites** ([www.state.xx.us](http://www.state.xx.us))

Here, "xx" is the two letter state abbreviation. A substantial amount of information can often be obtained from state websites about a local region. Hello Metro (see the preceding section) is a good resource for finding more local (county, city, and so on) government-sponsored websites.

**Market Data (Stocks and Bonds)**

There may be times when the value of a market index at some date a few years ago is needed, or one would like to include a discussion of stock market trends in his or her report. Rather than save old editions of *The Wall Street Journal*, this information can be obtained online.

**Yahoo! Finance** ([www.finance.yahoo.com](http://www.finance.yahoo.com))

A variety of market indexes can be retrieved from this site. On the left side of the screen, click the link "Market Data" to see market indexes (up-to-the-minute as well as historical). Individual company stock quotes, mutual fund data, news, interest rates, and much more can also be tracked on this site.

**NASDAQ Website** ([www.nasdaq.com](http://www.nasdaq.com))

This website has data on every stock that trades in the over-the-counter market and is listed in the NASDAQ system. Essentially, these are all of the publicly traded stocks that are not listed on the New York or the NYSE MKT. Available on the website are historical quotes for stocks and mutual funds and dividend information, as well as information about stock splits and the like. Daily, weekly, monthly, and quarterly results are available. There are links to news headlines, global markets, economic releases, and more. The information is all free.

**Other Sites**

Current and historical stock price information can be obtained from [www.bigcharts.com](http://www.bigcharts.com) or from [www.finance.yahoo.com](http://www.finance.yahoo.com). There are others as well, but this is a step in the right direction. These sites only provide stock price information for stocks that are currently trading. If data are needed for companies that are no longer trading, the valuation analyst will have to play hide and seek like the rest of us.

**Industry Data**

The valuation analyst should consider industry data that will generally include information about the competition, the general outlook for the industry (locally and nationally), and special industry situations, such as technological developments and the effect of regulatory activities. The purpose of obtaining industry data is to allow the valuation analyst to make an assessment of how the valuation subject compares with its peers. Determining the strengths and weaknesses of the valuation subject is an important element in the risk analysis and is necessary for the determination of appropriate pricing multiples for the market approach or discount and capitalization rates for the income approach.

One of the best places to start in the search for industry information is a trade organization. These organizations frequently publish trade journals, gather statistical data about members of the organization, and provide

other information that the valuation analyst can use. I have found that people working at trade organizations are generally very helpful.

Books such as Gale Research's *Encyclopedia of Associations*<sup>2</sup> can be found at the local library and provide information on trade associations (Gale's listings can be found online, but there is a fee for this service). The Center for Association Leadership website ([www.asaecenter.org](http://www.asaecenter.org)) is also a good resource that may be used to find trade organizations. Several Internet sources for trade association information are reviewed later. Some other helpful sources for the industry outlook can be found in box 5.4, and a description of many of these data sources follows. It should be a good way to get acquainted with them.

## Standard Industrial Classification (SIC) Manual

To find guideline company information, numerous sources are available to consult. Usually, the starting point for this analysis is to determine the subject company's SIC code. Once you know the SIC code for the subject company, various sources that categorize companies in this manner can be consulted. The *SIC Manual* can be consulted if it is unclear which SIC code is appropriate for the subject company. (Exhibit 5.3 contains a sample from this publication.) The *SIC Manual* classifies business establishments by industry, arranging them by the primary activity in which the company is engaged. The code system is used to assist in comparing similar companies within a specific industry. Each individual industry is classified by a major group number, then further classified by an industry group number, followed by an industry number. The industries are arranged in the book in numeric order and in the back of the book in alphabetical order by business classification. The major group, industry group, and industry numbers are explained, and a listing of industries included under each classification number is also given.

The *SIC Manual* is published by the Executive Office of the President, Office of Management and Budget, and is sold by National Technical Information Service, Springfield, Virginia. The publication is revised periodically to reflect the changes within the industrial organization in the economy. The last revision of the *SIC Manual* was in 1987.

If a copy of the manual is not readily available, search for a SIC code and its description online at [www.osha.gov/pls/imis/sicsearch.html](http://www.osha.gov/pls/imis/sicsearch.html) and use keywords to find what you need.

### BOX 5.4

#### Key Additional Data Sources for Industry Outlook and Financial Information

##### Industry Outlook

- Standard & Poor's (S&P) industry surveys
- The Value Line Investment Survey
- Brokerage house industry studies
- Regulatory agencies' reports
- Financial publications
- U.S. Industry & Trade Outlook (prior to 2000)

##### Financial Information

- Integra Information's Business Profiler
- Trade association surveys
- Corporation Source Book of Statistics of Income
- Partnership Source Book of Statistics of Income
- Sole Proprietorship Source Book of Statistics of Income
- Almanac of Business and Industrial Financial Ratios
- Financial Statement Studies of the Small Business
- RMA Annual Statement Studies
- S&P Analysts' Handbook
- D&B Industry Norms and Key Business Ratios

<sup>2</sup> Gale Research, Inc., *Encyclopedia of Associations* (835 Penobscot Building, Detroit, Mich. 48226-4095).

**EXHIBIT 5.3 Sample from SIC Manual****Major Group 72.—Personal Services  
The Major Group as a Whole**

This major group includes establishments primarily engaged in providing services generally to individuals, such as laundries, dry-cleaning plants, portrait photographic studios, and beauty and barber shops. Also included are establishments operating as industrial launderers and those primarily engaged in providing linen supply services to commercial and business establishments.

Industry  
Group No. Industry

**721 LAUNDRY, CLEANING, AND GARMENT SERVICES****7211 Power Laundries, Family and Commercial**

Establishments primarily engaged in operating mechanical laundries with steam or other power. Establishments primarily engaged in supplying laundered work clothing on a contract or fee basis are classified in Industry 7218.

Laundries, power: family and commercial	Power laundries, family and commercial
Laundry collecting and distributing outlets operated by power laundries	

**7212 Garment Pressing, and Agents for Laundries and Drycleaners**

Establishments primarily engaged in providing laundry and dry-cleaning services but which have the laundry and dry-cleaning work done by others. Establishments in this industry may do their own pressing or finishing work. Establishments operating their own laundry plants are classified in Industry 7211, and those operating their own dry-cleaning plants are classified in Industry 7216.

Agents, retail: for laundries and drycleaners	Press shops for garments
Bobtailers, laundry and dry-cleaning	Truck route laundry and dry-cleaning, not operated by laundries or cleaners
Cleaning and laundry pickup stations, not owned by laundries or cleaners	Valet apparel service

**7213 Linen Supply**

Establishments primarily engaged in supplying to commercial establishments or household users, on a rental basis, such laundered items as uniforms, gowns, and coats of the type used by doctors, nurses, barbers, beauticians, and waitresses; and table linens, bed linens, towels and toweling, and similar items. Establishments included in this industry may or may not operate their own laundry facilities. Establishments primarily engaged in providing diaper service are classified in Industry 7219.

Apron supply service	Shirt supply service
Coat supply service	Table cover supply service
Continuous towel supply service	Towel supply service, except wiping
Gown supply service, uniform	Uniform supply service, except industrial service
Linen supply service	

**7215 Coin-Operated Laundries and Dry-cleaning**

Establishments primarily engaged in the operation of coin-operated or similar self-service laundry and dry-cleaning equipment for use on the premises, or in apartments, dormitories, and similar locations.

Coin-operated laundries	Laundromats
Dry-cleaning, coin-operated laundrettes	Laundry machine routes, coin-operated
Self-service laundry and dry-cleaning	

*(continued)*

**EXHIBIT 5.3 Sample from SIC Manual** *(continued)***7216 Dry-cleaning Plants, Except Rug Cleaning**

Establishments primarily engaged in dry-cleaning or dyeing apparel and household fabrics other than rugs. Press shops and agents for drycleaners are classified in Industry 7212; establishments primarily engaged in cleaning rugs are classified in Industry 7217; and establishments primarily engaged in dyeing fabrics for the trade are classified in Manufacturing, Major Group 22.

Clearing and dyeing plants, except rug cleaning  
Collecting and distributing agencies operated  
by cleaning plants

Drapery dry-cleaning plants  
Dry-cleaning plants, except rug cleaning

**7217 Carpet and Upholstery Cleaning**

Establishments primarily engaged in cleaning carpets and upholstered furniture at a plant or on customers' premises. Establishments primarily engaged in rug repair are classified in Industry 7699, and those primarily engaged in reupholstering and repairing furniture are classified in Industry 7641.

Carpet cleaning and repairing plants  
Carpet cleaning on customers' premises  
Furniture cleaning on customers' premises

Rug cleaning, dyeing, and repairing plants  
Upholstery cleaning on customers premises

**7218 Industrial Launderers**

Establishments primarily engaged in supplying laundered or dry-cleaned industrial work uniforms and related work clothing, such as protective apparel (flame and heat resistant) and clean room apparel; laundered mats and rags; dust control items, such as treated mops, rugs, mats, dust tool covers, and cloths; laundered wiping towels; and other selected items to industrial, commercial, and government users. These items may belong to the industrial launderer and be supplied to users on a rental basis, or they may be the customers' own goods. Establishments included in this industry may or may not operate their own laundry or dry-cleaning facilities.

Clean room apparel supply service  
Flame and heat resistant clothing supply service  
Industrial launderers  
Industrial uniform supply service Laundered mat and  
rug supply service  
Radiation protective garments supply

Safety glove supply service  
Towel supply service, wiping  
Treated mats, rugs, mops, dust tool covers,  
and cloth supply  
Wiping towel supply service  
Work clothing supply service, industrial

**7219 Laundry and Garment Services, Not Elsewhere Classified**

Establishments primarily engaged in furnishing laundry and garment services, not elsewhere classified, such as the repair, alteration, and storage of clothes for individuals and for the operation of hand laundries. Custom tailors and dressmakers are classified in Retail Trade, Industry 5699; fur shops making fur apparel to custom order are classified in Retail Trade, Industry 5632; and press shops are classified in Industry 7212.

Diaper service  
Dressmaking services on material owned by  
individual customers  
Fur garments: cleaning, repairing, and storage  
Garment alteration and repair shops  
Hand laundries

Laundries, except power and coin-operated  
Pillow cleaning and renovating  
Repair of furs and other garments for individuals  
Reweaving textiles (mending service)  
Storage of furs and other garments for individuals  
Tailor shops, except custom or merchant tailors

## North American Industry Classification System (NAICS) Manual ([www.census.gov/eos/www/naics/](http://www.census.gov/eos/www/naics/))

Because having one classification system was not enough, our government decided to join forces with Canada and Mexico to come up with a new system. Those of us old enough to remember experienced this same disaster with the metric system. I think I still have a metric tool set that does not fit anything because our country never adopted the system. Well, this is another one of those questionable brainstorms.

The NAICS system is similar to the SIC system. It is more detailed and is designed to replace the SIC system. The official U.S. NAICS Manual, *North American Industry Classification System—United States*, includes



definitions for each industry, tables showing correspondence between current NAICS and 2002 NAICS for codes that changed, and a comprehensive index—features also available on the website. I would not order this manual in print as it is regularly changed. You can download it from the website.

## Trade Association Websites

As mentioned, broad industry data is available from the Census Bureau and the Bureau of Economic Analysis. Additional broad data may be available in the *Beige Book* of the Federal Reserve Board. More specific industry data are available through newspapers, magazines, trade publications, and the like. Almost every human endeavor seems to have a trade organization devoted to it. Many of these are listed in Gale's *Encyclopedia of Associations*. The listing gives addresses, phone numbers, contact information, number of staff, publications, and other information, including a website if there is one. Often, a website exists even if it is not listed in Gale's. Once a website is found, you can see what type of information is available through the organization. Sometimes, the information is free; often, there is a charge for a back issue of a publication or a survey.

## The Internet Public Library ([www.ipl.org/div/aon/](http://www.ipl.org/div/aon/))

The Internet Public Library produces a guide to websites of prominent organizations and associations. This website has an excellent collection of links to a number of business and economic sites.

## First Research Industry Profiles ([www.firstresearch.com](http://www.firstresearch.com))

First Research offers industry reports for more than 900 industry sectors. These reports are updated on a quarterly basis and provide a detailed description of the industry and its drivers, trends, and outlook. A subscription will allow access to all industry reports, or reports may be purchased as needed for \$139 each. First Research also offers U.S. state and Canadian province profiles for \$99 per report.

## Encyclopedia Britannica ([www.britannica.com](http://www.britannica.com))

This is the online version of the encyclopedia. There is information on a large variety of subjects, but much of it may require updating if the valuation date is fairly recent. The information is easily located and is available for a subscription price of \$69.95 annually.

## Wikipedia (<http://wikipedia.org/>)

Wikipedia is a multilingual, Internet-based encyclopedia project operated by the nonprofit Wikimedia Foundation. Wikipedia contains more than 19 million articles in 287 languages. Wikipedia's articles are written collaboratively by volunteers around the world, and the majority of them can be edited by anyone with access to the Internet. Steadily rising in popularity since its inception, it ranks among the top 10 most visited websites worldwide.

## LexisNexis ([www.lexisnexis.com](http://www.lexisnexis.com))

LexisNexis is one of the world's largest providers of online information services. Though not exclusive to business and economics, LexisNexis offers access to a wide range of information useful to the business valuation analyst, including comprehensive research by company, country, demographic focus, market, and industry. This resource provides access to thousands of publications from around the world. There is a cost to this service, and it varies with usage.

## ProQuest Dialog ([www.proquest.com/products-services/ProQuest-Dialog.html](http://www.proquest.com/products-services/ProQuest-Dialog.html))

This resource is a leading provider of Internet-based information. It was initially completed in 1966 and was the world's first online information retrieval center to be used globally. Dialog is currently owned by ProQuest. Dialog provides access to thousands of authoritative business, scientific, intellectual property, and technical publications. Among the wealth of information available is worldwide company and industry information, including trends, overviews, market research, and more. Full financial information is available at the company level. It can be accessed online with a subscription.

## Alacra ([www.alacra.com](http://www.alacra.com))

Alacra is a subscription-based service that provides access to more than 200 premium databases. Partnering with companies such as Dun & Bradstreet, Factiva, Fitch Ratings, LexisNexis, Moody's, and Thomson Reuters, this database provides a wealth of information about private and public companies.

## Financial Benchmarking Data Sources

### MicroBilt Corporation's Integra Financial Benchmarking Data

Chapter 6 of this book includes a complete discussion of how to use this database as part of the financial analysis process. This is one of my favorites.

### Sageworks

Sageworks aggregates private company financial statements from accounting firms, banks, and credit unions through a cooperative data model. This database is the largest real-time repository of private company financial data in the United States, including close to 2 million financial statements from more than 600,000 private firms. The data spans across 1,400 NAICS industry classifications and can be segmented by time period, geography, annual sales range, industry, and data source. It provides coverage for 70 financial items and ratios.

### Almanac of Business and Industrial Financial Ratios

This annually updated publication provides current corporate performance facts and figures for a specific accounting period, summarized from tax return data. This information can be used to make comparisons of specific companies to similar ones in the industry. Two types of tables are given for each industry. Both report the operating and financial information for corporations; however, one reports it including companies with and without net income, whereas the other reports it specifically for those corporations that were operating at a profit.

The book divides each industry into categories according to asset size. For each category, ratios are given for the operating factors (cost of operations, repairs, bad debts, and so on), financial ratios (current ratio, quick ratio, asset turnover, and so on), and financial factors (debt ratio, return on assets, return on equity, and return on net worth), which are also defined in the book for reference purposes. The information supplied in the *Almanac of Business and Industrial Financial Ratios*<sup>3</sup> is beneficial in determining how a company compares with its competition and in what areas improvements need to be made or costs need to be cut.

The industrial sectors that are covered in the *Almanac of Business and Industrial Financial Ratios* include construction, agriculture, manufacturing, mining, communications, transportation, banking, insurance, trade, real estate, holding and investment companies, and electric, gas, and sanitary services.

### Risk Management Association (RMA) Annual Statement Studies

This publication consists of composite financial data for a number of industries (including agriculture, wholesaling, contracting, services, manufacturing, and retailing), which are categorized by SIC codes. Common size financial statements and ratios are provided for each industry. Current data for each industry is sorted by sales and by assets, and comparative historical data is provided for both groups. Assets, liabilities, and income data are given with appropriate subdivisions (cash, inventory, payables, sales, and so on), and financial ratios are listed as well. These include liquidity ratios, coverage ratios, leverage ratios, operating ratios, and expense-to-sales ratios. In addition, formulas and explanations of the ratios are provided for a further understanding of their usefulness.

RMA, the publisher of the book, receives its data from sources that submit it on a voluntary basis, not on a randomly selected basis. These sources include banks that have obtained financial statements from companies that are looking to borrow money. Therefore, the data in this particular publication should not be used as

<sup>3</sup> The *Almanac of Business and Industrial Financial Ratios* is written by Leo Troy, Ph.D., in association with Prentice-Hall, Englewood Cliffs, New Jersey.

industry guidelines when comparisons are made to other businesses in the industry because there is a possibility that the data may not include all of the necessary information to make an absolute comparison.

RMA *Annual Statement Studies* is updated yearly, and the data it presents for the more recent years is in terms of fiscal years from April 1 to March 31 (for example, 2013–2014). An online version of the RMA *Annual Statement Studies* is available on the RMA website at [www.rmahq.org/tools-publications/tools/estatement-studies](http://www.rmahq.org/tools-publications/tools/estatement-studies).

### BizMiner's Industry Financial Profiles

BizMiner provides financial benchmarking data for more than 5,500 lines of business. Full income statement and balance sheet information by SIC code is available for 3, 5, or 9 years. Companies within each industry are categorized by size of revenues. BizMiner also provides various financial ratios to test solvency, profitability, debt-related risks, and turnover. In addition to its financial benchmarking product, BizMiner provides market research reports for thousands of industries. These reports are available for each industry at the national and local levels.

Financial benchmarking and industry reports can be purchased individually or accessed with a yearly subscription. Full access to BizMiner's products can be purchased for \$1229 per year, but there are other subscriptions available, as well. The cost for a single report can be as low as \$89. More information about this data source can be found at [www.bvresources.com](http://www.bvresources.com).

### IndustriusCFO Industry Metrics Reports

IndustriusCFO (formerly Fintel) provides industry financial data for more than 900,000 companies (mostly privately held) from more than 2,500 different industry groups. Reports can be searched based on SIC or NAICS codes and further narrowed based on location, size of revenues or assets, age of the firms, and number of employees. The reports provide the latest 4 years of income statement and balance sheet information on a dollar and common size basis. The Industry Metrics reports also provide 16 commonly used financial ratios for analyzing liquidity, asset efficiency, and profitability. Subscriptions are available from \$49 to \$129 per month. IndustriusCFO also offers a Business Analyzer product that is focused on the small business owner, rather than the small business analyst. More information can be obtained at [www.industriuscfo.com/](http://www.industriuscfo.com/).

### Key Business Ratios

This publication provides financial information on more than 800 lines of business and can be used for comparing companies in the same industry. The industries covered in the book are arranged numerically by SIC code. For each SIC code, the specific name of the industry that corresponds to the code is given, along with the number of companies in the industry that were surveyed for the determination of the statistical data. The financial information provided for each industry includes current assets, total assets, current liabilities, total liabilities and net worth, net sales, gross profit, net profit after taxes, and working capital, along with solvency, efficiency, and profitability ratios. The financial ratios are given for companies that fall into the upper quartile, lower quartile, and median.

The figures found in this publication can be used as a guideline in determining the financial condition of comparable companies, regardless of whether the company is operating above or below the norms in the industry. In addition to statistical data, the book gives an explanation of the use and meaning of the ratios, along with an explanation of their derivation.

*Key Business Ratios* is published by Dun & Bradstreet Information Services, a company of the Dun & Bradstreet Corporation. An online version of *Key Business Ratios* can be found at [www.mergentkbr.com/](http://www.mergentkbr.com/).

### Compensation Data Sources

Salary Assessor and the Executive Compensation Assessor, two products produced by the Economic Research Institute, contain salary information for more than 6,000 jobs compiled from salary surveys. The information is available online at [www.eri.com](http://www.eri.com). An alternative product is Compustat ExecuComp, which is

maintained and offered by CapitalIQ of Standard & Poor's. These are good sources for estimating a reasonable level of executive compensation for a particular industry. More information on Compustat ExecuComp can be found at [www.capitaliq.com/home/what-we-offer/information-you-need/qualitative-data/execucomp.aspx](http://www.capitaliq.com/home/what-we-offer/information-you-need/qualitative-data/execucomp.aspx).

Industry trade groups frequently conduct compensation surveys, either in conjunction with an industry survey or as a standalone study. Often, a hint of the study will be given on the trade association's website. Most of the studies are available to nonmembers for a fee, so it is worth it to check the website and perhaps call the association's headquarters to ask.

MicroBilt Corporation offers a terrific online product called *Integra Financial Benchmarking Data* (Integra), which provides detailed information on profiling small businesses and private companies. This resource covers more than 4.5 million privately held firms in more than 900 U.S. industries. It is capable of analyzing any size firm or 1 of 13 industry size ranges. See chapter 6 for more details about this product. It is one of my favorites.

Integra gets its information from 32 databases, which makes this product one of the most extensive of its kind. Included in the Integra data is a measure of officers' compensation for any group of companies within an industry and size grouping. Integra will sell you individual reports by SIC code on its website, [www.microbilt.com](http://www.microbilt.com). This is too good to be ignored! (And no, I do not own the company!)

BizMiner's BizBenchmarker product also provides an indication of the level of owners' compensation for each industry and size grouping.

## Publicly Traded Guideline Company Data

Another component of the data-gathering part of the assignment is to locate information about comparables. These comparables are also known as *guideline companies*. The business valuation committee of ASA captioned this terminology as a means of differentiating what the business valuation analyst does from what the real estate appraiser does in the application of the market approach. Because real estate appraisers can generally find comparables that are close enough to the valuation subject to use in the valuation process, this terminology seems appropriate. However, business valuation analysts do not enjoy the same luxury of finding other companies that are close enough to be considered good comparables. Instead, we use other companies to provide guidance; therefore, these companies are termed guideline companies.

## The Old Days (When the Dinosaurs Roamed the Earth)

When many of us gray-haired, old-timers started in this business, the only manner in which one could get public company data was to go to the library and go from book to book to book. Fortunately, those days are long gone. Therefore, instead of providing the old sources that were included in previous editions of this book, I am going to provide today's stuff.

## Finding Publicly Traded Company Information

As will be explained in chapter 9, the guideline company method of developing a conclusion of value involves finding publicly traded companies that are comparable to the one being valued. Perhaps the easiest way to do this is to find a database that is searchable by SIC code. This section provides some additional reference sources that might help in this search.

## S&P's Capital IQ NetAdvantage

S&P offers a number of products with which you can search for publicly traded companies. Many of these resources are included under S&P's flagship product called Capital IQ, which contains data on thousands of active and inactive publicly traded companies, including 20 years of historical data, if available. One such resource is NetAdvantage, which delivers a wealth of information to your computer—for a fee, of course.

S&P's NetAdvantage product is a comprehensive online database catering mostly to universities, public libraries, and corporate information centers. NetAdvantage is made up of several components, including the following:

- *Register of Corporations, Directors & Executives.* This directory allows users to search for businesses by industry, obtain background information on executives, and find information on various indexes.
- *Corporation records.* This component provides information on more than 10,000 publicly traded U.S., Canadian, and international companies, including financial statements, profiles, recent news, and shareholder reports.
- *Industry surveys.* S&P provides reports on more than 50 of the largest North American and global industries. Along with these reports, S&P also provides its *Trends & Projections* publication, which provides insight into various macroeconomic topics.
- *Stock reports.* S&P's *Stock Report* product provides qualitative and quantitative analysis on more than 4,000 publicly traded companies.

The NetAdvantage database is available on the Capital IQ website at [www.spcapitaliq.com/](http://www.spcapitaliq.com/). This may also be accessible for free at a library.

## Mergent

*Mergent Online* (formerly *Moody's Manuals*) consists of data on more than 25,000 public U.S. companies and their SEC filings, including current and historical annual reports. International company data and annual reports are also available. Access to Mergent Online is available at [www.mergentonline.com](http://www.mergentonline.com).

In addition to the online service, Mergent continues to offer a number of former Moody's publications in print format (see box 5.5). Information on Mergent's print products can be found at [www.mergent.com/mergent-solutions/academic-corporate-public-government-libraries](http://www.mergent.com/mergent-solutions/academic-corporate-public-government-libraries).

## Value Line Investment Survey

This survey is published weekly in three parts: "Summary & Index," "Selection & Opinion," and "Ratings & Reports." The "Summary & Index" section features a listing of companies alphabetized by company name and shows the price, beta, current price and earnings ratio, estimated dividends for the year, and other stock data for each company. There is also a listing of timely stocks in timely industries and various stock rankings and estimates. In addition, the index to part 3, "Ratings & Reports," lists the industries, the page references to them, and the rankings of each industry's probable performance.

Part 2 of the *Value Line Investment Survey* features articles, graphs, and tables on current economic conditions, the Federal Reserve's actions, stock market conditions, earnings estimates, Federal Reserve data, economic information on the GDP, consumer confidence, home sales and starts, and stock market averages.

Part 3 of the *Value Line Investment Survey* gives an in-depth analysis of each industry listed. Recent developments and actions that have affected the industry are discussed, and statistics and graphs showing both current and historical data are provided. News about the major companies involved in the particular industry is presented, along with stock information, the company's current financial position, quarterly earnings, earnings per share, and dividends. The information provided in the three parts of the *Value Line Investment Survey* can be used in analyzing the economy at specific time periods, analyzing industries, and making comparisons with those companies involved in a particular industry.

### BOX 5.5

### Mergent Print Publications

- Industrial Manual and News Reports
- OTC Industrial Manual and News Reports
- OTC Unlisted Manual and News Reports
- Transportation Manual and News Reports
- Public Utility Manual and News Reports
- Bank and Finance Manual and News Reports
- International Manual and News Reports
- Municipal and Government Manual and News Reports
- U.S. Company Archives Manual
- International Company Archives Manual
- Unit Investment Trusts Annual Payment Record and UIT Weekly Reports
- Dividend Record and Annual Dividend Record
- Bond Record and Annual Bond Record
- Industry Review
- Handbook of Common Stocks
- Handbook of NASDAQ Stocks
- Handbook of Dividend Achievers

The *Value Line Investment Survey* is published and copyrighted by Value Line Publishing Inc., New York. Information is available on the Value Line website at [www.valueline.com](http://www.valueline.com).

## Thomson Reuters

Thomson Reuters maintains a database called Thomson One, which is accessible through an Internet-based interface. The Thomson One database provides access to a number of resources, including Thomson Reuters Institutional Brokers Estimate System (I/B/E/S) and Worldscope, among many others. Subscribers can search for guideline companies, download search results and company details in spreadsheet format, and integrate financial data from the database into any valuation models. Although this database is geared more toward the investment banking side of finance, it is still a powerful resource available to the business valuation analyst. Access to this database requires an annual service subscription.

## NASDAQ

NASDAQ's website ([www.nasdaq.com](http://www.nasdaq.com)) makes information on publicly traded companies available for free. If a publicly traded company in the industry you are studying is known, it can be entered on the NASDAQ home page to obtain a quote. Below the quotes are links to additional information. One link is called "Competitors". Clicking on this link will reveal a list of other publicly traded companies in the same industry as the one originally entered. The search cannot be done by SIC code and must begin with a known company. This may not work well in all situations, but it is an overlooked source of a lot of free information about companies in a given industry. Yahoo! Finance and Google have similar links.

## Other Sources

Other financial and descriptive information about public companies can be obtained from Form 10-K, Form 10-Q, Form 8-K, and the annual reports of the guideline company, which are available either directly from the guideline company, the SEC, or through commercial vendors.

Sources of forecast financial data include the following:

- Brokerage houses
- I/B/E/S, available through Thomson Reuters
- *Reuters Estimates Consensus Report*
- Zack's Investment Research
- Bloomberg Financial Markets

## Transaction Data

In addition to locating specific guideline company information, the valuation analyst will also be looking for data about mergers and acquisitions in the same or similar industry as the valuation subject's. I will explain more about this in chapters 9 and 10, but first let's find out where you can get merger and acquisition information.

Merger and acquisition data can be obtained from the following sources:

- *The Annual Merger and Acquisition Sourcebook*
- *Mergerstat Review*
- *Mergerstat Control Premium Study*
- Computer databases:
  - The Institute of Business Appraisers Inc.
  - BizComps
  - Pratt's Stats
  - Public Stats
  - Done Deals
  - Thomson Financial
  - CapitalIQ
  - Mergerstat (this is sold by Alacra as well as by others)

## Mergerstat Review

This annual publication presents compiled statistics relating to mergers and acquisitions. For the current period, and historically, data on merger and acquisition announcements and purchase prices are presented annually and quarterly. Current transactions that are either completed or pending are also shown, as well as the prices offered and equity interest sought for companies that are in the \$100 million category.

The 100 largest announcements in history are featured, as are the largest by industry. The publication also has announcements on mergers and acquisitions for specific industries, including a ranking of the dollar value offered and the number of transactions in each industry. International transactions, divestitures, a transaction, cancellation roster by industry, and acquisitions of privately owned companies are other areas featured in the book. The information provided in *Mergerstat Review* can be used to identify industry guideline companies that were involved in actual transactions. The most widely used application of *Mergerstat Review* is the reporting of control premium data. This is discussed in greater detail in chapter 14.

*Mergerstat Review* is published by FactSet Mergerstat LLC. More information is available at [www.factset.com/data/company\\_data/mergersreview](http://www.factset.com/data/company_data/mergersreview).

## FactSet Mergerstat®/BVR Control Premium Study™ Database

FactSet Mergerstat®/BVR Control Premium Study™ is an online database available exclusively through Business Valuation Resources. This database delivers empirical support for quantifying control premiums, implied minority discounts, and public company valuation multiples. It allows you to quickly search nearly 10,000 transactions that detail up to 57 data points, including the control premium, the implied minority discount, and provides up to 5 valuation multiples for each transaction. In addition, you get free quarterly data summaries in printer-friendly versions as part of your subscription.

A list of the companies that were acquired, in addition to the companies that acquired those companies, is given, along with business descriptions and SIC and NAICS codes. Numerous tables relating to the acquisition are provided and contain such information as the acquisition announcement and closing dates, the value of the deal, the percentage of common stock held by the acquirer before and after the acquisition, the price of the stock per share for various time frames, selected ratios, the specific stock exchange on which the stock is traded, and the nature of the takeover. The *Mergerstat* unaffected price is featured (the common stock price per share that has not been affected by the announcement of the acquisition), as is the *Mergerstat* control premium (found by subtracting the *Mergerstat* unaffected price from the purchase price, then dividing the difference by the *Mergerstat* unaffected price). This database is available at [www.bvresources.com](http://www.bvresources.com).

## Other Sources of Data

### Access to Newspapers and Periodicals

Many local and regional newspapers publish articles on conditions in an area's economy. Every major city's daily newspaper and many small regional papers now have an Internet site. One such website is the "Mergers, Acquisitions and Divestitures" section of *The New York Times* ([http://topics.nytimes.com/top/reference/timestopics/subjects/m/mergers\\_acquisitions\\_and\\_divestitures/index.html](http://topics.nytimes.com/top/reference/timestopics/subjects/m/mergers_acquisitions_and_divestitures/index.html)). You can use the Keyword search function on this page to search for transactions or trends in the merger and acquisition market. Although you may not find a lot of quantitative data this way, you can usually find out what transactions have taken place.

Here are several other websites that have links to many other publications.

### American Journalism Review (AJR) NewsLink ([www.ajr.org](http://www.ajr.org))

The AJR site has links to thousands of U.S. and foreign newspapers. You will also find links to television and radio stations and newswire services. The publication websites that you find may or may not have an archive feature for older articles, and they may or may not charge a retrieval fee for articles. But you can retrieve current news articles from most of them.

### The Internet Public Library ([www.ipl.org/div/news/](http://www.ipl.org/div/news/))

This site has a comprehensive listing of newspapers that have websites located in Africa, Asia, Central America, the Caribbean, Europe, the Middle East, North and South America, the South Pacific, and the United States (by state).

You can also browse by title. The Internet Public Library is a public service organization and learning and teaching environment at the University of Michigan, School of Information. Their mission is to provide library services to Internet users.

A reference center is available at <http://www.ipl.org/div/subject/www.ipl.org/div/subject/browse/ref00.00.00> that includes links to sciences and technology, reference, education, arts and humanities, health and medical sciences, law, government and political science, computers and Internet, business and economics, social sciences, entertainment and leisure, and associations.

### Factiva ([www.factiva.com](http://www.factiva.com))

Factiva, formerly Dow Jones Interactive, provides access to a multitude of business news and information resources. Factiva provides access to thousands of media, trade, and consumer publications published in 28 languages from nearly 200 countries. Articles go back 35 years and include analyst reports. The top news sources include *The Wall Street Journal*, Dow Jones Newswires, and *The New York Times*.

### Additional Data Sources

Hoover's Company Database ([www.hoovers.com](http://www.hoovers.com)) contains a great deal of good information about publicly traded companies as well as industries. Most of it is available through a subscription, but a free search can be done for companies by industry type. The search will locate general information about the company for free; more detailed profiles are available to subscribers. The option to search by SIC code is also available to subscribers. These searches can locate both publicly traded and privately held companies.

The most economical method of creating a guideline company group is to use the databases available through NASDAQ or Hoover's. Another site with a lot of free information is [www.zacks.com](http://www.zacks.com), the home of Zacks Investment Research. A company search can be done by industry type, revealing analysts' reports on companies within the industry group. You will need a Zacks Premium subscription in order to access these reports. Earnings estimates are available for free in most cases. At the other end of the pricing spectrum is Standard & Poor's Capital IQ product, which will provide you with a wide range of financial data.

### EDGAR

The Electronic Data Gathering Analysis and Retrieval (EDGAR) database allows free access to SEC filings of publicly traded companies. EDGAR filings are available on the SEC website at <http://www.sec.gov/edgar/searchedgar/companysearch.html> [www.sec.gov/edgar.shtml](http://www.sec.gov/edgar.shtml).

In addition to the SEC site, third-party vendors offer EDGAR data with value-added features such as enhanced searching or more options for a fee. One of these vendors includes EdgarOnline ([www.edgar-online.com/](http://www.edgar-online.com/)).

Several of the databases mentioned here contain earnings estimates. I/B/E/S's earnings estimates are available electronically on its website, [www.thomsonreuters.com](http://www.thomsonreuters.com), for a fee.

Other sources include *Standard & Poor's Earnings Guide*, which contains consensus earnings estimates on thousands of stocks at [www.netadvantage.standardandpoors.com](http://www.netadvantage.standardandpoors.com). The *Value Line Investment Survey*, mentioned previously, includes at least two years of projected financial statement data for most companies. *Zacks Earnings Forecaster* and *Bloomberg Markets* are other sources. Analysts' reports are available from the major brokerage houses and contain earnings estimates, buy and sell recommendations, and sometimes forecast financial information. *Nelson's Directory of Investment Research* lists the names of analysts and the industries they follow. Some public companies make analysts' reports available to prospective investors.



## TagniFi

TagniFi, formerly FetchXL, helps business valuation professionals automate their guideline public company approach with high quality financial statement data, saving dozens of billable hours on every engagement. Their Excel add-in allows the ability to populate spreadsheets within seconds. Simply enter the valuation date and ticker symbols. TagniFi does the rest by populating spreadsheets with financial data that was available on the valuation date. The TagniFi search tool enables searching by keyword, industry, SIC code, or NAICS code. All TagniFi data go through hundreds of quality checks to ensure that the most accurate financial data is being used in the guideline public company approach. In addition, all of their data is fully auditable back to the source filing. TagniFi's monthly plans deliver a flexible and affordable solution for quality financial statement data. What is really cool about this product is the fact that TagniFi will create the link between the valuation analyst's spreadsheet model and its database, so the population of the data is seamless. My staff is so grateful that they do not have to enter data from public filings that I think even they have started to like me!

## PitchBook/BVR Guideline Public Company Comps Tool™

This is a product that is similar to TagniFi, brought to us by Business Valuation Resources, a company that every valuation analyst will get to know well. This searchable tool also drastically reduces the time it takes to develop and analyze a set of guideline public company comparables. PitchBook/BVR Guideline Public Company Comps Tool™ delivers all 10-Q and 10-K filings (from EDGAR) and valuation-date-specific public market prices for public comps that match the subject company. A really nice feature of this product is that the valuation analyst can even retrieve full data on delisted companies. Unfortunately, as with many of these types of products, it is not cheap. An annual subscription used to cost about \$3,600, but now, access to this database is available for \$1,039. A two-day access pass costs \$519. Unless the analyst is only going to do one job per year, why not sign up for the annual subscription at this price? Bill it to the client as an out-of-pocket cost. There will be much more about this product discussed in chapter 9.

## Stock Quotes

Because part of the pricing multiples that the valuation analyst may use includes the price of publicly traded guideline companies, I thought that it might also be a good idea to provide some sources for gathering pricing information. Historical and current stock prices for any publicly traded company are available on the websites of the New York Stock Exchange and the NASDAQ as well as on Yahoo! and Google. All of these sources are free, so there is no reason ever to pay for this information.

## SunGard's MarketMap

If the valuation analyst insists on paying for something that he or she can get for free, this database is available at <http://financialsystems.sungard.com/solutions/market-data/market-map>. MarketMap includes current and historical security pricing from more than 160 global exchanges and over-the-counter data sources. It also contains exchange rate, dividend, capitalization, and descriptive information about the companies. MarketMap is produced by SunGard Financial Systems.

## Finding Acquired or Merged Guideline Companies

There is no limit to the amount of information that can be retrieved if one knows where to find it. The scary part about what I do for a living is not knowing what is out there. I discuss the various databases that are used in chapter 10. Be patient, and you will eventually get there.

## Cost of Capital and Betas

Information about cost of capital and betas, topics to be discussed in chapter 13, is available from numerous sources. One can use Value Line projections to produce an estimate of expected returns on the market.<sup>4</sup>

Additional data sources include Standard & Poor's CompuStat, which is perhaps the best source for betas. *Standard & Poor's Stock Reports*, available in print and online, contains descriptive and summary financial

<sup>4</sup> David King, "The Equity Risk Premium for Cost of Capital Studies: Alternatives to Ibbotson," *Business Valuation Review* (September 1994): 123–129.

information on hundreds of publicly traded companies as well as on betas. For more information, go online to [www.standardandpoors.com/products-services/netadvantage/en/us](http://www.standardandpoors.com/products-services/netadvantage/en/us).

Betas for individual companies are available for free on the NASDAQ website. These betas use the S&P 500 as the underlying index to calculate performance of the market.

I think that I have provided the valuation analyst enough to get started. By now, he or she probably wishes that he or she was finished. The sources of information listed in this chapter are some of my favorites. Surely, once the valuation analyst logs on to the Internet and begin clicking around on things, he or she will find many of his or her own favorite sources. Be wary, though. A person can easily get lost in his or her Internet research. It has a way of drawing anyone in. Good luck and happy clicking!

Information about many of the databases and publications discussed in this section, as well as about others that the valuation analyst may want to become familiar with, is included in appendix 15 as a downloadable resource.

## The On-Site Interview

An important part of the data-gathering phase of the valuation engagement is the on-site interview. It is generally a good idea for the valuation analyst to see what he or she is valuing. Interviewing management at the company's facility has several advantages. First, seeing the physical layout of the facility can help the valuation analyst understand such items as the capacity of the plant and the working environment. (Is the place busy or can someone take a nap there?). Management will also feel more comfortable in its own environment. Being at the business location will also make it easier for the valuation analyst to obtain trade journals and other information that may not have been supplied yet.

The person or persons whom the valuation analyst chooses to interview will vary from job to job, but in general, the following interviewees should be considered:

- The client
- The company's officers and management
- The company's accountant
- The company's attorney
- The company's banker

The questions that should be raised at the interview(s) will cover such topics as operations, financial performance, depth of management, competition, history of the company, personnel, suppliers, customers, marketing, legal issues, and capital requirements. In addition, the valuation analyst should not forget to ask the client for any trade journal articles on how to value the client's business. If the valuation analyst does not find it himself, he may be confronted by the client afterward for not using a particular methodology. Exhibit 5.4 contains a monograph published by The Institute of Business Appraisers titled "Questions to Ask When Appraising a Business."

A valuation analyst will generally find that more information is gathered during the management interview than by reviewing the volumes of documents that are frequently gathered. Financial documents rarely tell the entire story. Management should be able to provide the valuation analyst with a good history of the company, an understanding of what made the company's financial results appear the way they do, and expectations about where the company is going. The history could even be written by the client. Sometimes, this information can be obtained by going to the company's website or by going through the company's brochures.

It's terrible to say, but frequently, valuation analysts must take what their own clients tell them with a grain of salt. For example, if the valuation analyst has a client who is going through a divorce, he or she is most likely to get a story of doom and gloom. However, if that same client is looking to sell the business, the future always looks great. The valuation analyst should not lose sight of the purpose and function of the valuation assignment when he or she conducts the interview.

Another practical consideration is whether the valuation assignment is impaired if the valuation analyst does not get to speak to management. It is not uncommon in litigation assignments for the valuation analyst to be prevented from speaking to the company's management. Even if the valuation analyst is allowed to speak to them, they may not be as cooperative as he or she may like. What does the valuation analyst do then? We are all tempted to teach them a lesson, but it is unprofessional and highly unethical to make a point by becoming adversarial. The valuation analyst may also not want to hit them if they are bigger!

### EXHIBIT 5.4 Questions To Ask When Appraising A Business

The answers to the following questions should give the appraiser a good base of information about the business he has been asked to appraise.

Not all of these questions will apply to all businesses, nor to all situations. However, many of them will apply in a given situation, and even those that do not apply directly may suggest other information that the appraiser may wish to obtain.

No list of questions about a business can be exhaustive. However, the following questions cover many of the most important aspects of a business that should be scrutinized when the business is to be appraised.

#### About the Form of Organization of the Business

Is the business a sole proprietorship, partnership, or corporation?

If a partnership:

- How many partners, and who are they?
- Are they all in favor of selling?
- If not, is this likely to be a serious problem?

If a corporation:

- How many stockholders are there?
- Who are the major stockholders, and what percentage of the total outstanding shares does each of them own?
- Are all of the stockholders in favor of selling?
- If not, what percentage of the total outstanding shares is represented by those stockholders who are in favor of selling?
- Are the stockholders who are not in favor of selling likely to be a serious problem?
- Is the stock traded on a market?
- What market?
- What are recent prices for shares traded?

#### About the Products/Services of the Business

- What are the principal products/services?
- For what length of time has each been sold?
- What has been the sales volume of each, for each of the past 5 years?
- What are the (a) costs and (b) gross profit for each of these products/services?
- What portion of the total cost is for materials?
- What portion is for labor?
- What portion is for overhead?
- Which of the products/services are proprietary?
- Which products are purchased from others, for resale?
- What is the nature of the agreement(s) with the supplier(s) of these products?
- What features of the business' products/services distinguish them from competition?
- What product/service warranties are given to customers?
- What is the forecast of future sales and profits for each major product/service?
- How do quality and price compare with similar products/services offered by competitors?
- To what extent does the business rely on the services of outside vendors or subcontractors?
- Who are the principal vendors/subcontractors?
- What other products/services could be produced/furnished with the existing facilities?

(continued)

**EXHIBIT 5.4 Questions To Ask When Appraising A Business** *(continued)***About Markets and Marketing**

- What are the principal applications for each major product/service?
- What are the principal markets for each major product/service?
- To what extent are these markets already established, and to what extent must they still be developed?
- What is the future outlook for growth, or lack of growth, of each of these markets?
- Who are the principal customers?
- What portion of the total sales volume does each of these customers represent?
- Which major potential customers have not yet been secured as actual customers?
- How do sales break down geographically?
- What is the present backlog for each major product/service?
- How has this backlog varied over the past 3 years?
- Who are the principal competitors?
- What are the relative strengths and weaknesses of each of these competitors?
- What is the estimated sales volume of each of these competitors?
- What is this business' relative position among its competitors with regard to sales volume?
- What is its relative position among its competitors with regard to reputation?
- Has the business' past sales growth generally followed the industry trend, or has it been ahead of or behind this trend?
- What is the forecast of future industry-wide sales for each of the business' products/services?
- What is the forecast of this business' future sales for each major product/service?
- Does the business regularly use the services of any advertising and/or public relations firms?
- Who are they?
- Is the marketing aggressive and skillful?
- Who is responsible for market research?
- Who is responsible for advertising and sales promotion?
- Who is responsible for product applications?
- Who is responsible for exploiting new markets?
- What is the nature of the direct selling organization (supervision, personnel, field offices, salary and other compensation)?
- What is the nature of the distributor and/or sales representative organization (list of distributors/sales representatives, exclusive or non-exclusive nature of agreements, expiration dates of individual appointments, past performance of each distributor/representative, commission and/or discount rates, contract terms)?
- What is the nature of the service organization (who is responsible for service, installation, maintenance, etc.)?
- Are there any foreign operations?
- Details?
- Does the business use the services of any outside consultants for market research or similar activities?
- Who are they?
- What is their past record of accomplishment?
- How are they compensated?
- Are any of them under contract?

**About the Financial Situation of the Business**

- What is the sales and earnings record of the business for each of the past 5 years?
- What salaries/dividends have been paid to owners/stockholders during each of the past 5 years?
- Are income/expense statements available for each of the past 5 years?
- Is a current balance sheet available?
- What are the details of the accounts receivable (from whom receivable, amounts, age, etc.)?
- What about inventory?
- What is normal inventory level?
- What is the actual inventory at present?
- How does this inventory break down among raw material, work in process, and finished goods?
- What is the condition (new, obsolete, damaged, etc.) of the existing inventory?
- Is any portion of the inventory on consignment?
- What portion?

## EXHIBIT 5.4 Questions To Ask When Appraising A Business

### About the Financial Situation of the Business (*continued*)

- Consigned to whom?
- For how long?
- On what terms?
- What are the details of the accounts payable (to whom payable, amounts, age, any special circumstances, etc.)?
- What loans are outstanding, to whom are they payable, and what are the terms of each loan (interest rate, payment schedule, collateral, etc.)?
- What is the amount of accrued expenses payable?
- What items does this include?
- Are all federal and state taxes (including employee withholding taxes) current?
- What is the present book value (net worth; invested capital plus retained earnings) of the business?
- What is the amount of available working capital?
- What is the business' depreciation policy for fixed assets?
- What overhead (burden) rates are used in determining costs?
- What are the various departmental budgets?
- What is the advertising and sales promotion budget?
- What is the total payroll?
- Does the business own equity in any other businesses?
- What liabilities, contingent or otherwise, exist in connection with product/service warranties?
- Are there any existing claims and/or known contingent liabilities of any nature whatsoever?
- Details?
- Are there any contract disputes or renegotiations pending?
- Are there any outstanding stock options, convertible notes, or the like?
- Is there an existing forecast of future sales, profits, and capital requirements?
- What does this forecast show?

### About the Physical Facilities

- Is a complete list of physical facilities and equipment available?
- Is the real estate owned or leased?
- If owned, what is the appraised value?
- When was this appraisal made?
- By whom?
- If leased, what are the terms of the lease (period, rental, security deposit, restrictions on use of premises, renewal options, etc.)?
- What are the zoning restrictions?
- Are any of the other physical facilities or equipment leased rather than owned?
- Details?
- Is there any excess or idle capacity?
- How much?

### About Personnel and Organization

- Is a complete organization chart available?
- Are position descriptions available?
- What are the functions of key executives and personnel?
- What is the total personnel complement?
- Are there established rates of pay or pay ranges for the various jobs?
- How do these rates compare with those of other employers in the general area?
- What is the wage and salary review policy?
- What employee benefits exist (life insurance, hospitalization insurance, vacation, sick leave, pension, profit sharing, etc.)?
- Is the cost of these benefits paid entirely by the business, or do the employees contribute part of the cost?

(*continued*)

**EXHIBIT 5.4 Questions To Ask When Appraising A Business** *(continued)*

- What part?
- Are the workers unionized?
- Which ones?
- What are the contract details?
- Have there ever been any unsuccessful attempts to organize the workers?
- Details?
- Have there ever been any strikes?
- Details?
- What has been the experience with respect to employee turnover?
- Are the employees given any formal training for theft jobs?
- Details?
- Is there a house organ, employee bulletin, or newsletter for employees?
- Details?
- Are written personnel policies and/or procedures available?
- What is the general situation in the area with regard to availability of labor?

**About Management**

- Is an organization chart available?
- What are the backgrounds of key members of management?
- What is the compensation of key members of management?
- Are any members of management (or any other employees) under contract to the business?
- Details?
- Will the sale of the business involve or require any substantial reorganization of management?
- How is it regarded by its bank(s), and by the financial community in general?
- How is it regarded by its employees?
- How is it regarded by the community in which it is located?
- Has the business or any of its principals ever been found guilty, or ever entered a plea of no contest or been a party to a consent decree, with regard to anti-trust laws, anticipation regulations, securities laws or regulations, or the like?
- Details?
- Has the business complied with applicable requirements of the Occupational Safety and Health Administration (OSHA) to the satisfaction of the cognizant OSHA office?
- What has been the past history of the business with regard to litigation?
- Is the business involved in any joint ventures or similar undertakings?
- Details?
- What are the business' major accomplishments?
- Where has the business failed to an appreciable degree?
- Which members of management can be expected to remain with the business following the sale?
- What are the management capabilities of the persons in charge of each of the key departments?
- How well is each of these departments staffed?
- How capable is the second echelon of management?
- Are there any strong differences of opinion among members of management?
- Details?
- Do separate departments cooperate willingly and effectively with each other, or are there cases where cooperation is grudging or non-existent?
- Is management progress-minded and willing to take reasonable risks?
- Who dominates the organization?
- If the business is a corporation, what control do major stockholders exercise over the company's policies and/or activities?
- Are there any proxy fights, or attempts by outsiders to take over control of the company?

## EXHIBIT 5.4 Questions To Ask When Appraising A Business

### About the Business in General

- When was the business established?
- For how long has it been owned by the present owner(s)?
- Does success of the business depend to an unusual degree on the capabilities, performance, and/or contacts of one or more key persons?
- Details?
- What potentially dangerous situations exist, or might arise, in connection with the business' management, products, services, markets, finances, facilities, legal obligations, etc.?
- How is this business regarded by its customers?
- How is it regarded by its competitors?
- How is it regarded by its suppliers?
- How is it regarded by cognizant government agencies?
- How is it regarded by its bank(s), and by the financial community in general?
- How is it regarded by its employees?
- How is it regarded by the community in which it is located?
- Has the business or any of its principals ever been found guilty, or ever entered a plea of no contest or been a party to a consent decree, with regard to anti-trust laws, anti-discrimination regulations, securities laws or regulations, or the like?
- Details?
- Has the business complied with applicable requirements of the Occupational Safety and Health Administration (OSHA) to the satisfaction of the cognizant OSHA office?
- What has been the past history of the business with regard to litigation?
- Is the business involved in any joint ventures or similar undertakings?
- Details?
- What are the business' major accomplishments?
- Where has the business failed to an appreciable degree?

(Miles, Raymond C. *Basic Business Appraisal*. Copyright © 1984 by John Wiley & Sons, Inc. Reprinted with permission.)

In a situation in which the valuation analyst is prevented from getting information from management, he or she must determine if the missing information will prevent him or her from being able to give an unqualified conclusion of value. One of the limiting conditions in the report will be something like this:

This valuation was conducted without the benefit of management's cooperation. We were not allowed to interview management. If we had been allowed to interview them, we might have discovered information that may have affected our conclusion of value.

This is called "protect thyself!" The last thing that the valuation analyst wants sprung on him or her are questions like "How come you didn't speak to management?" or "How come you did not know that the company was planning to file for bankruptcy?" or "Wouldn't your answer be different if you knew that 82 percent of the company's sales came from one customer?" An answer like "Of course it would" doesn't bode well before a judge or jury. Of course, they may laugh inside because they know that the valuation analyst is right.

In litigation engagements, the valuation analyst can and should request that a deposition of the management personnel be taken if they won't cooperate with the management interview. The valuation analyst can provide the client's attorney with all the questions that the he or she wants the attorney to ask. The questions should generally be as detailed as possible in order to get a full response. This is because the person being deposed, if prepared for the deposition, will give a lot of "Yes," "No," and "I don't remember" types of responses. The attorney asking the questions should be provided with an understanding of what the valuation analyst is trying to achieve. If permitted, the valuation analyst may even sit in the room while the deposition is taking place. Then, if there are additional questions that must be asked to clarify some of the answers given, the analyst can write them out and hand them to the attorney asking the questions.

## Conclusion

Now that you have finished this chapter, you should have a better idea about the data-gathering process. You should also be more familiar with many of the data sources that will be needed to do the valuation. At this point, you should also be familiar with the on-site interview. If not, reread this chapter before going any further.



# Chapter 6

## Data Analysis

### Learning Objectives

In this chapter, I will attempt to explain what to do with all the data that should have been collected in the previous chapter. This will include a discussion about how to use the data, as well as what it means. Therefore, in this chapter, I will discuss the following:

- Economic analysis
- Industry analysis
- Subject company analysis
- Financial analysis
- Financial statement adjustments

### Introduction

Data analysis is an important component of the valuation process. Because assessment of risk is a goal of the valuation analyst, the analysis of the information collected must be performed with a view toward the future of the business. In general, we feel more comfortable using historical information for a valuation, but we have to remember that a willing buyer is not interested in buying history. As valuation analysts, it is our role to assess how much the future will resemble the past. To the extent the past resembles the future, and to that extent the past is predictive of the future, only then can we value the business.

### Economic Analysis

Revenue Ruling 59-60 tells us to consider “the economic outlook in general and the condition and outlook of the specific industry in particular.” During the analysis of the economy, the valuation analyst attempts to determine the economic risks associated with the subject business. Questions regarding the demand for the company’s goods or services and the sources of supply are frequently asked. The outlook for the general economic trends that might affect supply and demand for the company’s goods and services should be thoroughly investigated. This analysis must be relevant to the valuation subject, not just taken from a boilerplate. For example, if the valuation subject is a construction company, economic factors such as interest rates, housing starts, and building permits may be important. How important are they if the valuation subject is a cardiovascular surgery practice?

Another component of the economy that should be considered by the valuation analyst is where in the economic cycle the valuation subject is at the date of the valuation. If the economy is in a recession, it will make a big difference whether the recession is just starting or is about to end. Depending upon where the company is in the economic cycle, the short-term and long-term projections may be radically different. Because valuation is a prophecy of the future, this would be extremely important to the willing buyer because he or she would have to ride out the balance of the cycle.

The economic analysis will be used in at least two sections of the valuation assignment: in forecasting the future performance of the subject company and to aid the valuation analyst in performing an analysis of the economic risk to which the company is exposed. This will be one of the many considerations in the determination of (1) the pricing multiples used in the market approach and (2) the discount or capitalization rates used in the income approach.

During the management interview, the valuation analyst will want to ask company representatives about how the economy affects the business. Some businesses are cyclical with the economy, and others may be counter-cyclical; these businesses react opposite to the economy. An example of one such business is a tractor trailer driving school. When the economy is strong, business is bad. When the economy is weak, business is good. Why? During a good economy, people are working, and they are not necessarily looking to be retrained in a new field. During a bad economy, economic layoffs require people to find new employment. The issues for the valuation analyst to consider about training schools are as follows: Is funding available for the students (if they are unemployed, they may not want to or be able to spend \$2,000+ for education), and after the students complete the course, will the economy turn around so that drivers will be needed? Exhibit 6.1 gives an illustration of a sample economic section from a real report.

Let me point out a few things to you about the exhibit. First, if you'll notice, we footnote our sources. Also, in this valuation, the local economy mattered as well, so we covered the parts of the state that we considered to be important to the valuation subject. This business was also affected by the demographics of the region, particularly because it provided certain types of health care.

### EXHIBIT 6.1 Economy Section

Generally, business performance varies in relationship to the economy. Just as a strong economy can improve overall business performance and value, a declining economy can have the opposite effect. Businesses can be affected by global, national, and local events. Changes in regulatory environments, political climate, and market and competitive forces can also have a significant impact on business. For these reasons, it is important to analyze and understand the prevailing economic environment when valuing a closely held business. Because the valuation process is a "prophecy of the future," it is imperative that the valuation analyst review the economic outlook because it would affect the valuation subject.

#### NATIONAL ECONOMY

After a weak first quarter affected by the winter, real gross domestic product (GDP) increased by 3.9 percent in the second quarter of 2015. Non-farm payroll employment rose only 142,000 in September 2015 and the unemployment rate has steadily declined from 6.1 percent in the third quarter of 2014 to 5.2 percent in the third quarter of 2015.<sup>1</sup> On October 12, 2015, a panel of prominent United States economic and financial forecasters were surveyed by Consensus Economics, Inc. for their predictions on a range of key economic variables. These forecasts are summarized in table 1.

<sup>1</sup> *Consensus Forecasts—USA*, October 12, 2015.

**EXHIBIT 6.1 Economy Section****TABLE 1 Quarterly Forecasts**

	2015		2016				2017	
	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.
Real Gross Domestic Product*	2.0	2.7	2.6	2.7	2.6	2.6	2.6	2.5
Nominal Gross Domestic Product*	3.8	4.1	4.3	4.7	4.5	4.6	4.9	4.7
Real Disposable Personal Income*	3.1	3.2	2.7	2.5	2.7	2.7	3.0	2.8
Real Personal Consumption*	3.4	2.9	2.8	2.8	2.8	2.7	2.8	2.6
Real Business Investment*	5.0	4.6	4.6	4.8	4.7	4.8	4.9	4.9
Industrial Production*	2.1	1.9	2.5	2.6	2.7	2.7	2.9	3.0
Consumer Prices*	1.9	1.0	2.0	2.3	2.3	2.4	2.2	2.3
Producer Prices*	2.1	0.2	1.9	2.4	2.3	2.3	2.1	2.6
Unemployment Rate, %	5.2	5.1	5.0	4.9	4.8	4.7	4.8	4.8
3 Month Treasury Bill Rate, % <sup>1</sup>	0.0	0.2	0.4	0.6	0.8	1.0	1.3	1.5
10 year Treasury Bond Yield, % <sup>1</sup>	2.0	2.3	2.4	2.6	2.7	2.8	3.0	3.2

\* % change from prior quarter, seasonally adjusted annual rate.

<sup>1</sup> End Quarter.

(Source: Consensus Forecasts—USA, October, 2015: 5, Consensus Economics Inc.)

Consensus Economics' forecasts indicate a steady economy over the next several quarters with GDP, disposable income, and personal consumption remaining relatively unchanged. Furthermore, inflation is forecast to remain soft while the unemployment rate is expected to continue to improve. These factors indicate that The Company will be operating in a stable economy in the near term.

#### REGIONAL ECONOMY

The Company is located in XYZ, Florida. XYZ is a town located in Central Florida in Sumter County. The Company's patient base is primarily in Sumter County, along with neighboring Lake County. It is important to understand the economic climate in this area in order to assess The Company's future prospects.

As of 2014, Sumter County and Lake County had populations of 111,125 and 309,736, respectively. Historic population estimates and future projections for these counties and the State of Florida are presented in table 2.

(continued)

## EXHIBIT 6.1 Economy Section (continued)

TABLE 2 Population Projections

County and State	Age Bracket	Estimates 2014	Projections								CAGR <sup>1</sup>	
			2015	2020	2025	2030	2035	2040				
Lake												
	Total	309,736	317,239	356,555	395,286	432,620	466,378	497,345				1.8%
	0 - 4	16,478	16,781	18,010	20,151	21,610	23,627	24,345				1.5%
	5 - 17	45,499	46,168	50,457	52,228	56,861	60,577	66,134				1.4%
	18 - 24	22,908	23,994	24,374	28,880	27,595	30,004	30,162				0.9%
	25 - 54	104,396	106,000	113,499	124,288	134,989	149,439	158,855				1.6%
	55 - 64	44,016	45,733	53,965	58,851	57,047	57,495	57,971				1.0%
	65 - 79	55,669	57,056	72,185	80,800	99,677	102,888	111,481				2.7%
	80 +	20,770	21,597	24,065	30,088	34,841	42,348	48,397				3.3%
Sumter												
	Total	111,125	117,095	141,440	165,195	188,224	210,780	232,488				2.8%
	0 - 4	2,708	2,856	3,383	4,218	4,818	5,892	6,433				3.3%
	5 - 17	6,972	7,243	8,648	10,449	12,546	14,707	17,162				3.5%
	18 - 24	4,275	4,529	4,855	5,981	6,544	7,978	8,955				2.8%
	25 - 54	25,731	26,849	28,789	35,642	39,365	48,393	52,947				2.8%
	55 - 64	17,538	17,564	17,468	21,887	22,815	27,731	30,423				2.2%
	65 - 79	44,849	48,208	59,316	57,648	57,425	58,777	68,221				1.4%
	80 +	9,052	9,846	18,981	29,370	44,711	47,302	48,347				6.6%

## EXHIBIT 6.1 Economy Section

TABLE 2 Population Projections

County and State	Age Bracket	Estimates 2014	Projections								CAGR <sup>1</sup>
			2015	2020	2025	2030	2035	2040			
Florida	Total	19,507,369	19,789,625	21,236,667	22,600,346	23,872,566	25,027,345	26,081,392			1.1%
	0 - 4	1,096,571	1,108,916	1,163,815	1,240,015	1,287,190	1,343,696	1,370,468			0.9%
	5 - 17	2,962,179	2,987,890	3,120,483	3,247,375	3,377,536	3,562,796	3,699,109			0.9%
	18 - 24	1,792,289	1,816,290	1,810,880	1,947,698	1,968,570	2,025,135	2,098,871			0.6%
	25 - 54	7,478,872	7,522,359	7,761,832	8,113,990	8,545,601	9,075,392	9,421,372			0.9%
	55 - 64	2,546,741	2,611,938	2,914,488	2,920,366	2,754,176	2,719,302	2,848,950			0.3%
	65 - 79	2,608,136	2,688,217	3,287,648	3,697,106	4,223,974	4,250,322	4,314,163			1.9%
	80 +	1,022,581	1,054,015	1,177,521	1,433,796	1,715,519	2,050,702	2,328,459			3.2%

<sup>1</sup> Consensus Forecasts—USA, October 12, 2015.

(Source: Florida Population Studies, Bulletin 172, Bureau of Economic and Business Research.)

(continued)

**EXHIBIT 6.1 Economy Section** *(continued)*

Population in the area surrounding The Company is forecast to outpace the state as a whole. The fastest growing age bracket is 80 and over, which is forecast to increase by 3.3 percent and 6.6 percent per year in Lake and Sumter County, respectively. In Lake County, significant growth is also expected in the 65–79 age bracket which is forecast to increase by 2.7 percent per year. Sumter County is projected to experience faster growth in the younger age brackets, outpacing the State of Florida.

Medicare beneficiaries make up a significant portion of the population in Lake and Sumter Counties. This data is presented in Table 3.

**TABLE 3 Medicare Beneficiaries as a Percentage of Total Population**

	Medicare Beneficiaries	Population	Beneficiaries as a % of Population
Lake County	86,502	309,736	27.9%
Sumter County	52,142	111,125	46.9%
Florida	4,386,134	19,507,369	22.5%

*(Source: Center for Medicare and Medicaid Services.)*

Medicare beneficiaries make up 46.9 percent of Sumter County's population which is more than double the state's overall. A significant portion of Lake County's population also consists of Medicare beneficiaries.

The Company's patient base is primarily located towards The Villages, an unincorporated community of 107,056 residents. According to U.S. census data, The Villages, Florida's largest retirement community, is also the nation's fastest growing metropolitan area. Much of The Village's recent growth has been in Sumter County, where it has expanded into the city limits of Wildwood and built its newest town center. The Villages' pace of growth has not resulted in an overcrowding of the community as each residential development gets its own golf courses, pools, restaurants and other amenities<sup>2</sup>

Unemployment rates in Sumter and Lake County have decreased but still exceed national and statewide levels. Employment data for the local area, the State of Florida and the United States are summarized in Table 4.

In Sumter County, the labor market continued to increase in 2014 as total employment increased to 26,120. Although the unemployment rate decreased from 13.3 percent in 2010 to 7.7 percent in 2014, it remained well above national and state levels. In Lake County, the labor market has increased from 2010 to 2014 as total employment increased from 118,246 to 130,439 and the unemployment rate has steadily decreased from 11.8 to 6.4 percent.

<sup>2</sup> Jeff Kunerth, "The Villages: Retirement Community is Nation's Fastest-Growing Metro Area," *Orlando Sentinel*, March 27, 2014 <articles.orlandosentinel.com/2014-03-27/news/os-villages-fastest-growing-census-20140325\_1\_the-villages-elaine-dreidame-mayor-ed-wolf> (accessed December 21, 2015).

**EXHIBIT 6.1 Economy Section**

**TABLE 4 Employment Data**

	Sumter County		Lake County		Florida		United States	
	Employment	Unemployment Rate	Employment	Unemployment Rate	Employment	Unemployment Rate	Employment	Unemployment Rate
2010	21,955	13.3%	118,246	11.8%	8,194,000	11.1%	139,064,000	9.6%
2011	22,866	12.1%	119,616	10.6%	8,372,000	10.0%	139,869,000	8.9%
2012	24,035	10.3%	122,238	8.9%	8,595,000	8.5%	142,469,000	8.1%
2013	25,054	8.9%	125,613	7.5%	8,783,000	7.3%	143,929,000	7.4%
2014	26,120	7.7%	130,439	6.4%	9,034,000	6.3%	146,305,000	6.2%

(Source: FloridaJobs.org.)

(continued)

**EXHIBIT 6.1 Economy Section** *(continued)*

Income levels in the local area have consistently lagged those of the rest of the state. Per capita personal income for Sumter County, Lake County and the State of Florida is presented in Table 5.

**TABLE 5 Income Data**

	2010	2011	2012	2013	2014
Sumter	\$29,191	\$32,930	\$35,300	\$36,481	\$37,558
Lake	32,253	33,239	33,946	34,637	35,786
Florida	38,718	40,538	41,249	41,309	42,737

(Source: Bureau of Economic Analysis.)

Conditions in the local economy should have a positive impact on The Company. The older demographic within the region presents many opportunities for home health services and growth within the older age demographics is expected to experience significant growth over the long term. Furthermore, the large Medicare population within the area should continue to support strong demand for The Company's services within the region.

## Industry Analysis

The purpose of the industry analysis is to allow a comparison of the valuation subject with the industry as a whole, as well as to allow the valuation analyst to use industry forecasts to help predict how the subject company will perform in the future. Box 6.1 includes questions frequently raised about the industry.

### Porter's Five Forces

Many of the questions posed in box 6.1 can be answered through a structured analytical process called Porter's Five Forces that was developed by Michael Porter of the Harvard Business School in 1979. Porter has since published a number of articles about the Five Forces; the first was in 1980 in his book *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. The key point of Porter's theory is that increased competition reduces profitability for an industry as a whole. For the business valuation analyst, Porter's Five Forces should allow you to identify key industry drivers and give you a general idea of how an industry's future may affect growth and profitability for the subject company. The basic structure of Porter's Five Forces is shown in figure 6.1. Each part of this figure deserves a discussion.

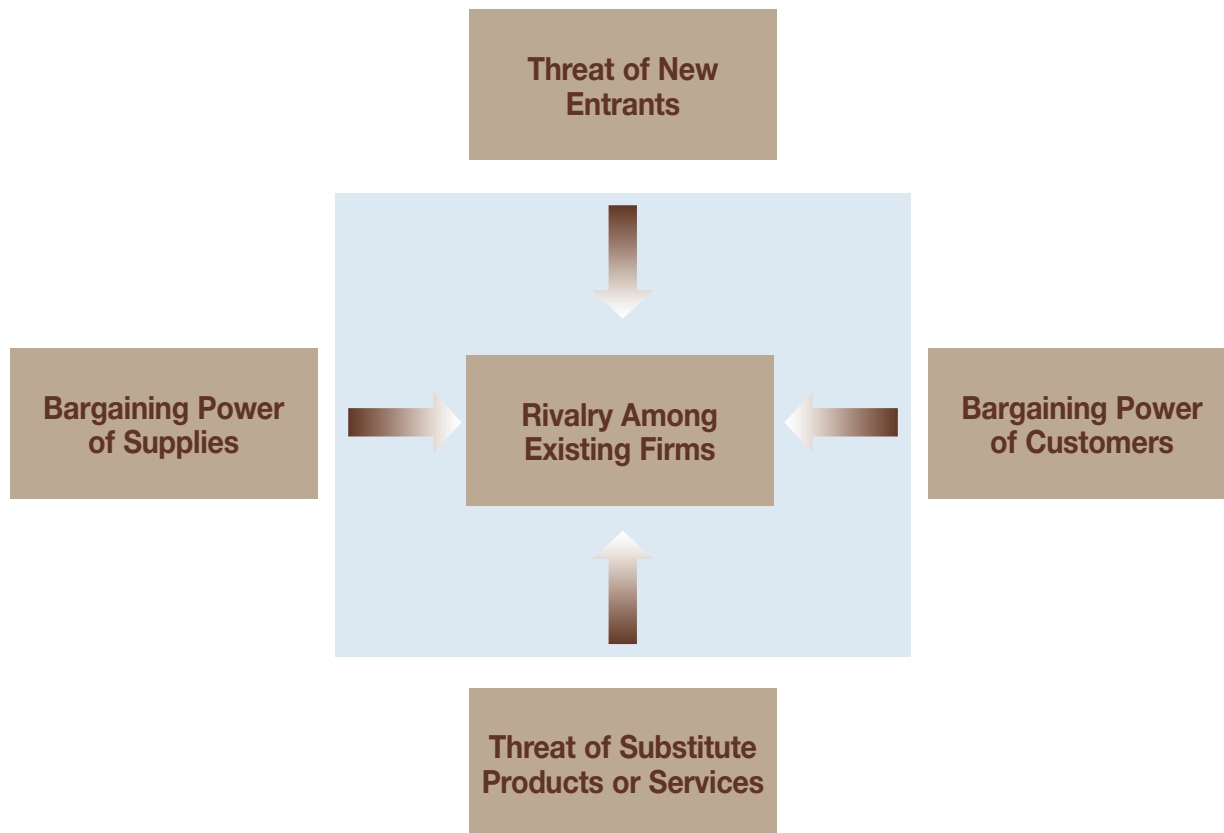
#### BOX 6.1

#### Frequently Asked Industry Questions

- Who makes up the industry? Are there many companies or are there very few companies that control everything?
- Is it a cyclical industry?
- Is it a new industry with many new companies entering it, or is it a mature industry that has reached its saturation point?
- What are the barriers to entry, if any, into the industry?
- Is this a self-contained industry, or is it dependent on another industry?
- Is the industry dependent on new technology? If so, is the valuation subject keeping up with the industry?
- Is the industry expected to change? If so, how will that affect the valuation subject?
- What is the forecast for growth within the industry?



Figure 6.1



## Threat of New Entrants

The threat of new entrants is, in part, determined by market conditions. Factors affecting new market entrants include economies of scale, product differentiation, capital requirements, switching costs for customers, access to distribution channels, cost advantages, and government policies. Barriers to entry are unique characteristics that define an industry. They reduce the rate of entry for new firms, thus, maintaining a level of profitability for those already in the industry. Clearly, the more numerous and difficult the barriers are within an industry, the lower the number of competitors and vice versa. In many cases (but not all), industries with higher barriers to entry will be more profitable. From a strategic perspective, barriers can be created or exploited to enhance a firm's competitive advantage. Barriers to entry arise from several sources:

- *Capital requirements.* Industries that are capital intensive may require a substantial amount of financial capital to enter the market. The most broad and obvious example of a capital intensive industry is manufacturing. Manufacturers require substantial fixed asset investment in order to operate. Industries that require investment in brand name or research and development (R&D) are capital intensive as well due to the funds required to advertise or develop a new product. These types of industries usually have few alternative products and are dominated by a few competitors.
- *Government.* Although the principal role of the government in a market is to preserve competition through antitrust actions, government also restricts competition through the granting of monopolies and regulation. Industries, such as utilities, are considered natural monopolies because it has been more efficient to have one electric company provide power to a locality than to permit many electric companies to compete in a local market. To restrain utilities from exploiting this advantage, government permits a monopoly but regulates the industry. Illustrative of this kind of barrier to entry is the local cable company. The franchise to a cable provider may be granted by competitive bidding, but once the franchise is awarded by a community, a monopoly is created. Local governments were not effective in monitoring price gouging by cable operators, so the federal government has enacted legislation to review and restrict prices.

- *Patents and proprietary knowledge.* These serve to restrict entry into an industry. Ideas and knowledge that provide competitive advantages are treated as private property when patented, preventing others from using the knowledge and, thus, creating a barrier to entry. This factor is sometimes referred to as the *experience curve*. Industries with companies that rely on proprietary process knowledge or equipment for operational efficiencies enjoy relatively high barriers to entry because a new entrant would suffer low or negative profitability in the process of developing its own efficient process. In industries in which such knowledge or equipment is commonly available, an experience curve plays little part in preventing new market entries.
- *Asset specificity.* Asset specificity is the extent to which the firm's assets can be utilized to produce a different product. When an industry requires highly specialized technology or plant and equipment, potential entrants are reluctant to commit to acquiring specialized assets that cannot be sold or converted into other uses if the venture fails. Asset specificity provides a barrier to entry for two reasons: First, when firms already hold specialized assets, they fiercely resist efforts by others to take their market share, and second, new entrants can anticipate aggressive rivalry.
- *Organizational economies of scale.* The most cost efficient level of production is the point at which unit costs for production are at a minimum. If the level of efficiency for firms in an industry is known, then one can determine the amount of market share necessary for low cost entry or cost parity with rivals. For example, in the long distance communications industry, roughly 10 percent of the market is necessary to reach the most cost efficient level of production. Thus, if sales for a long distance operator fail to reach 10 percent of the market, the firm is not competitive.
- *Retaliation from existing competitors.* Although somewhat rare, existing competitors sometimes take action to prevent other companies from entering a market. This is particularly effective in industries in which companies incur high fixed and low variable costs.

Exit barriers are also important to consider. In many ways, barriers to exit are functionally similar to barriers to entry. Exit barriers limit the ability of a firm to leave the market and can exacerbate rivalry; unable to leave the industry, a firm must continue to compete. In some cases, companies with low or negative profitability may continue to compete, increasing production capacity and supply, which typically results in lower profitability for the entire industry group. Some entry and exit barriers are summarized in figure 6.2.

**Figure 6.2**

<p><b>Easy to Enter if there is</b></p> <ul style="list-style-type: none"> <li>• common technology</li> <li>• little brand franchise</li> <li>• access to distribution channels</li> <li>• low scale threshold</li> <li>• low level of customer loyalty</li> </ul>	<p><b>Difficult to Enter if there is</b></p> <ul style="list-style-type: none"> <li>• patented or proprietary know-how</li> <li>• difficulty in brand switching</li> <li>• restricted distribution channels</li> <li>• high scale threshold</li> <li>• aggressive reaction from existing firms</li> </ul>
<p><b>Easy to Exit if there are</b></p> <ul style="list-style-type: none"> <li>• salable assets</li> <li>• low exit costs</li> <li>• independent businesses</li> </ul>	<p><b>Difficult to Exit if there are</b></p> <ul style="list-style-type: none"> <li>• specialized assets</li> <li>• high exit costs</li> <li>• interrelated businesses</li> </ul>

### Threat of Substitute Products or Services

In Porter's model, the term *substitute products* often refers to products in other industries. To the economist, a threat of substitutes exists when a product's demand is affected by the price change of a substitute product. To be clear, a substitute product is not necessarily the product of a direct competitor. Substitute products can be provided by a separate industry designed to meet the demand of the same group of customers. For

example, the introduction of online streaming of movies and television shows has provided a substitute product to cable service and video rental stores.

A product's price elasticity is affected by substitute products. As more substitutes become available, the demand becomes more elastic because customers have more alternatives. A close substitute product constrains the ability of firms in an industry to raise prices. The effectiveness of a substitute product is determined by its price and quality, as well as the cost for customers to switch to it. Substitute products have a significant impact on other industries when they are produced by companies with high profitability or are becoming increasingly competitive in price. Ultimately, substitute products limit an industry's potential profitability.

## Bargaining Power of Suppliers

The bargaining power of suppliers within an industry can be measured by competitors' ability to change pricing, quality, and quantity of its products. Suppliers have stronger bargaining power when (1) they can integrate competing customers into their business, (2) there are few suppliers among which customers may choose, (3) there are few or no substitute products available, (4) the supplier's product is necessary to customers, or (5) customers would incur significant costs for switching to a different product. On the other hand, suppliers are weak when (1) there are many competitive suppliers and substitute products, (2) there is a threat of backwards integration by customers, or (3) there is high customer concentration.

A good example of a strong supplier can be found in the California pistachio industry, which is heavily influenced by Paramount Farms, the largest grower and processor of almonds and pistachios in the world. Through backwards integration and sheer volume of nuts processed and sold, Paramount Farms is able to dictate the market price of almonds and pistachios grown in California. Every year, Paramount Farms decides at what price U.S. grown almonds and pistachios will be sold. All other growers and processors must sell product at the same or similar cost or be pushed out by Paramount Farms. See? Being nuts can be a good thing! Another strong supplier would be a pharmaceutical company and its relationship with hospitals. Imagine a hospital that no longer wanted to carry Tylenol. I don't think so.

## Bargaining Power of Customers

Depending on the industry, customers may have significant bargaining power with their suppliers. Customers with strong bargaining power are able to influence change in the pricing and quality of products from suppliers. Customers tend to have strong bargaining power in industries with a low number of customers relative to suppliers, little product differentiation, and the availability of substitute products. Customers in industries that generate low profitability generally have higher bargaining power because they tend to search for alternative products at the lowest prices possible. In addition, customers with a high volume of product purchases or the ability to acquire competing suppliers can have a very powerful influence over suppliers. Finally, customers with full information about products and the prices available in the market generally are able to bargain better with suppliers.

It goes without saying that customers have little negotiating power with suppliers when the opposite is true. When suppliers can threaten forward integration, there are significant customer switching costs, there are many customers to available suppliers, or there are few or no substitute products.

A good example of a customer with strong bargaining power is the U.S. government. The large number of government contractors results in high competition in all industries that rely on business from the federal government. This heightened level of competition allows the government to negotiate the best prices, many times, through a competitive bidding process among contractors. In theory, the government should be able to negotiate well. The political process is vulnerable to lobbying and subject to constituent influence. For example, labor unions have convinced many governmental bodies that prevailing union wage rates should be charged for all government contracts. This requirement limits the ability of a governmental unit to obtain the lowest possible price. In other situations, graft, political corruption, and many other factors that I am not going to go into in this book frequently cause the government to be ineffective in negotiations.

## Competitive Rivalry Among Existing Firms

The four factors discussed in the preceding section all have a direct effect on the rivalry that exists between competitors. The number, relative size and diversity of competitors, industry growth, cost efficiencies, substitute products, cost to switch, and entry and exit barriers all have a direct impact on competitors within a given industry.

Firms within an industry may respond to rivalry by changing prices (raising or lowering prices to gain a temporary advantage), improving product differentiation (expanding features, implementing innovations in the manufacturing process and in the product itself), creatively using channels of distribution (vertical integration or using distribution channels novel to the industry), or exploiting relationships with suppliers with regard to quality, price, or volume. Rivalry is intensified when there are a large number of firms competing for the same customers and resources, market growth is slow, costs are relatively high among competitors, customer switching costs are low, and product differentiation is weak. All of these factors must be considered when analyzing any industry because they probably all have some effect on the company being valued.

Oftentimes, rivalry increases as one company attempts to take market share from its competitors. In some cases, attempts to gain market share can provoke competitors to follow suit. This type of industry-wide change (although good for customers) can hurt an industry. For example, a broad reduction in prices will decrease profitability for an industry as a whole. Although the largest competitors are able to absorb the negative effects of price increases through sales volume, smaller companies can be destroyed by it.

High exit barriers cause a firm to remain in an industry even when the venture is not profitable because there is a high cost to abandoning the product. A common exit barrier is asset specificity. When the plant and equipment required for manufacturing a product are highly specialized, these assets cannot easily be sold to other buyers in another industry.

Diversity of rivals with different cultures, histories, and philosophies makes an industry unstable. There is a greater possibility for mavericks and for misjudging rivals' moves. Rivalry is volatile and can be intense. The hospital industry, for example, is populated by facilities that (1) are community or charitable institutions, (2) are associated with religious organizations or universities, and (3) are for-profit enterprises. This mix of philosophies about mission has occasionally led to fierce local struggles by hospitals over which ones will get to deliver expensive diagnostic and therapeutic services. At other times, local hospitals are highly cooperative with one another on issues such as community disaster planning.

A growing market and the potential for high profits induce new firms to enter a market and incumbent firms to increase production. A point is reached at which the industry becomes crowded with competitors and demand cannot support new entrants and higher supply. The industry may become crowded if its growth rate slows and the market becomes saturated, creating a situation of excess capacity with too many goods and services chasing too few buyers. A shakeout ensues, with intense competition, price wars, and company failures. Additionally, market stability and changes in supply and demand affect rivalry. Cyclical demand tends to create cutthroat competition.

In bringing everything together, the best way to illustrate the use of Porter's Five Forces is to provide you with an example. In Porter's *On Competition*, an example of the application of the Five Forces theory is provided. Although the example isn't particularly deep in its analysis, it touches on all five industry forces to explain how Dr. Pepper was able to succeed in a market dominated by industry giants Coca-Cola and Pepsi Cola. You really should get this book so that you can read the example as well as the rest of it.

In assessing the outlook of a subject company, the analyst must consider what is happening in the company's industry. Porter's Five Forces provides a structured method to understanding the factors that drive a particular market. The analysis of the subject company and its industry will allow an analyst to assess its situation relative to its industry peers. This can be helpful when conducting a comparative financial analysis, selecting a discount rate for use with a discounted future benefits approach, and selecting market multiples based on publicly traded guideline companies. After completing a Porter's Five Forces analysis, you should have some idea about how an industry will react to a subject company's strategy. As an example, if the subject company is planning on entering an industry that has a history of dropping prices substantially upon the entry of a new

competitor, the risk of failure is higher and should be reflected in a higher discount rate or lower market multiple. However, always keep in mind that certain factors may be more important to your analysis than others depending on the nature of the business. For example, the bargaining power of The Home Depot or Lowes with their suppliers would not be comparable to the bargaining power of the local hardware store, which has no influence on an industry dominated by the two, billion dollar giants.

Porter's Five Forces has often been criticized for its simplistic nature. The methodology is difficult to apply in industries with high government regulation or industries with complex product interrelationships and strategic alliances among industry participants. Additionally, changes in business models due to drastic changes in technology are not considered by the Five Forces analysis. Nevertheless, Porter's Five Forces remains a good starting point for any industry analysis. It is also an excellent framework from which to present your analysis of the environment in which the subject company operates. Keep in mind that it is always important to consider the nuances of the particular industry with which you are dealing. In some cases, additional analysis will be necessary to account for all industry drivers.

## Other Considerations

If an industry is cyclical, as are automobile dealerships, consideration should be given to where in the economic cycle the industry is. If the economy is at the bottom of the cycle, the forecast for the next several years may look good. This will affect the forecast of future operations, as well as the risk component of the market multiples, discount rates, or capitalization rates that will be used. It is also important to understand which economic factors affect the industry, and sometimes, the industry(s) of its customers. For example, what is the impact of rising interest rates for an automobile dealership? Sales and leasing may go down, so this is a bad thing. However, people will keep their cars longer, and the repair bays may get busier because the older cars need more maintenance. This is a good thing. However, interest rates may not have a significant effect on a high-end dealership (think Porsche, Mercedes-Benz, and the like). As an example, many of the customers for a Porsche dealership in the New York City metropolitan area pay cash for new cars after receiving their annual Wall Street bonuses. Thus, interest rates would not have as big an impact on new vehicle sales as would stock market performance. Don't be quick to jump to conclusions.

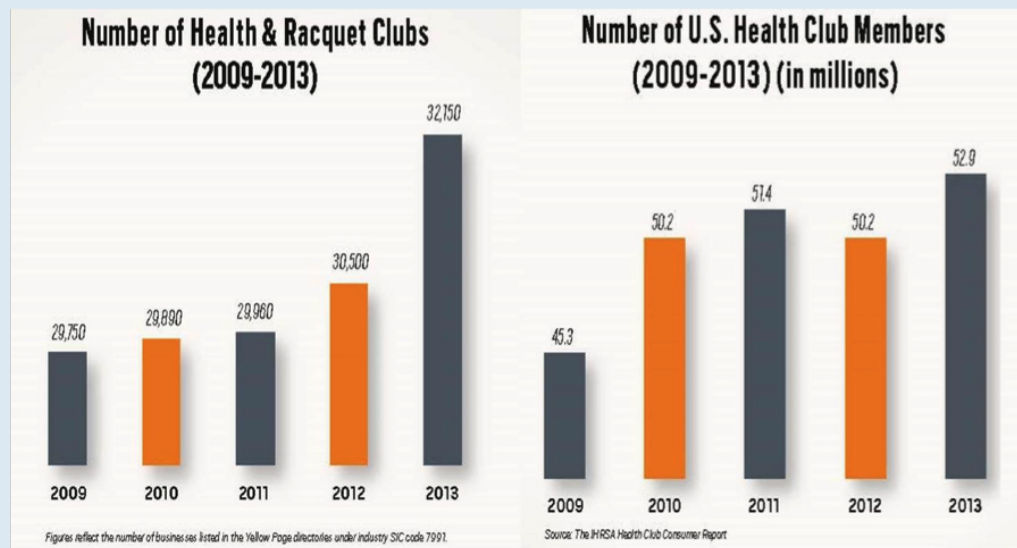
Sometimes, the industry analysis must extend beyond the valuation subject to its customers. Imagine a trucking firm that provides services for major retailers without a discussion about how the trucking firm's customers are expected to do. If the trucking firm is dependent on its customers, it would be negligent to ignore this important point. Another example might be a printing company that only services the pharmaceutical industry. The performance of the pharmaceutical industry would have a great impact on the printing company. Exhibit 6.2 illustrates an industry section taken from an actual report. Notice the many items that could affect a subject company in that same industry. Also, notice how our Porter Five Forces analysis is weaved throughout the discussion.

### EXHIBIT 6.2 Industry Section—Health Clubs

#### INDUSTRY

According to the IHRSA, there were 32,150 health and racquet clubs in the U.S. in 2013, which represents a 5 percent increase from 2012. Roughly 52.9 million Americans were health club members in 2013, which represents a 5.4 percent increase from 2012. Nearly half of all members indicated belonging to either a multipurpose or fitness-only club, while approximately 19 percent belonged to a fitness studio such as yoga/pilates/barre, indoor cycling/rowing, bootcamp/cross training, boxing/mixed martial arts and/or sports specific concept. At least 13 percent of all members belonged to more than one health club. Historic club count and membership data is presented in Figure 8.

*(continued)*

**EXHIBIT 6.2 Industry Section—Health Clubs** *(continued)*
**Figure 8**


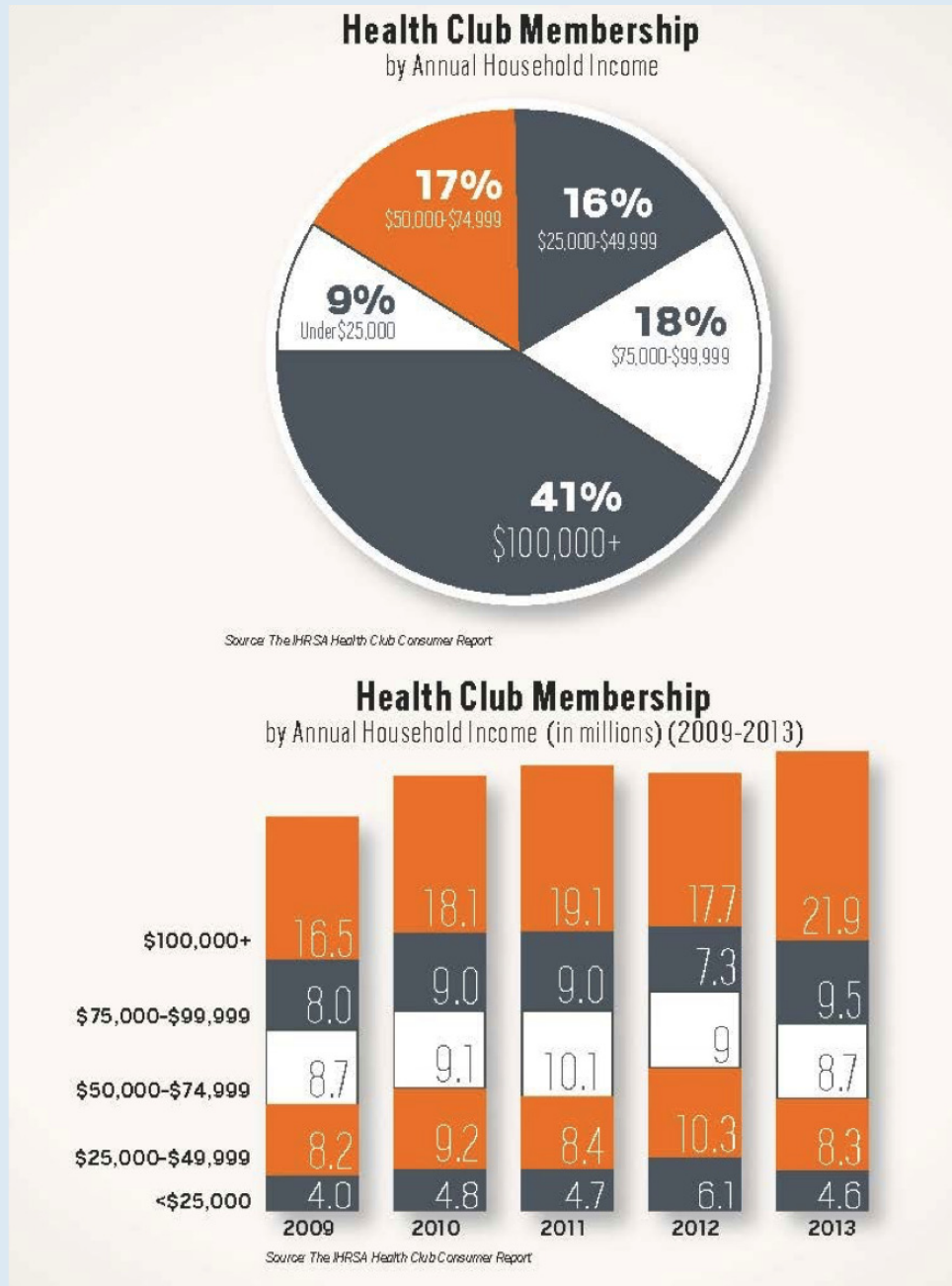
In 2013, the average member visited his or her club 102 times, four more days than in 2012. Roughly 44 percent of all members are “core” members; defined as those who use the club 100 days or more per year. This amounts to 23.2 million core members, which represents an increase of 4.5 percent from 2012, in which 22.2 million members were core members. Since 2009, there has been a 20 percent increase overall in the number of core members.

The average age of a health club member in 2013 was 40 years old. More than one out of four health club members (27 percent) were between the ages of 18 and 34 years old (14.2 million). The most represented age group was 35 to 54 year-olds at 35 percent of total membership (18.5 million). The oldest, 55+ age group represented 24 percent of all club members (12.4 million), while those under age 18 represented 15 percent of all members (7.7 million). The number of health club members under age 18 has grown from 4.6 million in 2009 to 7.7 million in 2013.

A major factor influencing health club membership is household income. In 2013, 41 percent of health clubs members had an annual household income of \$100,000 or more, while the second largest segment, 18 percent of members had an annual household income of \$75,000 to \$99,999. Health club membership broken down by income bracket is depicted in Figure 9.

**EXHIBIT 6.2 Industry Section—Health Clubs**

**Figure 9**



(continued)

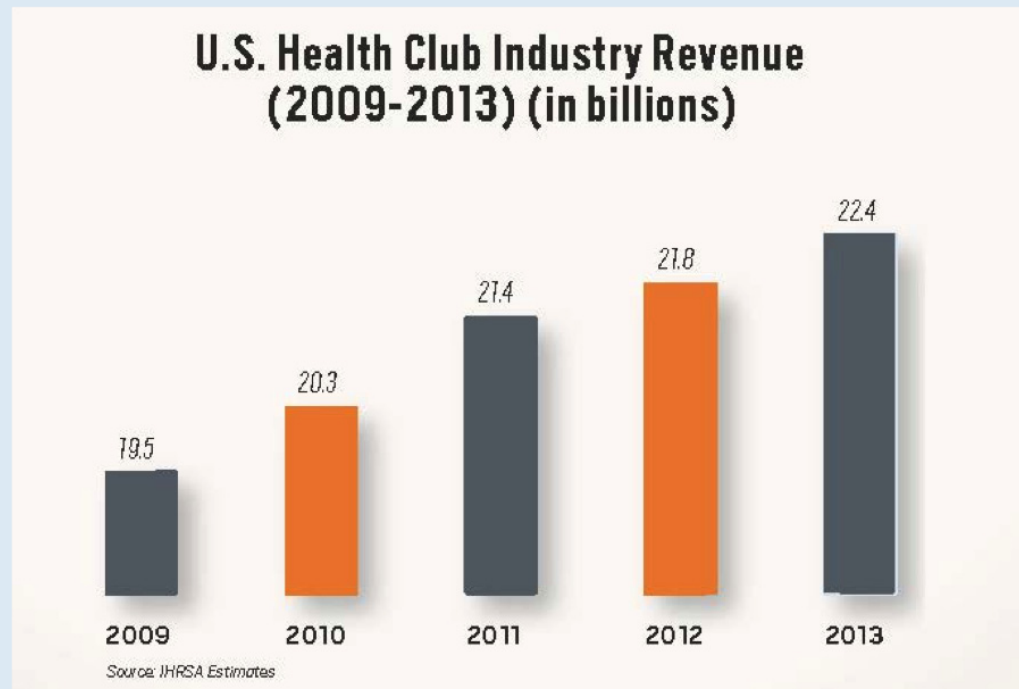
## EXHIBIT 6.2 Industry Section—Health Clubs *(continued)*

As indicated in Figure 9, there is a direct correlation between the income bracket and the percentage of total membership. In 2013, the \$100,000 or more and \$75,000 to \$99,999 income brackets increased its share of total membership, while each of the other three brackets decreased.

Overall, the main reason that gym members say they return to their health clubs is for overall health and well-being. Staying healthy was the number one personal goal of health club members surveyed in the *IHRSA Trend Report*. When it comes to reasons why health club members left or quit their gyms or just did not join in general, the number one reason across the board was that health club memberships were too expensive. This says something about the perception of health club memberships and about price points in general. The annual industry data survey of the health and fitness industry has advised that club operators need to be aware of who is in their clubs - and who wants to be a part of their clubs—and offer tiered membership options.

In 2013, U.S. health club industry revenue totaled \$22.4 billion. Industry revenues have steadily increased since 2009. Historic industry revenue data is presented in Figure 10.

### Figure 10



From 2009 to 2013, industry revenues grew at a compound annual growth rate of 3.5 percent. According to IBISWorld, the industry as a whole is forecast to grow at an annual rate of 2.8 percent from 2014 to 2019, which is below the rate achieved historically.

Competition in the fitness industry is high and competitive pressures are expected to become more severe going forward. According to First Research, the industry is fragmented, with the 50 largest companies accounting for 30 percent of revenues. Large companies have economies of scale in advertising and in buying equipment, while small companies can compete effectively if they have favorable locations or meet customer demands for personalized service and a friendly atmosphere.



**EXHIBIT 6.2 Industry Section—Health Clubs**

Competition in the fitness industry comes from many facilities, including internal competition (other commercial fitness centers, nonprofits, government organizations, hospitals, businesses and salons), as well as external competition (condominium clubs, exercise studios, country clubs, weight loss centers, home fitness equipment businesses, bowling alleys and marinas). With the number of fitness centers increasing, particularly in certain urban markets, the market in these areas is becoming saturated. According to First Research, in many markets, consumers can choose from among a dozen fitness centers within a 15-minute driving distance. The competition for customers limits centers' ability to raise prices. Prices have also remained subdued due to the number of competitor clubs that are offering lower pricing and a lower level of service, which has continued to increase over the past several years.

Further increasing competitive pressures in the industry are low barriers to entry. According to IBISWorld, barriers to entry in the fitness industry were low in 2013 and were predicted to stay that way in the future. However, there is often a high cost associated with opening a gym and it takes time to build a brand, gain members and generate a profit. According to First Research, commercial grade fitness equipment typically costs from \$3,000 to \$10,000 per machine. Popular franchises require a cash infusion of around \$50,000 and a capital outlay of \$1 million to \$4 million. Furthermore, there is additional cost and effort related to training employees; keeping up to date with the latest fitness trends and offering popular classes.

Another challenge facing fitness centers is high member attrition rates. On average, about 40 percent of fitness club members do not renew memberships making revenue uncertain and requiring high marketing costs to get new members. Attrition for members who make installment payments is even higher for some clubs. To fight attrition, clubs promote programs to monitor diets, fitness levels, exercise regimens, and assess metabolic rates, oxygen use and body fat.

Growth in the fitness industry is expected to be driven by two primary factors. First, the younger generation is now being targeted as a strong opportunity for growth. Club operators will be looking for ways to get younger members to join and then come up with ways to retain that segment. The second major factor that is expected to drive growth is increasing concerns about health and the rising cost of health care. According to the Center for Disease Control and Prevention, during the period from 1990 through 2010, there was a dramatic increase in obesity in the U.S. and rates remain high. State prevalence of obesity continues to remain high across the country in 2012, with no single state having an obesity rate of less than 20 percent. In 2012, 41 states had a prevalence of 25 percent or more and 13 of these states had a prevalence of 30 percent or more. As healthcare costs continue to rise in the U.S., some of the focus on combating obesity and other diseases is being directed at prevention. Both government and medical research have shown that exercise and other physical activity plays a critical role in preventing obesity and other health conditions, thereby reducing healthcare costs for treating obesity-related sicknesses.

The subject company operates fitness centers in the five boroughs of New York, Westchester County and Rockland County. There are several industry trends specific to this region that will have an influence on The Company in the future; saturation, rising rents and low membership fees.

After several years of declining and flat growth, the number of fitness centers in The Company's territory began to trend upward in 2012. According to U.S. Census data, the number of establishments classified under Standard Industrial Classification ("SIC") code 7991 increased from 988 in 2011 to 1,002 in 2012. This same trend appears to be occurring statewide as the number of establishments increased from 2,134 in 2011 to 2,142 in 2012. While the U.S. Census Bureau will not release the 2013 figures until the summer of 2015, data from the IHRSA indicates that the number of gyms statewide has increased significantly since 2012; the number of gyms in the State of New York increased from 1,739 in 2012 to 1,864 in 2013. Historic establishment data from the U.S. Census Bureau and the IHRSA is summarized in Table 8.

*(continued)*

**EXHIBIT 6.2 Industry Section—Health Clubs** *(continued)***TABLE 8 Number of Fitness Centers**

Number of Establishments per U.S. Census Bureau							
	2006	2007	2008	2009	2010	2011	2012
Bronx County, New York	41	40	45	41	46	43	46
Kings County, New York	119	112	114	111	120	127	133
New York County, New York	387	408	440	449	437	429	422
Queens County, New York	133	121	127	121	125	123	135
Richmond County, New York	36	31	40	35	35	36	41
Rockland County, New York	47	45	43	43	44	45	42
Westchester County, New York	205	187	198	191	187	185	183
Total Territory	968	944	1,007	991	994	988	1,002
<b>Total New York State</b>	<b>2,286</b>	<b>2,162</b>	<b>2,201</b>	<b>2,139</b>	<b>2,138</b>	<b>2,134</b>	<b>2,142</b>

(Source: US Census Bureau—Number of Establishments for NAICS 713940 [Data Available Through 2012].)

Number of Businesses per IHRSA								
	2006	2007	2008	2009	2010	2011	2012	2013
<b>Total New York State</b>	<b>1,933</b>	<b>1,902</b>	<b>2,279</b>	<b>1,878</b>	<b>1,878</b>	<b>1,762</b>	<b>1,739</b>	<b>1,864</b>

Figures reflect number of businesses listed on Yellow Pages under SIC Code 7991.

(Source: IHRSA—Annual Industry Data Survey of the Health and Fitness Industry.)

The number of fitness centers in The Company's region is going to continue to grow. According to data from the New York City Board of Standards and Appeals ("NYCBOSA"), the number of permits issued for "Physical Culture Establishments," which is defined as "a health club or other business where customers go to exercise or to care for their bodies," increased significantly over the past three years. Historic permits granted by the NYCBOSA are summarized in Table 9.

## EXHIBIT 6.2 Industry Section—Health Clubs

TABLE 9 Permits Granted By NYC for Physical Culture Establishments

	2006	2007	2008	2009	2010	2011	2012	2013	6/11/ 2014
Bronx County, New York	1	1	2	0	1	5	2	3	3
Kings County, New York	0	3	2	2	4	4	6	10	9
New York County, New York	11	14	16	19	9	11	15	25	13
Queens County, New York	3	1	1	1	6	2	5	6	3
Richmond County, New York	1	2	4	1	1	1	1	3	1
<b>TOTAL</b>	<b>16</b>	<b>21</b>	<b>25</b>	<b>23</b>	<b>21</b>	<b>23</b>	<b>29</b>	<b>47</b>	<b>29</b>

(Source: New York City Board of Standards and Appeals Online Database, <<http://www.nyc.gov/html/bsa/html/decisions/decisions.shtml>>.)

In 2012, the number of permits issued increased from 23 to 29, representing the highest number over the seven-year period from 2006 to 2012. In 2013, the number of permits issued increased to 47 and through June 11, 2014, the number of permits already totaled 29, indicating that the city is on pace to have another record year in terms of permits issued.

According to an article in *The Wall Street Journal*, in the future, “gyms and boutique fitness businesses in Manhattan may be as convenient as the neighborhood coffee shop.” In 2013, the number of leases signed for gym and studio space in Manhattan more than doubled to 22, from the nine that closed in the previous year according to data tracked by Cushman & Wakefield. Savanna, a real estate private equity firm, signed a lease for Blink Fitness to take space on the ground and second floors of 31 Penn Plaza. The gym is part of Savanna’s overall efforts to transform the building since its acquisition in 2011. According to Kevin Hoo, vice president at Savanna, “Having an amenity in the building may form a part of a tenant’s choice to lease office or other space at the building, especially if health and well-being is an important part of its workforce culture. Also, this type of amenity, helps drive additional foot traffic for adjacent retailers who may also be looking to rent the property.”

The Company also faces competition from residential real estate developers. Gyms have evolved into an amenity that lends a competitive edge, much like balconies or rooftop decks. According to a spokeswoman from Related Cos., which bought the Equinox chain in 2006, a survey of tenants revealed that the “number one most valued amenity to them is a fitness amenity.” The same has happened at commercial buildings.

Fitness operators are able to take flexible approaches in neighborhoods where prices are high. Boutique studios specializing in a specific regimen rely on selling classes rather than memberships and often take smaller spaces of 3,000 to 9,000 square feet; much less than the 15,000 to 20,000 square feet required by a traditional gym. According to Jeffrey Roseman, an executive vice president at Newmark Goodman Knight Frank who has represented Blink in Manhattan, “Clearly you can’t compete in rent with a Starbucks or Coach.”

While the number of gyms in the New York City area are expected to increase in the near term, these gyms will face the challenge of rising retail rents throughout the region. Retail rental prices in New York City have risen in conjunction with strong retail demand. Asking retail rents by submarket in Manhattan are presented in Table 10.

(continued)

**EXHIBIT 6.2 Industry Section—Health Clubs** *(continued)***TABLE 10 Prime Q1 2014 Asking Retail Rents By Submarket**

Location	Asking Rent Per Square Foot/Year	% Growth (5 Years)	% Growth (1 Year)	Short-Term Vacancy Trend
Lower Fifth Ave. (42nd to 49th)	\$1,057	77.3%	-2.8%	Down
Upper Fifth Ave. (49th to 60th)	2,618	48.5%	-0.5%	Stable
Madison Avenue	1,466	54.8%	20.5%	Up
SoHo	456	89.2%	7.8%	Up
Third Avenue	276	N/A	5.7%	Up
Times Square	2,407	321.5%	8.3%	Up
Upper West Side	380	10.5%	8.9%	Up
Flatiron	378	N/A	5.0%	Up
Meatpacking	349	N/A	15.2%	Up
Herald Square/W. 34th Street*	736	N/A	N/A	N/A
Lower Manhattan	250	N/A	5.9%	Up

\*Newly created statistical submarket.

(Source: Cushman & Wakefield, Marketbeat Retail Snapshot, Manhattan, NY Q1 2014.)

Asking rents for retail space have grown significantly in certain submarkets of Manhattan over the past five years. In some submarkets, asking rents are in excess of \$1,000 per square foot. Positive real estate indicators also are occurring in the other boroughs. Out of the five boroughs, Manhattan actually witnessed the lowest gains in terms of new retail square footage from 2004 to 2014. During this time period, new retail square footage increased by just 0.4 percent while The Bronx, Queens and Staten Island posted 7.3, 13.5 and 12.5 percent increases, respectively. Brooklyn experienced the greatest increase in retail square footage, expanding 14 percent.

After the economic recession in 2008, a major growth market within the New York City region emerged. According to a November 2013 report from IBISWorld, after the 2008 financial crisis, “consumers became more budget conscious which stimulated demand for low cost gym memberships with few amenities.” This trend led to the emergence of the low cost fitness center sector which is populated by companies such as Planet Fitness, Retro Fitness, Blink Gym and Crunch.<sup>2</sup>

Over the past several years, Blink has also rapidly penetrated the local market. The brand, owned by Equinox which has historically focused on the luxury sector, is expanding rapidly throughout the five boroughs, Long Island, Westchester and New Jersey. Since 2011, Blink has opened 24 gyms and the company plans on doubling that number over the next 12 to 18 months. Its “opening season” list includes six more Blink locations during the first half of 2014 in Brooklyn, The Bronx, Queens, as well as Union and Jersey City in New Jersey. By comparison, Equinox, which has 21 locations in Manhattan and Brooklyn and five in Westchester and on Long Island, is scheduled to open just two new clubs this year. The Blink gyms, which lack amenities such as swimming pools and saunas are scalable and can be opened much more quickly than the full service Equinox gyms.

<sup>2</sup> Rosalyn Retkwa, “Blink Gym Muscles In,” *Crain’s New York Business*, February 13, 2014, [www.crainnewyork.com/article/20140213/HOSPITALITY\\_TOURISM/140219920/blink-gym-muscles-in](http://www.crainnewyork.com/article/20140213/HOSPITALITY_TOURISM/140219920/blink-gym-muscles-in) (accessed January 28, 2015).

**EXHIBIT 6.2 Industry Section—Health Clubs**

According to industry consultant Rick Caro, president of Manhattan-based Management Vision, Blink is entering markets where typically a high-end club would not go. It is also raising the population of gym users beyond fitness buffs. Part of Blink's formula is to put its branches not just where people live, but also near transit stops and retail hubs. For instance, one of its newest locations in Astoria, Queens, is right next to the subway station and a major shopping district.

The low cost segment of the industry is known as high volume/low price, as the objective is to generate a large volume of members by offering affordable prices and controlling costs. In the case of Blink, instead of buying mid-level equipment like some of its competitors, Blink buys the newest and best equipment so it does not have to replace it as often. The company is able to do this because of Equinox's parent The Related Cos, which is one of the country's largest real estate and property management firms. The real estate parent also gives Blink an edge with site acquisitions.

The low cost segment of the fitness industry is hardly wide open. According to Eric Casaburi, CEO of Retro Fitness, Blink "is trying to play in a very crowded market with Planet Fitness and Crunch."

Retro Fitness is a franchise operation founded in 2004 which has gyms in 13 states, but is heavily concentrated in the New York area where it has about 80 locations. The company expects to add 20 to 25 clubs in the metropolitan area this year, including its first Manhattan site. According to Casaburi, "we can compete better because we know what we're doing. They're (Equinox) newbies at this part of the game. If they hired me as a consultant, I would tell them not to leave the sandbox they're familiar with because there are tons and tons of sand crabs."

Planet Fitness is focused on the low cost segment of the fitness industry. Planet Fitness is the fastest growing full-size health club in the United States, as the company opened 149 new clubs and signed more than 200 new franchise agreements in 2013. With more than 750 locations nationwide, Planet Fitness has more than tripled in size in the last five years alone, from 242 clubs in 2008 to 749 at the end of 2013. According to Brian Belmont, executive vice president of development and operations,

2013 was a record year for Planet Fitness' growth: Not only did we open the most locations in the company's history, more than 90% of new clubs were opened by existing franchisees which reinforces their confidence and commitment to growing the brand. We also opened our 700th club in the chain in Stockton, CA. We look forward to continuing our strategic and aggressive growth in 2014, opening clubs in both new and existing markets, and providing more and more people with access to an affordable, high-quality and non-intimidating fitness experience that only Planet Fitness can provide.

Planet Fitness' strategy is to target the non-fitness buffs who are looking to live a healthier lifestyle. According to co-founder and chief executive Chris Rondeau, most health clubs cater to the roughly 15 percent of Americans who consider themselves health nuts and love to work out. Planet Fitness's goal, on the other hand is to attract the much larger percentage of people who want to be healthier but may only use the gym a few times per month.

In order to accomplish this, Planet Fitness has mixed fitness with fun through its monthly pizza nights and bagel breakfasts on the second Tuesday of the month. Its facilities have mostly bright yellow and purple equipment, with an emphasis on cardio and weight-lifting machines. To keep costs down, the company omits amenities offered by more upscale gyms, such as juice bars and personal trainers.

Going forward, Planet Fitness does not have any plans to change its business model. According to Rondeau, the \$10 price tag and the uncompetitive atmosphere are the two big reasons Planet Fitness has been able to differentiate its product.

*(continued)*

**EXHIBIT 6.2 Industry Section—Health Clubs** *(continued)***SUMMARY AND OUTLOOK**

The Company will operate in a challenging environment in the near term. The health and fitness industry, particularly in The Company's territory, is highly competitive and competitive pressures are expected to strengthen in the near term. There has recently been significant increases in the number of permits issued for fitness centers and the number of leases signed for gym and studio space in New York City. Furthermore, The Company's competitors within the region have similar plans for expansion over the next several years, which would cause further crowding in an over-saturated market. In addition to direct competition, The Company faces a significant amount of indirect competition from boutique fitness studios and fitness centers located within apartment and office buildings. With retail rent rates increasing within the region, there has been an increased demand for smaller space, which has contributed to the emergence of boutique fitness studios such as Soul Cycle, Fly Wheel and Pure Barre.

Following the financial crisis of 2008, consumers became more budget cautious. This created a significant growth opportunity for the low cost segment of the fitness industry. Companies such as Planet Fitness, Blink and Retro Fitness were able to capitalize on this opportunity and have expanded operations throughout the region. Continued expansion at this rate could prove to be difficult going forward, not only due to competitive pressures, but also increasing rents for retail space throughout the region. Based on all of these factors, the growth outlook for The Company is modest and uncertain.

**Author's Note**

I have intentionally omitted footnotes from this section. I figured that you could live without them. In the real report, there were many.

The industry analysis will vary depending on the amount of information available, as well as the impact that it might have on the valuation subject. Obviously, the example in exhibit 6.2 contains a considerable amount of information. But think about this: While valuing a company in this industry, didn't this analysis cover everything that you can think of that may have been important? I hope so. Otherwise, we spent a considerable amount of time for no reason.

**Subject Company Analysis**

Item number one on the Revenue Ruling 59-60 hit parade tells us to consider the "nature of the business and the history of the enterprise from its inception." In other words, where has the company been and how did it get there? In this situation, the valuation analyst is looking to analyze not only the company's financial statements, but also the entire business operation. Of course, the financial statement analysis is an important component of the process, but at this stage in the valuation process, the valuation analyst is attempting to determine how effectively the company is being run. The analyst is also determining what risk factors are associated with the company and how they would affect the rate of return that an investor would require if a transaction were to be consummated. Box 6.2 captures some of the more common questions raised when performing a subject company analysis.

**SWOT Analysis**

A commonly used method of assessing the qualitative factors of a company is a SWOT analysis. SWOT stands for strengths, weaknesses, opportunities, and threats. This analysis provides the framework for identifying the internal and external factors

**BOX 6.2****Frequently Asked Subject Company Analysis Questions**

- How does the subject company compare with the entire industry? Is it a large player or a small player in the industry?
- Is it in its infancy, or is it mature?
- Has the company kept up with technology?
- What percentage of market share does the subject company have?
- Does the subject company distribute its products locally, regionally, nationally, or internationally?
- Are there alternative products available in the marketplace that may affect the future of the company's goods and services?
- What is the management structure of the company? Is the business highly dependent on one or a few key people?
- Is there a succession plan for management?

that affect a company's ability to do business. The SWOT analysis should be conducted within an organized framework such as what is shown in table 6.1.

<b>Strengths and Weaknesses</b>	<b>Opportunities and Threats</b>
Financial capital	Industry—Marketplace
Physical capital	Industry—Competitive forces
Human capital	Industry—Suppliers
Customer capital	Political
System capital	Economic
Organizational capital	Sociocultural
	Competitors

The manner in which the valuation analyst proceeds with a SWOT analysis will depend on the budget to perform the assignment. The first stage of a formal SWOT analysis is collecting input from the subject company's management team. The results are then tallied to determine the mean and standard deviation of management's opinions, which can subsequently be ranked according to the average scores. Personally, statistics make me nervous. Later in this book, I am going to explain some stuff about statistics. In the meantime, there are automated systems that allow the data from management to be processed, or the data can be computed in a spreadsheet program. Because the emphasis of this book is the small- to mid-sized company, I am assuming that the valuation analyst does not have the budget for this part of the analysis; therefore, I am not going to discuss this any further. Just be aware that there is software available if the valuation analyst needs it. We are going to concentrate on the qualitative analysis in this area.

In the next stage of the analysis, the analyst needs to build an understanding of management's input. For example, if management identifies the company's financial resources among its strongest qualities, the analyst needs to consider why that is the case. In this instance, the answer may be the company's cash reserves, ability to borrow, or access to equity financing, among other factors.

Finally, the analyst works with management to determine what implications the company's strengths, weaknesses, opportunities, and threats have on strategy, risks, future growth, and financial performance. This will help the valuation analyst to better understand the company's outlook.

The SWOT analysis has often been praised for its easy-to-understand approach to assessing a company's strength within an industry. However, it has also been criticized for its overly simplistic process. (I happen to like simple.) From a strategic planning standpoint, today's analytical processes are becoming increasingly complex and sophisticated, which can offer significant insight into a company's situation and outlook above and beyond what might be concluded through a SWOT analysis. Nevertheless, from a valuation standpoint, the SWOT analysis often can provide the framework needed to determine where a company sits within an industry and compared to its competitors.

Many variations on the SWOT analysis have been developed over the years. One variation appeared in Business Strategy Review, referring to the "Telescopic Observations" (TO) strategic framework.<sup>1</sup> TO addresses specific factors that affect a company's operating environment and operations from a high level view to one that is most relevant to the subject company. Exhibit 6.3 illustrates the TO framework.

<sup>1</sup> Panagiotou, George, *Business Strategy Review*, "Bringing SWOT into focus," 2003, Vol. 14, Issue 2, p. 8–10.

**EXHIBIT 6.3**

	T	E	L	E	S	C	O	P	I	C	O	B	S	E	R	V	A	T	I	O	N	S	
<b>Strengths</b>																							
<b>Weaknesses</b>																							
<b>Opportunities</b>																							
<b>Strengths</b>																							

- T – Technological Advancements
- E – Economic Considerations
- L – Legal and Regulatory Requirements
- E – Ecological and Environmental Issues
- S – Sociological Trends
- C – Competition
- O – Organizational Culture
- P – Portfolio Analysis
- I – International Issues
- C – Cost Efficiencies and Cost Structures

- O – Organizational Core Competencies and Capabilities
- B – Buyers
- S – Sellers
- E – Electronic Commerce
- R – Resource Audit
- V – Value Chain
- A – Alliances (including Partnerships, Networks, and Join Ventures)
- T – Total Quality Management
- I – Industry Key Factors for Success
- O – Organizational Structure
- N – New Entrants
- S – Substitute Products and Services

You'll notice that some of the factors considered by the Telescopic Observation framework are also considered in Porter's Five Forces. In most cases, a thorough Strengths, Weaknesses, Opportunities, and Threats analysis paired with a Five Forces analysis will cover close to all of the industry and company-specific factors relevant to a valuation.

(Source: Panagiotou, George; van Wijnen, Riëtte [2005] 'The "telescopic observations" framework: an attainable strategic tool', *Marketing Intelligence and Planning*, Vol. 23, No. 2, pp. 155–171 [17].)

Ultimately, in looking at the strengths and weaknesses of a company, the valuation analyst should be able to explain what the company does well as opposed to what it does poorly. The competitive advantages and disadvantages of a company's current assets (tangible and intangible) are also important to consider. The analyst should know what aspects of the company's operations can be improved and whether the company needs new equipment, technology, or facilities to accomplish this. Does the company currently have, or can it gain, access to the financial resources to invest in its improvements? Does the company have the resources to withstand a downturn in business or survive an unforeseen negative event? These are all talking points during a management interview.

Another important aspect of a company's strengths and weaknesses is the existence of a corporate goal, strategic direction, and positive corporate culture. A company with stable employees working toward a common goal can typically utilize resources and capitalize on opportunities more effectively than one with no employee loyalties and no direction. A strong corporate culture also allows a company to attract and retain higher quality employees.

The market in which a company operates is very important to its success. To this point, the analyst attempts to identify the opportunities and threats relevant to the subject company. Changes in the company's current market can present opportunities if the company is positioned to take advantage of them. Potential expansions into new markets and geographic locations may also need to be considered. Changes in technology can reduce costs or increase efficiencies in the subject company as long as the subject company has the ability to invest in it. Many of the opportunities discussed in the preceding paragraphs can become threats to a company if the company is not able to take advantage of them. If an opportunity exists but the subject company is unable to capitalize on it, competitors may take advantage and gain market share. Similarly, advances in technology can allow competitors to operate more efficiently and offer lower prices, which means it can



take customers from the subject company if the subject company is unable to invest in the same technology. Changes in regulatory requirements and customer demand may also force a change in a company's products. If the company is unable to invest in its product to meet the change, it likely will have a significant impact on its ability to do business.

The answers to the many questions that the valuation analyst needs to have answered will serve dual purposes. The first purpose is to demonstrate that the valuation analyst understands the nature of the business, as well as what makes the business run. The second purpose, once again, is to perform a risk assessment of the subject company. What we are trying to do is determine whether the valuation subject is similar or dissimilar, or more risky or less risky, than other companies in the industry. Factors that the valuation analyst will analyze include the products and services offered by the company, customer base, suppliers, management, operations, and ownership structure. A good portion of this information will fit nicely into the history and nature of the company section of the valuation report. This will also assist the valuation analyst in developing market multiples, discount rates, and capitalization rates.

## Financial Analysis

The purpose of the financial analysis is to review the subject company's performance with respect to other companies, its industry peers, or itself. Comparing the subject company to its peers helps the valuation analyst assess whether the company is more or less risky in relation to its peer group. Comparing the company to itself allows the valuation analyst to determine how the company has performed in the past. This can help give the valuation analyst an idea of future trends that may occur.

During the financial analysis, the valuation analyst attempts to identify unusual items, nonrecurring items, and trends. An attempt should be made to explain what happened and why it happened. If there is a departure from the norms of the industry, this should also be investigated and explained.

The following analytical tools are used by the valuation analyst:

- Comparative company analysis
- Common size financial statements
- Financial ratio analysis
- Comparative industry analysis
- Trend analysis
- Operational analysis

## Comparative Company Analysis

Most business valuation analysts will request at least five years of financial information about the subject company. I like to request six. This way, a five-year cash flow for the subject company can be calculated. The amount of data will depend on the facts and circumstances of each assignment. However, a good rule of thumb is to ask for enough years of data to cover a complete business cycle. This will allow the valuation analyst to create a spreadsheet looking for trends that may have occurred, as well as inconsistencies in the reported data.

I cannot emphasize strongly enough how essential it is for the valuation analyst to seriously consider how much information to request. If the analyst was doing a valuation as of the end of 2011, for many businesses, 2011, 2010, 2009, 2008, and possibly 2007 (when the recession officially started) were pretty bad years. If the only information the analyst looked at were these five years, he or she most likely would be valuing the company at its low point in the economic cycle. Assuming that the company survived, the future may be much better than these years indicate. One way to determine this would be to request financial information for the years 2002–2006 also. Of course, sometimes it is difficult to get older financial information from the client. The valuation analyst can only hope that the client is a pack rat.

## Common Size Financial Statements

The use of common size financial statements is an excellent way to analyze the subject company with respect to other companies of different sizes. By presenting the data as percentages, the size differentials are eliminated between the subject company and its peer group. We are not ignoring size in selecting guideline companies; however, using percentages allows the valuation analyst to make a comparison in relative terms (for example, cost of goods sold as a percent of sales). A common size analysis also allows an analyst to identify relative trends (for example, expenses relative to sales and current assets to total assets). Exhibit 6.4 illustrates a common size analysis taken from an actual report. In this illustration, industry information was used as a comparison to the valuation subject.



### Author's Note

Some sources use average balance sheet figures, whereas others use year-end data in the calculations of ratios. Make certain that the valuation analyst is consistent in the calculations to ensure that he or she is using the same basis when comparing ratios with industry sources. Also, make sure that the ratios used from the comparative data are those that best match the time period of the valuation.

### EXHIBIT 6.4 Common Size Financial Analysis

Another financial analysis tool is to look at a company's common size financial statements. A common size balance sheet depicts each value as a percentage of total assets. Common size statements are used to look at trends in a company's financial position, as well as to compare the company with industry data.

In order to compare ABC Lumber to industry data, we determined the appropriate Standard Industrial Classification (SIC) code for ABC Lumber. A description of ABC Lumber and the services it provides was included in an earlier section of this report. Based on this description, we determined that ABC Lumber is best described by the following SIC code.

#### **5031 LUMBER, PLYWOOD, AND MILLWORK**

Establishments with or without yards, primarily engaged in the wholesale distribution of rough dressed and finished lumber (but not timber); plywood; reconstructed wood fiber products; doors and windows and their frames (all materials); wood fencing; and other wood or metal millwork.

We located composite industry data in the MicroBilt Corporation's Integra Financial Benchmarking Data (Integra). Integra compiles its database from 31 proprietary and publicly available sources. The database consists of information of more than 3.5 million companies in more than 950 industries.

The Integra database contained composite data for 8,809 companies classified in SIC code 5031. This was further stratified by sales range. Data for 1,066 companies with sales in the range of \$10 to \$24.99 million was included.

Table 3 presents the common size balance sheet for ABC Lumber, along with comparative data for companies classified within SIC code 5031.

**EXHIBIT 6.4 Common Size Financial Analysis****TABLE 3 Common Size Balance Sheet as of December 31**

	2011	2012	2013	2014	2015	2016	INTEGRA
<b>Current assets</b>							
Cash	5.43%	17.15%	4.95%	1.59%	8.01%	0.07%	5.32%
Marketable securities	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.13%
Accounts receivable	48.57%	42.21%	53.08%	45.21%	44.73%	53.52%	32.41%
Inventories	37.51%	33.27%	36.03%	44.26%	38.91%	38.47%	31.81%
Prepaid expenses	0.17%	0.45%	0.00%	0.05%	0.00%	0.00%	0.00%
Due from DEF Realty	0.17%	0.15%	0.17%	0.18%	0.16%	0.16%	0.00%
Due from XYZ Realty	.00%	0.00%	0.00%	3.82%	4.84%	4.86%	0.00%
Other current assets	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.04%
<b>Total current assets</b>	<b>91.84%</b>	<b>93.23%</b>	<b>94.24%</b>	<b>95.11%</b>	<b>96.65%</b>	<b>97.08%</b>	<b>73.71%</b>
<b>Fixed assets</b>							
Land	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	n/a
Building and improvements	4.74%	4.43%	4.80%	5.21%	4.47%	4.69%	n/a
Machinery and equipment	23.67%	21.15%	21.81%	27.25%	26.31%	27.92%	n/a
Furniture and fixtures	2.06%	1.92%	2.08%	2.27%	1.94%	2.04%	n/a
Gross fixed assets	30.48%	27.52%	28.70%	34.75%	32.74%	34.66%	34.01%
Accumulated depreciation	22.32%	20.75%	22.94%	29.87%	29.38%	31.74%	16.53%
Net fixed assets	8.16%	6.77%	5.76%	4.89%	3.35%	2.92%	17.48%
<b>Other assets</b>							
Intangible assets (net)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.36%
Other assets	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.45%
<b>Total other assets</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>8.82%</b>
<b>TOTAL ASSETS</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
<b>Current liabilities</b>							
Accounts payable	25.99%	14.12%	19.78%	19.57%	18.83%	24.55%	17.54%
Long-term debt, current portion	0.00%	1.09%	1.18%	3.98%	4.45%	2.66%	11.08%
Notes payable	6.44%	2.57%	6.71%	4.07%	2.29%	1.52%	0.00%

*(continued)*

**EXHIBIT 6.4 Common Size Financial Analysis** *(continued)***TABLE 3 Common Size Balance Sheet as of December 31** *(continued)*

	2011	2012	2013	2014	2015	2016	INTEGRA
Accrued expenses	0.04%	0.04%	0.04%	0.01%	0.04%	0.01%	0.00%
Payroll taxes payable	0.07%	12.17%	0.00%	0.00%	0.00%	0.00%	0.00%
Sales taxes payable	0.53%	0.47%	0.46%	0.67%	0.54%	0.64%	0.00%
Income taxes payable	0.00%	0.00%	0.13%	0.00%	0.00%	0.00%	0.00%
Other current liabilities	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.68%
<b>Total current liabilities</b>	<b>33.07%</b>	<b>30.45%</b>	<b>28.30%</b>	<b>28.29%</b>	<b>26.15%</b>	<b>29.39%</b>	<b>35.30%</b>
<b>Long-term liabilities</b>							
Long-term debt	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	14.88%
Loans from stockholders	31.01%	32.25%	32.98%	29.25%	36.58%	29.40%	2.24%
Loan payable, Jill investment	0.00%	2.63%	0.00%	0.00%	0.00%	0.00%	0.00%
Other liabilities	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.17%
<b>Total long-term liabilities</b>	<b>31.01%</b>	<b>34.88%</b>	<b>32.98%</b>	<b>29.25%</b>	<b>36.58%</b>	<b>29.40%</b>	<b>18.29%</b>
<b>Total liabilities</b>	<b>64.08%</b>	<b>65.33%</b>	<b>61.28%</b>	<b>57.53%</b>	<b>62.74%</b>	<b>58.79%</b>	<b>53.59%</b>
<b>Total stockholders' equity</b>	<b>35.92%</b>	<b>34.67%</b>	<b>38.72%</b>	<b>42.47%</b>	<b>37.26%</b>	<b>41.21%</b>	<b>46.41%</b>
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

Note: Figures may not add due to rounding.

An analysis of the common size balance sheet indicates that ABC Lumber's current assets as a percentage of total assets have increased consistently since 2011. Overall, ABC Lumber is significantly stronger than its industry counterparts in this category. However, ABC Lumber has a much lower percentage of fixed assets than its industry peers. This is because ABC Lumber's fixed assets are old and have been fully depreciated. However, the fixed assets are still in use by ABC Lumber.

On the liability side of the balance sheet, ABC Lumber appears to be weaker than the industry composite data. Although total liabilities have decreased from 64.08 percent of assets in 2011 to 58.79 percent in 2016, this is slightly higher than the industry, which has total liabilities of 56 percent of assets. However, this is due to the greater amount of debt ABC Lumber has.

The next step in the analysis was to look at ABC Lumber's historic income statements for 2011–2016. ABC Lumber's revenues have been fairly erratic over the period, decreasing from a high of \$12.3 million in 2011 to a low of \$10.3 million in 2014, and back up to \$11.4 million in 2016.

Despite the drop in revenues, ABC Lumber finished 2016 with net income of \$65,058. This was very close to the 2011 net income of \$66,518, which was the high for the period. Because revenues were lower in 2016 than in 2011, ABC Lumber has shown improvement in managing its expenses.

ABC Lumber's common size income statement was compared to industry composite data. This is presented in table 4.

**EXHIBIT 6.4 Common Size Financial Analysis****TABLE 4 Common Size Income Statement for the Years Ended December 31**

	2011	2012	2013	2014	2015	2016	INTEGRA
Total revenues	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Total cost of sales	62.72%	64.97%	67.18%	67.12%	63.67%	62.86%	91.06%
Gross profit	37.28%	35.03%	32.82%	32.88%	36.33%	37.14%	8.94%
Total operating expenses	38.59%	35.61%	33.44%	33.40%	35.73%	36.30%	6.82%
Operating income (Loss)	-1.31%	-0.58%	-0.61%	-0.52%	0.60%	0.84%	2.12%
Interest expense	0.20%	0.46%	0.49%	0.47%	0.36%	0.35%	0.46%
Other income	2.25%	1.44%	1.62%	1.34%	0.00%	0.08%	0.33%
Income before taxes	0.74%	0.40%	0.52%	0.36%	0.25%	0.58%	1.99%
Income taxes	0.20%	0.09%	0.19%	0.11%	0.00%	0.01%	0.76%
<b>NET INCOME</b>	<b>0.54%</b>	<b>0.31%</b>	<b>0.34%</b>	<b>0.24%</b>	<b>0.24%</b>	<b>0.57%</b>	<b>1.24%</b>

Note: Figures may not add due to rounding.

The data in table 4 indicates that ABC Lumber's operating income as a percentage of revenue had been negative until 2015. Despite the turnaround, operating income is much lower than the industry counterparts. This is due to ABC Lumber's extremely high percentage of operating expenses. The industry average for operating expenses is 10.26 percent of revenues, whereas ABC Lumber's operating expenses were 36.30 percent in 2016. Over the six-year period, this percentage had not changed significantly. Some of the distinction is the classification of expenses; cost of sales for ABC Lumber is significantly lower than the industry, whereas operating expenses are higher. However, management has indicated that their expenses might be higher than the industry because of ABC Lumber's commitment to service. This causes a higher investment in payroll.

## Financial Ratios

The use of financial ratios allows the valuation analyst to analyze the subject company in terms of liquidity, performance, profitability, and leverage. These ratios are compared against industry data, guideline company data, or both, for the assessment of risk. Some ratios are more meaningful in different industries, but the analysis is essentially the same. For example, you would expect the inventory turnover ratio for a perishable food business to be greater than that for an automobile dealership. A description of some of the more common ratios follows.

### Current Ratio = Current Assets ÷ Current Liabilities

The current ratio measures the margin of safety that management maintains to allow for the inevitable unevenness in the flow of funds through the current asset and current liability accounts. A company needs a supply of current funds to be assured of being able to pay its bills when they come due. This ratio shows the company's ability to pay for its ongoing operations in the short term. A company's liquidity is essential to its good credit, its ability to grow with its own funds, and its ability to pay dividends to its owners.

### **Quick Ratio = (Cash + Marketable Securities + Accounts Receivable) ÷ Current Liabilities**

Quick assets include cash, marketable securities, and accounts receivable. Presumably, these items can be converted into cash quickly at approximately their stated amounts, unlike inventory, which is the principal current asset that is excluded from this calculation. The quick ratio is, therefore, a measure of the extent to which liquid resources are available to meet current obligations. This ratio tends to be a better measure of the company's short-term liquidity, particularly if cash needs to be generated quickly to pay bills.

### **Cash to Current Liabilities = Cash ÷ Current Liabilities**

Cash and cash equivalents are the most readily available assets with which to pay liabilities. This ratio indicates whether the subject company has a strong enough cash position to meet its short-term obligations. This ratio can also assist the valuation analyst in determining whether the subject company is carrying excess cash on its balance sheet. Excess cash may show a poor use of current assets by management. I wish that I had the problem of having excess cash. My kid made sure that never happened!

### **Accounts Payable to Inventory = Accounts Payable ÷ Inventory**

Businesses generally purchase inventory on credit. The ratio of accounts payable to inventory measures the extent to which a company's inventory is financed by the suppliers of that inventory. A low ratio may indicate that management is not taking advantage of the credit terms available from suppliers. When the ratio is used in conjunction with inventory turnover ratios, it might also indicate a high level of inventory being carried by the company.

### **Accounts Payable Payout Period = Accounts Payable ÷ (Cost of Goods Sold ÷ Number of Days)**

The accounts payable payout period measures the timeliness of paying suppliers. This figure is related directly to the normal credit terms of the company's purchases. This ratio allows the valuation analyst to consider the company's ability to obtain favorable terms from vendors because of good creditworthiness.

### **Debt to Equity = Total Liabilities ÷ Net Worth**

Debt is risky because if creditors are not paid promptly, they can take legal action to obtain payment, which, in extreme cases, can force the company into bankruptcy. The greater the extent to which a company obtains its financing from its owners, the less worry the company has in meeting its fixed obligations. The debt-to-equity ratio shows the balance that management has struck between debt and owners' equity. A proper capital structure should include a portion of debt because debt has a lower cost of capital. Different industries have different debt-to-equity relationships.

### **EBIT to Total Assets = Earnings Before Interest and Taxes ÷ Total Assets**

Earnings before interest and taxes (EBIT) to total assets is an important return-on-investment ratio that provides a profit analysis based on earnings before interest and income taxes. This ratio is best compared with a company's annual interest rate on borrowed funds. If the ratio of a firm's EBIT to total assets is higher than its weighted average cost of capital, the ratio is favorable.

### **Times Interest Earned = EBIT ÷ Interest**

The times-interest-earned ratio measures the number of times that the earnings before interest and taxes will cover the total interest payments on debt. The result indicates the level to which income can decline without impairing the company's ability to meet its interest payments on debt. If the ratio falls below 1.0, the firm is not generating enough earnings to cover the interest due on loans. This ratio indicates the financial risk of the company.

### Average Collection Period = Accounts Receivable ÷ (Credit Sales ÷ 365)

The average collection period can be evaluated against the credit terms offered by the company. As a rule, the collection period should not exceed one and one-third times the regular payment period; that is, if a company's typical terms call for payment in 30 days, the collection period should not exceed 40 days. Changes in the ratio indicate changes in the company's credit policy or changes in its ability to collect receivables.

### Inventory Turnover = Cost of Goods Sold ÷ Ending Inventory

Inventory turnover is an indication of the velocity with which merchandise dollars move through the business. An increase in the value of inventory may represent the additional stock required by an expanding business, or it may represent an accumulation of merchandise from a declining sales volume. In the latter case, the inventory turnover will decrease. A decrease in the inventory turnover ratio may be a significant danger signal.

### Inventory Holding Period = 365 ÷ Inventory Turnover

Some of the company's products come in and go out in a matter of days; other goods may stay in stock for six months or longer. The holding period differs for different products. Business managers and owners must be concerned with a holding period that is longer than necessary because of the high costs of tying up capital in excess inventory. On the other hand, reducing inventory levels too much could result in lost sales because certain products are not available when the customer wants them. The cost of carrying inventory has to be balanced against the profit opportunities lost by not having the product in stock, ready for sale. When inventory is financed or floor planned, interest rates influence the amount of inventory that may be carried. When rates are low, inventory balances tend to be high because there is not a great cost in carrying more inventory. When rates are high, the opposite is the case.

### Other Financial Ratios

There are many other financial ratios that can be considered by the valuation analyst. Profitability ratios are one group of ratios that are often considered by the valuation analyst. Some of the ratios that will be calculated may relate to the company's equity, whereas others relate to the company's invested capital. Invested capital is considered to be the company's long-term debt or nonworking capital debt plus the equity of the company. Because a proper capital structure will generally include an appropriate mix of debt and equity, some valuation analysts prefer to value the company in this manner. What this really does is allow the valuation analyst to value the company on an invested capital basis, eliminating differences in leverage between the subject company and the guideline companies. This becomes more important in the valuation of larger companies because the companies being used for comparison purposes may be publicly traded and have very different capital structures. We will discuss this further in chapter 9.

The return-on-equity ratio (also known as the *Dupont* analysis<sup>2</sup>) is considered to be one of the most important financial ratios because it measures profitability, turnover, and leverage all in one ratio. The Dupont formula allows the analyst to determine whether margin, leverage, or asset utilization (or some combination thereof) are driving returns to shareholders and, when compared to industry peer group data, how management manages these issues (better, worse, or differently) than the industry.

The mathematical breakdown of the return on equity ratio is as follows:

$$\frac{\text{Net Income}}{\text{Equity}} = \frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

<sup>2</sup> For a really good article, see "Risk Assessment and the DuPont Formula," published in the October/November 2009 edition of *Financial Valuation and Litigation Expert*.

Another analytical tool used by valuation analysts is the compound growth rate. Compound growth rates are frequently used by the valuation analyst in the selection of guideline companies, pricing multiples, discount rates, and capitalization rates. Both revenues and net income (cash flow and assets can be used also) should be analyzed by the valuation analyst. The mathematical formula for calculating compound growth as a percentage is as follows:

$$\left( \sqrt[n-1]{\text{amount}_n \div \text{amount}_1} \right) - 1$$

The compound growth rate is calculated using historical data to give an indication of future growth. However, keep in mind that the formula considers only the first and last year being used in the analysis. Therefore, it does not calculate a change from year to year. Because of this, the valuation analyst must be careful in selecting the first and last years for the calculation. Ideally, the analyst wants to look at the business cycle (peak to peak or valley to valley) or look at a constant trend. When looking at growth, the valuation analyst should also examine the year-to-year changes. Over a longer period of time, this is very often more meaningful than the compound growth rate. Let's look at a simple example to illustrate this concept. Assume that Smith Company had sales as follows:

Year	Amount
2012	\$1,350,000
2013	1,675,000
2014	2,100,000
2015	2,200,750
2016	2,450,000

The 5-year compound growth rate for Smith Company is 16.1 percent (calculated as the fourth root of \$2,450,000 divided by \$1,350,000, or 1.1606, then subtract 1). If you do not know how to use a financial calculator, here are the keystrokes for an HP 12C calculator:

Enter	1,350,000	Press PV
Enter	2,450,000	Press CHS*, then FV
Enter	4	Press n
Press i		

\*CHS = change sign. One of the data points must be a negative.

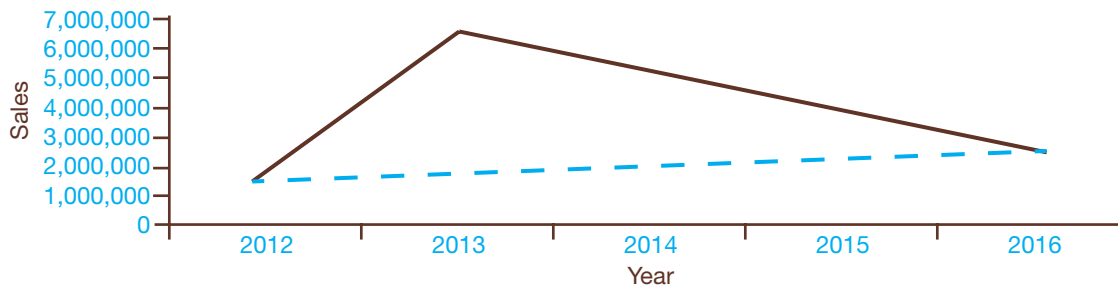
You should get 0.160668, which you can round to 16.1 percent. If you do not have a financial calculator, you can do what I do: yell for a staff person to help (that only works if you are the boss and not a staff person or a student trying to do this stuff). A review of the increase in sales on an annual basis indicates that the company experienced growth in each year during this 5-year period. But what if the sales were as follows?

Year	Amount
2012	\$1,350,000
2013	6,450,000
2014	5,375,000
2015	3,900,000
2016	2,450,000



In this situation, the compound growth rate would be the same 16.1 percent, but look at the difference in the trend (figure 6.3).

**Figure 6.3 Compound Versus Year-to-Year Growth**



The solid line demonstrates the erratic year-to-year growth, whereas the dotted line illustrates the more consistent year-to-year growth over the same period. Pretty different, huh?

Clearly, although the beginning and ending points of this five-year period are the same in both series of numbers, the trends are dramatically different. The valuation analyst needs to pay attention to trends, not just a group of calculations. Remember that the goal is to be able to use this information to forecast the future and the risk of that future not occurring. What does the first illustration say about risk as contrasted with the second illustration?

In this instance, the valuation analyst would probably not use compound growth rates because they would have little relevance. The analyst must pay particular attention to the information and not just go through the motions of doing a series of calculations because he or she read a book or has a computer program that will calculate these ratios for her. *Analysis* means that the valuation analyst must *analyze* the information! Otherwise, financial analysis would be called “financial calculation.”

## Comparative Industry Analysis

The purpose of a comparative analysis is to compare the subject company’s operating performance with that of its peer group. This analysis is undertaken to determine the company’s position with respect to its peers. Is it more or less risky than its peer group? How well does the company perform compared with the peer group? Some of the more common sources for comparative data include the following:

- Trade association surveys
- MicroBilt Corporation’s Integra Financial Benchmarking Data
- Sageworks
- *Risk Management Association (RMA) Annual Statement Studies*
- *Almanac of Business and Industrial Ratios*
- *D&B Key Business Ratios*
- Bizminer
- Guideline companies

Comparative analysis is a useful tool for a valuation analyst to use only if the subject company can be meaningfully compared with either specific guideline companies or industry composite data. Common size financial statements and financial ratio analyses are much more meaningful if the results can be compared with guideline company results or industry data.

If a company is large enough, there may be publicly traded companies that can be used for this type of analysis. For smaller companies, and even sometimes for the larger companies, it is generally worthwhile to compare the subject to some form of industry data, whether it is obtained from a trade organization or one of the other sources previously mentioned.

I want to spend some time showing the type of information that can be obtained and used from a great resource. For many valuation analysts who value smaller companies, this is the ideal type of information to use as a basis for comparison. Let me demonstrate what I'm talking about. I am going to use the example of a restaurant.

Integra Financial Benchmarking Data is owned and maintained by MicroBilt Corporation and can be accessed at [www.microbilt.com/financial-benchmarking.aspx](http://www.microbilt.com/financial-benchmarking.aspx). After logging on, choose the type of report to be viewed (figure 6.4).

**Figure 6.4 MicroBilt Corporation's Integra Financial Benchmarking Data Log-In Screen**

Default ▾ Integra ▾ [Select Product] ▾

CLICK SINGLE  SELECT PACKAGE

Enter a Zip Code, Phone Number or Social Security Number

Integra Industry Selection

NAICS OR SIC CODE	DESCRIPTION
<input type="text"/>	<input type="text"/>

Find

REPORT IS BEING PREPARED FOR

PDF  HTML  EXCEL

Income Statement Worksheet

	2013	★2014	★2015
REVENUE			
COST OF SALES			
<b>GROSS MARGIN</b>			
SELLING, GENERAL & ADMIN			
OFFICER COMPENSATION			
PENSION & BENEFITS			
ADVERTISING & SALES			
BAD DEBTS			
RENTS PAID			
DEPRECIATION & AMORTIZATION			
<b>OPERATING EXPENSES</b>			
<b>OPERATING INCOME</b>			
INTEREST INCOME			
INTEREST EXPENSE			
OTHER INCOME (EXP.)			
<b>PRE-TAX INCOME</b>			
INCOME TAXES			
<b>NET INCOME</b>			

(Source: Integra Information, a Division of MicroBilt Corporation.)

We use the Five Year Industry Report. After clicking on the link for the Five Year Industry Report, there will be an option to input a Standard Industrial Classification (SIC) code or North American Industry Classification System (NAICS) code. If the code is not known, push the button that allows the user search for the appropriate code. In addition to entering 5812 (the SIC code for Eating and Drinking Places), enter a sales range for the subject company to allow a better comparison to be made based on size. In this case, the screen looks like this (figure 6.5).

**Figure 6.5 MicroBilt Corporation's Integra Financial Benchmarking Data Sic Code and Sales Size Selection**

The screenshot displays the MicroBilt Integra Financial Benchmarking Data selection interface. The top navigation bar includes links for Contact us, Support, Advanced Search, a Keyword search input, and Log Out. Below this is the MicroBilt logo and navigation tabs for New Application, Application List, Preferences, and My Account. The main content area features a form with the following sections:

- Default**: Includes dropdowns for 'Default', 'Integra', and 'Five Year Industry Report'. Below are radio buttons for 'CLICK SINGLE' and 'SELECT PACKAGE', and a search input for 'Enter a Zip Code, Phone Number or Social Security Number'.
- Integra Industry Selection**: Contains a table for selecting NAICS or SIC CODE (with '5812' and 'Find' button), DESCRIPTION ('Eating and Drinking Places'), SALES(FIRMS INC) ('All Sales Ranges(57035)'), REPORT IS BEING PREPARED FOR ('XYZ Client'), and YEAR ('2015'). It also has radio buttons for PDF, HTML, and EXCEL.
- Business Information**: Includes fields for BUSINESS NAME, PHONE, FILE NUMBER/DSN, NUMBER, DIRECTION, STREET NAME, TYPE, STE, CITY, STATE, ZIP, DBA(DOING BUSINESS AS), TAX ID NUMBER, and E-MAIL ADDRESS.
- Notes**: A text area for entering notes.

At the bottom of the form are buttons for Submit, Save, and Clear.

(Source: Integra Information, a Division of MicroBilt Corporation.)

You may notice that there are 57,035 firms represented in this category. That is one of the reasons why I like this product. This amount of information makes it difficult to argue that the valuation analyst does not have a statistically valid sample size. Of course, not every SIC code has this many firms, but it is great when it does.

This screen allows us to choose the sales size that is pertinent to the valuation subject. In this instance, our subject has sales between \$500,000 and \$999,999. There are still 9,105 companies in this data set. If we click "Submit," we get a 9-page report that starts with this (figure 6.6).

### Figure 6.6 MicroBilt Corporation's Integra Financial Benchmarking Data Summary Screen

integra  
reports  
**five year  
industry report**



#### Summary

<b>Prepared for:</b>	SIC:	5812
Date: 8/9/2017	Description:	Eating places
Database #: 2015.2	Sales Range:	\$500,000 - \$999,999
Profile Type: Industry Profile	Final Year Business Count:	9,105

SIC	Description	Sales Range	# of Firms In Sales Range
5812	Establishments primarily engaged in the retail sale of prepared food and drinks for on-premise or immediate consumption. Caterers and industrial and institutional food service establishments are also included in this industry.	\$500,000 - \$999,999	9,105

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(Source: Integra Information, a Division of MicroBilt Corporation.)

The next page (figure 6.7) provides us with some really neat summary information. We also get industry growth information. We then get condensed financial information and the summary count information. This page provides us with the 50,000 foot overview.

**Figure 6.7 MicroBilt Corporation's Integra Financial Benchmarking Data Summary Screen**



**Overview**

<b>Prepared for:</b>		<b>SIC:</b>	5812
<b>Date:</b>	8/9/2017	<b>Description:</b>	Eating places
<b>Database #:</b>	2015.2	<b>Sales Range:</b>	\$500,000 - \$999,999
<b>Profile Type:</b>	Industry Profile	<b>Final Year Business Count:</b>	9,105

Industry Growth	2012	2013	2014	2015	CAGR
Industry Growth - Revenue	6%	5.7%	3.6%	7.7%	5.7%
Industry Growth - EBITDA	6.1%	7.1%	4%	9%	6.5%
Industry Growth - Pre-Tax Income	6.3%	5.9%	2.8%	8.1%	5.7%

Year Ending: 2015

Balance Sheet					
	\$	%		\$	%
Current Assets	74,444	27.3%	Current Liabilities	48,816	17.9%
Fixed Assets	122,747	45%	Long Term Debt	67,241	24.7%
Other Assets	8,750	3.2%	Other Liabilities	13,356	4.9%
Total Assets	272,562	100%	Total Liabilities	152,417	55.9%
			Net Worth	120,145	44.1%

Income Statement		
	\$	%
Revenue	725,284	100%
Gross Margin	424,726	58.6%
Operating Expenses	394,555	54.4%
Operating Income	30,171	4.2%
Pre-tax Income	23,644	3.3%
Net Income	14,659	2%

Cash Flow Analysis	
Provided/(Used) by	\$
Operating Activities	34,030
Investing Activities	(35,326)
Financing Activities	2,816

Ratios	
Return on Net Worth	12.2%
Return on Assets	5.4%
Current Ratio	1.52
Quick Ratio	1.05
Debt/Net Worth	x1.27
Z Score	<1.23 Weak >2.90 Strong

Business Counts	
Sales Range	Business Count
All Sales Ranges	57,035
Less Than \$250,000	27,945
\$250,000 - \$499,999	11,949
\$500,000 - \$999,999	9,105
\$1,000,000 - \$2,499,999	6,040
\$2,500,000 - \$4,999,999	1,230
\$5,000,000 - \$9,999,999	475
\$10,000,000 - \$24,999,999	176
\$25,000,000 - \$49,999,999	53
\$50,000,000 - \$99,999,999	31
\$100,000,000 - \$249,999,999	15
\$250,000,000 - \$499,999,999	8
More Than \$500,000,000	8

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(Source: Integra Information, a Division of MicroBilt Corporation.)

The next page begins giving us the details (figure 6.8).

## Figure 6.8 MicroBilt Corporation's Integra Financial Benchmarking Data Common Size Income Statement

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industry report



### Income Statement

<b>Prepared for:</b>	SIC: 5812
<b>Date:</b> 8/9/2017	<b>Description:</b> Eating places
<b>Database #:</b> 2015.2	<b>Sales Range:</b> \$500,000 - \$999,999
<b>Profile Type:</b> Industry Profile	<b>Final Year Business Count:</b> 9,105

Income Statement	2011	2012	2013	2014	2015
<b>Revenue</b>	100%	100%	100%	100%	100%
<b>Cost of Sales</b>	44.9%	44.1%	43.2%	42.3%	41.4%
<b>Gross Margin</b>	55.1%	55.9%	56.8%	57.7%	58.6%
Selling, General & Administrative	32.8%	33.4%	34.1%	34.7%	35.3%
Officer Compensation	5.4%	5.4%	5.5%	5.5%	5.5%
Pension & Benefits	0.8%	0.8%	0.8%	0.8%	0.8%
Advertising & Sales	2.2%	2.3%	2.3%	2.3%	2.3%
Bad Debts	0%	0%	0%	0%	0%
Rents Paid	6.9%	7.1%	7.2%	7.4%	7.6%
Depreciation & Amortization	2.6%	2.7%	2.7%	2.8%	2.9%
<b>Operating Expenses</b>	50.8%	51.7%	52.6%	53.5%	54.4%
<b>Operating Income</b>	4.2%	4.2%	4.2%	4.2%	4.2%
Interest Income	0%	0%	0%	0%	0%
Interest Expense	-1%	-1%	-1%	-1%	-1%
Total Other Inc(Exp)	0.1%	0.1%	0.1%	0.1%	0.1%
<b>Pre-Tax Income</b>	3.3%	3.3%	3.3%	3.2%	3.3%
Income Taxes *	-1.3%	-1.3%	-1.2%	-1.2%	-1.2%
<b>Net Income</b>	2.1%	2%	2%	2%	2%

\* Income taxes are derived by applying a 38% tax rate to pre-tax income.

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(Source: Integra Information, a Division of MicroBilt Corporation.)

We get a five-year common size, comparative income statement. Notice that it breaks out items such as "Officer Compensation" and "Depreciation & Amortization." This may be very helpful when we have to adjust the financial statements for these items. We will talk about the adjustments in a little while, so be patient. After allowing us to compare the subject to the industry data, we then get the next page that provides us with the average dollars within the range of the companies based on the sales range selected previously. This allows us to see where the subject company falls with respect to size (figure 6.9 on the following page).

## Figure 6.9 MicroBilt Corporation's Integra Financial Benchmarking Data Income Statement

integra  
reports  
five year  
industry report



### Income Statement

<b>Prepared for:</b>		<b>SIC:</b>	5812
<b>Date:</b>	8/9/2017	<b>Description:</b>	Eating places
<b>Database #:</b>	2015.2	<b>Sales Range:</b>	\$500,000 - \$999,999
<b>Profile Type:</b>	Industry Profile	<b>Final Year Business Count:</b>	9,105

Income Statement	2011	2012	2013	2014	2015
<b>Revenue</b>	579,694	614,795	649,661	673,395	725,284
<b>Cost of Sales</b>	260,514	271,002	280,654	284,981	300,558
<b>Gross Margin</b>	319,180	343,793	369,007	388,414	424,726
Selling, General & Administrative	190,314	205,587	221,210	233,534	255,953
Officer Compensation	31,361	33,383	35,407	36,835	39,818
Pension & Benefits	4,522	4,795	5,133	5,387	5,803
Advertising & Sales	12,869	13,833	14,877	15,623	17,044
Bad Debts	232	246	260	269	290
Rents Paid	40,173	43,527	47,035	49,831	54,831
Depreciation & Amortization	15,130	16,477	17,801	18,922	20,816
<b>Operating Expenses</b>	294,601	317,848	341,723	360,401	394,555
<b>Operating Income</b>	24,579	25,945	27,284	28,013	30,171
Interest Income	58	61	65	67	73
Interest Expense	(5,913)	(6,209)	(6,497)	(6,599)	(7,035)
Total Other Inc(Exp)	464	492	455	404	435
<b>Pre-Tax Income</b>	19,188	20,289	21,307	21,885	23,644
Income Taxes *	(7,291)	(7,710)	(8,097)	(8,316)	(8,985)
<b>Net Income</b>	11,897	12,579	13,210	13,569	14,659

\* Income taxes are derived by applying a 38% tax rate to pre-tax income.

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(Source: Integra Information, a Division of MicroBilt Corporation.)

We then get similar schedules for the balance sheet, providing us with common size and average dollars (figures 6.10 and 6.11 on the following pages).

**Figure 6.10 MicroBilt Corporation's Integra Financial Benchmarking Data Common Size Balance Sheet**

integra  
reports  
**five year  
industry report**



**Balance Sheet**

<b>Prepared for:</b>	SIC:	5812
Date: 8/9/2017	Description:	Eating places
Database #: 2015.2	Sales Range:	\$500,000 - \$999,999
Profile Type: Industry Profile	Final Year Business Count:	9,105

Balance Sheet	2011	2012	2013	2014	2015
<b>Assets</b>					
Cash	15%	14.6%	14.2%	13.8%	13.5%
Marketable Securities	0.6%	0.6%	0.6%	0.6%	0.6%
Accounts Receivable	5.1%	5%	4.9%	4.8%	4.7%
less Allowance for Bad Debt	0%	0%	0%	0%	0%
Accounts Receivable, net	5.1%	5%	4.9%	4.8%	4.7%
Raw Material	0%	0%	0%	0%	0%
Work in Process	0%	0%	0%	0%	0%
Finished Goods	0%	0%	0%	0%	0%
Inventory	3.8%	3.7%	3.5%	3.4%	3.2%
Other Current Assets	5.2%	5.2%	5.3%	5.3%	5.3%
<b>Total Current Assets</b>	<b>29.7%</b>	<b>29.1%</b>	<b>28.5%</b>	<b>27.9%</b>	<b>27.3%</b>
Property, Plant & Equipment	110.5%	114.7%	120.2%	124.1%	131.6%
less Accumulated Depreciation	-67.4%	-71.1%	-76.1%	-79.6%	-86.5%
Property, Plant & Equipment, net	43.1%	43.6%	44.1%	44.6%	45%
Intangible Assets, net	15%	15.1%	15.2%	15.3%	15.4%
Depletable Assets, net	0%	0%	0%	0%	0%
Investments	8.9%	8.9%	8.9%	9%	9.1%
Other Assets	3.3%	3.2%	3.2%	3.2%	3.2%
<b>Total Assets</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Liabilities &amp; Net Worth</b>					
Short Term Debt	5.9%	5.6%	5.4%	5.1%	4.8%
Accounts Payable	6.5%	6.2%	5.8%	5.4%	5%
Other Current Liabilities	9.6%	9.2%	8.8%	8.5%	8.1%
<b>Total Current Liabilities</b>	<b>22.1%</b>	<b>21%</b>	<b>20%</b>	<b>18.9%</b>	<b>17.9%</b>
Long Term Debt	27.8%	27.1%	26.3%	25.5%	24.7%
Loans from Shareholders	11%	10.4%	9.7%	9.1%	8.4%
Other Liabilities	5.5%	5.4%	5.2%	5.1%	4.9%
<b>Total Long Term Liabilities</b>	<b>44.4%</b>	<b>42.8%</b>	<b>41.2%</b>	<b>39.6%</b>	<b>38%</b>
<b>Total Liabilities</b>	<b>66.5%</b>	<b>63.8%</b>	<b>61.2%</b>	<b>58.6%</b>	<b>55.9%</b>
<b>Total Net Worth</b>	<b>33.5%</b>	<b>36.2%</b>	<b>38.8%</b>	<b>41.4%</b>	<b>44.1%</b>
<b>Total Liabilities &amp; Net Worth</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

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(Source: Integra Information, a Division of MicroBilt Corporation.)



## Figure 6.11 MicroBilt Corporation's Integra Financial Benchmarking Data Balance Sheet

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reports  
**five year  
industry report**



### Balance Sheet

<b>Prepared for:</b>		<b>SIC:</b>	5812
<b>Date:</b>	8/9/2017	<b>Description:</b>	Eating places
<b>Database #:</b>	2015.2	<b>Sales Range:</b>	\$500,000 - \$999,999
<b>Profile Type:</b>	Industry Profile	<b>Final Year Business Count:</b>	9,105

Balance Sheet	2011	2012	2013	2014	2015
<b>Assets</b>					
Cash	33,140	34,130	35,004	35,198	36,718
Marketable Securities	1,418	1,497	1,575	1,626	1,717
Accounts Receivable	11,231	11,650	12,037	12,199	12,839
less Allowance for Bad Debt	(22)	(23)	(25)	(25)	(27)
Accounts Receivable, net	11,209	11,627	12,012	12,174	12,812
Raw Material					
Work in Process					
Finished Goods					
Inventory	8,484	8,609	8,665	8,564	8,750
Other Current Assets	11,586	12,281	12,972	13,444	14,447
<b>Total Current Assets</b>	<b>65,837</b>	<b>68,144</b>	<b>70,228</b>	<b>71,006</b>	<b>74,444</b>
Property, Plant & Equipment	244,847	268,340	295,931	315,413	358,644
less Accumulated Depreciation	(149,393)	(166,394)	(187,425)	(202,169)	(235,898)
Property, Plant & Equipment, net	95,454	101,946	108,506	113,244	122,747
Intangible Assets, net	33,295	35,370	37,440	38,883	41,924
Depletable Assets, net					
Investments	19,716	20,890	22,031	22,822	24,697
Other Assets	7,200	7,579	7,951	8,183	8,750
<b>Total Assets</b>	<b>221,501</b>	<b>233,929</b>	<b>246,157</b>	<b>254,139</b>	<b>272,562</b>
<b>Liabilities &amp; Net Worth</b>					
Short Term Debt	13,113	13,194	13,219	12,961	13,165
Accounts Payable	14,508	14,410	14,203	13,698	13,683
Other Current Liabilities	21,308	21,592	21,760	21,475	21,968
<b>Total Current Liabilities</b>	<b>48,929</b>	<b>49,196</b>	<b>49,182</b>	<b>48,134</b>	<b>48,816</b>
Long Term Debt	61,599	63,278	64,665	64,755	67,241
Loans from Shareholders	24,432	24,258	23,902	23,050	23,004
Other Liabilities	12,293	12,609	12,874	12,885	13,356
<b>Total Long Term Liabilities</b>	<b>98,324</b>	<b>100,145</b>	<b>101,441</b>	<b>100,690</b>	<b>103,601</b>
<b>Total Liabilities</b>	<b>147,253</b>	<b>149,341</b>	<b>150,623</b>	<b>148,824</b>	<b>152,417</b>
<b>Total Net Worth</b>	<b>74,248</b>	<b>84,588</b>	<b>95,534</b>	<b>105,315</b>	<b>120,145</b>
<b>Total Liabilities &amp; Net Worth</b>	<b>221,501</b>	<b>233,929</b>	<b>246,157</b>	<b>254,139</b>	<b>272,562</b>

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(Source: Integra Information, a Division of MicroBilt Corporation.)

This is the type of stuff that financial analysts dream about! And it gets better. The next page looks like figure 6.12.

## Figure 6.12 MicroBilt Corporation's Integra Financial Benchmarking Data Cash Flow Analysis

integra  
reports  
**five year  
industry report**



### Cash Flow Analysis

<b>Prepared for:</b>		<b>SIC:</b>	5812
<b>Date:</b>	8/9/2017	<b>Description:</b>	Eating places
<b>Database #:</b>	2015.2	<b>Sales Range:</b>	\$500,000 - \$999,999
<b>Profile Type:</b>	Industry Profile	<b>Final Year Business Count:</b>	9,105

Analysis of Cash Flow	2012	2013	2014	2015
<b>Operating Cash Flow</b>				
Net Income	12,579	13,210	13,569	14,659
Adjustments to reconcile net income to net cash provided by operating activities:				
Depreciation and Amortization	16,477	17,801	18,922	20,816
Change in Accounts Receivable, net	(418)	(385)	(162)	(638)
Change in Inventory	(125)	(56)	101	(186)
Change in Accounts Payable	(98)	(207)	(505)	(15)
Change in Other Operating	(474)	(630)	(978)	(606)
Total Adjustments	15,362	16,523	17,378	19,371
<b>Cash Provided by Operating</b>	<b>27,941</b>	<b>29,733</b>	<b>30,947</b>	<b>34,030</b>
<b>Investing Activities</b>				
Capital Expenditures	(25,044)	(26,431)	(25,103)	(33,360)
Change in Marketable Securities	(79)	(78)	(51)	(91)
Change in Investments	(1,174)	(1,141)	(791)	(1,875)
<b>Cash Provided by Investing Activities</b>	<b>(26,297)</b>	<b>(27,650)</b>	<b>(25,945)</b>	<b>(35,326)</b>
<b>Financing Activities</b>				
Change in Short Term Debt	81	25	(258)	204
Change in Long Term Debt	1,679	1,387	90	2,486
Change in Loans from Shareholders	(174)	(356)	(852)	(46)
Change in Equity	(2,240)	(2,265)	(3,788)	172
<b>Cash Provided by Financing Activities</b>	<b>(654)</b>	<b>(1,209)</b>	<b>(4,808)</b>	<b>2,816</b>

Note: The intent of the Cash Flow Analysis is to reflect operating performance. It does not address investments or changes in capital structure which can vary significantly from firm to firm. When evaluating cash flow, this information should be used in conjunction with specifics around an individual firm's capital structure.

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(Source: Integra Information, a Division of MicroBilt Corporation.)

A cash flow analysis! How cool is that? Hey, if you haven't figured me out yet, I get into this stuff! Deep down inside, I am still an accountant. Just when you thought it could not get any better, look at what comes next (figures 6.13 and 6.14 on the following pages)!

## Figure 6.13 MicroBilt Corporation's Integra Financial Benchmarking Data Ratios

integra  
reports  
**five year  
industry report**



### Ratios

<b>Prepared for:</b>	SIC: 5812
Date: 8/9/2017	Description: Eating places
Database #: 2015.2	Sales Range: \$500,000 - \$999,999
Profile Type: Industry Profile	Final Year Business Count: 9,105

#### Liquidity / Solvency

	2011	2012	2013	2014	2015
Quick Ratio	0.94	0.96	0.99	1.02	1.05
Current Ratio	1.35	1.38	1.43	1.48	1.52
Days Accounts Receivable		7	7	7	6
Days Accounts Payable		19	19	18	17
Days Working Capital		11	11	12	12
Days Inventory		12	11	11	11
Accounts Receivable to Sales		1.9%	1.8%	1.8%	1.7%
Accounts Payable to Sales		2.4%	2.2%	2.1%	1.9%
Current Liabilities to Net Worth	65.9%	58.2%	51.5%	45.7%	40.6%
Current Liabilities to Inventory	x5.77	x5.71	x5.68	x5.62	x5.58
Cost of Sales to Payables	x17.96	x18.81	x19.76	x20.81	x21.97

#### Turnover

	2011	2012	2013	2014	2015
Receivables Turnover		x53.84	x54.97	x55.69	x58.06
Cash Turnover		x18.28	x18.79	x19.18	x20.17
Inventory Turnover		x31.71	x32.49	x33.08	x34.72
Current Asset Turnover		x9.18	x9.39	x9.54	x9.97
Working Capital Turnover		x34.29	x32.49	x30.67	x29.91
Fixed Asset Turnover		x6.23	x6.17	x6.07	x6.15
Total Asset Turnover		x2.7	x2.71	x2.69	x2.75

#### Debt

	2011	2012	2013	2014	2015
Debt Service Coverage - EBITDA		2.2	2.29	2.37	2.55
Debt Service Coverage - Pre-Tax		2.22	2.32	2.39	2.58
Debt Service Coverage - After-Tax		1.83	1.9	1.97	2.13
Interest Coverage	x4.16	x4.18	x4.2	x4.24	x4.29
Current Assets to Short Term Debt	x5.02	x5.16	x5.31	x5.48	x5.66
Accounts Payable to Total Debt	9.9%	9.6%	9.4%	9.2%	9%
Short Term Debt to Total Debt	8.9%	8.8%	8.8%	8.7%	8.6%
Long Term Debt to Total Assets	27.8%	27.1%	26.3%	25.5%	24.7%
ST Debt plus LT Debt to Net Worth	100.6%	90.4%	81.5%	73.8%	66.9%
Total Debt to Assets	66.5%	63.8%	61.2%	58.6%	55.9%
Total Debt to Inventory	x17.36	x17.35	x17.38	x17.38	x17.42
Total Debt to Net Worth	x1.98	x1.77	x1.58	x1.41	x1.27

#### Risk

	2011	2012	2013	2014	2015
Z Score	2.87	3.05	3.24	3.42	3.62
Fixed Assets to Net Worth	x1.29	x1.21	x1.14	x1.08	x1.02

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(Source: Integra Information, a Division of MicroBilt Corporation.)

## Figure 6.14 MicroBilt Corporation's Integra Financial Benchmarking Data Ratios

Integra  
reports  
**five year  
industry report**



### Ratios

<b>Prepared for:</b>	SIC: 5812
Date: 8/9/2017	Description: Eating places
Database #: 2015.2	Sales Range: \$500,000 - \$999,999
Profile Type: Industry Profile	Final Year Business Count: 9,105

Profitability	2011	2012	2013	2014	2015
Gross Margin	55.1%	55.9%	56.8%	57.7%	58.6%
EBITDA to Sales	6.8%	6.9%	6.9%	7%	7%
Operating Margin	4.2%	4.2%	4.2%	4.2%	4.2%
Operating Cash Flow to Sales		4.5%	4.6%	4.6%	4.7%
Pre-Tax Return on Assets	8.7%	8.7%	8.7%	8.6%	8.7%
After-Tax Return on Assets	5.4%	5.4%	5.4%	5.3%	5.4%
Pre-Tax Return on Net Worth	25.8%	24%	22.3%	20.8%	19.7%
After-Tax Return on Net Worth	16%	14.9%	13.8%	12.9%	12.2%
Pre-Tax Return on Sales	3.3%	3.3%	3.3%	3.2%	3.3%
After-Tax Return on Sales	2.1%	2%	2%	2%	2%

Working Capital	2011	2012	2013	2014	2015
Working Capital	16,908.0	18,948.0	21,046.0	22,872.0	25,628.0
Working Capital to Sales	2.9%	3.1%	3.2%	3.4%	3.5%
Net Income to Working Capital	70.4%	66.4%	62.8%	59.3%	57.2%
Inventory to Working Capital	50.2%	45.4%	41.2%	37.4%	34.1%
Short Term Debt to Working Capital	77.6%	69.6%	62.8%	56.7%	51.4%
Long Term Debt to Working Capital	364.3%	334%	307.3%	283.1%	262.4%

Operating Efficiency	2011	2012	2013	2014	2015
Operating Expenses to Gross Margin	92.3%	92.5%	92.6%	92.8%	92.9%
Operating Expenses to Sales	50.8%	51.7%	52.6%	53.5%	54.4%
Depreciation & Amortization to Sales	2.6%	2.7%	2.7%	2.8%	2.9%
Total Assets to Sales	38.2%	38%	37.9%	37.7%	37.6%
Sales to Net Worth	x7.81	x7.27	x6.8	x6.39	x6.04
Sales to Fixed Assets	607.3%	603.1%	598.7%	594.6%	590.9%
Inventory to Cost of Sales	3.3%	3.2%	3.1%	3%	2.9%
Intangible Assets to Sales	5.7%	5.8%	5.8%	5.8%	5.8%
Capital Expenditures to Sales		4.1%	4.1%	3.7%	4.6%

Growth (CAGR 5 Years)	2015
Sales	5.8%
Operating Income	5.3%
Pre-Tax Profit	5.4%
Net Income	5.4%
Assets	5.3%
Liabilities	0.9%
Net Worth	12.8%

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(Source: Integra Information, a Division of MicroBilt Corporation.)

Two pages of financial ratios, 64 in total, provide the valuation analyst a more detailed financial analysis than he or she could ever have dreamed about. If the analyst cannot analyze the subject company upward, downward, and sideways, then I'm at a loss.

This is probably the most comprehensive product that I have ever seen for this type of information. What I also like about this product is that the ratios are calculated in the manner in which I was taught to calculate them in school. Turnover ratios use the average of the years, rather than only the year-end from one year. *RMA Annual Statement Studies* only calculates the ratios based on the end-of-year figures. It is just not right! However, every so often, I come across a SIC code that Integra does not cover, and so I use RMA or another data provider. When I do, I calculate the ratios in the same manner as RMA or the other data provider so that the comparison is based on consistent data.

The financial ratios even reflect a Z score under the risk category. If you are like me, you are probably wondering what this is. The *Z score* is a financial distress (or solvency) prediction model. In assessing a company's level of financial distress or solvency, 4 ratios are used together, and each ratio is weighted. The following weighted averages are used: working capital to total assets + net worth to total debt + net worth to total assets + operating income to total assets. A score greater than 2.90 is preferred, and a score less than 1.23 indicates significant risk of bankruptcy. Because you are probably thinking that a valuation analyst probably does not use this stuff, I have included a small section from a recent report that discusses Z scores. See exhibit 6.5.

### EXHIBIT 6.5 Z Score Analysis

In order to further analyze The Company's financial condition, the analyst performed a calculation of The Company's "Altman Z-Score" on an adjusted basis. The *Altman Z-Score* is a credit-strength test that gauges a manufacturing company's likelihood of bankruptcy. This methodology was originally devised by Edward Altman, a professor at New York University in the 1960s, for publicly traded manufacturing companies. In 2002, Altman created a revised formula that could be used for private companies, which is shown below.

$$\text{Z-Score} = ([\text{Working Capital/Total Assets}] \times 0.717) + ([\text{Retained Earnings/Total Assets}] \times 0.847) + ([\text{Operating Earnings/Total Assets}] \times 3.107) + ([\text{Book Value of Equity/Total Liabilities}] \times 0.420) + ([\text{Sales/Total Assets}] \times 0.998)$$

In general, the lower the score, the higher the chance of bankruptcy. For example, a Z-Score greater than 3.0 indicates financial soundness, whereas a Z-Score below 1.23 suggests a high likelihood of bankruptcy.<sup>1</sup> Based on The Company's adjusted financial ratios, The Company's Z-Score was calculated as follows:

$$\text{Z-Score} = (-0.097 \times 0.717) + (0.62 \times 0.847) + (-0.14 \times 3.107) + (0.47 \times 0.420) + (0.98 \times 0.998) = 1.21$$

A Z-Score of 1.21 indicates that the likelihood of bankruptcy for The Company is high. The Z-Scores for the Integra peer groups were 3.1, 2.15, and 2.92 for NAICS codes 313210, 313230, and 314999, respectively. The Company's weak Z-Score is further indication that it is basically insolvent and has a high risk of bankruptcy.

**Author's Note: The subject company actually filed for bankruptcy a week before trial. It is definitely better to be lucky than good!**

<sup>1</sup> See [www.investinganswers.com/financial-dictionary/financial-statement-analysis/altman-z-score-5188](http://www.investinganswers.com/financial-dictionary/financial-statement-analysis/altman-z-score-5188) (accessed June 1, 2015).

*Integra Financial Benchmarking Data* can be downloaded to Excel from the Internet. We wrote a macro in Excel that imports the data directly into our valuation model. No more data entry! Another cool thing. As with all databases, there are small annoying inconsistencies that arise from time to time. The valuation analyst must make sure he or she understands these discrepancies before using the data, especially if the analyst is going to be cross-examined in a litigation assignment. If the data does not look right, call the vendor and speak to someone.

Before we move off the topic of financial ratios, one other item needs to be raised. Frequently, the subject company financial statements have to be normalized (discussed in the following paragraphs) for economic adjustments that are necessary to present the subject company from the point of view that the willing buyer would be purchasing. This raises an issue: Should the valuation analyst use the unadjusted or adjusted figures to perform the financial analysis and compare the results against the industry group? The answer depends on the facts and circumstances of the valuation, as well as the nature of the adjustments that are made. Sometimes, we compare both the unadjusted and adjusted to the industry group. How is that for being definitive? All kidding aside, when the adjustments being made are significant enough to change the outlook of the subject company, we are more likely to compare both sets of data and highlight the fact that the adjusted figures are more meaningful for that analysis.

## Trend Analysis

The purpose of a trend analysis is to compare the subject company's performance over the past several years. The exact number of years used in the analysis depends on the facts and circumstances of each individual case. Although five years is the number commonly used, it is not always the correct number. Ideally, the period of years should cover a normal business cycle for the subject company. Certain industries may require the analysis to include many more years. There also will be times when the company has changed its operations in the near past, and, as a result, a shorter period will be more meaningful. Always keep in mind that more data, if meaningful, will allow the analyst to perform a more meaningful analysis.

During the trend analysis, the valuation analyst attempts to identify positive and negative trends affecting the company. The valuation analyst should review this data with the goal of determining the future prospects of the company based on historical growth patterns and based on the company's normal operations. This is a good time to identify items that are nonrecurring or excess items that will be removed during the normalization process and not considered in the forecast of future net earnings or cash flows.

Computer spreadsheet programs are an easy and efficient way to set up a trend analysis. The data entry can be viewed year by year to determine what is going on. It is also a good way to make sure that the data entry from year to year is consistent. For example, if there is an expense for four out of five years, what happened in the year that is blank? Did that expense not exist for a particular year, or did the company have two different accountants who classified items differently? Or for that matter, did the person who did the data entry categorize four years as "contribution expense" and the fifth year as "donations?" Obviously, these items should be treated consistently for the analysis to be meaningful.

## Operational Analysis

The purpose of performing an operational analysis is to determine information regarding the quality and stability of the earnings or cash flow from the business. The valuation analyst should be mindful that an equity investor is concerned with the ability of the subject company to provide earnings, cash flow, or both, so that he or she will obtain a return on investment (for example, dividends).

Some important components of this process include an analysis of (1) gross profit, (2) discretionary costs, and (3) financial statement consistency.

## Gross Profit Analysis

An analysis of the cost of goods sold will provide the valuation analyst with information about the gross profit that the company has been able to achieve. Because the selling price of the goods is dictated by competition, the company's gross profit should be in line with the industry's. The subject company must produce an adequate volume of sales if it is to cover its operating expenses.

A gross profit analysis is also a useful tool for determining if the inventory is properly valued or if there is unreported income. Although there is a difference between a valuation analyst and a forensic accountant, there are times when one professional may perform both functions. Let me share with you an example of how this analysis can affect a valuation. We valued a pharmacy that also sold liquor. The store never took a physical

inventory, and we found out from one of the owners that there was cash payroll. Our gross profit analysis is shown in exhibit 6.6.

### EXHIBIT 6.6 Gross Profit Analysis

To account for the significant amounts of cash not recorded by the company, as well as the ending inventory being calculated based on a gross profit percentage rather than a physical valuation, the valuation analyst has recalculated gross profit based on industry gross profit percentages. Using these industry averages, we can estimate the amounts of gross revenue and net income that ABC Drug Stores, Inc. (ABC Drugs), should have had each year.

In order to reflect the gross profit percentage of ABC Drugs, we have relied on industry data from MicroBilt Corporation's Integra Financial Benchmarking Data. To accurately calculate a gross profit percentage, we utilized data from both the drug store industry (SIC code 5912), and liquor store industry (SIC code 5921). The Integra data consisted of 1,050 drug stores with revenues between \$2.5 million and \$5 million, and 3,621 liquor stores with revenues between \$250,000 and \$500,000. The gross profit information is as follows:

Integra Gross Margins	2012	2013	2014	2015	2016
Drug stores	28.00%	27.60%	27.30%	27.00%	26.70%
Liquor stores	25.00%	24.60%	24.20%	23.80%	23.40%

The preceding gross margin percentages are then applied to the percent of revenues ABC Drugs received from the sale of drugs or liquor in each year. The breakdown of ABC Drugs' revenues by type is as follows:

ABC Drug Revenue Breakdown	2012	2013	2014	2015	2016
Drug revenues	91.10%	88.09%	88.58%	87.20%	86.97%
Liquor revenues	8.90%	11.91%	11.42%	12.80%	13.03%

Multiplying the revenue percentages by the industry gross margin figures in each year results in a weighted margin for drugs and liquor. Totaling the two figures in each year results in a weighted gross margin for ABC Drugs based on industry gross margins, and ABC Drugs' revenue breakdown by product type. The margin calculations are as follows:

Gross Margin Percentage Calculation					
	2012	2013	2014	2015	2016
Drug margin subtotal	25.51%	24.31%	24.18%	23.54%	23.22%
Liquor margin subtotal	2.23%	2.93%	2.76%	3.05%	3.05%
Gross margin percent	27.74%	27.24%	26.94%	26.59%	26.27%
Gross margin less 10%	24.97%	24.51%	24.25%	23.93%	23.64%

## EXHIBIT 6.6 Gross Profit Analysis

After calculating the gross profit margins relative to ABC Drug Stores, the valuation analyst applied a 10 percent discount to those figures in order to account for economic and industry-specific risk related to ABC Drug Stores. Based on the company's operation in a low-income area, which includes a significant number of customers utilizing government prescription plans such as Medicaid and the overall competitiveness of the retail pharmacy industry, especially within the metropolitan region in which ABC Drugs operates, a 10 percent discount was determined to be appropriate.

To account for the significant amounts of cash not recorded by ABC Drugs, as well as the ending inventory being calculated based on a gross profit percentage rather than a physical valuation, the valuation analyst has recalculated gross profit based on industry gross profit percentages. Using these industry averages, we can estimate the amounts of gross revenue and net income that ABC Drugs should have had each year.

Using the calculated weighted gross profit margin percentages, the estimated amount of cost of goods sold, as a percent of revenues, can be calculated. These figures are as follows:

Cost of Goods Sold Percentage Calculation					
	2012	2013	2014	2015	2016
Revenue %	100.00%	100.00%	100.00%	100.00%	100.00%
Less: gross profit %	24.97%	24.51%	24.25%	23.93%	23.64%
COGS %	75.03%	75.44%	75.75%	76.06%	76.36%

The preceding cost of goods sold percentages are then used to calculate the gross profit adjustment necessary to reflect the approximate amount of revenue that ABC Drugs should have achieved in each year. The gross profit adjustment for each year is listed in the income normalization table. With the addition of the gross profit adjustment to annual historic revenues and the cash payroll adjustment, the valuation analyst has reasonably calculated the annual revenues ABC Drugs attained each year.

A word of caution if attempting an analysis similar to this one: A good SIC or NAICS code is required for the subject company. I have seen too many valuation analysts use SIC or NAICS codes that have so many unrelated types of businesses included in the data that the results become flawed.

## Discretionary Costs

Several items included in the company's income statement may be discretionary and should be investigated by the valuation analyst. Some of the common items to be reviewed are repairs and maintenance (have they been deferred, or are there items that should have been capitalized?), R&D (is the company's policy to continue spending an equal amount on R&D, or is there a measurable payback for past R&D?), and advertising (is the company spending too much for too little?).

An analysis of discretionary costs will almost always be performed by a willing buyer because that individual will be interested in knowing how much of the company's expense structure can be done away with to produce the maximum return to him or her. Because of the synergies that the buyer will bring to the transaction, merger and acquisition valuations will also look to the level of discretionary costs that can be eliminated.

## Financial Statement Consistency

Just as an auditor looks for consistency in financial reporting, the valuation analyst should analyze the financial statements for consistency from period to period. The valuation analyst must pay particular attention to the company's accounting policies or possible changes in accounting principles. If the company has an aggressive capital expenditure expensing policy, the company's balance sheet will be understated for those assets



that were expensed, rather than capitalized. Not only does this understate the value of the balance sheet, but it also destroys the usefulness of many of the financial ratios calculated, common size analyses, and cash flow projections.

Consistency should also be investigated during a trend analysis because a review of a spreadsheet of the past several accounting periods may highlight discrepancies that exist between the reporting periods. For example, the data in table 6.2 shows a valuation analyst's review of insurance expenses from 2012–2016.

	2012	2013	2014	2015	2016
Insurance expense	\$39,888	\$62,255	\$22,984	\$45,977	\$47,395

Reviewing the figures in table 6.2 for consistency reveals that something happened in 2013 and 2014 that warrants further explanation. An inquiry by the valuation analyst determined that in 2013, this “cash basis” company made a \$21,000 insurance payment that was for 2014. The owner decided to accelerate the expense into 2013 so that she could reduce her taxes for that year. Let's hear it for the matching principle! For non-accountants, the matching principle is a basic accounting convention that says that revenues and expenses should be matched to the appropriate time periods so that the financial results are in the correct period and are reported on a consistent basis.

## Financial Statement Adjustments

Before the valuation analyst can determine whether there will be the need to adjust the financial statements, he or she will have to assess the quality of the available financial information. While reviewing the historical financial statements, the valuation analyst must determine the answers to the following questions:

- Are the financial statements complete with all footnotes and supplemental schedules?
- Is there sufficient detail to make the information usable in the comparative analysis to the industry and market data?
- Are the financial statements prepared under generally accepted accounting principles (GAAP) (and, for that matter, does it make a difference)?

## Conversion of Cash or Income Tax Basis to GAAP

In assessing the quality of the company's financial statement information, there may be times when adjustments are necessary to convert the information presented to GAAP. More often than not, this will prove to be an accounting exercise that may not add any value to the valuation process. The decision about whether to make this conversion will depend on the information that the valuation analyst will be using for comparison purposes. For example, if the analyst is valuing a medical practice that reports on a cash basis and comparing the practice to other practices reported on a cash basis, why bother going through the exercise of converting the financial statements to an accrual basis? Most likely, the balance sheet will need to be adjusted for accounts receivable and accounts payable, but the impact on the income statement may be relatively immaterial. (I love talking accounting talk!) This will be discussed further in chapter 23, which covers valuing professional practices.

## Tax Return Adjustments

There will be many times when a valuation analyst will work from tax returns and not have the benefit of having financial statements (the client is probably too cheap to pay for this level of service). When this occurs, the valuation analyst needs to make the necessary adjustments to account for the different treatment of certain income or expense items between the tax returns and what would have been in the financial statements had they existed. For example, entertainment expenses are only 50 percent deductible on a tax return. But if it's a legitimate expense, 100 percent should be considered in determining net income for valuation purposes.



In order to address the differences between book and tax items, we modified our valuation model to automatically adjust the appropriate lines from the historical data entry that may have been input from the tax returns. We allow the data entry to take place from the tax return, and we set up a separate sheet with formulas to combine those items that require combination. This way we do not have to worry about incorrect formulas and staff messing around with our templates. By the way, we password protect all fields that contain formulas. Nobody messes with my formulas! Even something like a Schedule C (sole proprietorship) should be adjusted for differences in reporting. Make sure that all material items are accounted for.

By the time we get through the tax return data, we produce a financial statement that ties out to the “book income” rather than the “taxable income.” This may require certain items to be picked up from Schedule K on an S corporation or partnership tax return or Schedule M-1 adjustments. Once we get to a clean starting point, we are able to consider making any adjustments that may be deemed appropriate for the valuation. By reconciling these various figures, we are also creating a good audit trail for the initial figures. This way, we do not have to worry that a figure was entered incorrectly.

## Understanding Financial Statements for Valuation Purposes

Before we go too much further, let’s talk about financial statements for valuation purposes. Although this book is published by an accounting organization, many of the readers are not accountants. Although the accountants probably think that they do not need this section, please pay attention to it because it is essential to understanding business valuation. Understanding the financial structure of a business is essential to many of the decisions that a valuation analyst will have to make as he or she proceeds with the valuation process. The balance sheet of a typical business appears in figure 6.15.

**Figure 6.15**

	Assets	Liabilities & Equity		
	<b>Cash Assets</b> Cash Accounts Receivable Inventory Other Assets	<b>Current Liabilities</b> Accounts Payable Accrued Expenses Income Taxes Payable Other Current Liabilities		
<b>Net Working Capital</b> 	<b>Fixed Assets</b> Equipment Buildings Land	<b>Interest Bearing Debt</b> (includes current portion and short term notes payable)	 <b>Invested Capital</b>	
	<b>Other Assets</b> Investments Life Insurance	<b>Stockholders' Equity</b>  <b>Preferred Stock</b>  <b>Common Stock</b>		
	<b>Intangible Assets</b> Identifiable Non-identifiable			

The assets of a business typically consist of the tangible and intangible assets owned by the company, which include operating assets (those assets that are used in the company’s operations); excess assets (those assets that could be used in the operations but are owned in excess of the assets that the company actually needs to operate the business, for example, excess inventory because the business purchased a

large amount to take advantage of a closeout from its supplier); and non-operating assets (those assets that are not and will not be used in the ordinary course of conducting business, for example a personal airplane).

There may also be non-booked or unrecorded assets such as the intangible or other assets that are not recorded on the company's financial statements. Per GAAP, the internally generated assets of the company are expensed and not recorded on the company's balance sheet. There may also be discarded assets or fully depreciated assets that may still have value to the business, such as molds or old equipment.

Types of assets that are generally used in the business include the following:

- *Liquid assets.* These include cash, accounts receivable, securities, short-term notes, and the like.
- *Inventory.* These include raw materials, work in process, and finished goods.
- *Other current assets.* These include additional assets that are expected to be used in the normal operating year of the company (within the next 12 months).
- *Fixed assets.* These are generally considered to be the long-lived assets (machinery, furniture, computers, vehicles, and the like) used in the business. These assets are recorded at their original costs and are then depreciated over their estimated economic or tax lives. They remain at their originally recorded cost basis even if their value increases (such as real estate).
- *Other assets.* These assets generally include additional assets that are not expected to be used in the normal operating year of the company, tangible assets not used in the operations of the business, purchased intangible assets, intellectual property and goodwill, and long-term notes receivable.

The liabilities of the business typically consist of the following:

- *Current liabilities.* These are the short-term obligations generally payable within 12 months by the company. These obligations generally consist of accounts payable, accrued expenses payable, the current portion of long-term debt, payroll payable, and other short-term notes payable.
- *Long term liabilities.* These are the long term obligations generally not payable in the next 12 months. These obligations consist of bank debt, notes payable, mortgages payable, and loans from stockholders.

Liabilities of the company can be interest-bearing and noninterest-bearing obligations. Interest-bearing liabilities include bank debt, mortgages payable, and notes payable and may or may not include loans from stockholders. Noninterest-bearing liabilities include accounts payable, payroll payable, accrued expenses, and often, loans from stockholders. The general characteristics of bank loans, mortgage notes, and notes payable to third parties are that they are secured interests (specific assets are generally pledged as collateral) and they carry terms related to repayment schedules, interest rates, and covenants.

The ownership equity section of the company's balance sheet generally depends on the type of entity we are dealing with. In a sole proprietorship, the owner's investment is generally referred to as the owner's *net worth or equity*. The business does not have any retained earnings in the business because the business' profits are considered to belong to the owner. In a partnership, a partner's direct investment is referred to as *partner's equity*. Any profits retained in the business are combined with previous invested amounts into the one partner's equity account. In a limited liability company, the *members'* equity is similar to that of a partnership. Even if it is a single member limited liability company, there is a member's equity. In a corporation, the ownership investment is referred to as *stockholders' equity*. The stockholders' equity is not directly allocated to individual owners in the accounting records. Shareholders' equity consists of paid-in capital in the form of preferred or common stock. This represents the direct investments the stockholders have made in the company. It may also include preferred stocks that generally have preferences on dividends and distributions from the company, meaning that the common shareholders receive their dividends and distributions after the preferred shareholders. Preferred stocks most often have a specified return on investment. The final component of shareholders' equity is retained earnings, or the current year's net income (less any dividends paid) plus all prior years' retained earnings. The equity of the business is the owners' interest in the property after deductions are made for all liabilities.

Here is where the accountants need to stop napping. From a nonfinancial reporting perspective on the components of the balance sheet, assets are listed on the balance sheet from top to bottom in order of liquidity: cash, accounts receivable, inventory, fixed assets, and other assets. Working capital is the difference between the total amount of current assets and current liabilities. *Invested capital* (a non-accounting term) is the sum of the stockholders' equity or partners' or members' equity and the non-seasonal interest-bearing debt. Invested

capital represents the complete financing of the nonworking capital assets of the company. It includes both debt and equity. Interest-bearing debt is referred to as the *debt capital* of the business. The economic return to debt holders is *interest*, and the stockholders' (partners' or members') equity section of the balance sheet is referred to as the *equity capital* of the business. The economic return to equity holders is *profit*. Equity capital and debt capital enjoy different rights and risks and, therefore, generally have very different rates of expected returns.

Liabilities on the balance sheet are presented differently for financial reporting and invested capital analysis purposes. For financial reporting purposes, liabilities are separated into current liabilities (payable in the next 12 months) and long-term liabilities. The short-term portions of long-term debts are recorded in the current assets section along with noninterest-bearing debts like accounts payable and payroll payable. For analyzing a company's invested capital, the liabilities are separated into 2 categories: current liabilities and interest-bearing debt. Long-term debt without interest obligations normally should be adjusted to fair market value, which would, in effect, convert some of the debt repayment to interest expense.

I am going to discuss the concept of invested capital in much greater detail in subsequent chapters, but you need to be introduced to some of this stuff now so that it will begin to make sense later. In order to measure returns on invested capital, the analyst must consider the returns to both equity holders and debt holders. Income differences relate to the return on the difference between equity and debt or interest expense. Cash flow differences relate to the differences in income plus the differences in cash flow related to debt acquisition and repayment. Figure 6.16 shows the differences between equity and invested capital returns.

It is extremely important that you understand the difference between equity and invested capital because you will see that the valuation analyst is faced with the choice of valuing a company using one or the other. The valuation analyst needs to understand what this means in order to do the job properly. But have no fear, I am going to explain it soon.

**Figure 6.16**

<u>Equity Cash Flow</u>	<u>Invested Capital Cash Flow</u>
Revenue	Revenue
less Cost of sales	less Cost of sales
less <b>Operating expense</b>	less <b>Operating expense</b>
= Operating income (EBIT)	= Operating income (EBIT)
less <b>Interest expense</b>	
= Pretax income	
less <b>Income taxes</b>	less <b>Taxes on EBIT</b>
= Net income	= Net operating profit after tax (NOPAT)
plus <b>Depreciation &amp; amortization</b>	plus <b>Depreciation &amp; amortization</b>
= Gross cash flow	= Gross cash flow
less Increase in working capital	less Increase in working capital
less Capital expenditures	less <b>Capital expenditures</b>
+/- <b>Change in debt principal</b>	
= <b>Equity Net Cash Flow</b>	= <b>Invested Capital Net cash flow</b>

## Analysis of Historical Balance Sheets

Once the valuation analyst is pretty sure that all of the data is gathered and input into some form of spreadsheet program, he or she can use all of the analytical tools that I discussed before to try to understand more about the subject company's operations and its industry. Some of the more frequently encountered issues addressed in the historical balance sheet analysis are included in box 6.3.

Many of these questions can be answered by reading the notes to the financial statements (when they exist); many will also be answered during the management interview.

## Analysis Of Historical Income Statements

The income statement analysis is also intended to answer many questions. Some of the more frequent items addressed in the analysis can be found in box 6.4.

## Bardahl Analysis

One of the factors that a valuation analyst is often faced with is the determination of how much working capital is required for the

subject company's operations. Frequently, there may be excess working capital, which becomes a non-operating asset (explained shortly). However, there may also be a deficit of working capital, which may become a reduction in the value of the company. There are a

number of ways to analyze the working capital needs of the subject company. One such way would be to review industry data about companies or groups of companies, such as from MicroBilt Corporation's Integra Financial Benchmarking Data. This could give you an idea regarding the norm in the industry. Another way to test the working capital needs comes from a court case titled *Bardahl Manufacturing Corp.*,<sup>3</sup> which includes a formula that is easy to build into a spreadsheet program. Exhibit 6.7 presents a Bardahl analysis conducted for a manufacturer of steel products.

### BOX 6.4

#### Frequently Asked Historical Income Statement Questions

- What is the method of recognizing income and expenses?
- What are the company's sources of income?
- What is the breakdown of the revenues in terms of dollars and percentages? How have these changed during the period analyzed?
- Which of the company's products and services are proprietary? Does this affect income?
- Which products are purchased for resale?
- What are the company's main expenses? How have these changed during the last five years?
- How are expenses allocated to inventories?
- Which of the expenses are fixed, semi-fixed, or variable in relation to sales?
- What are the company's gross margins by product and service?
- Are there any deferred charges? If so, do they have any value?
- Is depreciation included in cost of goods sold?

### BOX 6.3

#### Frequently Asked Historical Balance Sheet Analysis Questions

- What is the minimum amount of cash or working capital required to operate the company? (See the discussion of Bardahl analysis in this chapter.)
- What is the status of accounts receivable (that is, condition, turnover, bad debt experience, reserve, and aging)?
- What are the amounts, terms, and collectability of officer and employee loans?
- How are inventories valued? How does the company determine inventory quantity and pricing at year-end?
- Does inventory cost include material, freight, labor, and overhead, where applicable?
- What are the company's operating and non-operating assets and liabilities?
- What is the policy for capitalization of property and equipment?
- What depreciation methods and lives are used?
- Have writedowns for obsolescence or costs in excess of net realizable value been made?
- What are the terms of all interest-bearing debt?
- What are the trends in payables and turnover ratios?
- What are the terms of all long-term liabilities?
- Are there any preferences for classes of stock, rights, warrants, or options, among others?

<sup>3</sup> *Bardahl Manufacturing Corp.* (1965), TC Memo 1965-200, PH TCM 65200, 24 CCH TCM 1030.

## EXHIBIT 6.7 Bardahl Analysis

	A	B	C	D	E	F	G	H
1	<b>BARDAHL - ANALYSIS</b>							
2	<b>HISTORIC</b>							
3								
4								
5								
6								
7		December	December	December	December	December	December	
8		2005	2006	2007	2008	2009	2010	
9								
10	<b>Income Statement Data</b>							
11	Sales	-	7,230,054	7,454,789	6,973,673	4,828,331	5,917,241	
12	Cost of Goods Sold	-	3,256,621	3,199,909	3,060,211	2,085,681	2,409,751	
13	Other Operating Expenses (S,G & A, etc.)	-	3,166,783	3,300,778	2,989,907	2,588,285	2,425,290	
14	Depreciation and Amortization	-	664,777	673,714	439,206	315,223	327,268	
15								
16	<b>Balance Sheet Data</b>							
17	Accounts Receivable	826,636	1,021,129	1,034,257	748,479	468,584	756,762	
18	Inventory	-	-	-	-	-	-	
19	Accounts Payable	453,986	64,784	88,429	66,540	38,988	86,860	
20								
21	Current Assets	8,541,099	7,820,983	4,709,793	5,369,823	5,507,735	6,300,861	
22	Current Liabilities	1,606,912	1,025,680	1,033,699	1,136,278	1,093,820	1,404,637	
23								
24								
25	Inventory Turnover		0.00%	0.00%	0.00%	0.00%	0.00%	
26	Accounts Receivable Turnover		12.78%	13.79%	12.78%	12.60%	10.35%	
27	Accounts Payable Turnover		8.27%	2.71%	2.53%	2.53%	2.61%	
28	Operating Cycle Percentage		4.51%	11.08%	10.25%	10.07%	7.74%	
29								
30	COGS + Other Operating Expenses - D&A		5,758,627	5,826,973	5,610,912	4,358,743	4,507,773	
31								
32	Necessary Working Capital		\$ 259,501	\$ 645,570	\$ 575,113	\$ 439,079	\$ 349,036	
33								
34	Actual Working Capital		6,434,623	3,676,094	4,233,545	4,413,915	4,896,224	
35								
36	Excess Working Capital		6,175,122	3,030,524	3,658,432	3,974,836	4,547,188	
37								
38								
39								
40								

The income statement and balance sheet data (Lines 11–14 and 17–22) are historical financial statement figures.

**Row 25, Inventory Turnover**

This row is calculated based on the average inventory (current and prior years), divided by Cost of Goods Sold (current year).

**Row 26, Accounts Receivable Turnover**

This row is calculated based on the average accounts receivable (current and prior years), divided by Sales (current year).

**Row 27, Accounts Payable Turnover**

This row is calculated based on the average accounts payable (current and prior years), divided by cost of goods sold (current year).

**Row 28, Operating Cycle Percentage**

This row is calculated based on row 25 plus row 26 minus row 27.

**Row 30, COGS + Other Operating Expenses—  
Depreciation & Amortization**

This row is calculated as defined.

**Row 32, Necessary Working Capital**

This row is calculated as row 30 times row 28.

**Row 34, Actual Working Capital**

This row is calculated as row 21 minus row 22.

**Row 36, Excess Working Capital**

This row is calculated as row 32 minus row 34.

So, what does this calculation do? It calculates the amount of working capital required for a manufacturing company after considering working capital turnover ratios, the level of cash expenses, and the noncash charges. It estimates the amount of working capital that the company needs to sustain itself based on its normal operating results. In the preceding example, the subject company held no inventory balances because raw materials were purchased on an as-needed basis. Because this is a normal occurrence for this company going forward, the Bardahl analysis can still be used to measure the normal level of working capital. If the company was planning on purchasing and storing inventory in the future, a Bardahl analysis based on the historical balance sheet would not be relevant because the company's required levels of working capital would change. As I have said before, no single analysis can be blindly applied to every valuation assignment we work on.

The Bardahl analysis also highlights the high level of excess working capital held by the subject company (which, in fact, was almost completely tied to large amounts of affiliate receivables and payables). Any large excess needs to be explained and adjusted to arrive at a normalized level of operating working capital. This normalization process will be explained in the next section. Exhibit 6.7 uses the subject company's historical financial information. Needless to say, it is important to conduct a Bardahl analysis using the historical and adjusted financial statements. This will allow you to identify potential non-operating amounts of working capital and determine whether the subject company (on a normalized basis) has an adequate or excess amount of working capital. Just so you can see the effect normalization can have on working capital, I have provided you with our Bardahl analysis using the subject company's adjusted historical financial statements (as shown in exhibit 6.8).

### EXHIBIT 6.8 Adjusted Bardahl Analysis

	A	B	C	D	E	F	G	H
1	<b>BARDAHL - ANALYSIS</b>							
2	<b>ADJUSTED</b>							
3								
4								
5								
6								
7		December	December	December	December	December	December	
8		2005	2006	2007	2008	2009	2010	
9								
10	<b>Income Statement Data</b>							
11	Sales	-	7,230,054	7,454,789	6,973,673	4,828,331	5,917,241	
12	Cost of Goods Sold	-	3,256,621	3,199,909	3,060,211	2,085,681	2,409,751	
13	Other Operating Expenses (S,G & A, etc.)	-	2,693,038	2,810,709	2,784,589	2,446,877	2,353,940	
14	Depreciation and Amortization	-	34,637	60,078	61,878	61,878	67,343	
15								
16	<b>Balance Sheet Data</b>							
17	Accounts Receivable	826,636	1,021,129	1,034,257	748,479	468,584	756,782	
18	Inventory	-	-	-	-	-	-	
19	Accounts Payable	453,986	84,184	88,429	66,540	38,988	86,860	
20								
21	Current Assets	857,550	1,155,457	1,196,952	930,172	545,987	983,127	
22	Current Liabilities	1,025,449	1,60,483	403,891	480,930	412,576	467,877	
23								
24								
25	Inventory Turnover		0.00%	0.00%	0.00%	0.00%	0.00%	
26	Accounts Receivable Turnover		12.78%	13.79%	12.78%	12.60%	10.35%	
27	Accounts Payable Turnover		8.27%	2.71%	2.53%	2.53%	2.61%	
28	Operating Cycle Percentage		4.51%	11.08%	10.25%	10.07%	7.74%	
29								
30	COGS + Other Operating Expenses - D&A		5,915,022	5,950,540	5,782,922	4,470,680	4,696,348	
31								
32	<b>Necessary Working Capital</b>		\$ 266,548	\$ 659,260	\$ 592,744	\$ 450,355	\$ 363,637	
33								
34	<b>Actual Working Capital</b>		674,969	795,061	449,242	133,411	515,250	
35								
36	<b>Excess Working Capital</b>		408,421	135,801	(143,502)	(316,944)	151,613	
37								
38								
39								
40								

In this instance, we identified the affiliate receivables and payables as being non-operating in nature, and we removed them from the balance sheet. This had the impact of significantly reducing the excess working capital to a more realistic level.

Although the Bardahl formula is not the only manner in which to calculate excess working capital, it is a very useful tool, particularly for manufacturing companies. However, it needs to be modified for other types of companies.

## Normalization Adjustments

Once all of the historical financial information has been analyzed, any potential adjustments should be made. Financial statement adjustments, frequently called *normalization adjustments*, are intended to place the subject company's financial information on an economic basis. During this process, a "cleansing" of the financial statements takes place. This cleansing is intended to remove those items that the willing buyer would not necessarily take into consideration in assessing the income or cash flow of the company. Another reason for these adjustments is to make the subject company's financial statements more comparable to either other companies that will be used in the analysis or the industry peer group.

The adjustments made to the financial statements will depend on the valuation approach and on whether a controlling interest or a minority interest is being valued. Because a minority interest may not be able to affect a change in the company's financial position, it may be inappropriate to make such adjustments. For example, if the minority interest cannot set the rent paid by the company to a related entity, an adjustment should probably not be made to the income stream. There may be times, however, that an adjustment of this type might be made for the minority. For example, if the rent is so far from market that it does not reflect the economic substance of the transaction, certain shareholder valuations could warrant an adjustment. The facts and circumstances of whether to make the adjustment, as opposed to a valuation textbook, must dictate what the analyst does. Use common sense and good judgment.

These adjustments are designed to provide better comparability to similar types of businesses or business interests. The normalization process involves adjusting items in the financial statements that are not considered to be normal operating expenses of the subject business. The result should be economic financial statements, rather than those that are GAAP- or tax-oriented. Most often, the normalization adjustments that are made are categorized as (1) comparability adjustments, (2) non-operating or nonrecurring adjustments, or both, or (3) discretionary adjustments.

The term *normalization* has changed in the valuation literature over time. Z. Christopher Mercer, ASA, CFA, distinguishes between different types of normalization adjustments from the literature published previously. Mercer takes what used to be grouped as normalization adjustments and divides them into *normalizing adjustments* and *control adjustments*. In fact, he distinguishes between these two types of adjustments as follows:

- With normalizing adjustments, we attempt to adjust private company earnings to a reasonably well-run, public company equivalent basis. Normalizing adjustments can be further divided into two types to facilitate discussion and understanding. Normalization adjustments are not control adjustments.
- Control adjustments adjust private company earnings (1) for the economies or efficiencies of the typical financial buyer and (2) for synergies or strategies of particular buyers. Control adjustments can therefore also be divided into two types.<sup>4</sup>

Further, Mercer states that

Normalizing adjustments adjust the income statement of a private company to show the prospective purchaser the return from normal operations of the business and reveal a "public equivalent" income stream. If such adjustments were not made, something other than a freely traded value indication of value would be developed by capitalizing the derived earnings stream.<sup>5</sup>

<sup>4</sup> Mercer, Z. Christopher. *The Integrated Theory of Business Valuation* (Brockton, MA: Peabody Publishing, 2004), 146.

<sup>5</sup> *Ibid.*, 149. (Analyst's note for clarification: The reference to "capitalizing the derived earnings stream" would also apply to discounting a future benefit stream, whether cash flow or earnings, because the capitalization model is a shortcut that is derived from a discounting model.)



I like Mercer's description of normalization adjustments because it begins to differentiate between the types of adjustments that we encounter in our daily practice. Exhibit 6.9 provides part of an internal form that our firm uses to make certain that the analyst does not overlook the obvious.

### EXHIBIT 6.9 Partial Internal Checklist for Normalization

#### TRUGMAN VALUATION ASSOCIATES, INC. BUSINESS VALUATION INTERNAL CHECKLIST

Company Name: \_\_\_\_\_

Completed by: \_\_\_\_\_ Date Completed: \_\_\_\_\_

**INSTRUCTIONS:** This form is to be completed and should become part of the working papers. It is intended to ensure that important items are not overlooked. Only the information that is relevant to the valuation should be obtained. If the information is not relevant, write "N/A" in the space opposite the step. If information is missing or incomplete, the analyst should let an officer of the company know before attempting to prepare a valuation report. The "Comments" section on the last page can be used to document problems that were encountered or to highlight unusual matters for discussion with others.

#### BALANCE SHEET NORMALIZATION

	Yes	No	N/A
<b>Cash</b>			
1. Is there excess cash on the balance sheet?			
<b>Accounts Receivable</b>			
2. Has accounts receivable been included in the balance sheet? If not, why?			
3. Did you tax effect the accounts receivable?			
<b>Inventory</b>			
4. Is inventory included in the balance sheet?			
5. Is it reflected on a first in, first out basis?			
6. Is there any excess inventory?			
<b>Marketable Securities</b>			
7. Are these nonoperating assets that should be segregated?			
8. Have they been reflected at market value as of the valuation date?			
<b>Stockholder Receivables</b>			
9. Are these collectible?			
10. Are they legitimate borrowings or just accounting adjustments?			
11. Have they been written off?			
<b>Fixed Assets</b>			
12. Is there real estate included on the books of the subject company?			
13. Is it a nonoperating asset?			
14. Has it been appraised?			
15. Why hasn't it been appraised?			

**EXHIBIT 6.9 Partial Internal Checklist for Normalization**

	Yes	No	N/A
<b>Fixed Assets</b> <i>(continued)</i>			
16. Have all corresponding mortgages been treated consistently with the treatment of the real estate?			
17. Have all real estate related expenses been segregated on the income statement for possible normalization adjustments along with rent expense?			
18. Have machinery and equipment, furniture and fixtures, vehicles, and other items been appraised?			
19. If not, did we use our depreciation template to estimate fair market value?			
20. Do we need to make a depreciation adjustment on the income statement?			
21. If there is high appreciation in these assets, have we considered taxes in our analysis?			
<b>Other Assets</b>			
22. Did we write off intangible assets that will be revalued?			
23. Do we know what all of the assets represent in this category?			
<b>Accounts Payable</b>			
24. Did we include accounts payable on the balance sheet?			
25. Did we tax effect it?			
<b>Notes Payable</b>			
26. Are these notes at market rates of interest?			
27. Have noninterest bearing notes been reflected at FMV?			
28. Are any of the notes considered to be nonoperating?			
29. If notes are high, did we consider using a debt free approach?			
30. Does the debt-equity relationship compare to the industry data to allow a reasonable analysis to be performed?			
<b>Stockholder Payables</b>			
31. Are these legitimate?			
32. Should they be reclassified as equity?			

**INCOME STATEMENT NORMALIZATION**

	Yes	No	N/A
1. Was officer's compensation adjusted?			
2. If yes, did you consider if any adjustment was required due to retirement plan contributions?			
3. Are there officer's perquisites that need to be adjusted?			
4. Are there any nonworking family members on the books?			
5. Are there any other payroll adjustments necessary (for example, maid)?			
6. Have you considered the reasonableness of the following: <ul style="list-style-type: none"> <li>a. Automobile expenses</li> <li>b. Travel</li> <li>c. Entertainment</li> <li>d. Non-arm's length rent leases</li> <li>e. Depreciation</li> <li>f. Interest expense</li> </ul>			

*(continued)*

**EXHIBIT 6.9 Partial Internal Checklist for Normalization** *(continued)*

	Yes	No	N/A
7. Have you added back federal taxes before recalculating taxes on the adjusted income?			
8. Have you added back state and local taxes before recalculating taxes on the adjusted income?			
9. Have you adjusted all nonoperating income and expense items?			
10. Have you adjusted all non-recurring income and expense items?			
11. Have you made generally accepted accounting principles adjustments to make the statements more comparable to the guideline companies?			
Comments. (This section may be used to document problems that were encountered or to highlight unusual matters for discussion with others.)			

## Comparability Adjustments

Certain types of adjustments are designed to make the subject company more comparable to the guideline companies or industry group being used as a means of comparison. For example, if the subject company uses last in, first out inventory accounting, a switch to first in, first out (FIFO) may allow the valuation analyst to compare the balance sheet of the subject company with those of the guideline companies more appropriately if the guideline companies are using FIFO. Depreciation methods are another type of adjustment that fall into this category. In some instances, even officers' compensation can fall into this category. This is especially true when the officers of the closely held business are taking a level of compensation out of the business that is dramatically different from the market. I will address this in more detail in a little while.

## Non-Operating and Nonrecurring Adjustments

According to the *International Glossary of Business Valuation Terms*,<sup>6</sup> the definition of a *non-operating asset* is an asset that is "not necessary to ongoing operations of the business enterprise." This can also be the case for a non-operating liability. Many times, these assets or liabilities, or both, have income and expenses associated with them. An example of a non-operating asset is a condo in Myrtle Beach, South Carolina that is owned by ABC Shoes, Inc., a shoe store in Miami, Florida. ABC also has a mortgage against this property, which makes this a non-operating liability. Included in the income statement are the rental income and expenses associated with the condo. If our assignment was to value the common stock of ABC Shoes, Inc., we would first remove the asset and related liability from the balance sheet. Next, we would remove all income and expense items that relate to these non-operating assets and liabilities. We can now value the operations of the shoe store as a standalone business. However, because valuing the equity of the company is our assignment, we must then add back the fair market value of the non-operating asset and subtract the fair market value of the non-operating liability. After all, the buyer may purchase only the operations, but the equity includes all assets and liabilities.

<sup>6</sup> AICPA: *International Glossary of Business Valuation Terms*. AICPA, NY: 2008.

Another type of non-operating asset that is commonly encountered in a business valuation assignment is real estate that is owned by the business but that does not necessarily have to be part of the business. For example, a corporation that operates a restaurant and owns the real estate that the restaurant is housed in does not need to own the real estate. Therefore, in this type of situation, it is common to treat the real estate as a non-operating asset, build a fair rent into the normalization of the income statement, and value the operating entity as if it were renting its facility. There is no reason that a restaurant could not rent its premises, therefore, the real estate is a separate asset that should be valued apart from the operating entity. What the valuation analyst has to pay close attention to are those types of businesses in which the real estate is an integral part of the business. Some examples of this include funeral homes, ski lodges, and many manufacturing businesses.

Nonrecurring items are also adjusted during the normalization process because the willing buyer would not expect these income or expense items to be pertinent to him or her in the future. An example of a nonrecurring item would be a one-time \$1 million contract that resulted in a net profit of \$350,000. Because the willing buyer would not expect to realize the benefit of this contract, it should be adjusted.

## Discretionary Adjustments

The last group of adjustments that I will discuss is the most common type of adjustments made for small- and medium-sized businesses. Although some of these adjustments will be applicable to larger companies as well, they will more frequently be applicable to the smaller ones. *Discretionary adjustments* are those items that relate to expenses that are solely at the discretion of management, generally, the owners. Some of the more common items include the following:

- Officer's and owner's compensation
- Owner's perquisites
- Entertainment expenses
- Automobile expenses
- Compensation to family members
- Rent expenses (if not an arm's length lease)
- Interest expense
- Depreciation expense

There also may be other items included in this list, although you will probably find that the preceding items are the most common. Let's discuss each one so that you can gain a better understanding of why we make these adjustments. Remember that most of these adjustments will be appropriate only when controlling interests are being valued. However, there may be times when some of these adjustments may be appropriate for minority interests, as well. I will discuss this in more detail later.

## Officer's and Owner's Compensation

Smaller businesses frequently pay their officers or owners an amount equal to what the officers need to live, or what the businesses' accountants tell them to pay to reduce taxes. A common tax planning technique used among smaller businesses is to bonus out profit at the end of the year to eliminate taxable income. For certain types of businesses, for example, S corporations, the owner may choose to reduce his or her salary below market levels and merely distribute the profit because it will be taxed as ordinary income anyway. By not taking salary, the owner is saving payroll taxes. For partnerships, limited liability companies, and sole proprietorships, there may be no salary taken at all. In these entities, distributions or draw is often the manner in which the owners remove money to live on. Sometimes, businesses are doing so poorly that they cannot afford to pay their officers a reasonable wage. Keep in mind that the owner of a closely held business receives two forms of compensation. First, as an employee, that individual is entitled to a return on his or her labor (salary for the job being performed). Second, as an owner, that individual receives a return on investment (dividends or capital appreciation). Be very careful not to confuse the two.

The officer's compensation adjustment is intended to restate the economic income statement of the company to a basis that includes the amount of salary that would be necessary to attract others who are qualified to perform the duties required by the company. I usually put myself in the position of an investor who will have to hire a replacement for the present management. How much will I have to pay to replace management going

forward? Many factors should be considered in the determination of reasonable compensation. Among others, consider the types of duties, education, experience, the number of hours worked, and the geographical region of the country.

Further guidance for reasonable compensation can be obtained from tax court cases in which reasonable compensation was an issue. I stated this in the last three editions of this book, and I still believe it to be true that one of the best constructed judicial opinions in this area can be found in *Mad Auto Wrecking, Inc. v. Commissioner*.<sup>7</sup> This opinion is discussed in greater detail in chapter 27. In this opinion, Judge Laro addressed, one by one, many points that eventually led to the allowance of what would otherwise seem to be a substantial amount of compensation for the two officers in an auto salvage business that had gross revenues of about \$2 million. But as good as this case is, keep in mind that the requirements for compensation to be a deductible expense under Section 162 of the IRC (deductibility for income tax purposes) is different than the criteria to determine a reasonable level of compensation for the officers of the business on a prospective basis.

Where do you look for reasonable compensation? I've been wishing for the past few years that someone (other than me) would write a book on that subject! Well, guess what? Someone did. Kevin Yeanoplos and Ron Seigneur wrote a book for Business Valuation Resources called *Reasonable Compensation: Application and Analysis for Appraisal, Tax and Management Purposes*. If researched and analyzed properly, this can be a time-consuming exercise. Reasonable compensation can be obtained from numerous sources. Some are easier to find than others. I prefer salary surveys that break out the levels of compensation by individual, rather than as a percentage of revenues. As the valuation analyst performs industry research, it is generally a good idea to inquire whether the trade organization has a salary survey. That is always a good starting point. The best bet will be to compare the officers of the subject company with officers of other companies in the same industry. If the company is large enough, salary disclosure information from the proxy statements of public companies can be used.

If this information cannot be narrowed down from the trade associations, another good alternative is other types of salary surveys. However, I can't really say that we go to any book on a regular basis that is applicable to all of our valuations. In fact, there are very few books in our library that we go to for compensation information more than a handful of times throughout the year.

It seems that surveys for professional salaries are more readily available than corporate salaries. We finally broke down and subscribed to the Economic Research Institute's (ERI's) Salary Assessor database. Talk about pricy; it is \$2,389 per year for a single user license. However, ERI is a well-known database used by the IRS in reasonable compensation determinations. It has all types of neat stuff in it, but it hurts to write the check every year. I just don't sell enough copies of my book yet! However, even when we use this service, there are deficiencies that we encounter. Like anything in our field, its usefulness depends on the facts and circumstances of how we are using it, as well as what we are using it for.

Then, there are industry-specific resources. Some of the more common ones that we use include the following:

- *AICPA Small CPA Firm Compensation Survey*—accounting firms
- *BAI Bank Compensation Study*—banks
- *DataMasters Computer Industry Salary Survey*—IT professionals
- *LawJobs*—lawyers
- *In-House Counsel Average Salaries*—more lawyers
- *General Counsel Salary Survey*—more lawyers
- *Survey of Law Firm Economics* (Altman Weil & Pensa)—a lot more lawyers
- *Medical Devices*—medical device and diagnostic industry

<sup>7</sup> *Mad Auto Wrecking, Inc. v. Commissioner*, T.C. Memo 1995-153, RIA T.C. Memo P. 95153, 69 CCH TCM 2330.

- *PAS*—construction industry
- *Physicians Search*—free salary information based upon a bunch of salary surveys conducted by the Medical Group Management Association and the American Medical Association, among others, and did I say doctors?

Other sources of compensation include business journals, specialized salary surveys published by employment agencies, and employment agencies. Don't be afraid to make telephone calls to executive recruiting firms or headhunters to find out what compensation a specific position would command in the marketplace. If we use headhunters, we generally call two or three firms so that we can try to get a consensus of opinion. The valuation analyst should make sure to carefully document his or her sources.

As a last resort, I will use publications such as *RMA Annual Statement Studies* and similar publications, or I might even go to MicroBilt Corporation's Integra Financial Benchmarking Data. It is not that these options are bad, but they present officer's compensation as a percentage of revenues based on the financial information that they accumulate. It is not possible to answer questions about how many officers were surveyed or what part of the country the data is from. This information can be useful, however, as a means of spot-checking other sources for reasonableness. Exhibit 6.10 shows a section from an actual report that addressed reasonable compensation. There is another example included in exhibit 6.11 further along in this chapter.

## Owner's Perquisites

During the analysis of the company's financial statements, pay close attention to owner's perquisites. Many business owners will take as much income as they can out of their businesses, whether as salary or as fringe benefits (perks). These perks can range from retirement plans, life insurance, and disability insurance to health club memberships and sky boxes at sporting arenas. After all, why own a business if you can't enjoy the fruits of your labor? Well, besides the fact that many of these items are often buried so that our friends at the IRS (one hopes) will not find them, they are also considered to be another form of compensation to the owner of the business.

Part of the normalization process involves removing those items that are considered discretionary, which do not necessarily have to be paid to someone else who would be hired to replace the owner. If the company has a retirement plan, a health insurance plan, a life and disability insurance plan, or other fringe benefit plans that are offered to all other employees, these items may not be considered a normalization adjustment. However, if the owner is getting a greater benefit than everyone else, a partial adjustment may be required. Whether you add back these expenses may also depend on the salary survey that you use to determine reasonable compensation. Sometimes, the surveys include not only base salary information, but also total compensation, including perks. Be careful of double counting!

## Entertainment Expenses

Entertainment expenses are reasonable and necessary expenses for many businesses. However, we all know that many business owners deduct entertainment expenses that really do not have anything to do with the business. There may be times when the amount of entertainment expense differs significantly from industry data. In this situation, the valuation analyst must investigate the reason for the differences. Ask yourself: Would the willing buyer have to spend that much on entertainment? If you answer "No," you probably need to consider an adjustment. For some reason, I see this happen frequently when we value medical practices. Specialists seem to have an incredible amount of entertainment on the books. When was the last time your doctor took you to lunch? Although they have some legitimate meetings with colleagues, many of the entertainment expenses are really perks.

### EXHIBIT 6.10 Reasonable Compensation

An estimate of reasonable compensation was made for services rendered by the officers of the company. In order to estimate this amount, several sources were reviewed.

Public companies that were considered similar to ABC Company were analyzed to determine the level of compensation being paid to officers. We analyzed this data by dividing it among all of the publicly traded guideline companies from our search under the market approach (explained later in this report) and those companies with revenues under \$200 million. This was intended to get closer to the size of the company. Data was also gathered from the ERI Executive Compensation Assessor database, a database frequently used by the IRS.

The data compiled from these sources was as follows:

	2014	2015	2016
<b>Public Co. Proxies: Percentage of Revenues (All companies)</b>			
Average	0.45%	0.42%	0.38%
Median	0.32%	0.29%	0.32%
Options (% of companies with options)	59.00%	52.00%	65.00%
<b>Public Co. Proxies: Percentage of Revenues (Under \$200 million)</b>			
Average	0.69%	0.63%	0.62%
Median	0.58%	0.64%	0.73%
Options (% of companies with options)	50.00%	33.00%	50.00%
Median comp. per officer			
All companies	\$308,447	\$319,908	\$ 361,765
Under \$200 million	260,425	241,603	232,783
Compensation for 3 officers			
All companies	\$925,341	\$959,724	\$1,085,295
Under \$200 million	781,275	724,809	698,349
ERI (based on \$150 million)			
CEO			\$ 493,087
President			324,387
Vice President			229,324
			\$1,046,798
As a % of Revenues			0.70%

### EXHIBIT 6.10 Reasonable Compensation

The ERI data is relatively close to the level of compensation indicated that is based on all of the public companies that were analyzed. Although the level of compensation is greater than the compensation for the “Under \$200 million” group, the analyst believes that the greater profitability of ABC Company can support a higher level of compensation. Also, the public companies, on occasion, provide stock options as an additional feature of officers’ compensation.

As a result of this analysis, the analyst believes that compensation can reasonably be reflected at \$1.047 million for the most recent year. We have then deflated prior years by 3 percent.

## Automobile Expenses

Once again, be on the lookout for automobile expenses that are not business related. There are many businesses that require a vehicle for business use. However, the adjustments made during the normalization process are intended to remove the expenses related to nonbusiness vehicles (such as the husband’s, wife’s, son’s, daughter’s, boyfriend’s, aunt’s, uncle’s, or cousin’s). Don’t forget to look at other line items on the income statement besides automobile expenses for the total expenses attributable to the vehicle. Automobile insurance may be in insurance expense. Automobile repairs may be in repairs and maintenance. Gasoline may be in utilities. Make believe that you are playing hide and seek!

Sometimes, the automobile will be a necessary business expense, but the type of vehicle may cause the expense to be excessively high. In this situation, the valuation analyst should try to estimate the normal vehicle expenses for the business. Similar companies can be a good source for this data. My all-time favorite automobile adjustment came as a result of the valuation of a two-doctor neurosurgery practice. Each doctor had a Lamborghini on the books (at an average cost of \$155,000). When I questioned the doctors about the need for these expensive cars, they told me that in the event of an emergency, they needed to get to the hospital fast! Despite my laughing hysterically, I normalized the expense.

## Compensation for Family Members

There is nothing wrong with family members working for the business, as long as they really show up and their pay is reasonable for the services that they render. Frequently, the spouse is on the books so that a contribution can be made to an individual retirement account, although no services are rendered for the compensation. (Well, that may not be the spouse’s position on the services that are rendered! Certainly, no business services were rendered.) In other situations, children are on the books as a means to get spending money and college expenses to them in a lower tax bracket. When family members work for the business, the valuation analyst should check to see if the amount of compensation would be the same if it were paid to a nonfamily member. If my daughter performs secretarial services for my firm, she should not be compensated as the chief financial officer. Heck, I do not even get compensated that well!

## Rent Expense

Frequently, closely held businesses operate in a facility that is owned by the owners or a related entity and is leased to the business establishment. This is not a problem if the lease is at a market rate of rent. More often than not, the rent being charged is based on the mortgage payment that the owner is required to make. A market rental analysis should be obtained by the valuation analyst to support the fair rental value of the premises. This can be obtained from a real estate appraiser or a local realtor who is familiar with market rents in the area for that type of property. Another factor to consider, although not necessarily a normalization adjustment, is if a business is operating without a lease. Rent may be paid to an unrelated landlord at market rates, which would not require an adjustment to be made, but the risk associated with not having a lease should be built into market multiples, capitalization rates, or discount rates. Also, consider the difficulty of selling the business to a willing buyer if a lease cannot be obtained. This could cause the business to be less marketable.



## Interest Expense

An adjustment for interest expense may depend on whether the valuation analyst is valuing the equity of the company or the invested capital of the company. In an equity valuation, the interest expense adjustment may relate only to interest paid on non-operating liabilities. This could be interest on the mortgage on the condo in Myrtle Beach that we discussed previously. Because the asset was considered to be non-operating, all associated income and expenses, including interest, should be removed during the normalization process. The valuation analyst also must pay attention to loans from the owners of the business. If no interest is being paid to the owners, but the loans are legitimate loans in lieu of bank financing, the valuation analyst may need to impute interest expense as a normalization adjustment. On the other hand, if the interest being paid to the owners is excessive (12 percent when prime is 3.5 percent), an adjustment to reduce the level of expense may be warranted.

The valuation analyst should also pay attention to sizable amounts of interest related to debt used to finance excessive compensation and perks. A company may be borrowing for working capital and using the proceeds of the debt to pay the owners. A willing buyer would not be expected to incur this debt; therefore, it should be removed during the normalization process.

When the valuation analyst values the invested capital of the company, the interest is added back to determine the earnings available to the invested capital holders. This can be useful when the valuation analyst values companies that have different capital structures from those of the guideline companies. This is not truly a “discretionary” adjustment, but the discretion is on the part of the valuation analyst to value the equity or the invested capital. There is more about this in chapter 9.

## Minority Interest Valuations

The conventional wisdom in business valuation is that the valuation analyst should not make adjustments to the financial statements that could not otherwise be made by the interest being valued. For example, the minority interest owner cannot determine the level of compensation for the officers of the company. However, with that being said, let’s be practical when we consider the appropriateness of the adjustments for the assignment at hand.

Would it be reasonable to ignore an adjustment for officer’s compensation in the following circumstance? A parent owns and runs a business, takes \$1 million out of the company as salary (when the market rate of salary is \$200,000 for those services), and reduces the profits of the company to \$0. The purpose of the valuation is for a 10 percent gift to the child of the owner. First of all, the answer is NO. It does not matter under fair market value whether the gift is to the child or not. Under these circumstances, in most jurisdictions, a 10 percent owner, child or not, could probably bring an oppressed shareholder lawsuit against the controlling owner. Stripping the business of any dividend-paying capacity for the benefit of the controlling owner and denying the minority of dividends would constitute oppression, in my non-legal opinion. The legal remedy, at that point, might be for the minority owner to be bought out at *fair value*, providing a value based on the *control* value of the interest, rather than the *minority value*. This would require the valuation analyst to make the adjustment for compensation and value the entity based on its true profitability.

In other circumstances, it may be necessary to make certain adjustments to make the company appear more comparable to the guideline companies. If the controlling shareholder is taking too little salary out of the company and chooses to take S corporation distributions instead, a proper comparison to publicly traded C corporations may require a salary adjustment even for a minority valuation.

What I am saying is use your head. Do not just blindly ignore adjustments because the valuation literature indicates that the valuation analyst does not make adjustments for the minority. There may be facts and circumstances that require reasonable adjustments to be made. Remember that Mercer distinguishes between normalization adjustments and control adjustments. The financial statements may need to be normalized, and the adjustment should not be considered a control adjustment. In chapter 11, I indicate that the asset-based approach is generally not applicable for minority interests that cannot cause the liquidation of the assets to get

at the value of those assets. However, we use an asset-based approach frequently when valuing family limited partnerships, many of which are being valued for gifting of minority interests. Like I said, there are very few, if any, absolutes.

Exhibit 6.11 contains a sample normalization section from an actual valuation report.

The example shown in exhibit 6.11 is a good illustration of the normalization process because it shows many of the abuses that a closely held business owner tries to get away with. Many closely held business owners are not too terribly different from the client in this assignment. This is one of the factors that makes this business so much fun. And by the way, the owner of the business was our client.

Once the financial statements have been normalized, the valuation analyst uses the adjusted information as a basis for the valuation. This information can then be used to forecast the future operating results of the business and analyze the economic return to the owner. The valuation analyst should not use an average of the historical figures unless the outcome reflects the anticipated financial results of the valuation subject. Remember, valuation is a prophecy of the future!

As a general rule, I like to use the adjusted figures in addition to the unadjusted figures when performing my ratio analysis. This gives me not only the unadjusted ratios that can be compared with similar data, but also the adjusted figures that can be used to assess the economic future of the company. This becomes an easy task if you use computer templates that you write yourself.

### EXHIBIT 6.11 Sample Normalization Section from a Report

The next step in the valuation process is to normalize the income statement. The normalization is shown in table 4.

**TABLE 4 Normalization of Income for the Years Ended December 31**

	2013	2014	2015	2016
Historic Net Income (Schedule 2)	\$ 98,550	\$ 82,213	\$ 89,662	\$ (26,315)
Adjustments				
Revenues <sup>1</sup>		16,308	7,119	27,648
Inventory Adjustment <sup>2</sup>	—	—	292,272	(292,272)
Smith Manufacturing <sup>3</sup>	46,741	42,715	70,555	34,723
Interest Expense <sup>4</sup>	—	—	10,600	10,686
Officers' Compensation—Addback <sup>5</sup>	148,400	215,700	86,400	158,400
Officers' Compensation—Reasonable <sup>6</sup>	(205,351)	(211,703)	(218,250)	(225,000)
Professional Fees <sup>7</sup>	81,115	—	—	21,399
Moving <sup>8</sup>	14,671	1,500	—	—

(continued)

**EXHIBIT 6.11 Sample Normalization Section from a Report** *(continued)***TABLE 4 Normalization of Income for the Years Ended December 31**

	2013	2014	2015	2016
Auto Expenses—Addback <sup>9</sup>	23,433	28,045	18,611	35,042
Insurance—Automobiles <sup>10</sup>	3,515	4,703	4,824	4,658
Insurance—Other <sup>11</sup>	10,380	11,890	10,350	15,381
Credit Cards <sup>12</sup>	56,007	72,755	62,496	51,036
Payments to Susan & Greg Johnson <sup>13</sup>	44,194	25,474	15,941	21,339
Health & Company Life Insurance <sup>14</sup>	6,754	7,907	9,478	10,351
Telephone <sup>15</sup>	4,441	4,942	2,593	2,636
Miscellaneous <sup>16</sup>	7,100	11,895	8,455	8,501
Loss on Sale of Assets <sup>17</sup>	—	24,264	—	—
Historic Income Taxes <sup>18</sup>	58,286	43,263	41,615	(25,140)
<b>ADJUSTED PRETAX NET INCOME</b>	<b>\$398,236</b>	<b>\$381,871</b>	<b>\$512,721</b>	<b>\$(166,926)</b>
Income Taxes <sup>18</sup>	149,856	143,698	192,937	(53,952)
<b>ADJUSTED HISTORIC NET INCOME</b>	<b>\$248,380</b>	<b>\$238,173</b>	<b>\$319,784</b>	<b>\$(112,975)</b>

1. John Johnson deposited monies received from a vendor in his personal account instead of in the business. This adjustment is intended to show these monies as company revenues.
2. In 2015, an outside inventory service was hired to take a physical inventory. However, they missed some inventory that was written off in 2015. The amount of the error was \$292,272 and was corrected in early 2016. As a result of this error, 2015 net income was understated, and 2016 net income was overstated.
3. Smith Manufacturing was set up to do embroidery work for the company until May 2016 when it was merged into the company. During conversations with Mr. Johnson, he indicated that while the market rate was about \$0.10 per piece for embroidery, the company was paying between \$0.15 and \$0.25 per piece. A hypothetical willing buyer would not incur this additional expense over the market rate. Therefore, this overage must be added back to bring this expense back to a fair market rate.

We were provided with a report showing all payments to Smith Manufacturing for the period 2013 through 2016. We applied a market rate percentage to the amounts based on the difference between what the company was paying compared to what the market was paying. This was calculated as follows:

Market piece price	\$ 0.10
What the company paid (average of \$0.15 and \$0.25)	\$ 0.20
Market rate percentage	$0.10/0.20 = 50\%$

### EXHIBIT 6.11 Sample Normalization Section from a Report

This market rate percentage was then applied as follows:

	2013	2014	2015	2016
Net payments to Smith Manufacturing	\$93,482	\$85,429	\$91,111	\$69,446
Market rate percentage	50%	50%	50%	50%
Adjustment	\$46,741	\$41,715	\$45,555	\$34,723

In 2015, there was an unidentified payment of \$25,000 made by the company to Smith Manufacturing. With no support for this payment, it has been added back in its entirety. This brings the net adjustment in 2015 to \$70,555.

- This is the interest associated with the non-operating shareholder loan. It is added back because a hypothetical buyer would not incur this expense.
- Officer's compensation has been added back in its entirety because a reasonable level of compensation has been determined in number 6 below.
- In order to estimate the amount of reasonable compensation, several sources were reviewed. *Executive Compensation Assessor*, a database available from Economic Research Institute, was the first source. We searched this survey for companies classified under SIC code 5023 in Miami, Florida, with sales between \$5,000,000 and \$20,000,000. We did not find any usable data in this database.

We then looked at the National Compensation Survey—December 2016 published by the U.S. Department of Labor. We reviewed data for private industry workers: mean hourly earnings for full-time and part-time workers by experience levels in Miami-Fort Lauderdale, Florida. Within this group is a subset called Management Occupations, with the highest work level in this subject being level 12. The hourly rate given was converted to an annual figure using 2,080 hours and is shown as follows.

\$ 96.92	per hour
× 2,080	hours
\$201,594	

We also reviewed salary information located at salary.com. This database provided total compensation (salary, bonuses, and benefits) for a top operations executive. The complete package amounted to \$349,701, consisting of salary of \$217,416, bonuses of \$65,065, with the balance representing other fringe benefits.

Finally, we reviewed MicroBilt Corporation's Integra Financial Benchmarking Data, which provides officer's compensation by SIC code as a percentage of sales. Officer's compensation for businesses operating in SIC code 5023 with sales between \$10 and \$25 million included an average compensation from 295 businesses at 2.2 percent in 2016. Using the company's 2016 revenues results in the following:

2016 Revenues	\$ 11,122,116
Officer's compensation as % of revenues	× 2.2%
Officer's compensation	\$ 244,687

(continued)

**EXHIBIT 6.11 Sample Normalization Section from a Report** *(continued)*

Recognizing that this SIC code is extremely broad, we believe that compensation can be considered from this data because it includes 295 businesses within the sales range of the company. It is also within the range of the other sources we reviewed.

As a result of our analysis, we believe that reasonable compensation should be estimated at \$225,000 with prior years being deflated by 3 percent.

7. Professional fees were materially higher in 2013 and 2016 as compared to the other years. An adjustment was made to reflect a more normal level of expense based on an average of the other years. These calculations are as follows:

2011	\$ 26,913
2012	27,228
2014	30,173
2015	20,320
Total	104,634
	÷ 4
Average expense	<u>\$ 26,159</u>

This average expense was then subtracted from the actual expense in 2013 and 2016 to arrive at the adjustment amount. This is shown in the following table:

	2013	2016
Actual expense	\$107,274	\$47,558
Average expense	26,159	26,159
Adjustment amount	<u>\$ 81,115</u>	<u>\$21,399</u>

8. Moving expenses are considered nonrecurring in nature and, therefore, are added back.
9. Auto expenses include car payments and other auto-related expenses for the Johnson family, as well as other employees. Legitimate business expenses were considered to be all expenses paid for Robert Jones (unrelated sales manager), and one car for John Johnson. Our addback is calculated as follows:

**EXHIBIT 6.11 Sample Normalization Section from a Report**

	2013	2014	2015	2016
Total auto expense	\$46,122	\$45,861	\$35,959	\$53,111
Less: auto leases				
Robert Jones	5,868	5,868	6,265	6,464
John Johnson	7,365	8,635	10,412	10,123
Less: auto expenses				
Robert Jones	106	—	—	—
Net auto expense	\$32,784	\$31,358	\$19,282	\$36,524
Other lease payments <sup>A</sup>	14,083	24,732	17,941	33,559
Net operating auto expenses	\$18,701	\$ 6,626	\$ 1,341	\$ 2,965
Allowable portion (50%)	9,350	3,313	671	1,483
Disallowed portion <sup>B</sup>	\$ 9,350	\$ 3,313	\$ 671	\$ 1,483
Addback <sup>A+B</sup>	\$23,433	\$28,045	\$18,611	\$35,042

A Total lease payments from the general ledger less the leases listed above.

B Since most of the remaining expenses pertain to John and Elizabeth Johnson, we have considered only one-half to be a necessary business expense.

10. Included in insurance expense are premiums related to the vehicles that were adjusted for as shown previously.

11. Various other insurance policies were paid by the company on behalf of the Johnsons. These expenses are summarized as follows:

	2013	2014	2015	2016
Homeowners, flood and disability	\$ 3,983	\$ 4,040	\$ 1,137	\$ 1,909
Officer's life	6,397	7,010	9,213	13,472
Auto, Greg Johnson (son)	—	840	—	—
Totals	\$10,380	\$11,890	\$10,350	\$15,381

(continued)

**EXHIBIT 6.11 Sample Normalization Section from a Report** *(continued)*

12. Credit card statements were reviewed and nonbusiness-related expenses were added back because these monies would be available to a willing buyer. The summary of our analysis is as follows:

	2013	2014	2015	2016
Specifically identified <sup>A</sup>	\$44,574	\$43,598	\$41,545	\$35,599
Estimated items <sup>B</sup>	398	455	—	—
Unidentified payments <sup>C</sup>	—	15,133	—	—
Costco <sup>D</sup>	7,645	9,446	14,546	12,165
Sam's Club <sup>D</sup>	3,206	4,074	6,405	3,251
Lands' End <sup>E</sup>	183	48	—	22
<b>Total adjustment</b>	<b>\$56,007</b>	<b>\$72,755</b>	<b>\$62,496</b>	<b>\$51,036</b>

- A. These items were specifically identified as being personal in nature. We reviewed every available credit card statement with management for the years 2013–2016. Some of the items that were considered as nonbusiness-related were as follows:
- Restaurants around the family residence
  - CVS Pharmacy
  - Nail salon
  - Animal hospital
  - Various clothing stores
  - Grocery stores near the family residence
  - Trips to Jamaica
- B. Over 230 credit card payments and the accompanying statements were analyzed to separate personal from business expenses. Only 2 statements are missing in the amounts of \$478 and \$628. We estimated the personal amount by the relationship between business and personal charges in those particular years.
- C. The unidentified amount consists of three payments made to credit cards that were not identified as business cards.
- D. In our discussion with management, it was indicated that a majority of charges at Costco and Sam's Club were personal in nature. After further discussion with management, 80 percent of charges were considered to be personal.
- E. Some items purchased at Lands' End (towels) were business-related. In order to account for this, 50 percent was added back. Overall, this amount was immaterial.
13. Wages paid to family members would likely not be incurred by a hypothetical buyer of the company. As a result, wages paid to Susan and Greg Johnson have been added back, along with the associated payroll taxes.

We were provided with W-2 forms for Susan, representing gross wages. Payroll taxes were estimated to be 8 percent of gross wages. This is calculated as follows:

**EXHIBIT 6.11 Sample Normalization Section from a Report**

	2013	2014	2015	2016
Susan Payroll				
Gross from W-2's	\$12,000	\$12,000	\$ 3,840	\$ 9,555
Taxes (8%)	960	960	307	764
Total payroll	\$12,960	\$12,960	\$ 4,147	\$10,319

In addition, in 2014 there were checks payable to Susan in the amount of \$720 that were also added back. We were also provided with W-2 forms for Greg, and again, estimated payroll taxes at 8 percent of gross wages. This is calculated as follows:

	2013	2014	2015	2016
Greg Payroll				
Gross from W-2's	\$28,920	\$10,920	\$10,920	\$10,203
Taxes (8%)	2,314	874	874	816
Total payroll	\$31,234	\$11,794	\$11,794	\$11,019

It was discussed earlier that Greg received paychecks in order to receive health insurance. In addition to this, Greg received payments as a vendor for his actual services rendered. These amounts were not added back because the company would have had to pay someone else to do what Greg did.

The total adjustment is calculated as follows:

	2013	2014	2015	2016
Total Susan	\$12,960	\$13,680	\$4,147	\$10,319
Total Greg	31,234	11,794	11,794	11,019
Grand Total	\$44,194	\$25,474	\$15,941	\$21,339

14. Health insurance and company-sponsored life insurance for Mrs. Johnson, Susan, and Greg were added back. The 2014 and 2016 health insurance invoices were analyzed; the 2015 paid invoices could not be found. The actual premiums for Mrs. Johnson, Greg, and Susan for 2014 and 2016, along with the observed pattern of increases were used to estimate the 2015 amount. This is shown in the following:

(continued)



**EXHIBIT 6.11 Sample Normalization Section from a Report** *(continued)*

Neighborhood Health Insurance			
2014	Elizabeth + Susan	Greg	
Jan	\$ 449.37	\$ 155.80	
Feb	449.37	155.80	
Mar	449.37	155.80	
Apr	449.37	155.80	
May	449.37	155.80	
Jun	449.37	155.80	
Jul	449.37	155.80	
Aug	449.37	155.80	
Sep	449.37	155.80	
Oct	554.04	192.09	
Nov	554.04	192.09	
Dec	554.04	192.09	
<b>2014 Totals</b>	<b>\$5,706.00</b>	<b>\$1,978.00</b>	<b>\$7,685.00</b>

Neighborhood Health Insurance			
2015	Elizabeth + Susan	Greg	
Jan	\$ 554.04	\$ 192.09	
Feb	554.04	192.09	
Mar	554.04	192.09	
Apr	554.04	192.09	
May	554.04	192.09	
Jun	554.04	192.09	
Jul	554.04	192.09	
Aug	554.04	192.09	
Sep	554.04	192.09	
Oct	628.82	218.03	
Nov	628.82	218.03	
Dec	628.82	218.03	
<b>2015 Totals</b>	<b>\$ 6,873.00</b>	<b>\$ 2,383.00</b>	<b>\$9,256.00</b>

**EXHIBIT 6.11 Sample Normalization Section from a Report**

Neighborhood Health Insurance			
2016	Elizabeth + Susan	Greg	
Jan	\$ 628.82	\$ 218.03	
Feb	628.82	218.03	
Mar	628.82	218.03	
Apr	628.82	218.03	
May	628.82	218.03	
Jun	628.82	218.03	
Jul	628.82	218.03	
Aug	628.82	218.03	
Sep	628.82	218.03	
Oct	689.27	236.67	
Nov	580.87	209.92	
Dec	580.87	209.92	
<b>2016 Totals</b>	<b>\$7,510.00</b>	<b>\$2,619.00</b>	<b>\$10,129.00</b>

An estimate was made for 2013 using the average change in premiums from 2014–2016, which was 15 percent. The company-sponsored life insurance plan only showed premiums for Mrs. Johnson and Greg of \$9.25 per month for the years 2014 and 2015. The annual amount is \$222 and is assumed to be the same in 2013 and 2016. This amount is added to the health insurance expense to arrive at a total adjustment as follows:

	2013	2014	2015	2016
Health insurance	\$6,532	\$7,685	\$9,256	\$10,129
Life insurance	222	222	222	222
<b>Total adjustment</b>	<b>\$6,754</b>	<b>\$7,907</b>	<b>\$9,478</b>	<b>\$10,351</b>

*(continued)*

**EXHIBIT 6.11 Sample Normalization Section From a Report** *(continued)*

15. This adjustment shows payments made by the company on behalf of the Johnsons. These are non-operating expenses and, therefore, are added back. The amounts are as follows:

	2013	2014	2015	2016
BellSouth	\$1,993	\$2,558	\$2,198	\$2,479
T-Mobile	1,106	2,076	395	158
Voicestream	1,342	—	—	—
Direct TV	—	308	—	—
<b>Total</b>	<b>\$4,441</b>	<b>\$4,942</b>	<b>\$2,593</b>	<b>\$2,636</b>

16. The miscellaneous adjustments are as follows:

	2013	2014	2015	2016
Camp Havefun <sup>A</sup>	\$ —	\$ —	\$1,705	\$ —
Checks to Elizabeth Johnson <sup>B</sup>	—	3,744	—	—
Checks to John Johnson & Cash for Travel Expenses (50%) <sup>C</sup>	7,100	8,151	3,750	8,501
Checks to Cash in 2015 <sup>D</sup>	—	—	3,000	—
<b>Totals</b>	<b>\$7,100</b>	<b>\$11,895</b>	<b>\$8,455</b>	<b>\$8,501</b>

- A. This is a non-operating expense and, therefore, added back.
- B. Checks written to Elizabeth Johnson were considered personal in nature and have been added back.
- C. The checks written to John Johnson are largely travel-related. However, the company's records are relatively poor; therefore, we have added back 50 percent as being nonbusiness-related.
- D. In 2015, there was a \$3,000 check made out to cash that was signed by Elizabeth Johnson and charged to warehouse expense. Because no support for this check has been provided, the entire amount has been considered discretionary and has been added back.

17. Losses sustained from selling assets are considered to be nonrecurring and have been added back to better reflect the operating income of the company.

18. Historic income taxes have been added back, and corporate taxes have been recalculated based on the adjusted net income.

## Conclusion

You should now have a better idea about what the valuation analyst does with the data that he or she collects. By now, you should be getting the message that the valuation analyst performs a risk assessment with the data collected. This information can then be used in the determination of market multiples, discount rates, and capitalization rates.

The data collected and analyzed is critical to the valuation process. If the valuation analyst is not comfortable with analyzing the gobs and gobs of data that he or she will be collecting, he or she may want to reread some financial statement analysis textbooks. I hope, for his or her sake, he or she is okay with this stuff. Those types of textbooks are like watching paint dry—real excitement!

## Chapter 7

# Statistics for Valuation and Economic Damages

### Learning Objectives

As I said in the last edition of this book, I am going to do something that I never thought that I would do in my lifetime: discuss statistics in a textbook. I am not sure which is scarier, the thought that this is the fifth edition of my textbook or the fact that I am going to include a chapter on statistics. Before you decide to skip this chapter, I promise to keep it simple. I have to keep it simple because I cannot make it complex. As much as I hate to do this, statistics has become an important part of a valuation analyst's toolbox when performing business valuations and economic damage analyses. Therefore, in this chapter, I will discuss the following:

- Population and samples
- Discrete and continuous variables
- Frequency distributions
- Measures of central tendency
- Measures of variation
- Probability
- Correlation
- Number crunching
- Drinking the statistics Kool-Aid

### Introduction

Okay, so here it comes—statistics for the statistically challenged. An understanding of statistical theory and its application aids valuation analysts in analyzing company, industry, and market data. Statistics are often used to evaluate company performance over time and against some set of peer data or evaluate the predictability of market multiples and other valuation variables. It is also used in forecasting. Let's define some of the basic statistics stuff. I am not going to get too complicated here, probably because I can't.

So, what is *statistics*? Statistics is concerned with scientific methods for collecting, organizing, summarizing, presenting, and analyzing data. It is also used to draw valid conclusions and make reasonable decisions on the basis of such analysis. Notice the word *reasonable*.

### Population and Sample: Descriptive and Inferential Statistics

It is impossible to evaluate all the data that a valuation analyst comes up with when performing an assignment. For example, in collecting data concerning the characteristics of a group of objects, such as the numbers of defective and non-defective screws produced in a factory on a given day, it is more often than not impossible or impractical to observe the entire group, especially if it is large. For those of us who are accountants, we learned about the need to test inventory when conducting an audit. Instead of examining the entire group, called the *population* or *universe*, we examine a small part of the group called a *sample*.

A population can be *finite* or *infinite*. For example, the population, consisting of all screws produced in a factory on a given day, is finite, whereas the population consisting of all possible outcomes in successive coin tosses is infinite (either heads or tails, unless you can figure out how to get the coin to stand on its side).

If a sample is representative of a population, what is observed in a sample can be generalized to the population. Making these kinds of generalizations to an entire population by observing only a subset cannot be made with absolute certainty. There is always some risk of error. We see this in political surveys that report that some percentage of eligible voters will vote for a particular candidate. These surveys also include a margin of error. Because there is always some degree of error when making inferences from a sample to the population, we try to quantify this error. In economics and finance, the conventional standard is a 95 percent confidence level, which means there might be up to 5 percent probability of an error. The part of statistics dealing with conditions under which such inference is valid is called *inferential statistics* or *statistical inference*.

The area of statistics that seeks only to describe and analyze a particular sample without drawing any inferences about a larger group is called *descriptive statistics*. So far, so good?

Before we go too much further, let's talk about some important mathematical concepts.

## Discrete and Continuous Variables

A *variable* is a symbol, such as X, Y, or Z that can assume any of a prescribed set of values called the *domain* of the variable. If the variable can assume only one value, it is called a *constant*. A variable that can theoretically assume any value between two given values is called a *continuous variable*, otherwise it is called a *discrete variable*.

Let's put this in English. The number of children in a family can assume any of the following values: 0, 1, 2, 3, or 4, but it can never be 1.5 or 2.675. This is an example of a discrete variable. However, the height of one of those children can be 59 inches, 61.6 inches, or 72.243 inches, depending on the accuracy of measurement, which is a continuous variable.

## Frequency Distributions and Measures of Variation

We frequently gather raw data that has not been organized in any fashion. A simple example of this would be the set of profits of 100 benchmark companies obtained from an alphabetical listing of industry players. An *array* is an arrangement of the raw numerical data in ascending or descending order of magnitude. The difference between the largest and smallest numbers is called the *range* of the data. In other words, a measure of variation is the *range*, which is defined as follows:

**Range.** The range is the simplest measure of variation to find. It is simply the highest value minus the lowest value. Because the range only uses the largest and smallest values, it is greatly affected by extreme values, that is, it is not resistant to change.

When summarizing large amounts of raw data, it is often useful to distribute the data into classes or categories and to determine the number of individuals who belong to each class. This is known as the *class frequency*. A tabular arrangement of data by classes, together with the corresponding class frequencies, is known as a *frequency distribution*. And you thought that you bought a book on business valuation?

## Central Tendency (Mean, Median, Mode, and So Forth)

Measurements of central tendency include the following:

**Mean.** Also known as the arithmetic mean; this is also referred to as the *average*. The mean is probably the most common measure of central tendency. I hope you know this, but in case you don't, the mean is calculated by adding up all of the values and dividing it by the number of values. I am going to demonstrate all of these calculations in a little bit. Be patient!

**Weighted arithmetic mean.** A weighted arithmetic mean is just what it sounds like. It is the average of the data with weight being assigned to an array of the data. Very often, valuation analysts want to put the greatest amount of weight on the most current year and will weight each previous year with a lesser amount of weight.

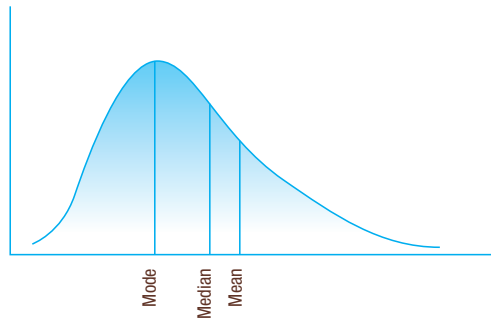
**Median.** The median is another measure of central tendency that is frequently used. It is the 50th percentile of a distribution, the number in the middle of an array of numbers that are lined up in order. To find the median of a number of values, first order them, and then find the observation in the middle: the median of 4, 8, 10, 14, and 18. (Note that if there is an even number of values, one takes the average of the middle two: the median of 8, 12, 16, and 20 is 14.) The median is often more appropriate than the mean in situations in which the figures are skewed due to very high or very low values. These outliers can cause a mean to be really *funky*. By the way, funky is a technical term.

**Mode.** The mode is the most common value in a distribution and is the least often used measure of central tendency. The only useful bit of information that a mode provides is that it lets you know which figure shows up most often. The question you have to ask is how useful is that piece of information?

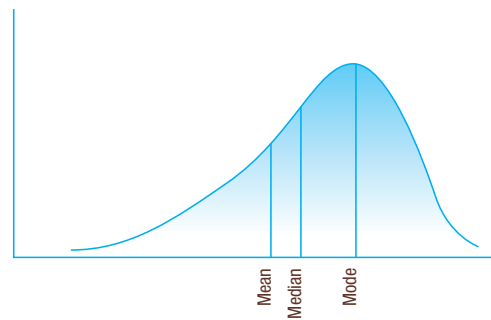
### Relation Between Mean, Median, and Mode

I illustrate the relative positions of the mean, median, and mode for frequency curves that are skewed to the right and left, respectively, in figures 7.1 and 7.2. For symmetrical curves, the mean, median, and mode will all coincide by often taking on the shape of a bell curve. A bell curve is just what the name implies, a curve that takes on the shape of a bell.

**Figure 7.1**



**Figure 7.2**



**Geometric mean.** The geometric mean of a set of numbers is the Nth root of the product of the numbers. The formula looks like this:

$$G = \sqrt[N]{X_1 \cdot X_2 \cdot X_3 \cdots X_N}$$

The geometric mean of 2, 4, and 8 would be calculated as  $G = \sqrt[3]{(2)(4)(8)} = \sqrt[3]{64} = 4$ . The geometric mean is a compound rate (for example, compound growth rate).

**Harmonic mean.** The harmonic mean is the reciprocal of the arithmetic mean of the reciprocals of the numbers. Now, doesn't that really help? The formula looks like it is something out of a horror movie, so I am going to spare you from seeing it. However, I will provide you with a simple example shortly. The *harmonic mean* is a better *average* when the numbers are defined in relation to some unit. The common example is averaging speed.

For example, suppose that you have 4, 10 mile segments to your automobile trip. You drive your car

- 100 miles per hour for the first 10 miles,
- 110 miles per hour for the second 10 miles,
- 90 miles per hour for the third 10 miles, and
- 120 miles per hour for the fourth 10 miles.

What is your average speed? Here is a spreadsheet solution:

Distance (miles)	Speed (miles per hour)	Time (hour)
10	100	0.100
10	110	0.091
10	90	0.111
10	120	0.083
40		0.385
103.80 Average Speed		

The harmonic mean formula (I know I said I was not going to give it to you) is

$$HM = \frac{n}{\sum_{j=1}^n \frac{1}{X_j}} = \frac{4}{\frac{1}{100} + \frac{1}{110} + \frac{1}{90} + \frac{1}{120}} = 103.8$$

Excel calculates this with the formula `=HARMEAN(100,110,90,120)`. Unfortunately, the formula will not work if the segments are not uniform.

## Relation Between Arithmetic, Geometric, and Harmonic Means

Unless you are really into statistics, you probably do not care. However, the geometric mean of a set of positive numbers is less than or equal to their arithmetic mean, but greater than or equal to their harmonic mean. Obviously, they can only be equal if all of the numbers are the same.

## Quartiles, Deciles, and Percentiles

If a set of data is arranged in the order of magnitude, the middle value is the median. But you know that already. The median divides the data set into 2 equal parts. Quartiles divide the data set into 4 equal parts; deciles divide the data set into 10 equal parts; and percentiles divide the data set into as many parts as you set up. In chapter 13, we will discuss data that is presented in deciles and percentiles. Frequently, we review data that reflects the 25th and 75th percentiles. These data points are the same as the first and third quartiles respectively.

Central tendency is used in valuation in a number of different ways. For example, when we perform a trend analysis, we frequently use common size financial statements. We benchmark the subject company against average data for a group of publicly traded guideline companies or a database like Microbit's Integra. The data that we are benchmarking against is frequently presented using central tendencies, whether it be a mean or a median. The calculation of pricing multiples is often done by using averages of the subject company's performance measures. For example, price to two--year average net income is a multiple that we may use in



the market approach. We also calculate market multiples from the average or median of the guideline companies, peer group data, or both. We will discuss multiples in chapter 9.

## Variation

The degree to which numerical data tends to spread about the mean is called the *variation* or *dispersion* of the data. The most common types of measures of dispersion are the range, mean deviation, semi-interquartile range, 10–90 percentile range, standard deviation, and variance. I am not going to cover all of them in this book, but any basic statistics textbook can be used to find them if you really have a burning desire to know about all of them. However, some of this information is important, so I am going to discuss the highlights in brief form. Some definitions of these other measures of variation are as follows:

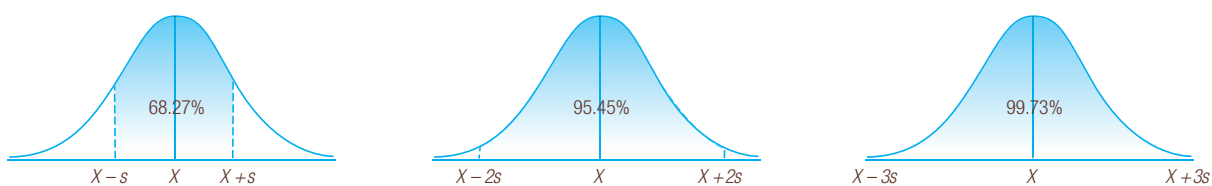
*Standard deviation.* The most commonly reported measure of variability or spread of the data is the standard deviation. This is particularly true if the data is normally distributed, that is, in a bell curve. If a set of data is distributed some other way, standard deviation is a meaningless measure and is actually nonsensical in those distributions. Standard deviation is a way to describe or measure the dispersion of data away from the mean, but only if the data has a bell-shaped curve. Here comes the math: First, the deviations from the mean are calculated. Then, the deviations are squared. Next, the mean of the deviations is calculated. And because these calculations are so much fun, the square root of the mean is taken to obtain the standard deviation. Got that? I didn't think so. Neither did I, and I wrote this stuff. Relax, and I will do some number-crunching for you soon.

So, what information does the standard deviation tell us? It tells us how far the data is located from the mean. So, why do we care? We care because when data that is said to be normally distributed is reviewed, approximately 68 percent of the data (actually, 68.27 percent) lie within 1 standard deviation of the mean; approximately 95 percent of the data (95.45 percent) lie within 2 standard deviations of the mean; and approximately 99.7 percent of the data (99.73 percent) lie within 3 standard deviations of the mean. This gives us a pretty good idea of how much confidence we can have in the data. It's not really confidence about the entire data set; it's about confidence in something that we are trying to interpret from the data. That depends on what we're trying to do. For instance, when it comes to IQ, 68 percent of the population will be within 1 standard deviation on either side of 100.

Ninety-five percent of the population will be within 2 standard deviations plus or minus.

Graphically, the concept of standard deviation is illustrated in figure 7.3.

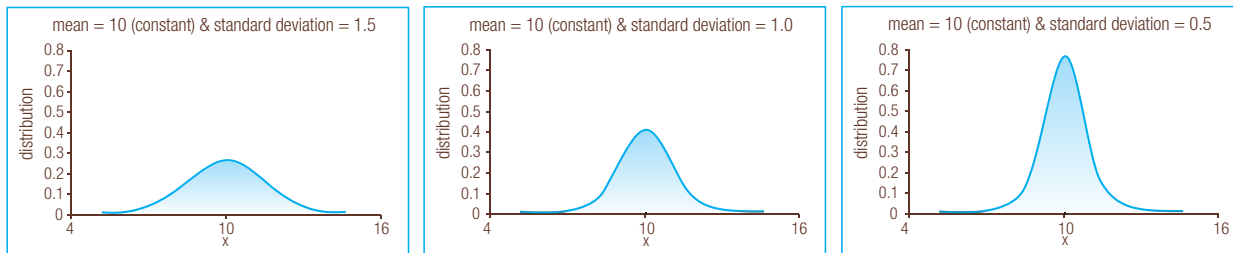
**Figure 7.3**



*Coefficient of variance.* The coefficient of variance is the degree to which a set of data points varies. Coefficient of variance is a way to standardize multiple measurements of standard deviation on different variables so that you can compare them. If I have price-to-sales multiples for several guideline companies, I can calculate the standard deviation, but I cannot compare that standard deviation to the standard deviation of their price to earnings multiple.

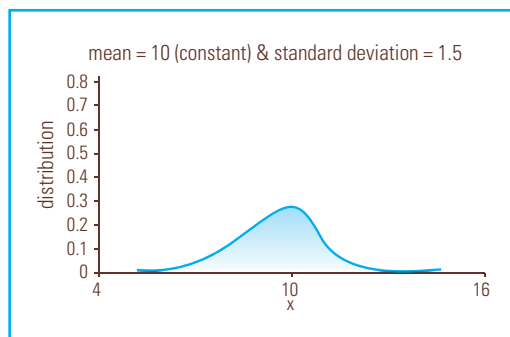
It is often called the relative standard deviation because it takes the mean (average) into account. The larger this number, the greater the variability in your data. The coefficient of variance is calculated by dividing the standard deviation by the mean and is typically displayed as a percentage. When assessing the quality of the results, the lower the coefficient of variance percentage, the more confidence you would have in using the standard deviation of a particular variable compared to the standard deviation of another variable. So what is this really telling us? Let's look at some pictures of central tendency and variation.

The following graphs represent symmetrical distributions.



All three graphs have the same mean, but the standard deviation (or  $\sigma$ ) for the first graph is larger than for the second, and the  $\sigma$  for the third is smaller than the second.

*Skewed distributions.* A distribution is skewed if one tail extends out further than the other. In other words, the data is not distributed symmetrically around the mean. A distribution has positive skew (skewed to the right) if the tail to the right is longer. A distribution has a negative skew (skewed to the left) if the tail to the left is longer.



Whenever measures of central tendency are applied, measuring how far the values differ from a certain point help develop an impression of how closely concentrated around the expected value the distribution is; it is a measure of the "spread" of a distribution about its average value. For example, if we calculate the mean and median price to book multiple, but find there is a *large variance*, then the "average" price to book multiple may be meaningless as a predictor of value. This can help you select the appropriate multiples to use. However, do not let statistics fool you.

## Probability

In a valuation or an economic damages engagement, the valuation analyst may be concerned with how likely a random event that occurred in the past will recur again in the future. For example, suppose an investment management firm generated a return of 30 percent during one year and the analyst wants to know the likelihood that such a return can be generated again. This question can be answered by performing a probability analysis.

A *probability* is a measure of the likeliness that a particular event will occur. A probability assumes a value between 0 and 1, where 0 indicates that an event is impossible, and 1 indicates that an event is certain to happen. For example, a probability of 30 percent means that there is a 30 percent chance that the event in question will happen. While I will not go into detail about probability theory and the various types of probability distributions, exhibit 7.1 illustrates an actual probability analysis that my firm performed for the valuation of a hedge fund.

**EXHIBIT 7.1 Probability Analysis**

In order to obtain a longer term view on the potential for the occurrence of an extreme market rally in the future, we performed a statistical probability analysis. The purpose of this analysis is to determine the likelihood of extreme positive market returns occurring in the future with a strong degree of statistical certainty.

We obtained historic stock market return data as far back as 1926 from Morningstar's 2011 *Stocks, Bonds, Bills and Inflation, Valuation Edition*. We performed the probability analysis based on this historic data. Annual large company stock returns from 1926–2011 are presented in table 1.

**TABLE 1 Large Company Stock Returns**

Year	Return	Year	Return	Year	Return	Year	Return	Year	Return
1926	11.62%	1946	-8.07%	1966	-10.06%	1986	18.67%	2006	15.79%
1927	37.49%	1947	5.71%	1967	23.98%	1987	5.25%	2007	5.49%
1928	43.61%	1948	5.50%	1968	11.06%	1988	16.61%	2008	-37.00%
1929	-8.42%	1949	18.79%	1969	-8.50%	1989	31.69%	2009	26.46%
1930	-24.90%	1950	31.71%	1970	3.86%	1990	-3.1%	2010	15.06%
1931	-43.34%	1951	24.02%	1971	14.30%	1991	30.47%	2011	2.11%
1932	-8.19%	1952	18.37%	1972	18.99%	1992	7.62%		
1933	53.99%	1953	-0.99%	1973	-14.69%	1993	10.08%		
1934	-1.44%	1954	52.62%	1974	-26.47%	1994	1.32%		
1935	47.67%	1955	31.56%	1975	37.23%	1995	37.58%		
1936	33.92%	1956	6.56%	1976	23.93%	1996	22.96%		
1937	-35.03%	1957	-10.78%	1977	-7.16%	1997	33.36%		
1938	31.12%	1958	43.36%	1978	6.57%	1998	28.58%		
1939	0.41%	1959	11.96%	1979	18.61%	1999	21.04%		
1940	-9.78%	1960	0.47%	1980	32.50%	2000	-9.10%		
1941	-11.59%	1961	26.89%	1981	-0.049%	2001	-11.89%		
1942	20.34%	1962	-8.73%	1982	21.55%	2002	-22.10%		
1943	25.90%	1963	22.80%	1983	22.56%	2003	28.68%		
1944	19.75%	1964	16.48%	1984	6.27%	2004	10.88%		
1945	36.44%	1965	12.45%	1985	31.73%	2005	4.91%		

*(continued)*

**EXHIBIT 7.1 Probability Analysis** *(continued)*

In order to analyze the historic stock return data, we calculated two statistics: the average and the standard deviation. The average is an indication of the central tendency of the data, whereas the standard deviation is a statistic that measures how much the data tends to deviate from its central tendency. The lower the standard deviation, the more the data tends to cluster around the average.

We calculated the average and standard deviation statistics over various time intervals. Various time periods were analyzed to observe the impact of extreme economic times that could potentially skew the data. Summary statistics over the various time periods appear in table 2.

**TABLE 2 Summary Statistics**

	Average	Standard Deviation	Sample Size
1926–2011	11.8%	20.3%	86
1936–2011	12.0%	18.2%	76
1946–2011	12.1%	17.4%	66
1956–2011	11.1%	17.2%	56
1966–2011	12.4%	17.5%	46
1976–2011	12.4%	16.8%	36
1986–2011	11.2%	18.0%	26

The average returns for large company stocks ranged from 11 percent to 12.9 percent over the various time intervals examined. The standard deviation of those returns ranged from 16.8 percent to 20.3 percent. The standard deviation was largest during the 1926–2011 time period. This is the result of the presence of extreme positive and negative returns that occurred from 1926–1936 as a result of The Great Depression. These extreme returns deviate significantly from the average return, resulting in a larger standard deviation statistic.

The summary statistics shown in table 2 can be used to perform a probability analysis. In other words, we can use this data to determine the likelihood that extreme positive returns will occur in any given year. We can quantify this likelihood by assuming that the historic return data takes the form of what is referred to in statistics as a *normal distribution*. According to H.T. Hayslett, Jr. in *Statistics Made Simple*:

There are a great number of continuous distributions. The normal distribution is undoubtedly the one that is most widely used in applications of statistics...A normal distribution is completely specified by two parameters: the theoretical mean and the theoretical variance<sup>1</sup> of the population.

Hayslett goes on to say:

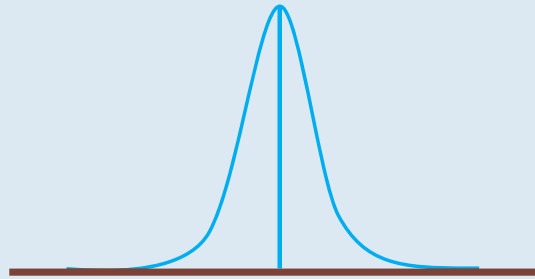
One reason the normal distribution is so important is that a number of natural phenomena (that is, the *measurements* of these phenomena) are normally distributed or nearly so. Phenomena such as heights and weights of individuals, I.Q. scores, errors in measuring the length of a metal rod with high accuracy, and scores on mathematics tests, all have distributions that are normal. Practically speaking, this means that if we select a sample of one hundred people and measure their weights, then classify these observations and draw the histogram, the histogram will follow roughly the outlines of a normal curve.

<sup>1</sup> Represents the standard deviation squared.

### EXHIBIT 7.1 Probability Analysis

A normal curve can be described as a bell-shaped curve that takes the form shown in figure 1.

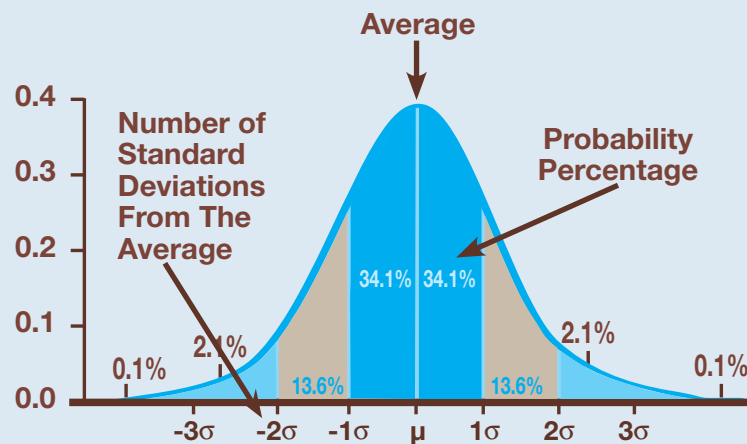
#### Figure 1 Normal Curve



The line down the middle of the normal curve represents the average of the data sample. The normal curve peaks at the average, which means that an assumed value at or around the average has the highest probability of occurrence. The width of the normal curve is dependent upon the standard deviation of the sample. Larger values of the standard deviation with respect to the average result in wider and flatter curves, which indicates more variability in the data. In other words, the smaller the standard deviation, the more the data will cluster around its average.

The area under the normal distribution curve represents the probability that a certain event will occur. This probability is based on the mean and the standard deviation of the sample. A sample normal distribution curve labeled with the corresponding probability percentages is shown in figure 2.

#### Figure 2 Normal Distribution Curve



The percentages in figure 2 represent probabilities that certain events will occur. For example, the probability of occurrence for an event taking place between the average and one standard deviation of the average is 34.1 percent. The probability of an event taking place within one standard deviation on either side of the average is 68.2 percent (34.1% + 34.1%). The probability of an event taking place more than two standard deviations above the average is 2.2 percent (2.1% + 0.1%). What can be seen from looking at the normal distribution curve is that the further away you move from the average, the lower the probability of occurrence.

We applied this same probability theory to determine the probability that The Fund can generate extreme positive returns in any given year. A summary of this analysis is presented in table 3.

(continued)

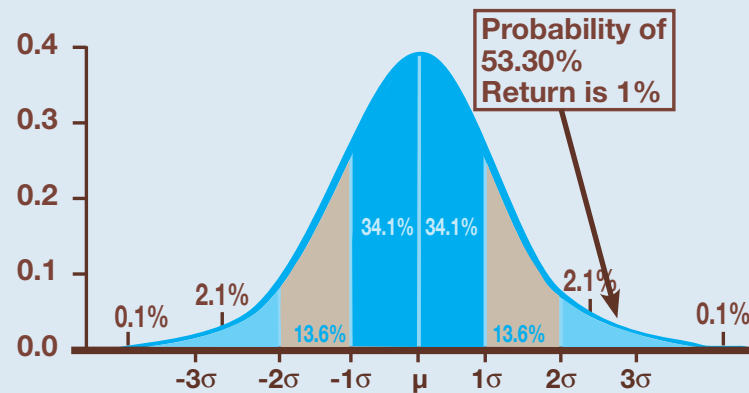
**EXHIBIT 7.1 Probability Analysis** *(continued)*

<b>TABLE 3 Probability Analysis</b>									
Probability of Achieving Returns Greater Than									
Year	Return	1926– 2011	1936– 2011	1946– 2011	1956– 2011	1966– 2011	1976– 2011	1986– 2011	Average
2001	27.20%	22.40%	20.09%	19.22%	17.38%	17.46%	18.94%	18.65%	19.2%
2002	7.90%	57.70%	58.87%	59.54%	57.28%	56.62%	60.68%	57.31%	58.3%
2003	53.30%	2.03%	1.15%	0.88%	0.70%	0.76%	0.74%	0.95%	1.0%
2004	12.40%	48.89%	49.06%	49.30%	46.88%	46.40%	50.10%	47.35%	48.3%
2005	-5.40%	80.26%	83.05%	84.31%	83.08%	82.29%	85.64%	82.25%	83.0%
2006	8.60%	56.35%	57.36%	57.98%	55.68%	55.04%	59.06%	55.78%	56.7%
2007	-2.70%	76.35%	79.03%	80.29%	78.82%	78.01%	81.68%	78.07%	78.9%
2008	0.90%	70.54%	72.89%	74.04%	72.27%	71.45%	75.44%	71.71%	72.6%
2009	40.60%	7.78%	5.75%	5.04%	4.28%	4.44%	4.66%	5.08%	5.3%
2010	18.50%	37.11%	35.96%	35.62%	33.25%	33.04%	35.90%	34.23%	35.0%
2011	3.90%	65.24%	67.16%	68.15%	66.14%	65.37%	69.48%	65.80%	66.8%
Probability of Achieving Returns Less Than									
Year	Return	1926– 2011	1936– 2011	1946– 2011	1956– 2011	1966– 2011	1976– 2011	1986– 2011	Average
2001	27.20%	77.60%	79.91%	80.78%	82.62%	82.54%	81.06%	81.35%	80.8%
2002	7.90%	42.30%	41.13%	40.46%	42.72%	43.38%	39.32%	42.69%	41.7%
2003	53.30%	97.97%	98.85%	99.12%	99.30%	99.24%	99.26%	99.05%	99.0%
2004	12.40%	51.11%	50.94%	50.70%	53.12%	53.60%	49.90%	52.65%	51.7%
2005	-5.40%	19.74%	16.95%	15.69%	16.92%	17.71%	14.36%	17.75%	17.0%
2006	8.60%	43.65%	42.64%	42.02%	44.32%	44.96%	40.94%	44.22%	43.3%
2007	-2.70%	23.65%	20.97%	19.71%	21.18%	21.99%	18.32%	21.93%	21.1%
2008	0.90%	29.46%	27.11%	25.96%	27.73%	28.55%	24.56%	28.29%	27.4%
2009	40.60%	92.22%	94.25%	94.96%	95.72%	95.56%	95.34%	94.92%	94.7%
2010	18.50%	62.89%	64.04%	64.38%	66.75%	66.96%	64.10%	65.77%	65.0%
2011	3.90%	34.76%	32.84%	31.85%	33.86%	34.63%	30.52%	34.20%	33.2%

**EXHIBIT 7.1 Probability Analysis**

We can draw several conclusions from the probability analysis. First, it is highly unlikely that The Fund can generate the level of returns achieved in 2003 and 2009 in any given year. The probability that The Fund can generate a return of 53.30 percent is 1 percent. This is because 53.30 percent falls more than two standard deviations away from the mean in most cases. The 1 percent figure represents the area under the normal curve to the right of 53.30 percent. Referring back to the normal distribution curve, the probability that an event will occur greater than two deviations above the mean is 2.2 percent. The fact that the return figure of 53.30 percent is more than two standard deviations above the mean in most cases results in a probability of only 1 percent.

The probability of a 53.30 percent return appears graphically in figure 3.

**Figure 3 Probability of a 53.30% Return**

Similarly, the probability that The Fund can achieve the returns generated in 2009 is extremely low, ranging between 5 percent and 6 percent, on average. In addition, although not to the degree of 2003 and 2009, the probability of achieving the returns generated in 2001 and 2010 are low as well.

In summary, the probability analysis reveals that the extreme returns generated in 2001, 2003, 2009, and 2010 are outliers that are unlikely to occur in any given year. Furthermore, analyst forecasts and index futures contracts indicate that an extreme market rally is unlikely to occur in the near future that would enable The Funds to generate extreme returns. Therefore, when forecasting future returns, we must remove the impact of these outliers because these returns are unlikely to occur and cannot be sustained.

**Correlation**

Another statistics term that you should be aware of is *correlation*. We often want to see what the cause and effect of something might be. For example, if we are going to forecast revenues for a trucking company, we might want to know how trucking revenues are correlated with gross domestic product. In order to do this, we might use some regression analysis. Exhibit 7.2 illustrates this analysis from a real assignment.

*Regression analysis.* Regression analysis is a statistical tool used for the investigation of relationships between variables. Usually, one seeks to ascertain the causal effect of one or more variables upon another—the effect of a price increase upon demand, for example. Regressions can test whether relationships exist, but they cannot examine causal effects. This gets to the distinction between correlation and causation. In general, causation comes from reason or theory, not statistics.

I am not going to go too crazy here because this can get way beyond business valuation or economic damages, and you did not buy this book to learn complex statistics. As a hint, Excel can do this for you if you know how! There will actually be an example in the next chapter on forecasting that will demonstrate how we use regression analysis to assist in that process. Be patient. We will get there.

## EXHIBIT 7.2

In order to forecast revenues, we are presenting four different models. These are being called:

1. Most Optimistic
2. Most Conservative
3. Most Likely
4. Based on their expert's report

### MOST OPTIMISTIC

The most optimistic forecast model uses sales that are forecast taking into consideration the statistical relationship of PDQ Trucking's revenues to Real Gross Domestic Product (RGDP). We used RGDP instead of Nominal GDP for two reasons: it had approximately the same statistical correlation and it resulted in more conservative growth rates.

We began our analysis by comparing RGDP to PDQ Trucking's revenues beginning in 1990, up to and including the latest 12 months ended June 30, 2009. These figures are shown in Table 22.

	Real GDP	Revenues
1990	8,033.9	\$114,041,000
1991	8,015.1	114,739,000
1992	8,287.1	103,438,000
1993	8,523.4	102,594,000
1994	8,870.7	103,298,000
1995	9,093.7	109,812,000
1996	9,433.9	123,381,000
1997	9,854.3	133,835,000
1998	10,283.5	139,272,000
1999	10,779.8	153,191,000
2000	11,226.0	166,173,000

*(table continued)*



**EXHIBIT 7.2**

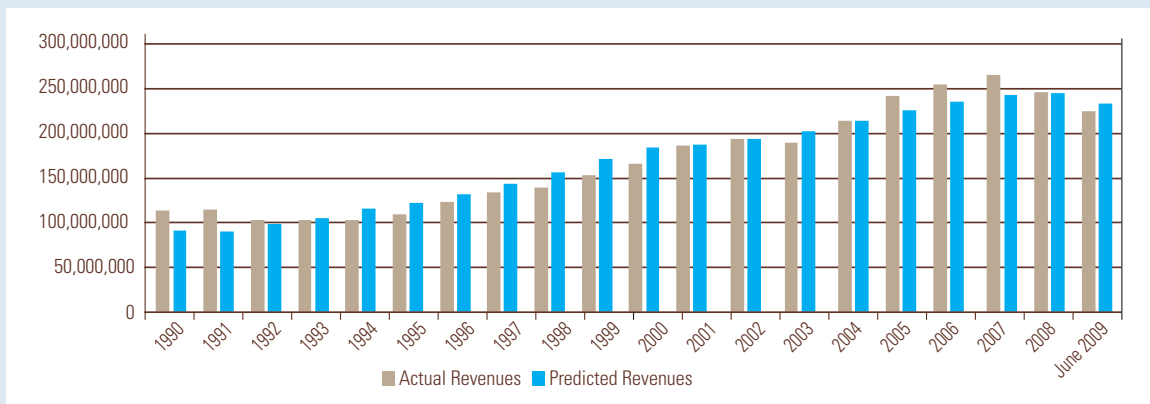
**TABLE 22 Comparison of RGDP to Revenues** *(continued)*

	Real GDP	Revenues
2001	11,347.2	186,077,000
2002	11,553.0	193,422,000
2003	11,840.7	189,704,000
2004	12,263.8	213,733,000
2005	12,638.4	242,081,000
2006	12,976.2	254,772,000
2007	13,254.1	265,675,000
2008	13,312.2	246,350,000
<b>LTM June 30, 2009</b>	<b>12,901.5</b>	<b>224,713,000</b>

Using regression analysis, we determined that there is a high degree of correlation between the data in Table 22. In fact, the  $R^2$  indicates that there is a 92.6 percent correlation between RGDP and revenues. This means that about 93 percent of The Company's change in revenues can be explained by a change in RGDP. Perfect correlation would be 100 percent. Having 20 observations makes the statistical correlation very reliable.

Graphically, the regression analysis can be illustrated to show how the close proximity of predicted revenues would be to the actual revenues. This is presented in Chart 5.

**Figure 5 Regression Analysis Predicted Vs. Actual Revenues**



Note: All dates are as of December 31, except 2009, which is as of June 30.

(continued)

**EXHIBIT 7.2** (continued)

In order to use RGDP as a predictor of PDQ Trucking's revenues, we first had to forecast what RGDP would be after June 30, 2009. In order to accomplish this we turned to *Consensus Forecasts* and *Wachovia Economics*. These two sources provided us with the information necessary to review the quarterly and/or annual forecasted growth rates in RGDP. Using the annual growth rates published in these publications, we calculated RGDP as presented in Table 23.

**TABLE 23 Real GDP Forecast**

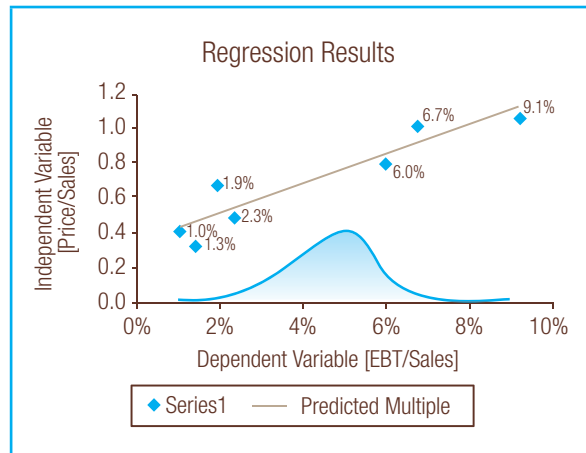
	Real GDP	Annual Growth Rate
Q2 2009 (Actual)	12,902	
Q3 2009	13,001	3.1%
Q4 2009	13,079	2.4%
Q1 2010	13,161	2.5%
Q2 2010	13,253	2.8%
Q3 2010	13,346	2.8%
Q4 2010	13,450	3.1%
Q1 2011	13,557	3.2%
Q2 2011	13,676	3.5%
Q3 2011	13,768	2.7%
Q4 2011	13,868	2.9%

Using the calculated RGDP forecast, we were then able to apply these figures as a predictor of revenues for The PDQ Trucking Entities on a latest 12 months basis. Applying the regression formula results in predicted revenues of \$249,094,543 and \$261,316,272 for the years ended December 31, 2010 and 2011, respectively. Therefore, this would be the predicted sales in the most optimistic forecast.

I have omitted the balance of this section because the computations are similar, and only the numbers changed. This should provide you with a good idea of how we use this stuff.

*Correlation coefficient.* A correlation coefficient is a number between -1.0 and +1.0 that measures the degree to which variations in two variables are linearly related. If there is perfect linear relationship with positive slope between the two variables, the correlation coefficient is 1; a positive correlation exists when one variable

displaying a high value (on the X axis) is shown to be related to a high value in the other variable (on the Y axis) and vice versa.



If there is a perfect linear relationship with negative slope between the two variables, the correlation coefficient is  $-1.0$ ; a negative relationship exists whenever one variable displaying a high value (on the X axis) is shown to be related to a low value on the Y axis and vice versa.

A correlation coefficient of 0 means that there is no relationship between the variables. This means that the relationship between the variables stinks. That may be the only part of this discussion that you are comfortable with.

In valuation, correlation is often used to preliminarily identify relationships between market data and a firm's financial data. For example, if there is a high correlation between the price-to-earnings multiple of guideline companies and the net income of those companies, then the price-to-earnings multiple may be a good predictor of value. Again, we will discuss this in chapter 9, so be patient.

## Let's Do Some Number-Crunching

By now, you have probably had enough of statistics (I certainly have), so let's do some number-crunching. If you are an accountant reading this book, by now, you are probably going through withdrawal. Assume that we have two sets of valuation multiples.

	Set 1	Set 2
Company 1	11.7	6.1
Company 2	14.2	11.6
Company 3	14.7	14.8
Company 4	15.1	17.2
Company 5	19.2	34.7

Let's calculate a number of common measures.

	Set 1	Set 2
25th Percentile	14.2	11.6
Median	14.7	14.8
Mean	15.0	16.9
Standard Deviation	2.7	10.8

Harmonic Mean	14.6	12.4
Coefficient of Variation	0.2	0.6

Note the differences between the two sets of data. Set 2 has a wider range of data and a much larger coefficient of variation. The medians are about the same, but the mean of set 2 is much higher, and the harmonic mean is much lower. Because I defined all of this stuff in the preceding section, you know exactly what I am talking about.

### Calculation of the Mean

The mean for set 1 is calculated as follows:

$$\frac{11.7 + 14.2 + 14.7 + 15.1 + 19.2}{5} = 15.0$$

### Calculation of the Harmonic Mean

The harmonic mean is calculated as follows:

$$\frac{1}{\left[ \frac{\frac{1}{11.7} + \frac{1}{14.2} + \frac{1}{14.7} + \frac{1}{15.1} + \frac{1}{19.2}}{5} \right]} = 14.6$$

### Calculation of the Standard Deviation

The standard deviation is calculated as follows:

$$\sqrt{\frac{(11.7 - 15.0)^2 + (14.2 - 15.0)^2 + (14.7 - 15.0)^2 + (15.1 - 15.0)^2 + (19.2 - 15.0)^2}{(5 - 1)}} = 2.7$$

### Calculation of the Coefficient of Variation

The coefficient of variation is simply:

$$2.7/15.0 = 0.2$$

### Calculation of Median and Percentile

The median and 25th percentile calculations are calculated using Microsoft Excel's "percentile" function. You didn't think I did this by myself? When using this function, the data values are first sorted lowest to highest. The lowest and highest values are assumed to be the minimum and maximum of the distribution of values.

The data values are then divided into the appropriate percentiles. In this case, the data can be thought of as being divided into four buckets: 11.7–14.2; 14.2–14.7; 14.7–15.1; and 15.1–19.2. The endpoint of the lowest of the four buckets corresponds to the 25th percentile; in this case, the value is 14.2. The middle value is the median and is 14.7.

## Be Careful Not to Drink the Statistics Kool-Aid: This Stuff Can Be Misleading

Benjamin Disraeli said “There are three kinds of lies: lies, damned lies, and statistics.” With that being said, the science of statistics has greatly improved since the former prime minister made this statement (sometime during his lifetime from 1804–1881). There are a number of folks out there who want to fool some of the people all the time with the improper use of statistics. However, do not get caught up in this because any reasonable statistician can have a valuation analyst for lunch. They can destroy arguments made through improper use of statistics, thereby raising doubt about the entire valuation.

There are a number of misuses that I have seen in practice. Some are worse than others. I will present some of them in no special order.

*Size matters: the inadequate or “no-data” analysis.* The data analyzed must be sufficient in terms of quantity to make the statistical analysis meaningful. The mean and median of a “two data point” sample is the same, and any analysis of variance is irrelevant. This gets back to sample size. The data set has to be large enough for the results to matter. Otherwise, use this stuff with caution, and be honest about its limitations.

Statistics are used to provide condensed information about the data set of samples; when the data set is small, the valuation analyst is well-advised to present the data directly and forthrightly. Simply because data sets are small does not mean they do not have value in the analysis. As valuation analysts, as long as we recognize that a small data set is typically a haphazard sample of a larger population, we can use it to our (limited) advantage. In short, some data points are better than none and far better than having a few and not presenting them. Just be careful about the conclusions that are reached, even from rather robust data sets that may not be derived from a representative probability sampling of the universe of interest. To the degree that the valuation analyst observes very low variance in the sample, he or she should allow himself or herself the luxury of some further inquiry about why that variance might be low: Is there a sample bias in the data? *Sampling bias* is when a sample is collected in such a way that some members of the intended population are less likely to be included than others.

*The assumption of representativeness.* A common mistake is to assume a higher level of representation in the data set than is actually there. For example, we might be tempted to assume that valuation multiples drawn from transactions involving restaurants in Arizona and Massachusetts are representative of the population of restaurants. However, this may not be true if the liquor laws are very favorable in these states, which, as a result, makes them excellent acquisition candidates, with higher multiples. This leads to an inherent (upward) bias in the sample about the pricing multiples for restaurants. If the valuation analyst is valuing a restaurant in South Carolina, the transaction data may well be misleading to the point of uselessness if there are a different set of liquor license laws in that state that drive down the multiples.

Unless the valuation analyst is able to exhibit equal-probability-of-selection sampling that underpins the representation of the data set that is being used, he or she has an inherent problem that the data may not be representative of the larger population the analyst wants to study. In financial data, it is virtually impossible to observe entire populations and obtain samples that are entirely random selections. Nevertheless, we must go on doing our work and recognize such limitations.

The argument that “I used all the data points available” simply isn’t good enough because in most cases, transactions occur based on nonrandom trigger events. In the simplest example, sales multiples for Internet companies were dramatically higher in the five years preceding 2000 than five years later. Most of us would not fall prey to the temptation to merge this data and assume it is representative of a hypothetical transac-

tion today, but the same problem exists in virtually every data set. The statistical problem is that there are two samples: Pre-2000 and post-2000, but we are mixing the two samples together. We can perform a statistical test to demonstrate that the data comes from two different samples. However, with this premise, the point that I am making is that somebody is trying to make an inference today from a sample that's pre-2000.

Exogenous forces, different situations and conditions, and an inherently non-representative sample of data points are the “facts of life” for a valuation analyst. When using data, the analyst must consider the facts and circumstances that underpin the data.

*The assumption of homogeneity.* Another common error is to assume that there is a high level of homogeneity embedded within samples of supposedly similar objects, such as companies. In some cases, this might be true, but in most cases, it simply is not. The classic valuation analyst paradigm is that firms of similar size, earnings, and growth in an industry are similar, and the variance is attributable to value drivers and management. This paradigm, while useful, tends to lead us towards an assumption of homogeneity that may, in fact, not exist. For example, not all Mexican restaurants in the local area are the same—some are upscale dining establishments, whereas others are simply casual dining restaurants. They may exhibit similar characteristics in measures of size and performance but may be driven by different underlying dynamics. The low-end establishments are driven by an influx of Mexican immigrants, and high-end establishments are driven by wealth effects in the non-Mexican population.

To that end, we watched an upscale Mexican restaurant of average performance double in profitability after switching owners. The new owners targeted the immigrant Mexican population with “home cooking.” The business rapidly morphed from an upscale dining establishment to essentially a catering organization providing daily food to the hard-working Mexican immigrant community.

One way to examine this assumption is to perform statistical tests, such as independent sample t-tests or ANOVA (analysis of variance) on the data set. With private firms, there's probably little chance of having enough data to use these tests. Although a description of these tests is beyond the scope of this book, the valuation analyst needs to be aware that there is more work to be done here to safeguard against making a mistake by blindly relying on a data set. In most cases, however, simple examination of the data will give the valuation analyst a very good idea about how homogeneous it actually is.

Examination of the variance in the data set is an exceptionally useful analysis and not difficult to do. One doesn't need to be a statistician to simply look at the data set in the spirit of inquiry, and ask “Why are these different?” Most often, a very cursory examination reveals some interesting points to consider when applying that dataset to extract parameters for use in valuation.

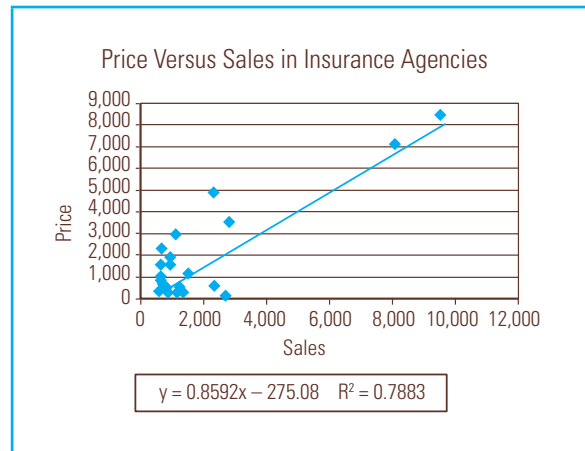
*Treatment of unfavorable data and outliers.* Financial data is often not normally distributed, and it is common for outliers to exist. For instance, if we are examining wages in the population, Warren Buffett, Bill Gates, and George Soros are outliers. In financial data, we often see a lot of giants and few dwarfs. This means the data is not normally distributed. It is one thing to remove outliers; it's quite another to remove data that biases your point of view. As valuation analysts, we are supposed to perform our work with integrity and objectivity. We are not supposed to be advocates for our client's position. Experts that eliminate data points do so based on a very good rationale: examination of the facts and circumstances, which is a core function of an analysis. What this means is that before the valuation analyst eliminates a data point, he or she would do well to develop a good understanding of why it should be eliminated. If the valuation analyst eliminates data points, it is good practice to at least footnote this in the report. Otherwise, it looks like the valuation analyst is trying to get away with something.

In most cases, there are points in a data set that look like they do not conform to the industry data; they are called *outliers*. Outliers are most instructive; they tell you a lot more about the nature of the value multiples that can exist in the industry than do a very tightly grouped set of multiples. You can think of outliers as a point of interest in what might otherwise be a very dull tour. Stopping to examine them can give the valuation analyst a great deal of insight that might be most helpful to the valuation. Perhaps more importantly, not examining

them may leave the valuation analyst open to severe criticism by someone who later makes even a casual analysis of the outlier.

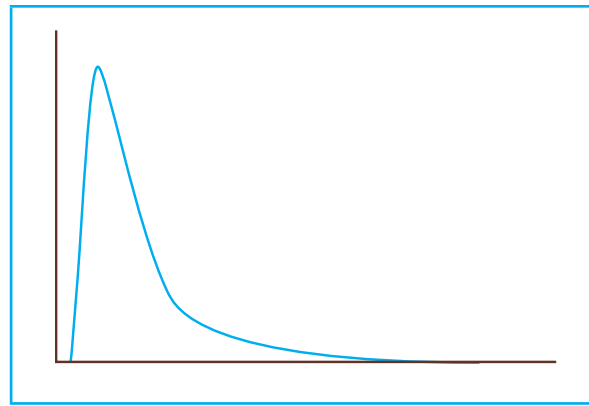
Sometimes, it is absolutely essential to eliminate outliers to derive a reasonable analytic representation of the trends in the data set. The least squared formula for regression will invariably cause the regression line to run very close to an outlier, such that the outlier data point is disproportionately weighting the form of the regression. This requires considerable care but is most sensible if the outlier is very far away from the target firm in all aspects. Sometimes, we find it useful to eliminate observations in the extreme 1 percent or 5 percent in both tails. Not very scientific, but it frequently takes the skewing out of the data and allows a more meaningful analysis to take place.

Using a scatterplot before forming any conclusion regarding a relationship is always a good idea. The graph that follows illustrates that two outliers are driving the coefficient of determination of the regression. (A measure used in statistical model analysis to assess how well a model explains the dependent variable. It is indicative of the level of explained variability between the independent variables and a dependent variable. The coefficient of determination, also commonly known as  $R^2$ , is used as a guideline to measure the model's goodness of fit.) Although the regression statistic ( $R^2$ ) looks good (more than 0.50 is considered to be acceptable), it really is not very good at explaining the data. In this instance, only 50 percent of the variability is explained.



The whole point of this graph is to show that it is always useful to take a common sense look at the data and information the valuation analyst will be using. If the analyst were to eliminate the two top points, the graph would look very different. Removing the top two and bottom two points would have shown the valuation analyst not to rely on this regression statistic.

*The well-chosen representative statistic of central tendency.* Normally, we use some statistic of central tendency—mean, median, or mode—to describe the distribution of values. The one the valuation analyst chooses depends highly on the form of the distribution of values in the data set. In some cases, the mean of all samples is used. I find that the median is typically more useful because financial data is rarely normally distributed, and on a rare occasion, the mode might be. If the distribution of a population or its sample is bell-shaped (that is, normally distributed), then the valuation analyst need not be concerned about the source of the average because the mean, median, and mode will be approximately equal to one another. On the other hand, most business data, such as market multiples, often skews from a normal distribution. A common distribution of business statistics is the log-normal distribution. This appears as follows:



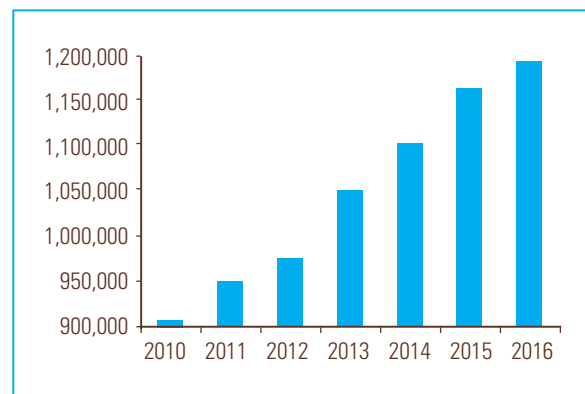
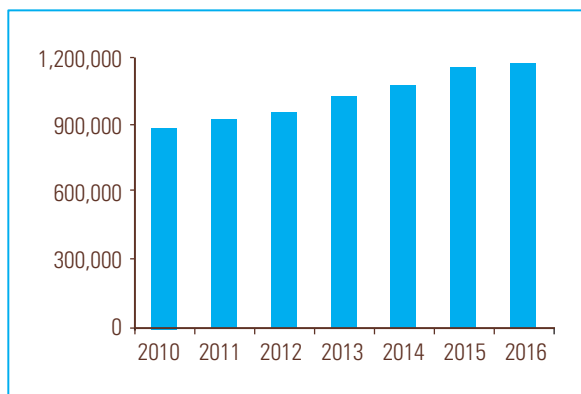
Reporting the median generally provides a more accurate assessment than means of the population or sample.

*The naked statistic and measures of variability.* An average value without a measure of the variability in a distribution or the degree of significance is a “naked” statistic. Getting naked woke you up! Assume the valuation analyst calculates the mean price-to-earnings multiple and price-to-revenue multiple for a group of guideline companies. Which one is the better indicator of value? Without additional analysis, the analyst cannot tell.

Measures of variability in the data set of statistics are critical; typically, the variance, standard deviation, or coefficient of variation is used. The problem is that if the distribution varies from a normal (that is, bell-shaped) curve, these measures are a bit less useful than they would be if the valuation analyst had a normal distribution. With that being said, for inferential statistics, this may not always be correct. The data does not need to be normally distributed. It’s the regression error term that has to be normally distributed. If we were performing a regression of age and wages, we would find that neither age nor wages in the population are normally distributed. Yet, we can perform a regression on those variables and be statistically valid, if the error term in the regression model is normally distributed. Second, for the script of statistics, this can be very much of an understatement. If the distribution is nowhere near normal, these measures are not very useful at all.

Because most business variables do not occur as normal distributions, the central limit theorem is helpful to describe the limits of the central tendency. The central limit theory is a statistical theory that states that given a sufficiently large sample size from a population with a finite level of variance, the mean of all samples from the same population will be approximately equal to the mean of the population. Furthermore, all of the samples will follow an approximate normal distribution pattern, with all variances being approximately equal to the variance of the population divided by each sample’s size.

*The “gee whiz” graph.* Be cautious of “gee whiz” graphs, tables, or pictures. We often show a picture, table, or graph to illustrate our statistical analysis. In order to create the perception of large, significant differences, just change the magnitude of the scale on the vertical axis and you would be amazed at the lies that can be told. Notice that the following graphs contain the same data. Is the growth rate illustrated equivalently?





An interesting text on generating graphs is Edward R. Tufte's *The Visual Display of Quantitative Information*, 2nd ed. (Cheshire, Conn.: Graphic Press, 2001) (ISBN: 0961392142). This book is well accepted, very useful, and interesting reading.

*Post-hoc rationalization.* Post-hoc rationalization is the fallacy of arguing from temporal sequence to a causal relation. Simply put, you can't simply assume that if B follows A, then A caused B. Correlation does not imply causality. For those readers who perform economic damage analyses, you are probably aware that a causal link frequently must be established between the event that caused the damage to occur and the economic damages. Be careful not to foolishly rely on correlation for this relationship.

We all are tempted to squeeze as much as we can from limited data. The problem with small data sets that we invariably use is that correlations occur that appear very strong, yet they are not borne out when tested against a larger sample. This is the nature of small data sets, yet we are all tempted to rely upon these correlations and make something out of them, which can be very embarrassing if the larger data set proves the valuation analyst wrong.

There exists a bootstrapping technique for testing these correlations statistically within a small data set. If you observe a particular correlation in a small data set that is absolutely central to the conclusion of value, I recommend that the valuation analyst use a bootstrapping technique to verify the correlation or test the correlation on a larger sample. This recommendation is purely the responsible use of statistics; if the valuation analyst is not comfortable doing this alone, a statistician can easily do it for him or her. Clearly, this discussion goes way beyond valuation.

*How to "statisticulate."* The act of misleading people through the use of statistics has been referred to as *statisticulation*. Some of the more common ways to statisticulate include the following:

1. The use of means when medians are more appropriate.
2. Misuse of significant figures (for example, "On average, I sleep 6.35 hours per night." [Who keeps track of sleep beyond the precision of about the nearest half hour?]).
3. Improper use of percentages (for example, "There's a 50 percent chance of rain on Saturday and the same on Sunday. So, don't make any plans for this weekend because there's a 100 percent chance of rain.").

*The general recommendation here* is, "Don't try to turn the use of statistics into a magic show." This field is very well understood, highly developed, and there are excellent experts available everywhere. The valuation analyst does not want to be on the receiving end of one.

*The semi-attached statistic.* The last, but certainly the most important, method of abusing or misusing statistics is the semi-attached statistic. Use of semi-attached statistics (or information) is perhaps the principal reason why bad statistics and snake oils have thrived. Subscribers to this philosophy believe that "if you can't prove what you want to prove, demonstrate something else and pretend they are the same thing." Somewhere buried in the semi-attached statistic is usually a trace of truth or fact, but the rest is a whole lot of fluff. Thus, it is very difficult to pin a "lie" on a semi-attached statistic.

In his book *Damned Lies and Statistics: Untangling Numbers from the Media, Politicians, and Activists*,<sup>1</sup> author Joel Best describes four personalities in regard to how people cope with statistics:

1. The *awestruck* understand very little about statistics, but that's of no real concern to them because statistics have magical powers, just like the products they use.
2. The *naïve* have a little more understanding of statistics but are basically accepting of what they are told.
3. The *cynical* are very suspicious of statistics in general, except when it comes to those that support their own beliefs. Overall, they don't trust in numbers and feel that "you can prove anything with statistics."
4. Finally, the *critical* take a more thoughtful approach to statistics that avoids the extremes of naïve ac-

<sup>1</sup> Joel Best, *Damned Lies and Statistics: Untangling Numbers from the Media, Politicians, and Activists* (Berkeley and Los Angeles, CA: University of California Press, 2001).

ceptance and cynical rejection. The critical ask important questions such as “Who is the source and how do they know? How were the statistics produced? Where is the measure of variability or degree of significance? Is the statistic being properly interpreted?” Most importantly, they ask, “Does it make sense?”

## Conclusion

If you did not have a statistics background coming into this field, by now you are probably scared out of your wits. You have two choices: (1) learn this stuff so that you can use it, or (2) hire some really good staff who can explain it to you. All kidding aside, statistics has become a more important part of our analysis, and you really need to understand the basics. You do not have to be a statistician to perform business valuation and economic damage analyses, but it is an essential tool for you to understand. We'll use some of this stuff in the next chapter and then we can get into a dose of valuation.

## Chapter 8

# Developing Forecasts for Business Valuations and Economic Damages

### Learning Objectives

In this chapter, I will attempt to explain the following:

- The difference between a forecast and a projection
- The factors to look for when evaluating a forecast provided by management
- The steps to take in preparing a forecast
- Sales forecasting techniques
- Forecasting various items on the income statement and balance sheet
- Applicable standards CPAs must follow when preparing a forecast for these types of engagements
- The acceptance of forecasts in various courts

### Introduction

In theory, a discounted future benefits method is one of the best methods of valuing a company. It may not be accepted by some courts, however, because of its reliance on forecasted future events. The values derived from these methods are only as accurate as the forecasts of future cash flows or earnings, and sometimes, these future events cannot be forecasted with sufficient reliability to make them usable. Understanding that no forecast is ever able to be determined with total accuracy, these methods may be problematic in either of the following situations:

- The valuation will be used by a client (or a judicial or regulatory body) that will not accept a value based on a discounted future returns method.
- Insufficient data exists to make a timely, reliable forecast of net cash flow or earnings for a reasonable period into the future.<sup>1</sup>

### Forecast Versus Projection

Before I go on to discuss the forecasting process, it is important to differentiate between a forecast and a projection. Although these terms are often used interchangeably, the AICPA uses two distinct definitions to differentiate these terms.

**Financial forecast.** Prospective financial statements that present, to the best of the responsible party's knowledge and belief, an entity's expected financial position, results of operations, and cash flows. A financial forecast is based on the responsible party's assumptions reflecting the conditions it expects to exist and the course of action it expects to take.

**Financial projection.** Prospective financial statements that present, to the best of the responsible party's knowledge and belief, given one or more hypothetical assumptions, an entity's expected financial position, results of operations, and cash flows. A financial projection is sometimes

<sup>1</sup> Jay E. Fishman, et al., *PPC's Guide to Business Valuation*, 26th ed., vol. 1 (Fort Worth, TX: Thomson Reuters, 2016): 5-5.

prepared to present one or more hypothetical courses of action for evaluation, as in response to a question such as, “What would happen if...?”<sup>2</sup>

As the definitions indicate, the primary difference is that forecasts are based on the conditions expected to exist and the course of action the business expects to take, whereas projections are based on one or more hypothetical courses of action. Based on these definitions, forecasts are generally used in performing the discounted future benefits method. The remainder of my discussion will focus on forecasts necessary for the completion of the discounted future benefits method.

## Management’s Forecast

A forecast needs to be obtained from management or prepared by the valuation analyst if the discounted future benefits method will be utilized. The forecast should represent what is expected to occur in the future based on existing operations and what is known or knowable at the date of valuation. Let’s start off with the assumption that management has provided us with a forecast. Upon receipt of the forecast, a reasonableness check should always be performed. Whatever the valuation analyst does, he or she should not blindly accept the client’s forecast.

I have seen the following scenario too often. The subject business has normalized earnings for the last five years as follows:

Year	Amount
2012	\$178,000
2013	170,000
2014	180,000
2015	175,000
2016	200,000

Now, the client provides me with the forecast. Going through a divorce, the client forecasts that business is terrible, the industry is falling apart, and the business will never be the same. Therefore, the next five years will look like this:

Year	Amount
2017	\$180,000
2018	170,000
2019	150,000
2020	135,000
2021	125,000

.....  
2 AT section 301, *Financial Forecasts and Projections* (AICPA, *Professional Standards*).

That poor, poor client! Now let's look at the information that the same client might give me if he or she was trying to sell the business. In this case, the forecast might be the following:

Year	Amount
2017	\$225,000
2018	250,000
2019	275,000
2020	300,000
2021	350,000

Don't you just love this business? Where else can the same client give the valuation analyst such nonsense? Part of the role of being a good valuation analyst is to maintain an objective attitude, which includes recognizing that the valuation analyst's client may try to help the analyst get to his or her desired end result by giving the analyst bad numbers. Sometimes, the valuation analyst will not be able to use this information, and the analyst will be required to consider other valuation methods. However, the valuation analyst shouldn't roll over and play dead just because the job is difficult.

What does the valuation analyst do if he cannot agree on a forecast with management? Occasionally, there are instances in which the valuation analyst cannot accept management's forecasts, or vice versa. When this occurs, every effort should be made to reconcile the differences, assumption by assumption. If all efforts fail, at least five solutions are possible.

1. Use management's forecast and label them as "Management's Pro Forma Forecasts." The fact that they are management's pro forma forecasts should be explained prominently in the text.
2. Insist on using the consultant's forecast, perhaps with footnotes about management's disagreements with the forecasts.
3. Use two or more scenarios for the forecasts, resulting in a range of estimated values.
4. Use management's forecasts and adjust the discount rate. This is usually accomplished through the specific company risk adjustment.
5. In extreme situations, the consultant should consider resigning from the engagement.<sup>3</sup>

I am not inclined to rely on management's forecast, particularly in a litigation assignment, if I do not agree with it. Labeling it as "Management's Pro Forma Forecast" will most likely not make a difference when the judge or jury rejects my conclusion of value that is based on a forecast that I believe is incorrect. Even if I do not state my disagreement, chances are that the other valuation analyst will find similar problems with the forecast that I found and will be extremely vocal about it. Relying on something that the valuation analyst believes is wrong can only bring him or her to a bad place.

Although most valuation analysts do not wish to turn away an assignment, there are times when the forecast is so critical to the valuation process that it becomes impossible to proceed with the job. An example would be when the valuation is being performed for the purpose of obtaining financing.

## Factors to Consider When Evaluating Management's Forecast

There are various factors the valuation analyst should consider when evaluating a forecast provided by management. These factors include the following:

- Company-specific factors
- Economic conditions
- Industry trends

<sup>3</sup> Fishman, et al., *PPC's Guide to Business Valuation*, 502.18.

## Company-Specific Factors

When evaluating a forecast provided by management, the valuation analyst should first ensure that the forecast is consistent with the company's future growth prospects and expectations. In addition, management's forecast should be compared to the company's actual historical financial results, when such information is available.

The information needed to gain a thorough understanding of a company's growth prospects can be obtained during the information-gathering and management interview process. The valuation analyst should obtain as much information as possible related to factors such as the company's customer base and capacity constraints.

An understanding of a company's customer base is essential for determining the reasonableness of management's forecasts. In some instances, the future outlook for a company's customer base can be used as the basis for the revenue forecast. For example, if management forecasts a "doom and gloom" scenario for the company, whereas the company's largest customers are forecasting growth in the near term, it may be improper to rely on management's forecasts.

The valuation analyst must also have an idea of the company's capacity constraints. For example, consider a manufacturing company with the following historical sales revenues:

2014	\$ 8,000,000
2015	\$12,000,000
2016	\$15,000,000

In looking at the company's historical revenues, it appears that the company has been achieving steady growth in recent years. In addition, economic forecasts reflect moderate economic growth well into the near term. Based on these factors, is it safe to assume that the company will experience moderate near-term growth in line with the overall economy? This could possibly be the case if the company didn't have capacity constraints. If management states that with its current facility, equipment, and labor force the company can only generate a maximum of \$18 million in sales, a forecast reflecting continued growth over the next 10 years is unreasonable unless a certain level of additional costs needed to increase capacity are incorporated into the forecast.

In instances in which the company has an operating history, management's forecast should be compared with the company's historical results. In addition, it would also be beneficial to obtain a historical budget versus actual report from the company in order to see how accurate the company's forecasts have been in years past and if they have historically been overly aggressive or conservative. For example, if a company has continuously missed its forecasts by 30 percent or more, it may not be beneficial to place a lot of weight on management's forecasts for a valuation engagement.

A company's historical financial performance is often a good benchmark to use and should be analyzed to see if the company's forecasted growth, profitability, and financial ratios are in line with historical levels. If management's forecasts are not in line with history, the valuation analyst must find out from management why the company is expecting either improvements or declines in its operating performance.

There are some cases in which the valuation or economic damages assignment involves an early stage company with limited or no operating history. In instances such as these, the valuation analyst must look to benchmarking data from either trade associations or the public market to determine if management's growth and profitability assumptions are reasonable. In addition, a sensitivity analysis may be appropriate to analyze the impact of changing the various assumptions in the forecast.

As a real-life example, we were once engaged to value an early stage company that had yet to generate revenues. This was a publicly traded company that was developing a new technology. Unfortunately, I cannot provide more information than this because I cannot take the chance that its identity might be discovered. As part of the valuation engagement, we received a forecast model from management that contained various assumptions that would affect the amount of revenues that would be generated by the company. In this instance, we determined that management had a better understanding of its own industry and operations than we did, so instead of refuting management's assumptions, we performed sensitivity and scenario analyses to determine how changing these various assumptions would affect management's revenue forecast. A listing of some of the assumptions used in the revenue forecast for this company was as follows:

- In some instances, the company would infuse carbon dioxide into its products, in other instances, it wouldn't.
- The company had different deal sizes, ranging from small to large.
- The company had different types of deals it offered to its customers.
- Each deal the company obtained had an assumption regarding the start date and the payment schedule.
- Management's forecast included an assumption regarding the number of deals it would obtain in each year.
- The company would increase its fees by approximately 20 percent once the product was accepted and tested in the marketplace.
- The company would earn royalties ranging from 6 percent to 7 percent of revenues once its products had been accepted in the marketplace.

After performing our sensitivity analysis, we determined that the infusion of carbon dioxide and the type of deal offered had a minimal impact on management's revenue forecast. Therefore, we did not change these assumptions. In addition, we classified all deals as large because we believed that smaller deals would be unlikely due to the significant start-up and installation costs associated with the company's products (the purchaser of this technology would have to make an initial investment of about \$650 million—that is large in my book!).

As of the valuation date for this engagement, the company already had a contract with one customer. One of the issues that we had to address is that we did not know exactly when the contract would become effective. Even the company was not sure when they would start seeing cash. Taking this into consideration, we changed several of management's forecast assumptions to reflect the terms of the company's existing contract. In particular, we adjusted the payment schedule to reflect payments over a longer period of time.

With respect to the fees that this start-up company would be able to charge, we determined that a 20 percent increase would be unreasonable due to potential competition that would enter the market. Therefore, we assumed no price increases. In addition, our research revealed that royalty rates of 6 percent to 7 percent of revenues were higher than those charged for similar types of products. Therefore, we reduced the royalty rate to 4 percent, which was more in line with the market.

After going through each of these assumptions, we had a base forecast scenario. The only unanswered question at this point was when the company would generate its first revenues. Due to the extreme level of uncertainty related to this assumption, we performed five scenarios: the base scenario in which we used management's assumption, three scenarios in which we delayed the timing of when the company would generate its first revenues, and a final scenario in which we reduced the number of deals the company would obtain in each year.

Now that we had the revenue part of the forecast taken care of, we continued down the income statement to review management's cost of goods sold assumption. The company's forecast model had a detailed breakdown of all of the costs associated with producing its products. These costs were related to salaries, overhead, and other costs. We determined that management's cost of goods sold assumptions were reasonable except for the fact that there was no inflation factor built into the model to account for cost increases in future years. Therefore, we built a 2.5 percent inflationary factor into the forecast.

The next part of this assignment was determining the level of operating expenses the company would need to incur in order to achieve its projected revenues. We had a start-up company with a short operating history, no truly similar companies, and no industry benchmarking data. Therefore, we searched SEC filings for public companies that were involved in a similar industry, even though they may have been different from the subject company. For example, instead of using companies that develop alternative sources to the actual product, we may have looked for energy companies that were in the solar development business. The goal was to find companies that we could use to benchmark the growth in expenses against. All of these start-up companies might have similar growth cycles. After our search and elimination process was completed, four companies met our criteria. We analyzed the S-1 registration statements and 10-K filings for each of these companies to analyze how their expense structures and research and development budgets changed from inception to maturity. After analyzing the data for the public companies, we determined that management's expense forecast was relatively in line with these other companies. Therefore, we made very few changes to management's expense forecast.

A challenging part of this assignment was forecasting the balance sheet. The company's historical financial ratios were determined to be meaningless because the company was still in its very early stages of operation. In addition, management's forecast model included only short-cut calculations to arrive at estimated net cash flow. Nevertheless, we proceeded to forecast the company's balance sheet based on the following assumptions:

- *Cash*. Calculated as 3 months of operating expenses and cost of goods sold. At this stage of the business' operations, cash was being burned. Our forecast had to consider when the burn would stop, as well as the normal level of cash that was expected to be maintained going forward.
- *Accounts receivable*. Assumed a 45-day receivable collection period based on management's estimate. This seemed reasonable after we reviewed financial data for other companies that were considered to be good benchmark companies.
- *Prepaid expenses*. Increased by an inflationary rate of 2.5 percent annually. Management did not account for inflation in its expense forecast, which we adjusted for. As a result, we believed that the prepaid expenses would be based on a higher level of expenditures.
- *Capital expenditures*. Used the company's capital expenditure projections for the first 2 years. Thereafter, capital expenditures were increased at a 2.5 percent inflationary rate over depreciation.
- *Other assets*. Remained constant throughout the forecast period. These were relatively minor.
- *Accounts payable*. Assumed a payment period of 30 days based on management's estimate. Management expected to pay its bills faster than it collected accounts receivable. This can create cash flow problems that must be considered as the valuation analyst reviews the results of the forecast.
- *Accrued expenses*. Increased at 2.5 percent annually to account for inflation.
- *Other liabilities*. Remained constant throughout the forecast period. Again, these were relatively minor.

At this stage in our analysis, we had all of the information necessary to forecast cash flow for the company. Based on our cash flow projections, we determined that the company would need to obtain additional funding in the short term in order to survive. The level of funding needed would depend on when the company's product would be accepted into the marketplace, allowing it to begin to generate revenues and, eventually, profits.

The preceding example details the level of analysis that is often required to properly evaluate a forecast provided by management. Performing this valuation required us to have a strong understanding of the company's operation, its potential customer base, its products and services, and its growth potential. The valuation analyst must have a clear understanding of all of the assumptions that go into management's forecast and how changes to these assumptions affect value. In the preceding case, simply accepting what management provided to us would have resulted in us overvaluing the company by a large margin. By the way, this public company had a market capitalization of over \$1.5 billion, but there was insider trading and a very thin float of the stock. A court appointed liquidator of a hedge fund that owned a controlling interest in this company wanted to know what it was really worth.

The level of scrutiny that the valuation analyst uses depends on many factors. Although this example was of a much larger company than many valuation analyst's value, even a smaller company can have similar issues. The only real difference is the amount of digits in the numbers. Obviously, with larger companies, the margin of error can be much greater.



## Economic Conditions

The valuation analyst should also consider how different economic factors, such as gross domestic product (GDP), inflation, interest rates, consumer confidence, and so on affect the demand for the subject company's products and services. If it is determined that the company is heavily dependent on the economic climate, the valuation analyst should ensure that management's forecast is consistent with the outlook for the economy.

Many of the valuations that we performed during the 2008–2010 time frame involved companies that were severely affected by the global economic recession. In many cases, clients used this economic downturn as a means to justify bleak forecasts, resulting in lower values. When evaluating management's forecast, the valuation analyst needs to have an understanding of what part of the economic cycle the country or world is in as of the valuation date. If the economy appears to be bottoming out, a forecast of continued poor performance may not be reasonable because the company could potentially benefit from a moderate recovery.

As a real-life example, I was involved in a shareholder litigation involving a trucking company in late 2009. Management of the trucking company believed that the deterioration in the economy would continue to weigh heavily on the company's performance in the near term. However, after a careful analysis of the company's customer base and economic and industry forecasts, we determined that management's expectations were inconsistent with our analysis of this external data. The analysis that ultimately resulted in us placing little weight on management's expectations and preparing various forecast scenarios that were more in line with near-term economic and industry expectations is shown in exhibit 8.1.

### EXHIBIT 8.1 Industry Analysis—Report Excerpt

Before we can properly forecast the company's revenues, we must look at the environment in which The Company operates. The economy was in turmoil during 2008 and a good part of 2009.

The U.S. economy entered a recession in December 2007. For the four quarters ended June 30, 2009, real gross domestic product (GDP) has contracted as follows:

**TABLE 16 Change in Real Gross Domestic Product From Preceding Period, Annualized**

	2008		2009	
	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.
Change in Real GDP	-2.7%	-5.4%	-6.4	-0.7%

(Source: Bureau of Economic Analysis, Press release dated September 30, 2009.)

Although the economy had clearly suffered during the year ended June 30, 2009, more recent indications "suggest that the recession has bottomed out and a recovery may already be underway." According to a survey of prominent U.S. economic and financial forecasters conducted by Consensus Economics Inc. on September 14, 2009, the consensus forecast for real GDP is as follows:

(continued)

**EXHIBIT 8.1 Industry Analysis—Report Excerpt** *(continued)***TABLE 17 Forecast Change in Real Gross Domestic Product from Preceding Period, Annualized**

	2009		2010				2011	
	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.
Real GDP	3.1%	2.4%	2.5%	2.8%	2.9%	3.2%	3.2%	3.5%

(Source: Consensus Forecast, U.S.A. [September 14, 2009].)

The *Value Line Investment Survey* included similar economic projections, calling for growth in the 2 percent to 3 percent range for the remainder of 2009 and continuing in that range in 2010. Once home prices and employment levels show improvement, Value Line predicts growth may surpass 3 percent on a sustained basis.

With resumed economic growth, corporate profits are expected to climb in 2010, and the consensus forecast expects nominal pre-tax corporate profits to grow by 9.7 percent in 2010 versus the prior year. Inflation is also expected to be a modest 1.9 percent in 2010.

The U.S. stock market appeared to be rallying on the improved outlook for the U.S. economy and had rallied considerably since bottoming out on March 3, 2009, as shown in table 18.

**TABLE 18 Stock Market Indices**

	March 3, 2009 Market Low (Closing Price)	October 2, 2009 (Closing Price)	% Change
S&P 500	672.88	1,025.21	52.36%
Dow Jones Industrial Average	6,547.05	9,487.67	44.91%
NASDAQ	1,268.64	2,048.11	61.44%

(Source: Yahoo! Finance.)

The recessionary environment hurt the trucking industry as shipping volumes declined with economic activity. This resulted in falling freight demand and increased competition. These factors, combined with falling fuel price surcharges due to declining diesel prices, resulted in revenue and profit declines for trucking companies. Fuel surcharges “move in tandem with the price of diesel fuel, which limits the effect that energy cost fluctuations have on earnings.”

Looking forward, an expanding economy should translate into improved results for the trucking industry. “Freight demand should pick up when economic conditions improve, since more goods will need to be shipped.” This should improve the profitability of the industry. With the prospects of increased diesel prices and improved demand, Value Line believes revenues will rise at a “fairly rapid clip.” Value Line’s forecast for the trucking industry is presented in table 19.

**TABLE 19 Value Line’s Forecast for the Trucking Industry**

	2009	2010	% Change	2012–2014	% Change
Revenues (% Mil)	\$23,135	24,650	6.5%	\$32,140	30.4%
Operating Margin	9.50%	11.60%		14.50%	

(Source: Value Line Investment Survey, September 4, 2009.)

**EXHIBIT 8.1 Industry Analysis—Report Excerpt**

Value Line's forecast suggests that the trucking industry is expected to bottom out in 2009, with improved revenues and operating margins expected in 2010 and beyond.

In addition to the economic and trucking industry forecasts, we examined the outlook for The Company's customers. Retailing companies are The Company's major customers. Although retailing had been hit hard by the economy, the industry is expected to bounce back in 2010. According to Value Line's retail store industry composite, industry revenues are projected to grow 6.7 percent in 2010 before advancing 17.9 percent from 2010–2014. Value Line's retail (special lines) industry composite is expected to experience 1.2 percent revenue growth in 2010, followed by 15.7 percent growth from 2010–2014.

In order to get more insight into The Company's prospects, we also looked at The Company's major customers. According to John Smith, The Company's top four customers, in no particular order are Best Buy, Target, TJX, and Macy's. We also looked at other large customers.

As a result of Circuit City's bankruptcy, Best Buy was growing, adding 2.7 percent market share in the three months ended July 31, 2009. Best Buy's comparable store sales were down 6.2 percent and 3.1 percent in the first two quarters of the year ended February 28, 2009. However, these sales are expected to improve going forward because Best Buy is projecting comparable store sales for the year ended February 28, 2010, to be flat to down 2 percent. For the year ended February 28, 2010, Best Buy anticipates adding 40–50 new U.S. stores to its existing 1,023 U.S. stores, an increase of 4 percent to 5 percent. Looking farther out, in its October 3, 2009 report, Standard & Poor expects approximately 50 new store openings in North America over the next six years, projecting mid-single digit annual growth in Best Buy's square footage over the next 5 years.

Pep Boys, a relatively new customer obtained by The Company according to John Smith's deposition, now ranks in The Company's top 10, saw revenues decline in 2008 and the first half of 2009 as the company continued a restructuring effort begun in 2007. After closing 33 stores in 2007, Pep Boys' store count remained unchanged in 2008 at 562 stores. However, Pep Boys' restructuring efforts were expected to bear fruit in the second half of 2009, as revenues are expected to grow for the remainder of the year. 2010 revenues are expected to grow by 2.5 percent, and the company hopes to add an additional 20–40 stores. Revenues are expected to grow 17.5 percent by 2014.

Target has weathered the recession quite well. Revenues increased 2.5 percent in 2008 thanks to the net addition of 91 stores, leaving the total store count at 1,682 at January 31, 2009. Although comparable store sales had declined in 2007 and the first half of 2008, this trend is expected to reverse and Standard & Poor expects a 1 percent same store increase in 2010. Value Line expects a significant improvement in comparable store sales in the third quarter of 2009. As a result of the economy, Target had slowed its store expansion in 2009. After averaging 94 new stores per year from 2005–2008, the company is expecting to add only 60 in 2009. Value Line expects 30 new stores in 2010 (1.7 percent growth) before expansion plans gradually ramp up. From 2010–2014, Value Line expects Target to add 160 stores, a 9 percent increase.

TJX Companies, Inc. has seen strong results despite the recession. Revenues increased 4 percent in 2008, with a 1 percent increase in same store sales. This strong growth has continued in 2009, as TJX's same store sales have continued to grow during the last half of the year by at least 3 percent for all of TJX's U.S. segments. Looking forward, TJX's management has forecast 2 percent to 4 percent same store sales growth in the second half of 2009. In 2010, Standard & Poor's expects same store sales to be flat to up modestly. Value Line projects an overall revenue increase of 3.3 percent in 2010. For 2009, TJX planned to be more conservative in its store openings as a result of economic conditions and planned to add 34 new U.S. stores, increasing its U.S. store total to 2,167, a 1.5 percent increase. Looking further out though, TJX plans to ultimately build 3,050 to 3,100 U.S. stores, an increase of 40.7 percent to 43 percent over projected store counts at the end of 2009. However, there is no time horizon provided for this ultimate expansion.

Macy's has been struggling since at least 2007, when sales first declined by 2.4 percent, followed by a 5.4 percent decline in 2008. Macy's store count has been declining modestly since the end of 2005: 5 in 2007 and 6 in 2008, leaving a count of 247 stores as of January 31, 2009. Looking at 2010, Macy's is expecting half of the slide that began in 2007. Value Line projects Macy's store count to be unchanged, whereas sales are expected to increase less than 1 percent. Although Macy's is expected to stabilize in 2010, sales growth is expected to continue to remain slow over the next several years.

*(continued)*

**EXHIBIT 8.1 Industry Analysis—Report Excerpt** *(continued)*

Sears Holdings Corp. is similar to Macy's in that its decline started before the recession began. Sears Holdings' domestic comparable store sales have declined every year since the predecessor's company's formation in 2003. In general, the performance of Sears stores has been the worst over the time period, as seen in the data in table 20.

**TABLE 20 Change in Comparable Store Sales**

Fiscal Year	Sears	K-Mart
2005	-8.4%	-1.2%
2006	-6.1%	-0.6%
2007	-4.0%	-4.7%
2008	-9.5%	-6.1%

Although Sears Holding Corp.'s sales have been declining, the store count has been relatively unchanged, as seen in table 21.

**TABLE 21 Sears Holding Corp. Store Count**

	Sears				Total Domestic
	K-Mart	Mall	Essential	Specialty	
2005	1,416	866	58	1,128	3,468
2006	1,388	861	74	1,095	3,418
2007	1,382	860	75	1,150	3,467
2008	1,368	856	73	1,233	3,530
% Change in Sears Holding Corp. Store Count					
2006	-2.0%	-0.6%	27.6%	-2.9%	-1.4%
2007	-0.4%	-0.1%	1.4%	5.0%	1.45%
2008	-1.0%	-0.5%	-2.7%	7.2%	1.8%

*(Source: Sears Holding Corp. 10-K Forms filed March 17, 2009, March 26, 2008, March 28, 2007 and March 15, 2006.)*

Looking forward, little is expected to change for Sears Holdings. In 2010, Standard & Poor forecasts a 6 percent decline in same store sales, with K-Mart continuing to outperform Sears. This continues the same trend that has generally been occurring since at least 2003. Store closures are expected to continue as well.

Clearly, 2008 and the first part of 2009 were tough periods for the economy, the trucking industry, and for The Company's customers. However, although the outlook for some of The Company's customers appears to be marginal at best, other customers are projecting a solid recovery as the economy improves. This bodes well for The Company in the future.

As can be seen in the analysis presented in exhibit 8.1, management's expectations of "doom and gloom" in the near term were inconsistent with short-term economic expectations. Economic forecasts indicated growth in the near term and, as a result, the company's largest customers were anticipating moderate near-term growth.

## Industry Trends

Industry trends should also be considered when evaluating a forecast provided by management. Industry factors can include the size of the market, demand drivers, the competitive environment, barriers to entry, and the maturity of the industry. This would be a good time for the valuation analyst to consider all the factors discussed by Porter.

An understanding of the industry is of significant importance when valuing or performing lost profits calculations for companies with limited or no operating history. Oftentimes, I will receive a forecast from management or an opposing expert in an economic damages litigation in which the forecast has the subject company easily penetrating an industry that is already saturated with companies that generate millions and, in some cases, billions of dollars in revenues. In addition, these companies have much larger advertising budgets, capital resources, and brand recognition than the subject. How realistic is it for a subject company with no brand recognition and an inexperienced management team to immediately enter a mature market with large companies that have already established a market presence and capture a 30 percent market share? This further stresses the importance of understanding the industry and its major players in order to better evaluate the growth potential for the subject company.

The following is a list from the American Society of Appraisers (ASA) of industry factors that the valuation analyst may need to consider in preparing a forecast:

1. Growth prospects for the subject company's industry at the national and local level
2. Demand factors
3. Maturity of the industry
4. Structure of the industry and level of competition
5. Technological or economic obsolescence factors
6. Barriers to competitor entry<sup>4</sup>

## Preparing the Forecast

Now let's assume that no forecast is provided by management or the forecast provided is not reasonable. What does the valuation analyst do? The lack of a forecast does not relieve the valuation analyst of the responsibility of preparing a forecast on his or her own. In fact, the ASA corroborates this practice and included the following statement in its course materials:

Practitioner—If the subject company does not prepare forecasts, the appraiser may consider either working with management to prepare forecasts or independently preparing a forecast.<sup>5</sup>

The starting point of the forecast process is the analysis and adjustment of historical financial statements to reflect the economic income of the business being valued. Some of the more common adjustments are as follows:

- The inventory accounting method may be adjusted to conform to industry practice or expected future treatment. This could include a change in inventory accounting from last in, first out to first in, first out.
- Depreciation may be adjusted to reflect current economic write-offs more accurately, based on the value determined by the machinery and equipment appraisers or real estate appraisers.
- Nonrecurring items should be removed.
- Non-operating income or expense items may be eliminated, if appropriate.
- Related party transactions may need to be adjusted if the results are different from those that would be negotiated at arm's length.

<sup>4</sup> BV202N, *The Income Approach*. (American Society of Appraisers Basic Business Valuation Course): 25 (2012 version).

<sup>5</sup> *Ibid.*

Some of the normalization adjustments will be made regardless of whether the valuation subject is a controlling interest or a minority interest. These types of adjustments would be those that affect the future benefit stream, particularly when the historical operations are expected to be different from the future operations. For example, a company may have incurred a hurricane loss in the past year that would not be expected to occur again in the foreseeable future. Certainly, as a valuation analyst, I do not want to start trying to forecast hurricanes. However, in certain parts of the world, this may be more predictable than in others.

Historical operating results should also be analyzed to gain an understanding of the quality of the earnings reported. The valuation analyst should also look for trends that may help predict the future with respect to the direction in which the company is headed. These trends may indicate growing, declining, flat, or volatile income streams. If a company has been growing at an exceptionally high rate, the likelihood is slim that this will continue into the future. Because this rate cannot be maintained, the valuation analyst must compensate for it in the forecast by reducing the growth going forward.

If the company is declining, the terminal value (the period that is after the discrete forecast period—discussed in more detail in chapter 12) may be calculated on the basis of liquidation, as opposed to that of a going concern. If a decline is forecast indefinitely into the future, the valuation analyst should consider whether the highest and best use of the business is in liquidation. If so, the business should be valued in this manner.

If the company's future appears to be flat, there is no reason to use a multiperiod valuation model; in this situation, a single period capitalization model will suffice (this will also be discussed further in chapter 12). When a company's results are erratic, forecasts become extremely difficult and may have little value in the valuation process. An averaging of history may prove to be beneficial, but this should be done only as a last resort.

The valuation analyst shouldn't forget to use other information that was gathered from the company or through his or her own research. Customer contracts can help the valuation analyst forecast expected changes as a result of a customer's growth. For example, if the valuation analyst was valuing a trucking firm that had major contracts with large retail customers, the economic and industry analysis would become important in helping to forecast the trucking firm's growth.

The next question that the valuation analyst should ask is how far into the future the forecast should go. The forecast should go out far enough that it represents sustainable future levels of income for the company. If the company has been showing losses, the forecast should go out far enough to allow the company to return to a level of normal sustainable profitability. The same is true if the company has been making large profits. Go out far enough to reflect the normal conditions for the company. The idea is to go out beyond periods that contain the peaks and valleys that may be short term. The willing buyer is going to be looking for the income stream that he or she can count on beyond the near term.

Another consideration related to the forecast period is that the forecast should go out far enough so that the business can get through a period of significant plant construction or expansion. If new products are being introduced, the forecast should extend to the point that the results of the new product's introduction can be understood. If a merger or acquisition is expected to take place or is in the process of taking place, the forecast should extend to the period after the combination is completed.

The anticipated rate of growth is the primary factor to be considered in how far the forecast should be continued. Stabilization is the goal to be achieved in the forecast period. This is frequently much more difficult than it seems. The valuation analyst will have to conduct a thorough analysis of the subject company, the economy, and the industry, if he or she hopes to get reasonably close. Keep in mind that during the earlier years of the forecast, year-to-year growth can exceed the discount rate selected, but that cannot continue beyond the terminal year because the discount rate minus growth (capitalization rate) cannot logically be less than zero. Imagine: a willing seller paying the willing buyer to take the business off his or her hands? A negative discount rate would create this result. Be patient and this will make more sense after reading chapters 12 and 13.

A common error made among inexperienced valuation analysts who rely on computer software to assist with (or do) the forecast is to allow these programs to determine the period to be used in the forecast. Most software programs allow either a 5- or 10-year period to be used for a forecast. This may not be the correct period for a particular valuation assignment. The facts and circumstances of each situation will be different and require a different forecast period. Do not depend on a software program to make decisions that require judgment!

In practice, the most common forecast period is five years. Some valuation analysts consider this period to be a normal business cycle, whereas others focus on Revenue Ruling 59-60, which suggests five years. There is no magic about five years. The period used can be two years, three years, seven years, or even longer. It is almost always difficult to forecast the future, especially if the future is many years forward.

Preparing forecasts is so dependent on individual characteristics that the standard business valuation literature provides little support on the actual mechanics involved. To accurately prepare a forecast will take adequate analysis, research, and documentation. Unfortunately, there is no quick or simple method. As long as the valuation analyst takes his time and applies common sense, a reasonable forecast can be prepared.

The process of creating a forecast can be broken down into a series of logical steps. First, the income statement must be forecast. The balance sheet is so reliant on the income statement that it becomes impossible to forecast the balance sheet first. After both the income statement and balance sheet are forecast, it then becomes possible to calculate net cash flow.

## The Sales Forecast

The forecast of the income statement must begin with the forecast of sales. Logically, how could the valuation analyst possibly determine cost of sales, variable costs, or taxes if she doesn't know what sales are? Sales are often the most important component of the forecast because nearly every number will rely on it. Obviously, the most time should be spent here.

Determining future sales will involve both qualitative and quantitative analysis. A series of questions must be answered. What has the company done historically? What are the growth trends? Are sales increasing or decreasing? Have there been any major changes (customers, products, facilities, and so on)? Is the company's growth similar to the industry? What is the outlook for the industry? How is the current economic climate affecting the company and the industry? These are only a few of the factors that must be addressed when forecasting sales.

When forecasting sales, the valuation analyst must first identify where the company is in its life cycle and how its product is positioned in the marketplace. Certain factors to consider when preparing a revenue forecast include the following:

- *Inflation.* Inflation should be considered in estimating future gross revenues. When current rates are extreme, relative to historical ranges, the expert should usually reflect gradual increases or decreases toward more normal rates during the forecast period.
- *Product demand.* Products typically go through a life cycle that includes four distinct phases: introduction, growth, maturity, and decline. In estimating future revenues, the valuation analyst should consider the life cycle stage of the company's primary products.
- *Competition.* Within each industry, many companies often compete for a share of the market, and such competitive pressures must be considered in estimating future revenues. Some factors to consider in estimating the effect of competition are as follows:
  - The company's current market share.
  - The company's trend in market share. (Is it increasing or decreasing?)
  - The company's business plan. This should specifically address how the company proposes to keep or increase market share through such means as reduced prices, increased promotional expenditures, and product improvements supported by increased research and development expenditures.

## Revenue Factors for Certain Industries

When estimating future revenues, it is always helpful to understand the key drivers for the particular industry in which the valuation analyst is working. This will allow the valuation analyst to formulate numbers that make sense and test the reasonableness of the result. Some of the factors to consider for certain industries are included in box 8.1.

### BOX 8.1 Industry Revenue Factors for Consideration

Consider the following industry revenue factors when preparing a forecast:

- Professional service businesses, such as engineering, accounting, and law firms' chargeable hours and average billing rates
- Nursing home and hospital beds available, occupancy rates, and average charge per patient
- Homebuilders' number of home sales closed and average closing prices
- Apartment lessors' units available, expected occupancy rates, and average rent per unit
- Restaurants' tables turned per day and average charge per table
- Commercial real estate lessors' net rentable area and average annual rent per square foot
- Manufacturers' units shipped and average selling prices
- Retail stores' floor space and sales per square foot
- Agricultural producers' acres planted, yield per acre, and selling price
- Associations' number of members and annual dues

## Sales Forecasting Techniques

There are various methods that can be used to forecast future revenues. These methods range from being as simple as using an average historical growth rate to as complex as running a Monte Carlo simulation. Whatever method is used to forecast revenues, the ultimate goal is to produce a forecast that is reasonable, supportable, and reflective of the company's future growth prospects and expectations. It is important to note that FASB has issued a new pronouncement on revenues, which will be effective for publicly traded companies in 2018 and for closely held companies in 2019. This new pronouncement will mandate a new five-part test to see if any particular invoice qualifies as revenue. Valuation analysts should be mindful of this new pronouncement and the impact it may have on the subject company's revenue numbers as they forecast future sales.

Many of the methods that will be discussed use the company's historical growth trends as a basis for predicting the future. Although revenue forecasts should be indicative of the future, historical performance is often a good indicator of what the future will look like. A discussion of some of the methods that can be used to forecast revenues follows.

### Average Historical Growth Rate

One way to forecast future revenues is to calculate a company's historical average revenue growth rate over a certain period of time and use this growth rate to increase revenues into the future. This method of forecasting revenues works well for mature, noncyclical companies that have achieved stable and predictable revenue growth historically.

There are various ways to calculate an average historic growth rate. The most commonly used methods are the arithmetic mean and the geometric mean. When forecasting the future, the arithmetic mean is the more appropriate measure to use because it incorporates the year-to-year variability of a company's revenue growth, whereas the geometric mean does not.

When forecasting revenues using an arithmetic average historical growth rate, the valuation analyst must ensure that the historic rate of growth achieved by the company is a good indication of the future. For example, if the valuation date is December 31, 2010 (and I picked this date because it was shortly after the really bad recession), calculating an average growth rate over the most recent five years will likely not be a good indication of the future for a company whose performance is tied to the economy.



Another factor that needs to be considered when forecasting under this method is the length of the forecast. An arithmetic average growth rate over the most recent 3 years may not be a good indication of a company's revenue growth over the next 10 years. The valuation analyst should carefully analyze trends in the company's revenues as far back as possible to determine the appropriate period of time that best reflects future expectations.

A portion of a real valuation of a company that owns and operates health clubs is shown in exhibit 8.2. This exhibit demonstrates what to do with management's forecasts (or budget, in this instance) and how to analyze the historical data to determine the reasonableness of the budgets.

### EXHIBIT 8.2 Sales Forecast

An important component of a business valuation involves the development of a financial forecast that can be used in the application of the income approach to valuation. This can be accomplished in a number of different ways. The courts have greatly favored the use of contemporaneous forecasts that are prepared by a company, as opposed to those that are prepared for a litigation. However, many companies do not forecast far enough into the future for the analyst to have the ability to solely rely on management's forecasts.

In this business valuation, the analyst was provided with annual budgets for the years ending December 31, 2014 and 2015, both prepared on a contemporaneous basis before this analyst was engaged to prepare this valuation. The 2014 budget would have been prepared before the litigation commenced, and the 2015 budget had started being prepared in February and March of 2014 and, therefore, was *known or knowable* at the valuation date.

The budgets provided by management for 2014 were extremely detailed and broken down on a month-by-month basis for the income statements. Management also provided a budgeted balance sheet and cash flow statement for the year ended December 31, 2015. These budgets were partially used in the application of the future in this analysis. This will be explained as the discussion of the underlying assumptions in the forecast proceeds.

Table 19 summarizes the annual 2014 and 2015 budgets prepared by management.

**TABLE 19 Management's Budgets**

	2014	2015
Total Revenue	\$73,165,223	\$86,120,938
Cost of Goods Sold	1,470,164	1,408,043
Gross Profit	\$71,695,059	\$84,712,894
Operating Expenses	62,816,507	75,689,268
Earnings Before Interest, Taxes Depreciation and Amortization	\$ 8,878,551	\$ 9,023,626
Other Income/Expenses		
Depreciation and Amortization	\$11,358,922	\$12,675,339
Interest Expense	2,425,928	1,801,389
State Income Tax Expense	300,000	300,000
Other Income/Expense	65,000	—
Total Other Expenses	\$14,149,851	\$14,776,728
<b>NET LOSS</b>	<b>\$(5,271,299)</b>	<b>\$(5,753,102)</b>

Note: Figures may not add due to rounding.

(continued)

**EXHIBIT 8.2 Sales Forecast** *(continued)*

After generating revenues of \$63,755,675 for the year ended December 31, 2013 and \$65,707,639 for the latest 12 months ended May 31, 2014, management was forecasting that The Company would generate \$73,165,223 of revenues in the year ending December 31, 2014. In addition, management expected The Company to grow further with revenues exceeding \$86,000,000 in 2015. This growth is expected to be driven primarily by opening new clubs in these years. On an unadjusted basis, profitability in 2013 was reported to be \$721,564, and for the latest 12 months ended May 31, 2014, The Company reported a loss of \$50,517. For 2014 and 2015, respectively, the losses are expected to exceed \$5,000,000 in each year. Management anticipates these losses to occur due to higher rental rates in the market and depreciation increases as a result of expected capital expenditures.

In order to test the reasonableness of management's budgets for the purpose of being able to utilize them in the application of the income approach, the analyst constructed a forecast based on historic operations, taking into consideration the Franchise Agreement and the economy and industry analysis that was discussed previously in this report. The analyst assembled financial statements for each of the health clubs owned and operated by The Company. Schedules 3–47 at the back of this report includes select financial data for each of the clubs operated by The Company since the year ending December 31, 2006. At the valuation date, some of these clubs are no longer owned and operated by The Company. This was discussed previously in this report.

The financial statement data for the corporate headquarters is provided in Schedule 48 for the same time frame. In order to proceed with the estimation of future club operations that are required to be opened up pursuant to the Franchise Agreement, the analyst analyzed the historic financial statements.

The analyst developed a profile to predict how a new club would perform in the future, and as a result, the historical financial statements for each of these clubs was restated based on the opening date of the club, to show the first five full years of existence. Each year was measured based on when the lease was signed for that club. This took into consideration the time and expenses incurred by The Company in performing build-outs and bringing clubs to an operational state. This is typical, because it takes many months, and sometimes greater than a year, to open a club from the date the lease is signed.

Schedules 49–85, in the back of the report, include the comparative income statements for those clubs remaining in the profile during the initial five year periods (that is, first year, second year, and so on, as opposed to calendar year 2006, 2007, and so on). This was accomplished by considering the number of days from when a lease was signed to 365 days. For example, if a lease was signed for a new club on December 9, 2009, the analyst combined 22 days of income statement data for 2009 and 343 days of data for 2010 to create a 365-day period from December 9, 2009 to December 8, 2010. This period would represent Year 1 for that club. Years 2–5 were calculated in a similar manner. The intention was to capture full years of revenues or expenses, or both, that also included average time periods between the signing of the lease and the opening of the club. This way, all pre-opening expenses would be properly captured in the profile.

The analyst used this data to create a profile of the “typical” club's income statements during the first five years of operations for the purpose of forecasting the results for the many new clubs required to be opened in the future. In order to accomplish this, the data was analyzed in several different ways, as follows:

- Simple average of all clubs
- Simple average of clubs with five or more years of history
- Weighted average of all clubs, weighted by the month that the lease was signed (clubs established more recently received greater weight)
- Weighted average of all clubs, weighted by the quarter that the lease was signed (clubs established more recently received greater weight)
- Weighted average of all clubs, weighted by the year that the lease was signed (clubs established more recently received greater weight)

Each scenario was summarized to include the first five years of operations. Reviewing this data on a year-by-year basis provides the analyst with a better picture about what took place under each scenario tested. The results of this analysis were further summarized comparing each scenario by year. There was a considerable difference in the averages for Years 1–4. The simple average for clubs with five or more years of operations included 10 clubs that signed leases during 2006–2008. These clubs appear to have generated more revenues and better profitability in the first four years of operations than the average and weighted averages for all clubs considered in the profile.

**EXHIBIT 8.2 Sales Forecast**

In Years 1–3, the weighted averages were consistent with one another and, notably, had lower revenues and profitability than both of the simple averages. This indicates that revenue growth and profitability have declined for new clubs in recent years. The industry analysis indicated that new clubs do not have the same ability to grow as quickly as the older clubs did because of significant competition in the marketplace. There are more industry players trying to attract a limited number of potential users of the facilities. The market has become saturated with the entrance of a number of competitors operating low-cost fitness centers. The result is slower revenue growth for newer clubs.

**Author's Note: I have omitted the expense discussion to save room**

Because the weighted average income statements were relatively consistent with one another, the analyst averaged the three scenarios to create the profile, which is summarized in table 20.

**TABLE 20 Club Profile—Average Of Weighted Average Profiles**

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	\$ 538,861	\$1,732,928	\$2,309,748	\$2,582,288	\$2,682,457
Cost of Goods Sold	14,731	41,728	48,067	43,516	45,328
Gross Profit	\$ 524,130	\$1,691,199	\$2,261,681	\$2,538,772	\$2,637,129
Operating Expenses	798,885	1,296,796	1,481,649	1,451,180	1,374,585
Other Income	3,550	1,453	1,421	323	13,819
EBITDA	\$(271,206)	\$ 395,856	\$ 781,453	\$1,087,915	\$1,276,363
Depreciation and Amortization	153,030	272,603	304,798	227,136	199,576
EBIT	\$(424,236)	\$ 123,254	\$ 476,655	\$ 860,780	\$1,076,787
Interest Expense	36,969	68,193	54,202	40,920	29,256
EBT	\$(461,204)	\$ 55,061	\$ 422,452	\$ 819,859	\$1,047,532
Taxes	35	262	207	(174)	(821)
<b>NET INCOME (LOSS)</b>	<b>\$(461,239)</b>	<b>\$ 54,798</b>	<b>\$ 422,246</b>	<b>\$ 820,033</b>	<b>\$1,048,352</b>

Note: Figures may not add due to rounding.

Based on the profile, the typical new club generates revenues of \$538,861 in Year 1 and reaches maturity in Year 4 with about \$2.6 million in revenues. Net income increases from a loss of \$461,239 in Year 1 to positive income of \$1,048,352 in Year 5.

The analyst also analyzed the profile on a common size basis and by its growth rates, which are summarized in tables 21 and 22. Common size financial statements allow an analysis to be performed in which each line item is reflected as a percentage of revenues. This allows trends to be examined regardless of the magnitude of the dollars.

(continued)

**EXHIBIT 8.2 Sales Forecast** *(continued)***TABLE 21 Club Profile—Common Size**

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of Goods Sold	2.73%	2.41%	2.08%	1.69%	1.69%
Gross Profit	97.27%	97.59%	97.92%	98.31%	98.31%
Operating Expenses	148.25%	74.83%	64.15%	56.20%	51.24%
Other Income	0.66%	0.08%	0.06%	0.01%	0.52%
EBITDA	-50.33%	22.84%	33.83%	42.13%	47.58%
Depreciation and Amortization	28.40%	15.73%	13.20%	8.80%	7.44%
EBIT	-78.73%	7.11%	20.64%	33.33%	40.14%
Interest Expense	6.86%	3.94%	2.35%	1.58%	1.09%
EBT	-85.59%	3.18%	18.29%	31.75%	39.05%
Taxes	0.01%	0.02%	0.01%	-0.01%	-0.03%
<b>NET INCOME (LOSS)</b>	<b>-85.60%</b>	<b>3.16%</b>	<b>18.28%</b>	<b>31.76%</b>	<b>39.08%</b>

Note: Figures may not add due to rounding.

**TABLE 22 Club Profile—Growth Rates from Previous Year**

	Year 1	Year 2	Year 3	Year 4
Revenues	221.59%	33.29%	11.80%	3.88%
Cost of Goods Sold	183.27%	15.19%	-9.47%	4.16%
Gross Profit	222.67%	33.73%	12.25%	3.87%
Operating Expenses	62.33%	14.25%	-2.06%	-5.28%
Other Income	-59.06%	-2.20%	-77.29%	4180.90%
EBITDA	NM	97.41%	39.22%	17.32%
Depreciation and Amortization	78.14%	11.81%	-25.48%	-12.13%
EBIT	NM	286.73%	80.59%	25.09%
Interest Expense	84.46%	-20.52%	-24.50%	-28.51%
EBT	NM	667.25%	94.07%	27.77%
Taxes	654.20%	-21.12%	-184.07%	372.11%
<b>NET INCOME</b>	<b>NM</b>	<b>670.54%</b>	<b>94.21%</b>	<b>27.84%</b>

NM = Not meaningful.

**EXHIBIT 8.2 Sales Forecast**

The analyst noted a gradual decline in operating expenses as a percentage of revenues in Years 4 and 5. This makes sense because revenues continue to grow in these years. However, what is surprising is that the dollar amount of operating expenses also declines in these years. This causes a further decline in the percentage. This takes place because the number of clubs used in each year of the profile declines as the newer clubs lack financial history for the full 5-year period. Therefore, the profile relies more heavily on the older clubs in Years 4 and 5 as compared to Years 1–3. Considering this factor, the decline in operating expenses further highlights the fact that operating expenses have been lower for the older clubs than the more recently established clubs and suggests that Years 4 and 5 operating expenses could be higher than the profile indicates. Because the profile is based on The Company’s actual historical data that was *known or knowable* as of the valuation date, the analyst used the profile for the purposes of forecasting new club financial data. The analyst will consider the fact that the profile may understate operating expenses (and overstate profitability) later in the valuation analysis.

The Company’s forecasted income statement is presented in table 23.

**TABLE 23 Income Statement Forecast for the Years Ended May 31,**

	Adjusted 2014	2015	2016	2017	2018	2019
Sales	\$65,707,639	\$82,515,708	\$97,854,802	\$111,585,926	\$121,136,564	\$131,576,129
Cost of Goods Sold	1,111,460	1,395,772	1,655,237	1,887,502	2,049,053	2,225,641
Gross Profit	\$64,596,179	\$81,119,936	\$96,199,565	\$109,698,424	\$119,087,511	\$129,350,488
Operating Expenses	51,752,878	63,798,739	75,097,808	85,859,188	93,726,800	101,936,805
Other Income	136,262	171,118	202,928	231,403	251,208	272,858
Earnings Before Interest, Taxes, Depreciation and Amortization	\$12,979,563	\$17,492,315	\$21,304,685	\$ 24,070,639	\$ 25,611,920	\$ 27,686,541
Depreciation and Amortization	9,523,355	10,309,105	12,312,601	14,533,019	16,981,571	10,309,732
Earnings Before Interest and Taxes	\$ 3,456,208	\$ 7,183,210	\$ 8,992,084	\$ 9,537,620	\$ 8,630,349	\$ 17,376,809
Interest Expense	1,624,917	—	—	—	—	—
Earnings Before Taxes	\$ 1,831,291	\$ 7,183,210	\$ 8,992,084	\$ 9,537,620	\$ 8,630,349	\$ 17,376,809
Taxes	343,367	1,346,852	1,686,016	1,788,304	1,618,190	3,258,152
<b>NET INCOME</b>	<b>\$ 1,487,924</b>	<b>\$ 5,836,358</b>	<b>\$ 7,306,068</b>	<b>\$ 7,749,316</b>	<b>\$ 7,012,158</b>	<b>\$ 14,118,657</b>

Note: Figures may not add due to rounding.

(continued)

**EXHIBIT 8.2 Sales Forecast** *(continued)*

As previously discussed, The Company carries a considerable amount of debt as part of its capital structure. As such, the analyst decided to use an invested capital basis (previously referred to as *debt-free*) to take the impact of the debt service out of the analysis because a hypothetical willing buyer could introduce a different capital structure into The Company. This eliminates the need to forecast potential rising interest rates, and it allows the analyst to consider The Company's profitability without interest expense. This is the manner in which most acquirers would view The Company.

On an invested capital basis, net income represents income to both the equity and debt holders. Cash flow is forecasted in a similar manner. The analyst will account for the actual amount of debt at the end of the valuation process.

The following assumptions went into the income statement forecast.

1. Revenues: In order to forecast revenues, the analyst analyzed the financial statements of the existing clubs based on the number of years each club was in operation. Clubs were grouped based on the number of years in operation so it was more evident about what trends were taking place within the profile of the existing clubs. Because the valuation date in this matter is June 11, 2014, the financial statements for the existing clubs were restated to include the financial results for the 12 months ended May 31 of each year. This is the information that was *known or knowable* as of the valuation date. The use of data subsequent to the valuation date would be improper and violate good valuation practice.

The analyst used the club financial statements that are presented in the back of this report as Schedules 3–37 and converted each club to a latest 12-month period ending May 31. These financial statements are included as Schedules 86–121 in the back of the report. The use of the fiscal year-end financial statements allows the analyst to forecast full year periods without having to use a stub period for 2014, which includes seven months. The results are the same, but the analysis performed provides a better comparison on a year-by-year basis between the historical and future financial performance of The Company.

The data in table 24 includes revenues by club for the years ended May 31, 2010 through 2014, the most relevant period used to forecast the future.

**TABLE 24 Revenues for the Years Ended May 31,**

Club No.	2010	2011	2012	2013	2014	Year
1	\$2,490,500	\$2,533,957	\$2,429,733	\$2,184,236	\$1,913,830	6+
2	3,068,313	3,659,035	3,493,442	2,922,027	2,362,513	6+
3	1,418,530	1,637,680	1,730,026	1,660,414	1,571,262	6+
4	1,915,351	2,567,106	2,649,239	2,409,951	1,991,705	6+
5	2,261,232	3,048,565	3,136,743	3,059,172	2,929,561	6+
6	2,588,938	3,895,477	4,363,979	4,345,544	3,948,656	6+
7	741,038	1,020,664	1,039,329	995,505	959,991	6+
8	1,112,030	2,210,124	2,447,460	2,372,312	2,234,062	6+
9	942,141	3,080,395	4,323,078	4,025,240	3,179,325	5
10	815,182	2,563,054	3,245,217	2,635,606	1,959,791	5
11	280	1,251,349	3,487,387	3,988,757	3,654,304	5
12	—	93,853	859,078	1,944,111	2,218,706	4

*(Table continued)*

**EXHIBIT 8.2 Sales Forecast**

**TABLE 24 Revenues for the Years Ended May 31, (continued)**

Club No.	2010	2011	2012	2013	2014	Year
13	4,075,830	3,976,394	3,664,768	3,351,092	2,957,813	6+
14	—	7,383	794,362	1,995,535	2,167,722	4
15	—	6,785	897,903	2,209,854	2,229,924	5
16	—	18,028	693,725	1,753,496	1,969,394	4
17	—	134,165	914,744	1,783,831	1,861,116	4
18	—	—	36,163	561,707	1,486,751	4
19	—	—	480,738	1,527,704	2,155,719	5
20	—	(193)	416,464	1,186,500	1,515,873	3
21	—	424	667,022	2,047,271	2,732,941	3
22	—	—	124	411,601	1,181,123	2
23	—	—	—	125,018	664,286	2
24	—	—	674,163	2,141,066	2,912,328	4
25	—	—	—	64,638	534,300	2
26	—	—	—	236,684	1,115,700	2
27	—	—	—	140,838	748,698	2
28	2,407,621	2,665,450	2,670,694	2,380,382	2,074,945	NP 6+
29	1,943,529	1,985,021	1,978,906	1,785,374	1,432,938	NP 6+
30	1,729,091	1,938,625	1,911,083	1,782,931	1,629,825	NP 6+
31	2,464,016	2,314,991	2,107,997	1,964,323	1,847,846	NP 6+
32	1,628,421	1,821,320	1,863,693	1,764,522	1,620,398	NP 6+
33	—	—	120	643,897	1,989,940	NP 2
34	—	—	—	—	106,624	NP 1
35	—	—	—	—	28,336	NP 1
Corporate	54,586	(387,500)	(2,003)	(2,790)	(649)	
<b>TOTAL CLUB AND CORPORATE REVENUES</b>	<b>\$31,656,628</b>	<b>\$42,042,148</b>	<b>\$52,975,376</b>	<b>\$62,398,348</b>	<b>\$65,887,594</b>	

Note: Figures may not add due to rounding.

(continued)

**EXHIBIT 8.2 Sales Forecast** *(continued)*

The last column in the previous table indicates the number of periods that the club has been in existence. For example, an item with “6+” indicates that this club has been operational for six or more years. Those items that are noted with an “NP” represent those clubs that were excluded from the profile for the new clubs. The reason that they are included in this table is to make certain that the figures are all accounted for from the financial statements. The total revenues by club were summarized from the internal financial statements, which were slightly different from the audited financial statements (under \$180,000 or 0.27 percent), but this difference is immaterial to the analysis. Therefore, the analyst feels confident that the correct level of revenues was captured for the analysis.

Using the information from table 24 allowed the analyst to summarize the information as presented in table 25.

**TABLE 25 Historical Club Revenues**

	2010	2011	2012	2013	2014
Clubs					
Total Revenues for All Clubs in Year 6+	\$19,671,761	\$24,549,001	\$24,954,719	\$23,300,253	\$20,869,392
Total Revenues for All Clubs in Year 5	1,757,603	6,901,583	12,434,324	14,387,161	13,179,063
Total Revenues for All Clubs in Year 4	—	253,427	3,972,234	10,179,747	12,616,017
Total Revenues for All Clubs in Year 3	—	230	1,083,486	3,233,771	4,248,814
Total Revenues for All Clubs in Year 2	—	—	124	978,779	4,244,106
Clubs Not Included in Profile					
Total Revenues for All Clubs in Year 6+	10,172,678	10,725,407	10,532,372	9,677,531	8,605,951
Total Revenues for Club in Year 2–	—	120	643,897	1,989,940	
Total Revenues for Clubs in Year 1	—	—	—	—	134,960
Corporate	54,586	(387,500)	(2,003)	(2,790)	(649)
Total Current Clubs	\$31,656,628	\$42,042,148	\$52,975,376	\$62,398,348	\$65,887,594

Note: Figures may not add due to rounding.

*(Table continued)*



**EXHIBIT 8.2 Sales Forecast**

**TABLE 25 Historical Club Revenues** *(continued)*

	2010	2011	2012	2013	2014
<b>Growth Rates</b>					
Total Revenues for All Clubs in Year 6+		24.79%	1.65%	-6.63%	-10.43%
Total Revenues for All Clubs in Year 5		292.67%	80.17%	15.71%	-8.40%
Total Revenues for All Clubs in Year 4		—	1467.41%	156.27%	23.93%
Total Revenues for All Clubs in Year 3		—	NM	198.46%	31.39%
Total Revenues for All Clubs in Year 2		—	—	NM	333.61%
Clubs Not Included in Profile					
Total Revenues for All Clubs in Year 6+		5.43%	-1.80%	-8.12%	-11.07%
Total Revenues for Club in Year 2		—	—	NM	209.05%
Total Revenues for Clubs in Year 1		—	—	—	—
Corporate		-809.89%	-99.48%	39.27%	-76.74%
Total Current Clubs		32.81%	26.01%	17.79%	5.59%

Note: NM = Not meaningful.

The actual revenues and the related growth rates for the years ended May 31, 2010 through 2014 are presented in table 25. This table also includes those clubs that were not included in the profile, which ties the figures out to the total revenues generated by all the clubs. The historic revenue growth rates were analyzed, and it was noted that the clubs exhibited similar patterns of growth depending on which year of operation they were in. Clubs experienced substantial growth through their second or third year of operation, before growth moderated in the fourth year. Club revenues in the fifth year of operation experienced an 8.40 percent decline, whereas clubs in existence for six or more years experienced declines of 6.63 and 10.43 percent over the last two fiscal years, respectively. This decline is consistent with the saturation of the industry having an adverse impact on membership growth and, therefore, revenues. The analyst investigated this trend further by analyzing the changes in the average number of members for each of The Company's clubs.

The analyst was provided with the monthly number of members for each club in operation from 2010–2013. The 2010 data included the number of members per club from April–December of that year. The 2012 data only included membership figures from January–May of that year. This data represented all the membership information that The Company could provide. In order to analyze the trends in the membership, the analyst calculated the average monthly number of members in each period. Overall, the number of members declined in 2013 for clubs in operation for five or more years, while membership for newer clubs grew rapidly. A summary of these trends for clubs with two or more years of membership data is presented in table 26.

*(continued)*

## EXHIBIT 8.2 Sales Forecast (continued)

TABLE 26 Membership Summary

Club No.	Years Operation	Average Number of Members				% Change		
		2010	2011	2012	2013	2011	2012	2013
1	6+	13,871	14,595	13,814	9,665	5.2%	-5.3%	-30.0%
2	6+	19,049	21,761	19,085	11,498	14.2%	-12.3%	-39.8%
3	6+	8,952	10,387	10,615	7,884	16.0%	2.2%	-25.7%
4	6+	13,062	15,448	15,124	9,407	18.3%	-2.1%	-37.8%
5	6+	14,475	17,313	18,521	14,622	19.6%	7.0%	-21.1%
6	6+	19,056	23,925	27,259	19,177	25.5%	13.9%	-29.6%
7	6+	6,070	6,327	6,565	5,169	4.2%	3.8%	-21.3%
8	6+	12,404	14,398	14,500	11,124	16.1%	0.7%	-23.3%
9	5	16,514	26,356	27,711	15,602	59.6%	5.1%	-43.7%
10	5	14,867	20,646	19,431	9,537	38.9%	-5.9%	-50.9%
11	5	—	20,378	26,297	18,514	—	29.0%	-29.6%
12	4	—	3,688	9,101	10,537	—	146.8%	15.8%
13	6+	20,063	20,401	19,193	13,834	1.7%	-5.9%	27.9%

(Table continued)

**EXHIBIT 8.2 Sales Forecast**

**TABLE 26 Membership Summary** *(continued)*

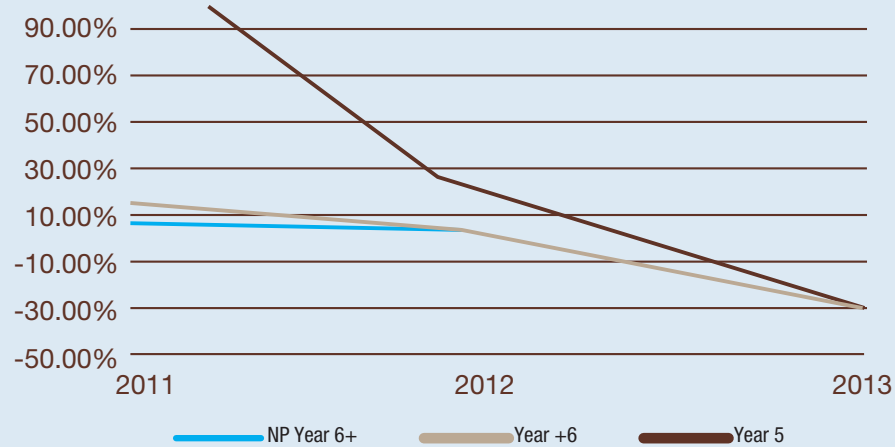
Club No.	Years Operation	Average Number of Members				% Change		
		2010	2011	2012	2013	2011	2012	2013
14	4	—	3,878	9,962	10,529	—	156.9%	5.7%
15	5	—	3,010	10,559	10,541	—	250.8%	-0.2%
16	4	—	1,912	7,707	9,191	—	303.0%	19.3%
17	4	—	5,226	9,324	8,979	—	78.4%	-3.7%
19	5	—	656	4,792	10,308	—	630.5%	115.1%
20	3	—	1,659	5,401	7,334	—	225.6%	35.8%
21	3	—	1,842	6,860	13,314	—	272.4%	94.1%
24	4	—	371	5,551	14,338	—	1396.3%	158.3%
28	NP 6+	13,755	15,425	15,107	10,004	12.1%	-2.1%	-33.8%
29	NP 6+	11,092	11,528	12,070	7,863	3.9%	4.7%	-34.9%
30	NP 6+	10,374	11,015	11,230	7,930	6.2%	1.9%	-29.4%
31	NP 6+	14,836	13,817	13,300	10,202	-6.9%	-3.7%	-23.3%
32	NP 6+	9,961	10,708	11,006	8,115	7.5%	2.8%	-26.3%

*(continued)*

**EXHIBIT 8.2 Sales Forecast** *(continued)*

The analyst also considered the change in the total number of members for clubs in their fifth and sixth years of operations. These groupings were consistent with the manner in which clubs were classified in table 26. Clubs in their sixth year of operation experienced declines in the number of members of nearly 30 percent in 2013. Clubs in their fourth year of operation exhibited similar declines in membership of 27.36 percent in 2013. These trends are presented graphically in figure 12.

**Figure 12 Percentage Change in Average Membership for Clubs in Years Five and Six<sup>1</sup>**



<sup>1</sup> In 2013, The Company adjusted its membership records to write off nonpaying members. This adjustment caused the 2013 decline to appear larger than it was. However, there was still a decline in paying members in 2013.

After considering the historical trend of revenues, the analyst forecasted revenues for existing clubs. For 2015, the analyst forecasted that the declines in revenues for existing clubs in their fifth or more year of operation would start to slow down but would still, nevertheless, take place based on continued market saturation in the City area. Thereafter, the analyst reduced each year's decline by 1 percent on the basis that these clubs cannot continue to decline by 10 percent per year or they would go out of business. Although the decline for clubs that had five years of operations was slightly lower, the analyst included the same 10 percent decline for 2015, with a 1 percent reduction each year thereafter in anticipation that these clubs would follow suit with the older clubs.

Clubs with four years of operations were forecast to continue to have a positive upward revenue trend of 11.8 percent based on the historical profile data. Thereafter, these clubs were expected to follow the same trend as the earlier clubs. Revenues for clubs in their third year of operations were forecasted to increase 33.29 percent in 2015 and 11.8 percent in 2016 based on the growth rates shown in the club profile. The growth rates from the club profile for other years were used.

For those older clubs that were not included in the profile, the same growth percentages as described previously based on their current year of operations were used. Based on the Franchise Agreement, The Company is obligated to open at least six new clubs per year. For those new clubs, revenues were based on the amounts in the new club profile. A summary of the revenue forecast is presented in table 27.

**EXHIBIT 8.2 Sales Forecast**

**TABLE 27 Revenue Forecast for the Fiscal Year Ended May 31,**

Clubs	2015	2016	2017	2018	2019
Clubs					
Total Revenues for All Clubs in Year 6+	\$18,782,453	\$17,092,032	\$ 15,724,669	\$ 14,623,943	\$ 13,746,506
Total Revenues for All Clubs in Year 5	11,861,156	10,793,652	9,930,160	9,235,049	8,680,946
Total Revenues for All Clubs in Year 4	14,104,653	12,694,188	11,551,711	10,627,574	9,883,644
Total Revenues for All Clubs in Year 3	5,663,067	6,331,285	5,698,156	5,185,322	4,770,497
Total Revenues for All Clubs in Year 2	13,648,667	18,191,742	20,338,289	18,304,460	16,657,059
Clubs Not Included in Profile					
Total Revenues for All Clubs in Year 6+	7,745,356	7,125,728	6,698,184	6,430,257	6,301,652
Total Revenues for Club in Year 2	6,399,471	8,529,590	9,536,044	8,582,440	7,810,020
Total Revenues for Clubs in Year 1	1,077,721	3,465,856	4,619,495	5,164,576	4,648,118
Corporate	—	—	—	—	—
Total Current Clubs	\$79,282,545	\$84,224,072	\$ 84,096,709	\$ 78,153,620	\$ 72,498,441
New Clubs 2015	3,233,164	10,397,567	13,858,486	15,493,727	16,094,744
New Clubs 2016	—	3,233,164	10,397,567	13,858,486	15,493,727
New Clubs 2017	—	—	3,233,164	10,397,567	13,858,486
New Clubs 2018	—	—	—	3,233,164	10,397,567
New Clubs 2019	—	—	—	—	3,233,164
Total Forecasted Revenues	\$82,515,708	\$97,854,802	\$111,585,926	\$121,136,564	\$131,576,129
Growth Rates	25.24%	18.59%	14.03%	8.56%	8.62%

Note: Figures may not add due to rounding.

Overall, revenue growth is forecasted to decline from 25.24 percent in 2015 to 8.56 percent in 2018 and then increase to 8.62 percent in 2019. The slight increase in growth in 2019 is attributable to higher growth rates for the newer clubs more than compensating for the decline of the older clubs, particularly because the analyst forecast a declining rate of growth in the later years.

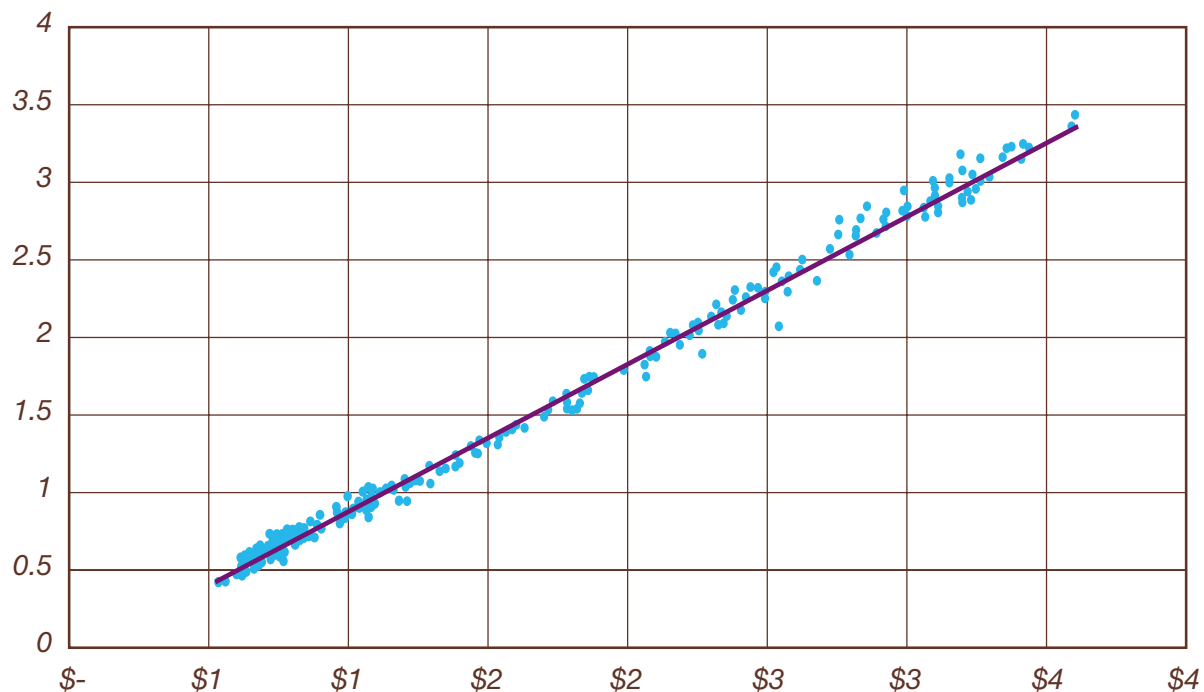
## Linear Regression Models

In the last chapter, I provided some information about statistics. To help prepare a sales forecast, various statistical tools can be used, one of which is a linear regression model. There are many individuals who will say that a regression model is not predictive. Although I agree that this model does not demonstrate cause and effect, it is a very useful tool (and I emphasize the word *tool*) that the valuation analyst can use to assist in the forecasting process. Whenever possible, it should not be used alone.

A linear regression model allows the valuation analyst to use one variable to predict the behavior of another variable and to quantify the strength of the linear relationship between the two variables. If used correctly, linear regression can be an effective tool to use to prepare a sales forecast. When performing a regression analysis, the valuation analyst begins with the *dependent variable*, which is the variable that he or she is attempting to explain. The *independent variable* is the variable that is used to explain the behavior of the dependent variable. For example, an analyst may want to use a regression model to forecast the sales of an automobile part manufacturing company based on automobile assembly data. In this instance, the sales of the automobile parts manufacturing company are the dependent variable, and the number of automobile assemblies is the independent variable.

Linear regression assumes a linear relationship between the dependent and independent variables. A regression model calculates a best-fit straight line based on a sample of data. The data is linear if the pattern in its data points resembles a line. A linear trend line usually shows that something is increasing or decreasing at a steady rate. Using a formula, a regression model will calculate the value of the dependent variable given a specific change in the independent variable. An example of how a linear regression model works can be seen in figure 8.1.

**Figure 8.1 Regression Model**



In figure 8.1, the dots represent the data in the sample set. The line represents the predicted values using a linear regression model. A linear regression model calculates the “best-fit line” through the numerous data points. The distance between the data point and the regression line (or the actual value and the predicted value) is called the *residual* or the *error*.

Before discussing how to utilize a linear regression to prepare a sales forecast, it is important to understand the assumptions of the model. Violating any one of these assumptions can lead to drawing incorrect conclusions about the statistical significance of the relationships between the two variables. Although not all the assumptions will be covered in this textbook, if a valuation analyst ever intends on using regression analysis in practice, it is important that he or she understands all the assumptions and how they affect the validity of the regression results. In order to demonstrate the importance of understanding these various assumptions, I will briefly discuss two of the major assumptions and how they can lead to erroneous conclusions.

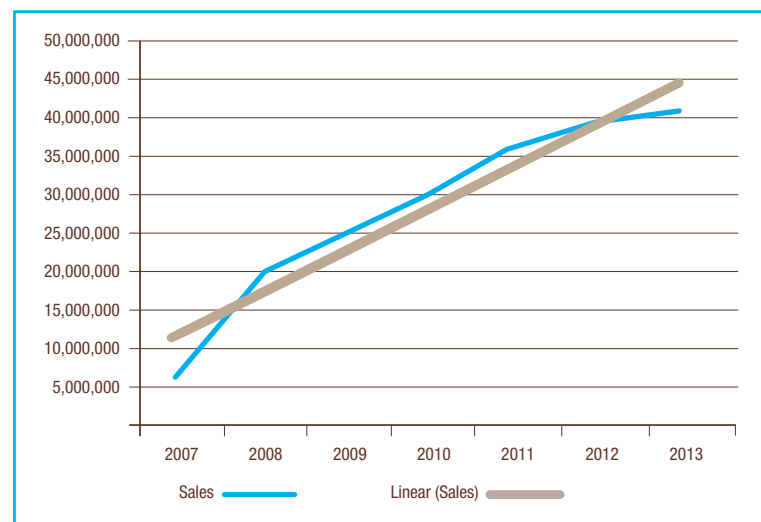
One assumption of a linear regression model is that the relationship between the independent and dependent variable is linear. Although this seems simple, this assumption is critical for a meaningful linear regression. For example, suppose a company’s historical and projected revenues are presented as follows:

Year	Revenues	Changes
2010	\$ 6,500,000	—
2011	20,000,000	207.7%
2012	25,000,000	25.0%
2013	30,000,000	20.0%
2014	35,850,000	9.5%
2015	39,350,000	9.8%
2016	41,500,000	4.6%

As indicated in the preceding table, the company’s revenues grew from approximately \$6.5 million in 2010 to \$20 million in 2011. Going forward, management projected that the company would continue to grow at double-digit rates over the next two years before its growth would decline to a more sustainable level.

Hypothetically speaking, let’s assume that the forecast needed to be extended for an additional five years. Also, let’s assume that the valuation analyst was considering using a linear trend line to forecast future revenues because the  $R^2$  statistic was 93.28 percent.

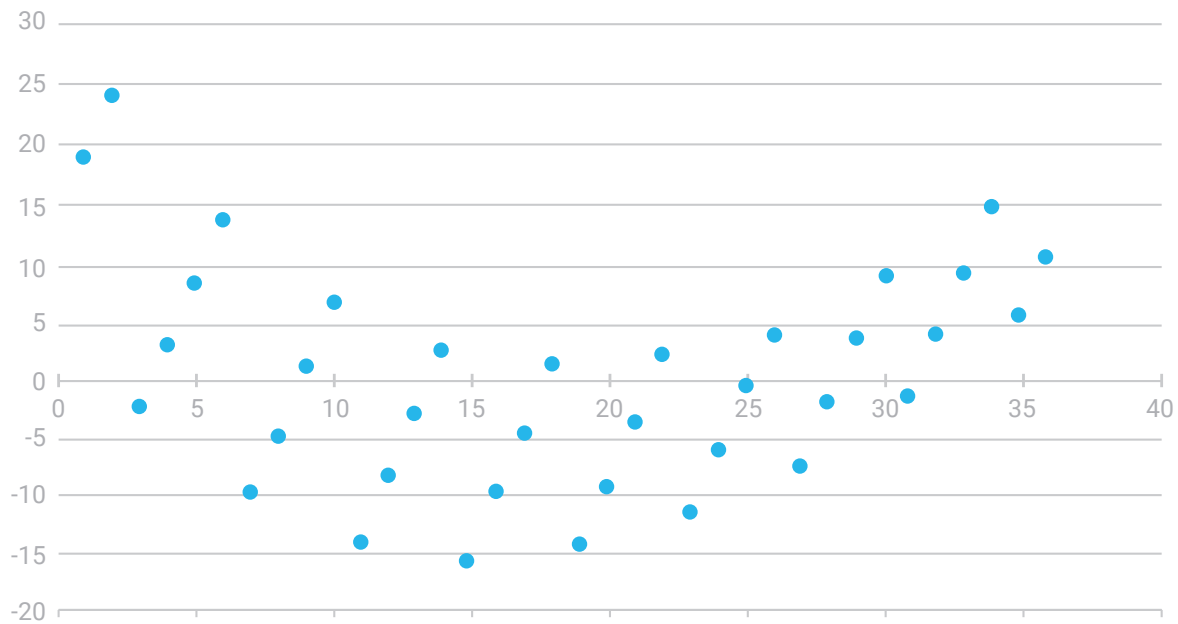
Graphically, the company’s historical and projected revenues appear as follows:



The preceding chart shows one of the problems associated with the use of a linear regression model. From approximately 2011–2015, the linear trend line consistently underestimated the company's sales. Beginning in 2016, the linear trend line appears to be overstating sales. This indicates that a linear trend line would be inappropriate in trying to forecast this particular company's sales. Therefore, before considering using a linear regression model, it is recommended that the valuation analyst graph the data to determine whether a linear regression model appears to make sense.

Another key assumption of a regression model is that the errors are uncorrelated across all observations. In English, the errors (the difference between the actual value of the dependent variable and the predicted value of the dependent variable), should be random and have no trends. For example, suppose a valuation analyst attempts to use regression analysis to forecast a seasonal data set. The  $R^2$  value is determined to be 93 percent, so the analyst is confident that the model is valid. However, after calculating and graphing the errors, the analyst sees the data in figure 8.2.

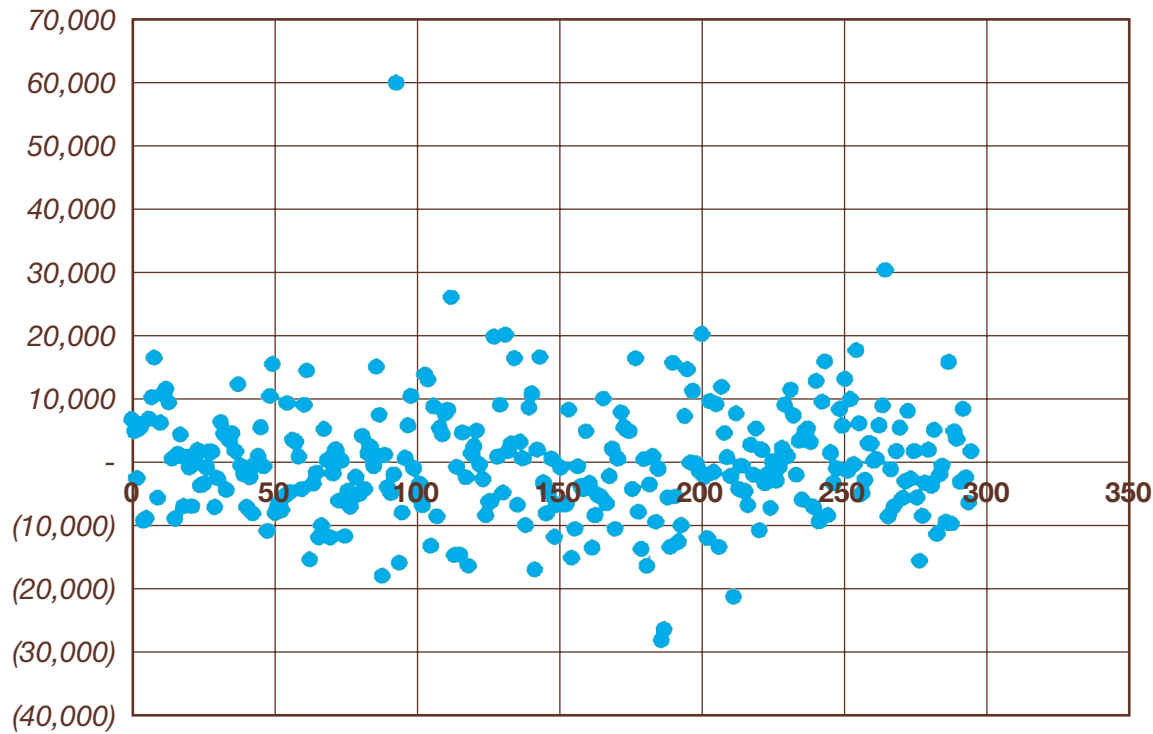
**Figure 8.2 Regression Error**



As can be seen in figure 8.2, there is a visible trend in the errors. When there is a visible trend in the errors, one of the linear regression assumptions has been violated, and the model is invalid. When using a linear regression model, the errors should look somewhat like the graph in figure 8.3.



Figure 8.3 A Better Looking Regression



In this instance, the errors appear to be random and have no visible trends. As a result, this model is not in violation of the linear regression assumption that the errors are uncorrelated across observations.

The preceding examples are intended to highlight how using regression analysis blindly can lead to unreliable conclusions. In actuality, there are numerous techniques and statistical tests that are beyond the scope of this book that need to be performed in order to ensure that a regression model does not violate any of the major assumptions. Furthermore, there are various statistics, such as the  $R^2$ , T-statistic, F-statistic, and so on, that must be analyzed in detail in order to determine whether a regression model is valid. Valuation analysts need to understand that performing a regression analysis is a much more vigorous exercise than merely plugging numbers into a statistical software program or even into Microsoft Excel without performing the additional analyses necessary to avoid leading to significant errors.

Now that I've scared the valuation analyst into not using regression analysis, I will discuss the various ways it can be used properly to prepare a sales forecast. A regression model can be calculated using two different types of data: cross-sectional or time-series. *Cross-sectional data* is a type of data that is collected by observing many data points at the same period of time. An example of cross-sectional data is a pricing multiple for a group of public companies in a particular industry. A valuation analyst may attempt to use regression analysis to determine if a significant relationship exists between the pricing multiples and some appropriate metrics for the group of companies for which the pricing multiples were calculated.

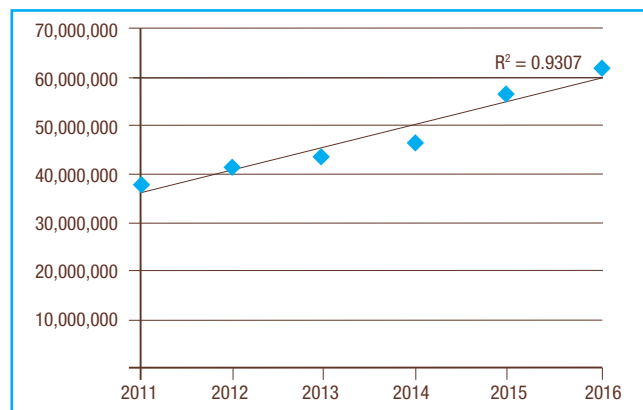
*Time-series data* is a type of data that is collected over time. For example, a company's sales over the past several years are an example of time-series data because it consists of consecutive measurements over equal time intervals.

Constructing a forecast using a linear regression model can be performed in many different ways. One way is through use of a time-series regression. A time-series regression would use time as the independent variable and sales as the dependent variable. This type of trend assumes that the company's revenues change at a constant rate with time.

For demonstration purposes, consider a company with the following historic revenues:

2011	38,663,000
2012	41,777,900
2013	44,750,100
2014	46,569,500
2015	56,532,800
2016	62,107,200

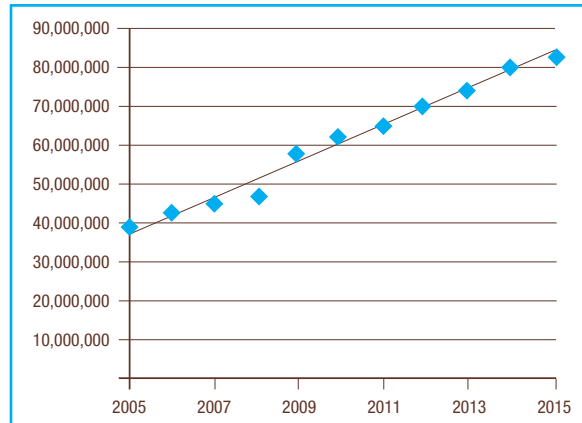
This same company's revenues appear graphically as follows:



As the preceding chart indicates, the company's sales have increased steadily over the past five years. The trend of the company's historical revenues resembles a line. In this instance, assuming that the company's future expectations are consistent with the past, a time-series linear trend may be a good way to forecast the company's revenues going forward. Forecasting this company's revenues using a time-series trend line results in the following revenue forecast:

Year	Revenues	% Change
2011	38,663,000	—
2012	41,777,900	8.06%
2013	44,750,100	7.11%
2014	46,569,500	4.07%
2015	56,532,800	21.39%
2016	62,107,200	9.86%
2017	64,730,593	4.22%
2018	69,396,453	7.21%
2019	74,062,313	6.72%
2020	78,728,173	6.30%
2021	83,394,033	5.93%

This data appears graphically as follows:



As the preceding chart indicates, the company’s forecasted revenues are calculated on a best-fit line that was calculated using the company’s historical revenues.

A disadvantage to using a time-series linear trend line is that it doesn’t incorporate economic or industry data into the sales forecast. Therefore, as was the case with the arithmetic average growth rate method for forecasting sales, the valuation analyst must ensure that the company’s historical results reflect its future prospects and expectations.

A solution to this problem could be to use economic and industry variables as the independent variables as opposed to time. For example, if the valuation analyst can establish a strong statistical relationship between a company’s historical revenues and a variable such as GDP, the company’s revenues can be forecasted into the future in relation to independent third-party economic forecasts of real GDP. In some instances, it may be appropriate to use more than one variable when forecasting revenues. Shown in exhibit 8.3 is a real-life example in which we forecasted revenues for a trucking company using real GDP as the independent variable.

The example presented in exhibit 8.3 brings up another point. When constructing a forecast using a linear regression model using a time-series, economic data, or industry data, the valuation analyst must still use his or her judgment and make sure that the forecast is reasonable. This is the same example as in the previous chapter. In this instance, we constructed three potential revenue scenarios to account for the various uncertainties associated with the company’s future financial results.

### EXHIBIT 8.3 Linear Revenue Forecast

In order to forecast revenues, we are presenting three different models. These are as follows:

1. Most Optimistic
2. Most Conservative
3. Most Likely

#### MOST OPTIMISTIC

The most optimistic forecast model uses sales that are forecast by taking into consideration the statistical relationship of The Company’s revenues to real gross domestic product (RGDP). We used RGDP instead of nominal GDP for two reasons: it had approximately the same statistical correlation, and it resulted in more conservative growth rates.

We began our analysis by comparing RGDP to The Company’s revenues beginning in 1990, up to and including the latest 12 months ended June 30, 2009. These figures are shown in table 22.

*(continued)*

**EXHIBIT 8.3 Linear Revenue Forecast** *(continued)***TABLE 22 Comparison of RGDP to Revenues**

	Real GDP	Revenues
1990	8,033.9	\$114,041,000
1991	8,015.1	114,739,000
1992	8,287.1	103,438,000
1993	8,523.4	102,594,000
1994	8,870.7	103,298,000
1995	9,093.7	109,812,000
1996	9,433.9	123,381,000
1997	9,854.3	133,835,000
1998	10,283.5	139,272,000
1999	10,779.8	153,191,000
2000	11,226.0	166,173,000
2001	11,347.2	186,077,000
2002	11,553.0	193,422,000
2003	11,840.7	189,704,000
2004	12,263.8	213,733,000
2005	12,638.4	242,081,000
2006	12,976.2	254,772,000
2007	13,254.1	265,675,000
2008	13,312.2	246,350,000
LTM June 30, 2009	12,901.5	224,713,000

Using regression analysis, we determined that there is a high degree of correlation between the data in table 22. In fact, the R2 indicates that there is a 92.6 percent correlation between RGDP and revenues. This means that about 93 percent of The Company's change in revenues can be explained by a change in RGDP. Perfect correlation would be 100 percent. Having 20 observations makes the statistical correlation very reliable.

**EXHIBIT 8.3 Linear Revenue Forecast**

In order to use RGDP as a predictor of The Company's trucking revenues, we first had to forecast what RGDP would be after June 30, 2009. In order to accomplish this, we turned to Consensus Forecasts and Wachovia Economics. These two sources provided us with the information necessary to review the quarterly or annual forecasted growth rates, or both, in RGDP. Using the annual growth rates published in these publications, we calculated RGDP as presented in table 23.

**TABLE 23 Real GDP Forecast**

	Real GDP	Annual Growth Rate
Q2 2009 (Actual)	12,902	
Q3 2009	13,001	3.1%
Q4 2009	13,079	2.4%
Q1 2010	13,161	2.5%
Q2 2010	13,253	2.8%
Q3 2010	13,346	2.8%
Q4 2010	13,450	3.1%
Q1 2011	13,557	3.2%
Q2 2011	13,676	3.5%
Q3 2011	13,768	2.7%
Q4 2011	13,868	2.9%

Using the calculated RGDP forecast, we were then able to use these figures as a predictor of revenues for The Company on a latest 12-month basis. Applying the regression formula results in predicted revenues of \$249,094,543 and \$261,316,272 for the years ended December 31, 2010 and 2011, respectively. This would be the predicted sales in the most optimistic forecast.

**MOST CONSERVATIVE**

In order to determine the most conservative forecast, we started with the actual sales volume for the 6 months ended June 30, 2009, rather than using the sales from the latest 12 months ended at that time. We divided that number in half in order to estimate the most recent quarter of sales. This amounted to \$51,550,000. We then applied the predicted growth rates using the RGDP relationship to revenues against the actual quarterly sales in order to grow The Company's revenues from the low base at which The Company is currently operating. This allowed us to forecast the remainder of 2009, plus the four quarters of 2010 and 2011, respectively. Our calculations are shown in table 24.

*(continued)*

**EXHIBIT 8.3 Linear Revenue Forecast** *(continued)***TABLE 24 Quarterly Revenues Using Predicted Growth Rates and Average Quarterly Revenues from Past 6 Months**

	Revenues	Predicted Growth Rate
Q2 2009 (Actual)	\$ 51,555,000	
Q3 2009	52,201,089	1.3%
Q4 2009	52,705,164	1.0%
Q1 2010	53,233,392	1.0%
Q2 2010	53,828,705	1.1%
Q3 2010	54,428,186	1.1%
Q4 2010	55,096,542	1.2%
Q1 2011	55,791,805	1.3%
Q2 2011	56,558,333	1.4%
Q3 2011	57,154,828	1.1%
Q4 2011	57,799,833	1.1%
Predicted 2nd Half 2009 Revenues	\$104,906,253	
Actual 1st Half 2009 Revenues	<u>103,110,000</u>	
Predicted 2009 Revenues	<u>\$208,016,253</u>	
Predicted 2010 Revenues	<u>\$216,586,825</u>	4.1%
Predicted 2011 Revenues	<u>\$227,304,799</u>	4.9%

In order to complete this portion of the forecast, we took the predicted revenues from the third and fourth quarter of 2009 and added them to the actual revenues for the first half of 2009. This provided us with an estimation of 2009 revenues in the amount of \$208,016,253. Using the predicted growth rates for 2010 and 2011 allowed us to grow the 2009 revenues to reflect estimated revenues for these subsequent periods. As indicated in the data in table 24, these amounts are \$216,586,825 and \$227,304,799, respectively.

In determining the reasonableness of the figures that we have calculated, we have considered the fact that in most instances, the first half of the year's revenues for The Company tends to be lower than the second half, due to the large shipping volume in the second half for the back-to-school and the holiday seasons. We performed a review of the revenues from the first half of the year to the second half of the year for 2006–2008. This information is presented in table 25.

**EXHIBIT 8.3 Linear Revenue Forecast**

**TABLE 25 Half-Year Revenues**

	1st Half Revenues	2nd Half Revenues	% Change
2006	\$119,921,000	\$134,851,000	12.45%
2007	124,464,000	141,211,000	13.46%
2008	124,747,000	121,603,000	-2.52%

What is noticeable about the 2006 and 2007 figures is the 12 percent to 13 percent change from the first half of the year to the second half of the year. Although 2008's figures were down approximately 2.5 percent, this was largely due to the failing economy, particularly in 2008. This also was significantly affected by the dramatic decline in diesel prices, which would have also affected the lag of the surcharges for the second half of the year. Diesel prices fell approximately 47 percent from June 2008 to December 2008. This would cause this unusual change from the first half to the second half of the year.

During the last half of 2008, GDP fell as well. This would explain the movement in the 2008 figures. Nevertheless, our calculation for 2009, where the second half of the year is predicted to perform better than the first half of the year, would create the expectation that second half revenues should be considerably greater than first half revenues. Places where we have predicted slightly higher revenues are certainly not in proportion to these other years. This is the reason why we believe this is an extremely conservative estimate for 2009 revenues. Because 2010 and 2011 are calculated based on the results of 2009, we believe this model represents the most conservative scenario of the three models that we present.

**MOST LIKELY**

Rather than presenting data solely based on one extreme to the other, we also presented what we believe is the most likely scenario for The Company. In this particular model, we once again use regression analysis to predict what the latest 12 months revenues would equate to for the third and fourth quarters of 2008, as well as the third and fourth quarters of 2009. Based on RGDP declining during 2009, relative to the same period in 2008, we calculated the average change that was being predicted for the second half of 2009 as compared to the second half of 2008. This amounted to a 2.3 percent decline in revenues. We applied this percentage to the second half of 2008 revenues in order to estimate the predicted revenues for the second half of 2009. Our calculations are presented in table 26.

**TABLE 26 Regression Equation Predictions**

	Predicted LTM	% Change from Same
Q3 2008	\$245,443,461	
Q4 2008	240,106,070	
Q3 2009	236,004,039	-3.8%
Q4 2009	238,282,989	-0.8%

*(Table continued)*

*(continued)*

**EXHIBIT 8.3 Linear Revenue Forecast** *(continued)***TABLE 26 Regression Equation Predictions** *(continued)*

Average Predicted % Change 2nd Half 2009 vs. 2nd Half 2008 -2.3%	
2nd half 2008 revenues	\$121,603,000
Predicted 2nd half 2009 revenues	\$118,803,002
Actual 1st half 2009 revenues	103,110,000
Predicted full year 2009 revenues	\$221,913,002
Predicted full year 2009 revenues	\$221,913,002
Predicted change 2010 vs. 2009	4.5%
Predicted 2010 revenues	\$231,981,805
Predicted full year 2010 revenues	\$231,981,805
Predicted change 2011 vs. 2010	4.9%
Predicted 2011 revenues	\$243,363,904

Based on the calculations in table 26, the predicted 2009 revenues amount to \$229,913,002. This is compared to a more conservative estimate of approximately \$208,000,000, and the most optimistic estimate of approximately \$249,000,000. For 2010 and 2011, we applied the predicted 2009 revenues against a predicted change for each of the subsequent years. These figures are shown in table 26.

When performing a linear regression for forecasting purposes, the valuation analyst should be familiar with the regression statistics, assumptions of a linear regression model, and other potential problems associated with linear regression models. Many of these issues are complex, and valuation analysts should familiarize themselves with these issues before blindly using a linear regression model. I have now made this statement twice.

### Monte Carlo Simulation

Another alternative to forecast sales is the use of a Monte Carlo simulation. In most projections, the outcomes depend on different inputs. Minor changes in one of these inputs can have more significant effects at the net income level. The Monte Carlo simulation deals with this by assigning probability distributions to each of the key factors. The power of Monte Carlo simulations to consider and account for potential variability of the inputs in a forecast makes it a useful tool for business valuations. The Monte Carlo simulation has become more popular in recent years. I am constantly surveying students in the classes that I teach to find out how many of them use this technique. It seems that only the large firms use it, probably due to the complexity of their assignments. A detailed discussion about this subject is beyond the scope of this book, but there are courses offered by various organizations on this topic, as well.

### Projecting Sales for a New Business

Most of the revenue-forecasting methods that have been discussed so far require sufficient historical data that will allow the valuation analyst to analyze a company's historical growth trends and use these trends to forecast the future. However, what happens when a company has little or no historical revenue data available? This is often the case in lost profits damages matters involving new businesses.



When forecasting revenues for a new business, the valuation analyst must perform a detailed analysis of the potential market in order to determine how the new business would fit in. It is important to gain an understanding of the competitive environment and the growth outlook for the target market, as well as to have an understanding of the various revenue streams anticipated by the new business. Historical financial information for companies with similar operations, products, and services serve as benchmarks for growth trends and expense structures for the new business.

A common mistake in forecasting revenues for start-up businesses is ignoring the effects of the competition in the marketplace. In one instance, we were engaged in a litigation involving the athletic apparel industry. This industry is heavily saturated with several billion dollar publicly traded companies. A forecast that we reviewed in this matter made the assumption that this new business would experience immediate product acceptance and capture 10 percent of the entire market in its first year of operations. These types of assumptions ignore the stages of the typical product life cycle, not to mention reality. When forecasting revenues for a new business, it is important to have a thorough understanding of the market that the new business is trying to penetrate, who the major players are in the industry, and how the company plans to position its products in the market.

A sales forecast that we prepared for a start-up operation is contained in exhibit 8.4. In this instance, the business was an international amusement park that was looking to expand its operations. In order to forecast revenues for this company, we had to perform a thorough analysis of the tourism market and the competitive environment in the country in which the expansion was taking place. We constructed the sales forecast for this company using comparative data from other facilities operated by management and benchmarking data that we were able to obtain from local competitors.

### EXHIBIT 8.4 Forecasting Sales For A New Business

According to management, visitors to The New Amusement Park most likely would have been nonresident tourists traveling into the country. Therefore, we believe that the tourist market provides a good indication of the potential market for The New Amusement Park.

We obtained historic tourist data for the years 2000–2010. This data is presented in table 13.

*Note:* Some tables were omitted to save space.

Year	Tourist
2000	600,000
2001	800,000
2002	900,000
2003	1,000,000
2004	1,300,000
2005	1,400,000
2006	1,500,000
2007	1,600,000
2008	1,700,000
2009	1,800,000
2010	2,000,000

*(continued)*

**EXHIBIT 8.4 Forecasting Sales For A New Business** *(continued)*

As the data in table 13 indicates, tourism has grown steadily from 2000–2010. The next step in the analysis involved constructing a forecast of future tourism. We located a forecast of overnight visitor arrivals for as far back as 2000 for the entire country in which The New Amusement Park was located from the World Travel & Tourism Council's (WTTC) online searchable database. Using this data, we performed a regression analysis by analyzing the historic tourism data for the entire country and the historic tourism data for the entire city from 2000–2010. From 2000–2010, the  $R^2$  statistic between overnight visitor arrivals in the entire country and tourists in the city was 98.5 percent. Statistically, this means that 98.5 percent of the changes in the number of city tourists can be explained by changes in overnight visitor arrivals for the country. With a strong correlation statistic, we performed a linear forecast of nonresident airport tourists by using the WTTC's forecast. The results of this forecast are presented in table 16.

**TABLE 16 Tourism Forecast**

	Overnight Visitor Arrivals—Country	Tourists—City	City as a % of Country
2000	5,000,000	600,000	12%
2001	5,100,000	800,000	16%
2002	5,200,000	900,000	17%
2003	5,300,000	1,000,000	19%
2004	5,400,000	1,300,000	24%
2005	5,500,000	1,400,000	25%
2006	5,600,000	1,500,000	27%
2007	5,700,000	1,600,000	28%
2008	5,800,000	1,700,000	29%
2009	5,900,000	1,800,000	31%
2010	6,000,000	2,000,000	33%
<b>2011</b>	<b>6,100,000</b>	<b>2,134,545</b>	<b>35%</b>
<b>2012</b>	<b>6,200,000</b>	<b>2,269,091</b>	<b>37%</b>
<b>2013</b>	<b>6,300,000</b>	<b>2,403,636</b>	<b>38%</b>
<b>2014</b>	<b>6,400,000</b>	<b>2,538,182</b>	<b>40%</b>
<b>2015</b>	<b>6,500,000</b>	<b>2,672,727</b>	<b>41%</b>
<b>2016</b>	<b>6,600,000</b>	<b>2,807,273</b>	<b>43%</b>
<b>2017</b>	<b>6,700,000</b>	<b>2,941,818</b>	<b>44%</b>
<b>2018</b>	<b>6,800,000</b>	<b>3,076,364</b>	<b>45%</b>

Bolded values represent forecasts.

**EXHIBIT 8.4 Forecasting Sales For A New Business**

Now that we have constructed a forecast of future tourism for the city, we have an estimate of the total potential market size for The New Amusement Park going forward. The next step in the analysis is to use this information to determine the number of people who would have attended The New Amusement Park for the years 2011 and beyond. Considering the fact that visitors to The New Amusement Park would have consisted of airport visitors, this would represent the pool of potential visitors to this park. Taking this into consideration, the number of estimated visitors to The New Amusement Park was forecast to increase based on the number of airport visitors expected to arrive in the city for 2011–2018. We had previously calculated the expected visitors to the park for 2009–2010. Although a regression analysis based on only two years would not be statistically valid, we tested a linear forecast to determine whether or not the percentage relationship would make sense compared to these other years. For 2009–2010, the tourist capture rate was approximately 4.4 percent, on average. We wanted to make sure that future results would approximate this capture rate. The results of these calculations are presented in table 17.

**TABLE 17 Visitor Forecast Amusement Park**

	Tourists The City	Visitors to The New Amusement Park	Tourist Capture Rate for The New Amusement Park
2000	600,000	—	—
2001	800,000	—	—
2002	900,000	—	—
2003	1,000,000	—	—
2004	1,300,000	—	—
2005	1,400,000	—	—
2006	1,500,000	—	—
2007	1,600,000	—	—
2008	1,700,000	—	—
2009	1,800,000	80,000	4.4%
2010	2,000,000	90,000	4.5%
<b>2011</b>	<b>2,134,545</b>	<b>96,727</b>	<b>4.5%</b>
<b>2012</b>	<b>2,269,091</b>	<b>103,455</b>	<b>4.5%</b>
<b>2013</b>	<b>2,403,636</b>	<b>110,182</b>	<b>4.6%</b>
<b>2014</b>	<b>2,538,182</b>	<b>116,909</b>	<b>4.6%</b>
<b>2015</b>	<b>2,672,727</b>	<b>123,636</b>	<b>4.6%</b>
<b>2016</b>	<b>2,807,273</b>	<b>130,364</b>	<b>4.6%</b>
<b>2017</b>	<b>2,941,818</b>	<b>137,091</b>	<b>4.7%</b>
<b>2018</b>	<b>3,076,364</b>	<b>143,818</b>	<b>4.7%</b>

Bolded values represent forecasts.

(continued)

**EXHIBIT 8.4 Forecasting Sales For A New Business** *(continued)*

The forecast presented in table 17 shows that The New Amusement Park would have captured between 4.4 and 4.7 percent of the total number of tourists that come into the city.

We compared the implied tourist capture rate from our forecast to tourist capture rates of other facilities with similar operations to those of The New Amusement Park. This comparison is presented in table 18.

**TABLE 18 Capture Rate Comparison**

Total Visitors as a % of Total Airport Tourists				
	Fun Land	Roller Coaster Adventure	Thrill Park Mania	The New Amusement Park
2006	16.40%	10.00%	9.49%	
2007	16.30%	9.50%	7.12%	
2008	16.20%	<b>9.00%</b>	5.20%	
2009	16.10%	<b>8.50%</b>	5.10%	<b>4.44%</b>
2010	16.00%	<b>8.00%</b>	5.00%	<b>4.50%</b>
2011				<b>4.53%</b>
2012				<b>4.56%</b>
2013				<b>4.58%</b>

Forecasted values in bold.

As the data in table 18 indicates, the implied tourist capture rate for The New Amusement Park lags those of Fun Land, Roller Coaster Adventure, and Thrill Park Mania. This makes sense because The New Amusement Park would be fighting for market share against competing facilities that have already established a market presence. Other factors that need to be considered include the fact that Fun Land's percentages are inflated because it is the only facility in the area, and it has a notable local market. Roller Coaster Adventure's figures are also likely overstated because the facility only had one competitor in 2006. Thrill Park Mania was the only facility in the market until 2007 when a competing facility completed its expansion and added roller coasters. As can be seen, the entrance of this competitor into the market, along with deteriorating economic conditions, significantly reduced Thrill Park Mania's tourist capture rate.

Now that we have forecasted the number of people expected to attend The New Amusement Park, we must determine two things:

1. What types of passes would these people have purchased?
2. What price would The New Amusement Park charge for these passes?

In order to answer these questions, we turned to data from Fun Land because the same activities at Fun Land would have been offered at The New Amusement Park.

We allocated the number of people forecasted to attend The New Amusement Park using percentages derived from Fun Land. The allocation percentages used for the forecast were calculated as presented in table 20.

**EXHIBIT 8.4 Forecasting Sales For A New Business**

**TABLE 20 Activities as a Percentage of Total Admissions for The New Amusement Park**

	2005	2006	2007	2008	2009	2010	Average
Regular Admission	29,445	32,085	32,430	32,854	17,055	8,943	25,469
% of Total Admissions	46.77%	51.48%	57.06%	66.37%	53.04%	41.78%	53.52%
Junior Admission	33,508	30,223	24,103	16,198	14,438	12,000	21,745
% of Total Admissions	53.23%	48.50%	42.41%	32.72%	44.90%	56.07%	45.69%
Senior Admission	5	200	300	400	60	193	
% of Total Admissions	0.01%	0.35%	0.61%	1.24%	0.28%	0.41%	
Two-Day Admission	8	100	150	265	400	185	
% of Total Admissions	0.01%	0.18%	0.30%	0.82%	1.87%	0.39%	
Total Admissions	62,953	62,321	56,833	49,502	32,158	21,403	47,591

As the data in table 20 indicates, the percentages for each type of pass varied from year to year but remained in a relatively tight range, particularly for regular and junior admissions. Therefore, we will calculate the revenue forecast using the simple averages of the percentages calculated in table 20 to account for the yearly variations in the data.

We must also determine the price for each activity. The quoted price from Fun Land's website for each activity is presented in table 21.

**TABLE 21 Fun Land Quoted Prices**

	Price
General Admission	\$50.00
Junior Admission	30.00
Senior Admission	30.00
Two-Day Admission	80.00

The next step is to determine how the prices charged at Fun Land differ due to the differences in the economic and competitive environments between the city in which Fun Land operates and the city in which The New Amusement Park operates. In order to determine if these prices should be adjusted, we first looked at hotel room rates in these two cities. Average daily rates for both cities are presented as follows:

Average Daily Hotel Rate—Fun Land's City	185.23
Average Daily Hotel Rate—The New Amusement Park's City	114.12
Adjustment Factor	1.623

(continued)

**EXHIBIT 8.4 Forecasting Sales For A New Business** *(continued)*

The preceding data shows that average daily rates for hotels in Fun Land's city are 62.3 percent higher on average than those in The New Amusement Park's city. This would indicate that prices at Fun Land should also be greater.

We also looked at prices charged by competing facilities in the area. This information is as follows:

- Roller Coaster Adventure—\$60 for general admission
- Thrill Park Mania—\$80 for general admission

The preceding pricing data indicates that competitors' prices range from \$60 to \$80 for passes into the park. Our estimated prices for The New Amusement Park range from \$30 to \$80 for the various types of passes. This falls in line with competitors' prices. Neither of the competitors offers junior, senior, or two-day admissions. Based on the analysis discussed previously, no adjustments were made to the prices for Fun Land because the prices fall in line with those charged by competitors of The New Amusement Park.

Prospectively, prices were increased by 4.56 percent per year. This represents the approximate annual growth rate of price increases at Thrill Park Mania from 2005–2010. Our assumption is that price increases for amusement parks in The New Amusement Park's city will be similar to those experienced on average historically.

Now that we have determined all of the necessary information related to visitors, activities, prices, and price increases, we can forecast activity revenue, which is shown in table 22 on the following page.

The next step in the revenue forecast for Phase 1 involves calculating revenues for the gift shop and the sale of food and beverages. We forecasted revenues for these categories by using the historical percentage of revenues for these items as a percentage of total activity revenues. This analysis is presented in table 29.

**TABLE 29 Other Revenues**

Historic Revenues—Fun Land							
	2005	2006	2007	2008	2009	2010	
Tickets and Transportation	\$8,614,202	\$8,499,853	\$8,211,912	\$8,342,581	\$5,725,053	\$3,881,298	
Gift Shop	2,166,372	2,161,553	2,117,417	2,044,346	1,434,983	979,433	
Food and Beverage	512,610	494,724	1,003,087	976,000	775,824	690,628	
Other Revenues—As a Percentage of Tickets and Transportation							
	2005	2006	2007	2008	2009	2010	Average
Gift Shop	25.15%	25.43%	25.78%	24.50%	25.06%	25.23%	25.19%
Food and Beverage	5.95%	5.82%	12.22%	11.70%	13.55%	17.79%	11.17%

As the calculations in table 29 indicate, other revenues for Fun Land have been 36.37 percent of tickets and transportation, on average, historically. This is consistent with management's estimate that other revenues consist of 33 percent of tickets and transportation revenues. This also happens to be the approximate median based on the data in table 29.

**EXHIBIT 8.4 Forecasting Sales For A New Business**

**TABLE 22 Activity Revenue Forecast**

	Tourists	Number of Participants	Regular Admission (55.62%)	Price	Total Regular Admission	Junior Admission (\$43.55%)	Price	Total Junior Admission	Senior Admission (0.42%)	Price	Total Senior Admission	Two-Day Admission (0.40%)	Price	Total Two-Day Admission	Total Activity Revenue
2009	1,800,000	80,000	42,812	\$50.00	\$2,140,600	36,553	\$30.00	\$1,096,590	324	\$30.00	\$ 9,720	310	\$ 80.00	\$24,800	\$3,271,710
2010	2,000,000	90,000	48,164	52.28	2,518,109	41,122	31.37	1,289,964	365	31.37	11,450	349	83.65	29,194	3,848,717
2011	2,134,545	96,727	51,764	54.67	2,829,840	44,196	32.80	1,449,667	392	32.80	12,858	375	87.47	32,801	4,325,165
2012	2,269,091	103,455	55,364	57.16	3,164,780	47,270	34.30	1,621,261	420	34.30	14,405	401	91.46	36,676	4,837,121
2013	2,403,636	110,182	58,964	59.77	3,524,398	50,343	35.86	1,805,462	447	35.86	16,031	427	95.64	40,836	5,386,727
2014	2,538,182	116,909	62,564	62.50	3,910,250	53,417	37.50	2,003,138	474	37.50	17,775	453	100.00	45,300	5,976,463
2015	2,672,727	123,636	66,164	65.35	4,323,981	56,491	39.21	2,215,096	501	39.21	19,645	480	104.56	50,191	6,608,913
2016	2,807,273	130,364	69,765	68.34	4,767,400	59,565	41.00	2,442,229	529	41.00	21,690	506	109.34	55,324	7,286,643
2017	2,941,818	137,091	73,365	71.45	5,242,216	62,638	42.87	2,685,438	556	42.87	23,837	532	114.33	60,822	8,012,313
2018	3,076,364	143,818	76,965	74.72	5,750,443	65,712	44.83	2,945,805	583	44.83	26,135	558	119.54	66,706	8,789,089

(continued)

### EXHIBIT 8.4 Forecasting Sales For A New Business *(continued)*

Accounting for all sources of revenue results in the following revenue forecast:

**TABLE 30 Total Revenue Forecast**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Revenues: Activities	\$3,271,710	\$3,848,717	\$4,325,165	\$4,837,121	\$5,386,727	\$5,976,463	\$6,608,913	\$7,286,643	\$8,012,313	\$8,789,089
Gift Shop (25.9%)	847,373	996,818	1,120,218	1,252,814	1,395,162	1,547,904	1,711,708	1,887,241	2,075,189	2,276,374
Food & Beverage (11.17%)	382,790	450,300	506,044	565,943	630,247	699,246	773,243	852,537	937,441	1,028,323
<b>Total Revenue</b>	<b>\$4,501,873</b>	<b>\$5,295,834</b>	<b>\$5,951,428</b>	<b>\$6,655,879</b>	<b>\$7,412,137</b>	<b>\$8,223,612</b>	<b>\$9,093,864</b>	<b>\$10,026,421</b>	<b>\$11,024,943</b>	<b>\$12,093,786</b>



**EXHIBIT 8.4 Forecasting Sales For A New Business**

As a sanity check, we compared our revenue forecast to revenues of other facilities for which data existed. This comparison is presented in table 32.

**TABLE 32 Revenue Sanity Check**

	Fun Land	Roller Coaster Adventure	Thrill Park Mania	The New Amusement Park
2004	\$ 8,052,904	\$14,242,271	\$ —	\$ —
2005	\$11,293,184	\$16,576,124	\$ —	\$ —
2006	\$11,179,347	\$16,752,559	\$ 7,572,161	\$ —
2007	\$11,618,058	\$14,147,751	\$ 7,776,564	\$ —
2008	\$11,637,718	\$10,880,236	<b>\$ 9,219,113</b>	\$ —
2009	\$ 8,277,549	\$ 9,199,428	<b>\$ 9,704,432</b>	<b>\$ 4,501,873</b>
2010	\$ 7,993,510	\$11,224,286	<b>\$10,183,745</b>	<b>\$ 5,295,834</b>
2011	\$ —	\$ —	\$ —	<b>\$ 5,951,428</b>
2012	\$ —	\$ —	\$ —	<b>\$ 6,655,879</b>
2013	\$ —	\$ —	\$ —	<b>\$ 7,412,137</b>
2014	\$ —	\$ —	\$ —	<b>\$ 8,223,612</b>
2015	\$ —	\$ —	\$ —	<b>\$ 9,093,864</b>
2016	\$ —	\$ —	\$ —	<b>\$10,026,421</b>
2017	\$ —	\$ —	\$ —	<b>\$11,024,943</b>
2018	\$ —	\$ —	\$ —	<b>\$12,093,786</b>

Bolded values represent forecasts.

As the data in table 32 indicates, our revenue forecast is consistent and in line with the level of revenues achieved by facilities with similar operations to those of The New Amusement Park.

## Cost of Goods Sold

Once sales are forecast, it becomes possible to forecast expenses. Expenses can be broken down into two categories: fixed and variable. Obviously, sales will have a limited impact on fixed expenses. In the short run, these expenses will probably not change. However, over a long period of time, these fixed expenses will no longer remain fixed because even an expense such as rent will change as the business grows. If rent is \$10,000 a month, it is \$10,000 a month regardless of the sales volume; unless of course, the sales are so large that the business must expand into additional facilities. Variable expenses, on the other hand, are directly related to sales. These expenses are generally forecast as a percentage of sales. For example, if the product costs are \$20 for every \$100 in sales, it is easy to use 20 percent of sales to determine this expense. When

forecasting expenses, it is important to look at trends and management expectations to ensure that the valuation analyst's results are reasonable.

The expense forecast often begins with an analysis of the company's cost of goods sold. For companies that have sufficient historical financial data available, a good starting point to forecast cost of goods sold is to look at the company's historical gross profit margins. If the company's historical gross profit margins have been stable, this indicates that the company's cost of goods sold is primarily variable and can be forecasted as a percentage of sales. However, if the company's historical gross profit margins are volatile, the valuation analyst must determine the factors that are causing the company's gross profit margins to fluctuate from year to year. This could be the result of various factors including changes to the company's product lines, issues with the company's suppliers, or changes in raw material prices. When analyzing historical gross profit margins, the valuation analyst should be aware of any fixed or semifixed expenses, such as labor and depreciation, that may be included in the company's cost of goods sold.

Although the company's historical gross profit margins can be used as a starting point, a forecast should reflect future expectations and, as a result, the valuation analyst must understand the various factors that will affect the company's gross profit margins going forward. For example, if steel is the primary material used in the manufacturing of the company's products, the valuation analyst must understand how changes in steel prices affect the company's profitability. If the company is unable to pass through price increases of raw materials to its end users, it is likely that the company's gross profit margins will fluctuate with changes in these raw material prices. When this is the case, the valuation analyst should perform independent research to gain an understanding of the future outlook for these various raw material prices and determine how changes to these prices would affect profitability.

In some cases, a company will offer different product or service lines with different levels of profitability. In these instances, the valuation analyst should obtain from management historical revenues and gross profit margin information broken down by product line. This information could be useful in preparing a forecast of revenues and cost of goods by product line. We used this methodology to calculate cost of goods sold for the gift shop and the food and beverage revenues generated by The New Amusement Park in our example presented earlier. This example is presented in exhibit 8.5.

### EXHIBIT 8.5 Forecasting Cost of Goods Sold

Cost of goods sold was broken down into two categories: (a) food and beverage and (b) photo and gift.

We analyzed each of these items on a common size basis in relation to the sales amounts for each category. These calculations are summarized in table 35.

**EXHIBIT 8.5 Forecasting Cost of Goods Sold**

**TABLE 35 Cost of Sales**

	Historic					Common Size					4-Year Average		
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008		2009	2010
Food & Beverage Sales	\$ 512,610	\$ 494,724	\$ 1,003,087	\$ 976,000	\$ 775,824	\$ 690,628	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Snack Bar Cost of Sales	182,812	158,953	141,423	117,140	73,086	183,959	35.7%	32.1%	14.1%	12.0%	9.4%	26.6%	15.5%
Guest Lunch Cost	316,993	301,508	281,414	262,911	135,802	—	61.8%	60.9%	28.1%	26.9%	17.5%	0.0%	18.1%
Food & Beverage Supplies	59,670	59,410	69,587	50,469	31,574	25,974	11.6%	12.0%	6.9%	5.2%	4.1%	3.8%	5.0%
<b>Total Food &amp; Beverage Cost of Sales</b>	<b>\$ 599,579</b>	<b>\$ 519,871</b>	<b>\$ 492,425</b>	<b>\$ 430,521</b>	<b>\$ 240,463</b>	<b>\$ 209,293</b>	<b>109.1%</b>	<b>105.1%</b>	<b>49.1%</b>	<b>44.1%</b>	<b>31.0%</b>	<b>30.4%</b>	<b>38.6%</b>
Photo and Gift Sales	\$ 2,166,372	\$ 2,161,553	\$ 2,117,417	\$ 2,044,346	\$ 1,434,983	\$ 979,433	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Photo and Gift Cost of Sales</b>	<b>\$ 343,137</b>	<b>\$ 436,678</b>	<b>\$ 382,848</b>	<b>\$ 371,863</b>	<b>\$ 264,179</b>	<b>\$ 156,860</b>	<b>15.8%</b>	<b>20.2%</b>	<b>18.1%</b>	<b>18.2%</b>	<b>18.4%</b>	<b>16.0%</b>	<b>17.8%</b>

(continued)

**EXHIBIT 8.5 Forecasting Cost of Goods Sold** *(continued)***FOOD AND BEVERAGE**

For purposes of this analysis, food and beverage cost of goods sold consists of cost of goods sold for the snack bar, food and beverage supplies, and the category of expenses called “guest lunch costs,” which represents lunch costs for visitors into the park. As the data in table 35 indicates, cost of sales for food and beverages has declined over the past four years in comparison to 2005 and 2006. This is primarily the result of the significant increase in food and beverage sales that occurred in 2007. Therefore, we calculated an average based on the years 2007–2010 to calculate cost of sales within this category.

**GIFT SHOP**

Gift shop cost of sales as a percentage of sales has shown more stability in comparison to food and beverage. Therefore, we calculated the six-year average common size percentage to account for cost of sales in this category.

When analyzing a company’s gross profit margins, we often find it beneficial to compare the gross profit margins of the subject company to benchmarking data from composite data, industry surveys, or guideline public companies. In particular, Value Line’s industry and company reports contain forecasts for gross profit margins. This information can be useful in analyzing expected trends in profitability because Value Line’s forecasts typically account for factors such as expected changes in raw materials prices. Financial benchmarking data can be useful for forecasting gross profit margins for new companies or to serve as a reasonableness check for the gross profit margins forecasted for the valuation subject.

## Operating Expenses

Once cost of goods sold is forecasted, the next step is to forecast operating expenses. Before preparing a forecast of operating expenses, the company’s historical income statements should be normalized such that the historical expense data does not contain discretionary, non-operating, and nonrecurring items. Once the historical expense data has been adjusted for these items, a good starting point is to look at a company’s expenses, line item by line item, to determine which expenses are variable and which are fixed.

Variable expenses typically increase or decrease in accordance with some measure, usually revenues. In order to determine if a particular expense is variable, the valuation analyst can look at the company’s historical common size income statements. If the expense is dependent on revenues, the common size percentage for the expense items should be relatively stable. Some expenses may be variable in accordance with a measure other than revenues. For example, employee benefits and payroll taxes may vary with total salaries and wages as opposed to revenues.

Fixed expenses, on the other hand, are minimally affected by revenues in the short run. These expenses typically include rent, salaries, utilities, real estate taxes, and insurance. Because fixed expenses usually have a low correlation with revenues, the valuation analyst needs to review various documents, such as leases and insurance policies, to gain an understanding of how these expenses will change going forward. Oftentimes, forecasted inflation can be used to estimate future increases of some fixed expenses. The valuation analyst also needs to be aware that FASB has issued another new pronouncement on lease accounting. This pronouncement will have a significant impact by decreasing the number of operating leases and recording the discounted present value of all future lease payments in the liability side of the balance sheet and may change the classification of expenses formerly classified as rent. This pronouncement is effective for publicly held companies in the year 2019 and for closely held companies in the year 2020. Those folks at FASB have been busy, haven’t they?

## Depreciation and Capital Expenditures

Another expense that often needs to be forecasted is depreciation. The depreciation forecast should reflect the economic depreciation of the company's existing assets and capital expenditures to be made during the forecast period. If this is done, the impact on taxes must also be considered. Alternatively, if tax depreciation is used, the tax benefit should be reflected in the forecast. The type of depreciation used will depend on the purpose of the valuation assignment.

Before forecasting depreciation, the valuation analyst should ensure that the company is currently depreciating its fixed assets throughout their appropriate economic useful lives. If this is not the case, it may be necessary to normalize the company's historical depreciation before forecasting future depreciation.

In order to properly forecast depreciation, it is important to know the condition of the company's existing fixed assets to gain an understanding of what replacement expenditures the company will need to make in the near future. In addition, the valuation analyst should obtain anticipated capital expenditure data from management. The company's historical balance sheets can provide guidance on what a normal level of annual replacement expenditures have been historically. When forecasting depreciation, the valuation analyst should ensure that depreciation expense does not exceed capital expenditures in the terminal period because a company cannot depreciate more than it purchases into perpetuity (this will be discussed further in chapter 12). When a company reaches a stabilized level of performance, its depreciation expense and capital expenditures should approximate each other, with capital expenditures being greater than depreciation due to inflation. Oftentimes, it is necessary to extend the forecast out over a long enough period of time until depreciation expense and capital expenditure purchases stabilize.

## Interest Expense and Borrowing Needs

In some instances, it may be necessary to forecast interest expense. Interest expense should include interest on the company's existing debt and anticipated interest on future borrowings. If the company anticipates making significant capital expenditures in the near term, the valuation analyst should find out from management whether any of these expenditures will be financed by debt, and if so, how much. The interest rate will also need to be forecasted. In order to properly forecast interest expense, the valuation analyst should review copies of all of the company's loan documents and obtain information on the company's current and future borrowing needs. When forecasting future borrowings, the valuation analyst needs to ensure that the forecasted borrowings are not significantly increasing the company's forecasted cash flows, leading to higher valuations. In theory, a company should not be able to become more valuable by borrowing more money.

When forecasting additional borrowings, the valuation analyst needs to ensure that the forecast does not result in the company significantly deviating from its capital structure. FASB's pronouncement on lease accounting may have a significant impact on capital structure because more companies will have to increase their liabilities. The valuation analyst must pay attention to these changes in accounting because they will affect the analysis, comparisons, trends, and so on. The valuation analyst should discuss with management whether the company plans to continue to stay leveraged or eventually pay all of its debt down to zero. If the company plans to continue to finance a portion of its operations with debt, it should be assumed that the company will maintain a similar capital structure going forward. Both the company's own capital structure and the capital structure of similar companies need to be considered. Changing the capital structure may depend on whether a controlling or minority interest is being valued.

In control valuations, when the company's capital structure differs significantly from its industry peers, it may be appropriate to forecast the company's performance on an invested capital basis, which removes the impact of interest expense and changes in net borrowings from the cash flow forecast. An invested capital analysis may also be appropriate when the company's borrowing activity has been erratic in the past. In invested capital cash flow forecasts, it is assumed that negative projected cash flows would have to be financed by the company through the use of debt.

An example of an expense forecast for the valuation of a nursing school is illustrated in exhibit 8.6. As can be seen in this exhibit, when forecasting expenses, we analyzed each individual expense item and labelled it as a variable cost or a fixed cost. In addition, we had to incorporate a unique capital spending budget into the forecast.

### EXHIBIT 8.6 Expense Forecast

**Operating Expenses:** As part of its forecast, management provided details of its operating expenses for fiscal years 2015 and 2016. In a similar manner to revenues, we adjusted these operating expenses to reflect a 12-month period ending on November 30. We categorized The Nursing School's expenses into four categories: variable, labor, other, and rent for the main campus.

Variable expenses consist of student expenses and books, journals, and subscription expenses. These expenses were forecast to increase at the same rate as revenues because these expenses vary with the number of students and the level of tuition and fees.

Labor expenses consist of salaries and wages, independent contractors, and computer equipment and miscellaneous office repairs. According to management, most of the repair expenses consist of a contractor that The Nursing School uses for The Nursing School's IT needs. For salaries and benefits and independent contractors, we forecasted annual increases of 5 percent based on management's forecast. For computer equipment and miscellaneous office repairs, we forecasted annual increases of 10 percent based on management's forecast until The Nursing School reaches capacity during the 12-month period ended November 30, 2017. Upon reaching capacity, we reduced the annual rate of increase to 5 percent, which is more in line with The Nursing School's other forecasted labor costs.

Other expenses consist of non-variable expenses and non-labor-related expenses. These expenses were grown at an annual rate of 5 percent based on management's forecast until The Nursing School reaches capacity. Upon reaching capacity, growth of these expenses was reduced to an annual rate of 3 percent, which approximates historical inflation.

Rent expense for the main facility was adjusted in accordance with the deferred rent amortization schedule provided by management. The Nursing School recognizes its rent on a straight-line basis over the term of the lease agreement. By recognizing its rent expense in this manner, The Nursing School will show a stable rent expense over the term of the lease. In the early years, The Nursing School's cash rent expense is lower than its scheduled rent expense, which creates a liability that accrues over time. Eventually, the cash rent expense will exceed the scheduled rent expense, which will reverse and reduce the liability to zero.

In forecasting The Nursing School's expense, we used The Nursing School's interim financial statements and management's forecast to construct the latest 12-month rent expense ended November 30, 2015. The rent expense in each period includes the cash rent less the deferred benefit. The difference between these items reflects the actual rent expense that will be paid. Based on The Nursing School's deferred rent amortization schedule, cash rent is increased by an inflationary rate of 3 percent per year. Using this same inflation rate, we forecasted rent expense for the remaining term of the lease agreement, until the deferred liability was reduced to zero. These calculations are presented in table 14.

**EXHIBIT 8.6 Expense Forecast**

**TABLE 14 Deferred Rent Amortization For Remainder Of Lease Term**

LTM November 30,	Cash Rent	Deferred Benefit	Rent Expense Deferred Rent Liability	Deferred Rent Liability
2015	\$341,237	\$(33,427)	\$374,664	\$(296,679)
2016	351,474	(25,878)	377,353	(322,557)
2017	362,019	(18,103)	380,122	(340,660)
2018	372,879	(10,095)	382,974	(350,755)
2019	384,066	(1,847)	385,912	(352,602)
2020	395,588	6,649	388,938	(345,953)
2021	407,455	15,400	392,055	(330,552)
2022	419,679	24,414	395,265	(306,139)
2023	432,269	33,697	398,572	(272,441)
2024	445,237	43,260	401,978	(229,182)
2025	458,594	53,109	405,486	(176,073)
2026	472,352	63,253	409,099	(112,820)
2027	486,523	70,580	415,942	(42,239)
2028	501,118	42,239	458,879	—

**Depreciation and Capital Expenditures:** We forecasted depreciation based on the depreciation of The Nursing School's existing assets and the depreciation of the new assets that The Nursing School expects to acquire in the future. The Nursing School's fixed assets consist of leasehold improvements, furniture and fixtures, computer equipment, and medical equipment. We depreciated leasehold improvements over a 13.5-year useful life as The Nursing School is 1½ years into its lease agreement. In addition, we depreciated computer equipment and furniture and fixtures over their remaining economic useful lives, which were estimated as 3.5 and 10 years, respectively.

The next step in the forecast of depreciation expense is to forecast future capital expenditures. According to management, The Nursing School has the following short-term capital spending needs:

	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Total
Simulator	\$ —	\$200,000	\$ —	\$ —	\$ —	\$ —	\$200,000
LHI Sim Lab	5,000	5,000	20,000	40,000	40,000	40,000	150,000
Sim Lab Furniture/ Fixtures	—	—	—	—	20,000	—	20,000
Sim Lab Computer/ Electronics	—	—	—	—	20,000	—	20,000
<b>Total</b>	<b>\$5,000</b>	<b>\$205,000</b>	<b>\$20,000</b>	<b>\$40,000</b>	<b>\$80,000</b>	<b>\$40,000</b>	<b>\$390,000</b>

(continued)

**EXHIBIT 8.6 Expense Forecast** *(continued)*

Based on The Nursing School's immediate needs, \$390,000 of capital expenditures were forecast to be completed during the 12-month period ended November 30, 2015. The simulator was depreciated over a 5-year useful life; the leasehold improvements were depreciated over a 15-year useful life; furniture and fixtures were depreciated over a 12-year useful life; and computers were depreciated over a 5-year useful life.

The next step in our forecast of capital expenditures is to forecast replacement expenditures of existing equipment and recently acquired equipment associated with the simulation laboratory. Replacement expenditures for each category of fixed assets are as follows:

*Simulator:* According to management, The Nursing School will need to acquire a new simulator approximately every five years. Therefore, built into our forecast was a large expenditure related to the purchase of a new simulator every five years. We adjusted the \$200,000 purchase price for annual inflationary increases of 3 percent throughout the forecast period. Future expenditures related to the purchase of a new simulator are as follows:

2015	\$200,000
2020	231,855
2025	268,783

*Computer Equipment:* Replacement expenditures for computer equipment were broken down into two categories: replacement of existing computer equipment and replacement of computer equipment associated with the simulation laboratory.

Replacement of existing computer equipment for the 12-month period ended November 30, 2016 was forecast to be \$15,000. This represents the approximate amount of The Nursing School's historic annual depreciation expense relating to computers, adjusted upwards for inflation, along with new equipment needed for additional employees to be hired. Going forward, capital expenditures relating to the replacement of existing computers are forecast to increase at an inflationary rate of 3 percent annually.

The replacement of computer equipment for the simulation laboratory was forecast to be \$4,200 for the 12-month period ended November 30, 2016. This represents an inflationary level over the annual depreciation expense associated with these assets.

*Furniture and Fixtures:* Replacement expenditures related to furniture and fixtures were also divided into the replacement of existing furniture and replacement of furniture associated with the simulation laboratory.

Replacements of existing furniture were forecast to be \$12,400 during the latest 12-month period ended November 30, 2016. This also represents the approximate amount of The Nursing School's historic annual depreciation expense related to furniture, adjusted upwards for inflation, along with new furniture needed for additional employees to be hired. Going forward, these expenditures were forecast to increase at an inflationary rate of 3 percent annually.

The replacement of furniture for the simulation laboratory was forecast to be \$1,800 for the 12-month period ended November 30, 2016. This represents an inflationary level above the annual depreciation expense for these assets.

*Leasehold Improvements:* Replacements of leasehold improvements were forecast to be \$5,000 for the 12-month period ended November 30, 2016. This \$5,000 reflects replacement expenditures for various leasehold improvements, including the security system, exterior signage, blinds, and various other recurring expenditures. The \$5,000 also reflects an upward adjustment to reflect additional leasehold improvements relating to the simulation laboratory. The capital expenditure forecast for the 12-month period ended November 30, 2016 through November 30, 2016 is presented in the following table.



**EXHIBIT 8.6 Expense Forecast** *(continued)*

LTM Ended November 30,					
	2016	2017	2018	2019	2020
Simulator	\$ —	\$ —	\$ —	\$ —	\$ 231,855
Computers	19,200	19,776	20,369	20,980	21,610
Furniture	14,200	14,626	15,065	15,517	15,982
Leasehold Improvements	5,000	5,150	5,305	5,464	5,628
<b>Total</b>	<b>\$38,400</b>	<b>\$39,552</b>	<b>\$40,739</b>	<b>\$41,961</b>	<b>\$275,074</b>

**Taxes:** Taxes have been calculated based on federal and state corporate income tax rates that were in effect as of the valuation date. Regardless of the type of entity that would operate The Nursing School, a willing buyer would either pay tax at the entity level or pass through enough cash flow to pay tax at an individual level. Therefore, these monies would not be available for reinvestment by The Nursing School.

## Balance Sheet Forecast

Once the income statement forecast is completed, it becomes possible to prepare a balance sheet forecast. Similar to the income statement forecast, the balance sheet forecast can be broken down into item-by-item steps. The easiest technique may be to simply go down the balance sheet, starting at cash and ending with equity.

Assets and liabilities can be forecast based on a variety of factors. These factors include historical common size analysis, ratio analysis (for example, days accounts receivable), management estimates, or as a percentage of an income statement item (for example, sales, cost of sales, operating expenses, and so on).

After completion of the forecast, it is necessary to review the forecast, item by item, to ensure that every number makes sense. Is the financial statement forecast of sales and net income reasonable? Does the balance sheet balance? Are the asset and liability levels reasonable? How do the forecasted common size financial statements and ratios compare to the historical items? Once the forecast is finalized, it becomes possible to complete the discounted future benefits method.

Once the forecast is reviewed and finalized, net cash flow can be calculated. Remember, the definition of *cash flow*, as used in a valuation context, differs from the traditional accounting definitions as described in FASB Statement No. 95, *Statement of Cash Flows* (codified in FASB *Accounting Standards Codification* 230, *Statement of Cash Flows*). There are two ways to calculate cash flow: one based on equity and one based on invested capital. Basic net cash flow (equity) is calculated as follows:

	Normalized net income
+	<u>Normalized noncash charges</u>
=	Gross cash flow
-	Anticipated capital expenditures
+ or -	Working capital necessary to support growth
+ or -	Debt borrowings or repayment
-	<u>Preferred stock dividends</u>
=	<u>Net cash flow to common equity</u>

The manner in which net cash flow is derived will depend on whether the valuation analyst is valuing the equity or the invested capital of the company. As a reminder, valuing the invested capital involves the valuation of the total capital structure (equity and long-term debt). This used to be called *valuing the company on a debt-free basis*. The net cash flow model illustrated previously is used by a valuation analyst when he or she is valuing the equity of the company. If the goal is to value the invested capital of the company, certain modifications must be made. Interest expense is added back, net of taxes, to restate the net income on an invested capital basis. Because interest expense gives rise to a tax benefit, the add-back must be reduced by the corresponding tax benefit. Another modification is that there will be no addition or subtraction for new borrowings or repayment of old borrowings. Logically, if I am attempting to derive an invested capital result, debt should be eliminated from the model. This results in the net cash flow model for invested capital.

	Normalized net income
+	Interest expense (net of taxes)
+	<u>Normalized noncash charges</u>
=	Gross cash flow
-	Anticipated capital expenditures
+ or -	<u>Working capital necessary to support growth</u>
=	<u>Net cash flow to invested capital</u>

Continuing with the nursing school example, the steps we took in order to derive a balance sheet and a net cash flow forecast are outlined in exhibit 8.7. As can be seen in this exhibit, we analyzed each balance sheet account, line item by line item, and used the college's historical financial ratios and common size percentages as guidance to determine what the future will look like. In addition, due to the erratic nature of the school's capital expenditures, we were forced to extend the forecast over a long period of time to allow the school to reach a stable level of performance.

### EXHIBIT 8.7 Balance Sheet and Cash Flow Forecast

The Nursing School's pre-tax income was negative during fiscal years 2013 and 2014 before earning a profit during the latest 12-month period ended November 30, 2014. As a result, The Nursing School would not have had the ability to pay distributions during fiscal years 2013 and 2014. Although The Nursing School was profitable during the latest 12-month period ended November 30, 2014, these profits would not be available for distribution due to large short-term capital spending requirements. However, a company's future net cash flow is an indication of its dividend-paying capacity. In order to determine future net cash flow, we first forecasted The Nursing School's balance sheet. The first five years of this forecast appears in table 15.

**EXHIBIT 8.7 Balance Sheet and Cash Flow Forecast**

**TABLE 15 Balance Sheet Forecast**

	2015	2016	2017	2018	2019
<b>Current Assets</b>					
Cash	\$1,859,501	\$2,128,453	\$2,251,459	\$2,355,026	\$2,463,358
Other Current Assets	22,599	25,868	27,363	28,622	29,938
<b>Total Current Assets</b>	<b>\$1,882,100</b>	<b>\$2,154,321</b>	<b>\$2,278,822</b>	<b>\$2,383,648</b>	<b>\$2,493,296</b>
<b>Fixed Assets</b>					
Gross Fixed Assets	\$1,652,896	\$2,042,896	\$2,081,296	\$2,120,848	\$2,161,586
Capital Expenditures	390,000	38,400	39,552	40,739	41,961
Accumulated Depreciation	(404,339)	(594,730)	(790,558)	(958,895)	(1,133,000)
<b>Net Fixed Assets</b>	<b>\$1,638,557</b>	<b>\$1,486,566</b>	<b>\$1,330,290</b>	<b>\$1,202,692</b>	<b>\$1,070,547</b>
Other Assets	\$58,557	\$67,026	\$70,900	\$74,161	\$77,573
<b>Total Assets</b>	<b>\$3,579,214</b>	<b>\$3,707,913</b>	<b>\$3,680,012</b>	<b>\$3,660,501</b>	<b>\$3,641,416</b>
<b>Total Current Liabilities</b>	<b>\$1,101,398</b>	<b>\$1,207,450</b>	<b>\$1,264,933</b>	<b>\$1,323,956</b>	<b>\$1,385,737</b>
<b>Total Long-Term Liabilities</b>	<b>296,679</b>	<b>322,557</b>	<b>340,660</b>	<b>350,755</b>	<b>352,602</b>
<b>Total Liabilities</b>	<b>\$1,398,077</b>	<b>\$1,530,007</b>	<b>\$1,605,593</b>	<b>\$1,674,712</b>	<b>\$1,738,339</b>
<b>Total Unrestricted Net Assets</b>	<b>2,181,137</b>	<b>2,177,906</b>	<b>2,074,419</b>	<b>1,985,789</b>	<b>1,903,078</b>
<b>Total Liabilities and Equity</b>	<b>\$3,579,214</b>	<b>\$3,707,913</b>	<b>\$3,680,012</b>	<b>\$3,660,501</b>	<b>\$3,641,416</b>

The assumptions for the balance sheet forecast are as follows:

*Cash:* Cash was forecasted by applying The Nursing School's cash turnover ratio of 2.85 as of November 30, 2014 to The Nursing School's revenues in each forecast period.

*Other Current Assets:* Other current assets consisting of prepaid expenses were forecasted to remain at less than 1 percent of sales over the forecast period. This was based on The Nursing School's most recent other current assets-to-sales ratio.

*Other Assets:* Other assets consist of deposits and are forecasted to remain at recent historic levels of approximately 1 percent of sales.

*Current Liabilities:* Current liabilities consist of accrued expenses, student deposits, and deferred tuition. Accrued expenses, consisting of accrued wages and vacation were forecasted as a percentage of salaries based on The Nursing School's accrued wages-to-salaries ratio for the latest 12-month period ended November 30, 2014.

(continued)

**EXHIBIT 8.7 Balance Sheet and Cash Flow Forecast** *(continued)*

Student deposits were forecasted as a percentage of tuition revenues based on the student deposits-to-tuition-revenues ratio for the same period. Deferred tuition balances were calculated to reflect two months of tuition revenues in each period going forward.

*Other Liabilities:* Other liabilities consist of deferred rent. Using The Nursing School's deferred rent amortization schedule provided by management, we calculated The Nursing School's deferred rent liability balance as of November 30 of each year. This liability reaches a balance of 0 by the 12-month period ended November 30, 2028.

Based on the forecasted financial statements, the first five years of forecasted debt-free cash flow are as follows:

**TABLE 16 Calculation of Net Cash Flow 12-Month Period Ended November 30,**

	2015	2016	2017	2018	2019
Debt-Free Net Income	\$ 116,079	\$ 269,853	\$319,535	\$362,995	\$386,656
+ Depreciation	159,879	190,391	195,828	168,337	174,105
– Capital Expenditures	(390,000)	(38,400)	(39,552)	(40,739)	(41,961)
– Increase in Working Capital	(146,907)	(166,169)	(67,018)	(45,803)	(47,868)
– Increase in Other Assets (Liabilities)	20,118	17,409	14,229	6,834	(1,565)
<b>Debt-Free Net Cash Flows</b>	<b>\$(240,830)</b>	<b>\$ 273,084</b>	<b>\$423,022</b>	<b>\$451,625</b>	<b>\$469,367</b>

As the preceding table indicates, The Nursing School incurs a large cash outflow during the first period. However, The Nursing School experiences solid growth in its net income as the result of the addition of new students and the commencement of the ABCD program.

In analyzing the first five years of the cash flow forecast, it becomes apparent that depreciation expense exceeds capital expenditures. This is primarily the result of the large annual depreciation expense related to the leasehold improvements completed in 2013. Depreciation expense in excess of capital expenditures cannot continue into perpetuity because The Nursing School cannot depreciate more assets than it acquires.

Another issue that arises is the treatment of The Nursing School's deferred rent liability. The Nursing School's cash flow cannot stabilize until this liability is completely removed from the balance sheet because this liability will not exist into perpetuity.

Based on these factors, we extended the forecast an additional 11 years until the leasehold improvements were fully depreciated and the deferred rent liability was completely reversed in order to allow for stabilization. The remaining cash flows are as follows:

**EXHIBIT 8.7 Balance Sheet and Cash Flow Forecast**

2020	\$256,253
2021	506,991
2022	525,260
2023	544,182
2024	563,762
2025	311,969
2026	603,078
2027	625,570
2028	629,493
2029	633,541
2030	638,481

As seen previously, net cash flow declines in 2020 and 2025 due to the purchase of a new simulator. By 2030, we anticipate that the gap between capital expenditures and depreciation will close because The Nursing School will incur lower depreciation expense as the leasehold improvements are fully depreciated. In addition, capital expenditures could potentially increase due to spending on additional leasehold improvements, the recurring need to purchase a new simulator, and the various recurring replacement expenditures. Based on these factors, we believe that The Nursing School's operating performance reaches a sustainable level by 2030.

## Applicable Standards for Forecasts in Business Valuation and Economic Damage Assignments

Because this book is published by an accounting organization, I feel obligated to discuss what the reporting requirements are for a CPA valuation analyst. CPAs have a number of standards to follow, including the following:

- Statement on Standards for Valuation Services (SSVS)
- Statements on Auditing Standards (SASs)
- Statements on Standards for Accounting and Review Services (SSARSs)
- Statements on Standards for Attestation Engagements (SSAEs)

Given the increasing number of members of the AICPA who are performing business valuation engagements or some aspect thereof, the AICPA Consulting Services Executive Committee issued SSVS No. 1, *Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset* (AICPA, *Professional Standards*, VS sec. 100), in June 2007. The standard is effective for engagements entered into beginning January 1, 2008. I reviewed SSVS No. 1 for those statements applicable to forecasts or the discounted future benefits method. Paragraph .33 (reproduced, in part, as follows) outlines the factors to consider in performing the income approach:

*.33 Income Approach.* Two frequently used valuation methods under the income approach include the **capitalization of benefits method** (for example, earnings or cash flows) and the **discounted future benefits method** (for example, earnings or cash flows). When applying these methods, the valuation analyst should consider a variety of factors, including but not limited to, the following:

- a. *Capitalization of benefits (for example, earnings or cash flows) method.* The valuation analyst should consider the following:
  - i. **Normalization** adjustments
  - ii. Nonrecurring revenue and expense items
  - iii. Taxes
  - iv. Capital structure and financing costs
  - v. Appropriate capital investments
  - vi. Noncash items
  - vii. Qualitative judgments for risks used to compute discount and **capitalization rates**
  - viii. Expected changes (growth or decline) in future benefits (for example, earnings or cash flows)
- b. *Discounted future benefits method (for example, earnings or cash flows).* In addition to the items in item a, the valuation analyst should consider the following:
  - i. Forecast or projection assumptions
  - ii. Forecast or projected earnings or cash flows
  - iii. **Terminal value**

In addition to SSVS No. 1, what other standards are applicable to forecasts prepared for use in business valuations? To answer this question, I reviewed Interpretation No. 1, “Scope of Applicable Services,” of VS section 100 (AICPA, *Professional Standards*, VS sec. 9100 par. .01–.89). Illustration 22 (paragraphs .74–.75) indicates that the valuation analyst does not need to examine or compile prospective financial information in accordance with the SSAEs. Paragraphs .74–.75 are as follows:

*.74 Illustration 22.* In the course of performing a valuation under the Statement, if a valuation analyst prepares prospective financial information (for example, as part of a discounted cash flow or discounted earnings analysis within the income approach), does this require the valuation analyst to examine or compile such information in accordance with the Statements on Standards for Attestation Engagements (SSAEs) [AT sections 20–701]

*.75 Conclusion.* No, chapter 1, “Attest Engagements,” of SSAE No. 10, *Attestation Standards: Revision and Recodification* [AT section 101.01], states that the attestation standards apply when a practitioner is “engaged to issue or does issue an examination, a review, or an agreed-upon procedures report on subject matter, or an assertion about the subject matter..., that is the responsibility of another party.” If the valuation analyst has not been engaged to examine, compile, assemble, review, or apply agreed-upon procedures to prospective financial information, and does not issue an examination, compilation, assembly, or agreed-upon report on prospective financial information, the SSAEs [AT sections 20–701] do not apply (SSARS 14 [AR section 120]).

In performing forecasts for business valuation purposes, the valuation analyst needs to comply with SSVS No. 1 but is not required to examine or compile the forecasts in accordance with other accounting standards. Although this is the case, it is still a recommended practice to include a disclaimer such as the following:

In preparing these Financial Forecasts, we have relied upon historical financial information provided to us by management and derived from corporate tax returns. This information has not been audited, reviewed or compiled by us, and, accordingly we do not express an opinion or any form of assurance on any of this material. By their nature it is not possible to accurately predict future results of operations and financial positions of an entity. While these Financial Forecasts have been prepared in conjunction with management based on their views of the most probable assumptions as to future events and courses of actions, the actual results will differ from those projected and the variances may be material.

In other words, the traditional accounting standards do not apply to these types of engagements. However, common sense should guide the valuation analyst into doing the correct thing.

## Court Acceptance

In tax-related valuation assignments, Revenue Ruling 59-60 discusses the fact that, “valuation is a prophecy of the future.” This is an indication that the future is an important component of the valuation process. In *Central Trust v. United States*,<sup>6</sup> the court found that “past earnings are important only insofar as they reasonably forecast the future earnings.”

In the *Estate of Kirkpatrick*,<sup>7</sup> the court emphasized the fact that a potential investor would analyze the business enterprise from the viewpoint of its prospects as a money-making enterprise. In the Delaware Chancery Court, there have been numerous decisions relying on a discounted cash flow methodology. In some nontax-related appraisals (divorce appraisals), the courts are still uncertain about using forecasts. However, more and more courts are beginning to accept this methodology if a well-thought-out and properly presented forecast is used in a valuation. Some judges are uncomfortable with forecasts and discount their value.

It is up to the valuation analyst to be able to explain the importance of the future in the context of a valuation assignment. Who buys history? Many divorce-related valuations refer to Revenue Rulings 59-60 and 68-609, so the valuation analyst should remember that these rulings emphasize “probable future earnings.” The problem is that the judge gets an uncomfortable feeling because the forecasts are usually poorly done. This makes the forecasts seem highly speculative. Performing a forecast is not a guarantee that the company will actually achieve the forecast results, but not doing a forecast is like not really doing a valuation. Even if the valuation analyst uses historical data, he or she is effectively saying that the future is expected to resemble the past.

In *Valuing a Business*, the authors discuss the court acceptance of forecasts as follows:

In court, the parties to an action and the judge rely on evidence to support a particular position. Historical facts are often considered more credible evidence in the eyes of the court than future projections of what somebody thinks will happen. Therefore, when legal evidence is required, the focus tends to be on the historical record of financial performance; future benefits and their predictability as of the valuation date can be more difficult to establish, unless backed up with solid foundational research. The courts generally prefer provable historical results to unprovable expectations of future results, but some courts are becoming more amenable to accepting projections prepared in the ordinary course of business. The extent to which a court will accept projections as evidence in a valuation case is probably a function of the degree of confidence the court has in the validity of those projections based upon information available as of the valuation date, as well as the credibility of the evidence and the witness. While courts continue to apply judicial scrutiny to the reasonableness of specific projections, it is noteworthy that in recent years courts have become much more accepting of the application of the discounted cash flow method as a valuation methodology.<sup>8</sup>

The key to having the court accept a forecast is to properly document the assumptions. The valuation analyst should not just blindly ask the client for a forecast and accept it as if it is objective. Clients have desired end results, and despite what they say about not understanding the business valuation process, they almost always know if they need a good forecast or a “doom and gloom” forecast. The valuation analyst should not get caught up in being an advocate for his or her client, particularly in a litigation assignment, because it will come back to haunt the analyst.

An example of this took place in the Minnesota U.S. District Court in the case of *US Salt, Inc. v. Broken Arrow, Inc.*<sup>9</sup> The court had little trouble finding that the expert’s reports contained “very little analysis and were riddled with unsupported assumptions.” In fact, when asked in a prior deposition whether he had done anything to verify whether the information and projections relied upon were accurate, the expert answered quite frankly:

6 *Central Trust v. United States*, 305 F. 2d 393 (1962).

7 *Estate of Kirkpatrick*, T.C. Memo 1975-344.

8 Shannon P. Pratt and Alina V. Niculita, *Valuing a Business*, 5th ed. (New York: McGraw Hill, Inc., 2008): 57.

9 *US Salt, Inc. v. Broken Arrow, Inc.*, 563 F. 3d 687, Court of Appeals, 8th Circuit, 2009.

“not that comes to mind.” Without an independent, objective opinion on the part of the expert, the court found that the management’s estimates were “nothing more than optimistic projections.” Further, the court concluded that “[the expert’s] wholesale acceptance of [management’s] projections without any verification of these estimates or any independent market analysis is simply too speculative to submit to a jury.”

In another case, *Richard S. Gesoff v. IIC Industries, Inc., CP Holdings Limited, Kenyon Phillips Acquisition, LLC, Bernard Schreier, John Smith, Robert M. Levy, Robert Glatter, and Alfred L. Simon*,<sup>10</sup> the expert adjusted management’s forecasts, which created a result that differed considerably from the forecasts produced by management. According to the court

Defendant’s Expert personally prepared the forecasts used in his valuation for Zoko, purportedly based on management forecasts, but adjusted downward for various reasons having to do with Zoko’s business situation as of the valuation date. The Court is not persuaded that Defendant’s Expert’s revisions to the Zoko management projections are reliable, and their use would cut against this court’s belief that management projections are generally preferable to projections by third parties, especially projections by third parties created after the fact.

In these two cases, one expert relied on management’s forecast and the other adjusted management’s forecast; yet, each of these forecasts was deemed unreliable and was not used. What the experts failed to do was verify the acceptability of their forecasts and adequately document their assumptions. Once again, the valuation analyst should never blindly accept forecasts performed by management and if the analyst does adjust these forecasts, he or she needs to make sure to document the assumptions and make certain the final result makes sense.

## Conclusion

Forecasting is not an easy task if it is done properly. It requires a considerable amount of time to properly support all the assumptions used. It does not matter whether management has provided the forecast to the analyst or if the valuation analyst had to prepare it from scratch. At the end of the process, the forecast has to make sense. If the valuation analyst is not comfortable working with forecasts, business valuation may not be the right specialty for that person. There is no way to avoid having to deal with forecasts if business valuation is the field of choice. Let’s move on.

<sup>10</sup> *Richard S. Gesoff v. IIC Industries, Inc., CP Holdings Limited, Kenyon Phillips Acquisition, LLC, Bernard Schreier, John Smith, Robert M. Levy, Robert Glatter, and Alfred L. Simon*. 902 A. 2d 1130, Del: Court of Chancery, 2006.



## Chapter 9

# The Market Approach— Part I

### Learning Objectives

Now that all the gathering stuff has been explained, we can now start to discuss what to do with it. In this chapter, I will begin to explain the market approach. There is a lot of important information here! After an introduction to the market approach, I will cover the guideline public company method. This discussion will include the following:

- The guideline public company method
- Selecting potential guideline companies
- Analyzing guideline companies
- Using valuation multiples
- Advantages and disadvantages of the guideline public company method
- Illustrating the guideline company method

### Introduction

The market approach is probably the most fundamental approach in a fair market value assignment. Because fair market value is supposed to come from the market, it seems natural that this approach should be greatly emphasized. However, the application of this approach can, at times, be the most difficult approach to use in a business valuation. In real estate appraisal, the appraiser looks for properties similar to the piece of real estate being appraised in order to compare the similarities and dissimilarities between the properties. After the comparison is made, the real estate appraiser estimates the value of the subject property using a grid to analyze the various properties that were considered to be comparable to the subject property. The sales price of each comparable property is adjusted for each factor that the real estate appraisers believes is a difference (good or bad) between the property that was sold and the subject company. The adjusted comparable prices are then equated to the subject property to determine the fair market value of the property. A simplified grid analysis of the sales price of the comparable properties appears in table 9.1 on the following page.

This concept can be illustrated using the following example. Property A sold for \$200,000. It is a single-family house on a busy main road; it is on one acre of land and has three bedrooms, two baths, and a newly renovated family room. Property B sold for \$175,000. It is also a single-family residence in the same neighborhood, but it is further down the street, off the main road, on one acre of land, and it has two bedrooms, two baths, and a well-maintained interior. Property C sold for \$190,000 and is on the same block as property B; it is also on one acre, has two bedrooms and two and one-half baths, and is in relatively good shape on the inside. An appraisal of property D is requested. The comparative information about the properties is given in table 9.1 on the following page.

After a comparison of the features of properties A, B, and C with those of property D, it appears that property D most closely resembles property C, except the appraisal subject has an extra bedroom. Therefore, the real estate appraiser concludes that the appraised value of property D should be a little higher than property C because of the extra bedroom and is \$200,000.

This is a simplistic example and is not intended to make light of the role of the real estate appraiser. However, real estate sales are generally available in public records; therefore, the real estate appraiser has a definite advantage over the business valuation analyst. The point being made is that an estimate of fair market value is

**TABLE 9.1 Sample Real Estate Comparative Statistics**

	Property A	Property B	Property C	Property D
Sales price	\$200,000	\$175,000	\$190,000	Unknown
Acreage	1	1	1	1
Location	Main road	Quiet street	Quiet street	Quiet street
Bedrooms	3	2	2	3
Baths	2	2	2.5	2.5
Interior	New condition	Good condition	Good condition	Good condition
All else	Same	Same	Same	Same

an interpretation of market data indicating the worth of a property. The role of the valuation analyst is that of an interpreter, not a market maker. Our job is to use the information available in the market to estimate the value of the valuation subject. Despite the similarities to real estate appraisal, business valuation methods are a bit different.

The market approach emphasizes the principle of substitution, which was discussed previously. This means that given alternative investments, an individual would be expected to gravitate toward the property with the lowest price if all other attributes are the same. This gravitation may frequently involve the personal choices of the purchaser, but risk is a key ingredient in the selection process.

The market approach is the most direct approach for establishing the fair market value of a business. The methods that are used most often under this approach are (1) the guideline public company method, (2) the merger and acquisition method, (3) sales of the company's own stock method, and (4) the industry method (sometimes called *rules of thumb*). This chapter will be dedicated solely to the guideline public company method. Chapter 10 will discuss the other stuff.

Regardless of the method used, the valuation analyst must consider the sources of market data. Whereas in real estate appraisal the appraiser is able to obtain "good" information about the comparable properties, business valuation analysts do not always have the same luxury. The data that is available may differ significantly depending on the types and sizes of the companies. The data used for the guideline public company method will come from publicly traded companies, whereas the data used in the application of the merger and acquisition method may come from either the public market or businesses that are closely held. Both of these sources can present real problems to the business valuation analyst.

## Guideline Public Company Method

Proper application of the guideline public company method is labor intensive and will take time to perform. Following the basic steps laid out in this section will increase the valuation analyst's success in applying this method, but remember that valuation is an iterative process. Frequently, the valuation analyst will find that he or she is repeating these steps. Either practice makes perfect or it leads to being extremely frustrated.

The guideline public company method of valuation is based on the premise that pricing multiples of publicly traded companies can be used as an indicator of value to be applied in valuing the closely held valuation subject. Before we go too much further, let's just make sure that you understand what a pricing multiple is. A pricing multiple is a relationship between the price of a share of public company stock and some other factor, such as earnings, cash flow, revenues, and so on. For example, assume that a public company has a current market price per share of \$96. Also, assume that the last reported earnings reported for the company were \$8 per share. In this instance, the price-to-earnings multiple would be computed as follows:

$$\$96 \div \$8 = 12$$

The price-to-earnings multiple would be 12 in this example. Simply put, it means that the market participants are pricing the public company stock at 12 times earnings at that point in time. Not all multiples have to be calculated using earnings. We will soon discuss other multiples that can be used and when they might be appropriate.

Using multiples of public companies in this manner is suggested in Revenue Ruling 59-60 in the famous eight factors to consider (at a minimum). The ruling tells us to consider the *market price of stocks of corporations engaged in the same or similar line of business having their stocks actively traded in a free and open market either on an exchange or over the counter*.

The mechanics of the method require the valuation analyst to use the stock price of the public company in conjunction with some other factor (such as earnings, cash flow, or book value), to create a pricing multiple. With certain adjustments, the pricing multiple is applied to the valuation subject's similar factor to determine an estimate of value for the company. A price-to-earnings multiple would be applied to the company's earnings, a price-to-cash flow multiple would be applied to the company's cash flow, and so on.

To use this method properly, the publicly traded companies that are used as surrogates must be comparable to the closely held valuation subject. The comparable companies will not be identical to the valuation subject but should be similar enough to provide guidance to the valuation analyst during the valuation process. The similar companies, formerly known as *comparative companies* or *comparables*, a term taken from the real estate appraisal world, are known as *guideline companies* in our world. This terminology was suggested by the Business Valuation Committee of the American Society of Appraisers to highlight the fact that no two companies are truly comparable, but, rather, that similar companies can provide guidance about other companies in the marketplace.

In business valuation, the requirements for “similarity” are considered from an investment point of view. The factors that will be considered by the valuation analyst will vary from assignment to assignment. One concise list of factors to consider in determining the similarity of the guideline companies is impossible. However, some of the factors to consider have been included in the writings of Graham, Dodd, and Cottle;<sup>1</sup> Stockdale;<sup>2</sup> and Bolten, Brockardt, and Mard.<sup>3</sup> These writings have been around for some time now, but, quite frankly, the factors that determine similarity that these authors discuss have not changed that much. Some of the factors to consider, though not necessarily in any special order, are listed in box 9.1.

Various authors have created a substantial list of attributes to consider in determining whether the guideline companies are comparable enough to be used as good surrogates in a valuation. In order for a guideline company to be used properly, it must be *similar* and *relevant* to the valuation subject. Comparing the local hardware store with The Home Depot may involve similar businesses, but, let's face it, where's the relevance? Another error that I have been seeing much too often these days

**BOX 9.1****Common Assessment Factors for Determining Similarity in Selecting**

- Past growth of sales and earnings
- Rate of return on invested capital
- Stability of past earnings
- Dividend rate and record
- Quality of management
- Nature and prospects of the industry
- Competitive position and individual prospects of the company
- Basic nature of the activity
- General types of goods or services produced
- Relative amounts of labor and capital employed
- Extent of materials conversion
- Amount of investment in plant and equipment
- Amount of investment in inventory
- Level of technology employed
- Level of skill required to perform the operation
- Size
- Financial position
- Liquidity
- Years in business
- Financial market environment
- Quality of earnings
- Marketability of shares
- Operating efficiency
- Geographical diversification
- Similarity of business model

1 B. Graham, D. Dodd, and S. Cottle, *Security Principles and Technique*, 4th ed. (New York: McGraw-Hill, 1962).

2 John J. Stockdale, “Comparison of Publicly Held Companies With Closely Held Business Entities,” *Business Valuation Review* (December 1986), 3–9.

3 Steven E. Bolten, James W. Brockardt, and Michael J. Mard, “Summary (Built-up) Capitalization Rates for Retailers,” *Business Valuation Review* (March 1987), 6–13.

is the use of a large industry leader as a comparable company for a small start-up company. This is like saying if a small accounting firm was bigger, it would be PricewaterhouseCoopers. Although this may be true, there is so much that would have to happen to make a small accounting firm into the next PricewaterhouseCoopers that using it now as a comparable is like comparing night and day. In chapter 27, I discuss the tax court case of the estate of Joyce C. Hall. This case has some great stuff in it about choosing guideline companies. When you get to this chapter, read my summary, or if you really want to understand the market approach, read the actual case. This case is included on the portal included with this book from Business Valuation Resources. This will assist you further in understanding the concept of same or similar.

How do we identify guideline companies in practice? Earlier, I indicated the criteria for determining similarity. In the real world, the search for guideline companies can be accomplished the old fashioned way—by legwork at the library—or the modern way—by sitting at your desk in front of a computer. Those of us who started in this business a long time ago (it seems like when the dinosaurs roamed the earth) did not have a choice. Today, I opt for the latter alternative. It's much faster and a lot less work.

Before we walk through the process of finding guideline companies and figuring out what to do with them once we have found them, take a look at exhibits 9.1, 9.2, and 9.3. These are the document checklists that we use to help keep track of the basics. We have adapted them from Thomson PPC's *Guide to Business Valuations*. I already told you: If it ain't broke, don't fix it. These can be modified (as we have done) for the valuation analyst's own use.

### EXHIBIT 9.1 Guideline Company Checklist

Company Name: \_\_\_\_\_

Completed by: \_\_\_\_\_ Date: \_\_\_\_\_

**INSTRUCTIONS:** This form lists procedures commonly performed in applying these valuation methods. The exact procedures used are a matter of professional judgment based on the circumstances of each engagement, and this form should be tailored accordingly. The valuation analyst performing the procedures should initial the space labeled "Completed by" as each step is performed. If a procedure does not apply to a particular engagement, write N/A in the space opposite the step. If additional procedures are needed, document them on a separate page or memo. Use the "Comments" section on the last page to document problems encountered or unusual matters.

**Note:** This checklist is designed to determine an equity value. Modifications may be needed to determine an invested capital value.

PROCEDURE	Completed by or N/A	Working paper Ref
1. Obtain financial statements of the company being valued for a representative period of time. Adjust the financial statements for any GAAP errors or normalization adjustments. Recompute federal and state income taxes based on normalized pretax earnings.		
2. Identify guideline companies by performing the following procedures:		
<ul style="list-style-type: none"> <li>a. Assemble a list of potential guideline public companies. The list should normally be compiled in the following manner:</li> <li>b. Through discussions with management, identify the company's major competitors.</li> <li>c. Determine the company's Standard Industrial Classification (SIC) code(s) or North American Industrial Classification System (NAICS) code(s) and perform a search of published sources for companies with the same or similar code(s). The company's primary SIC or NAICS codes are as follows:</li> <li>d. Identify additional companies from other sources, such as trade magazines, or stockbrokers.</li> </ul>		

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**EXHIBIT 9.1 Guideline Company Checklist**

<b>PROCEDURE</b>	<b>Completed by or N/A</b>	<b>Working paper Ref</b>
3. Obtain financial and other information for each potential guideline company.		
4. Complete a “Guideline Company Comparison Worksheet” for each potential guideline company.		
5. If necessary, adjust the financial statements of the guideline companies to make them more comparable to the company being valued.		
6. Decide which multiples are appropriate for the engagement given the unique aspects of the company being valued and the definition of value.		
7. Determine what time period of operations (recent 12 months, recent fiscal year, and so on) should be used in measuring the company’s operations.		
8. Compute the selected multiples for each guideline company based on the adjusted financial information. You may use the “Value Multiple Computation Worksheet” to document each value multiple computation. Earnings or cash flow for each guideline company should be measured for the same time period as the company being valued.		
9. Select an appropriate value multiple based on the individual multiples of each guideline company. You may use the “Determination of a Single Value Multiple Worksheet” to document this selection.		
10. Increase or decrease the selected multiple based on differences between the guideline companies and the company being valued. Any adjustments should be documented in the “Determination of a Single Value Multiple Worksheet.”		
11. Multiply the selected multiple by the normalized benefit stream of the company (or ownership interest) being valued to arrive at the estimate of value.		
12. If more than one type of value multiple (price/earnings, price/revenue, and so on) was used on the engagement, determine the relative weighting to be given each type of multiple.		
13. Apply sanity checks on the values computed in step 11 to determine the reasonableness of those values.		
14. If there were any adjustments made in step 1 to the financial statements of the company being valued for any non-operating or excess assets, determine an appropriate value for those assets. Add the value of those assets to the values computed in step 11. If asset shortages were identified in step 1, determine if the value estimate should be reduced to reflect the value of such shortages. If the normalized income statement was adjusted to reflect the impact of identified asset shortages, it is not necessary to further reduce the value estimate.		
15. Determine whether the estimated values of the company that were determined in step 11 should be adjusted for marketability discounts, control premiums, minority interest discounts, or other premiums or discounts.		

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(continued)

**EXHIBIT 9.1 Guideline Company Checklist** *(continued)*

PROCEDURE	Completed by or N/A	Working paper Ref
Comments. (This section may be used to document problems encountered or unusual matters.)		

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**EXHIBIT 9.2 Guideline Company Comparative Worksheet**

Company: \_\_\_\_\_ Valuation Date: \_\_\_\_\_

Prepared by: \_\_\_\_\_ Date: \_\_\_\_\_

**A. Potential Guideline Company Data**

**INSTRUCTIONS:** This form should be completed for each potential guideline company. The form is a guide to the key factors that should be considered in determining how similar each potential guideline company is to the company being valued. It is not necessarily a complete listing of all factors that might be considered. Specific engagement circumstances may require additional considerations.

Name of potential guideline company: \_\_\_\_\_

How was this company identified as a potential guideline company?

\_\_\_\_\_

\_\_\_\_\_

Briefly describe the operations of the potential guideline company, including its products, customers, geographic markets, and apparent strengths and weaknesses. Indicate the source of this information.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**B. Trading Activity**

Test for market activity in the guideline company's stock using data obtained from Yahoo! Finance or a similar source (adjusted for capital changes) (**Make certain that the trading volume has been adjusted for capital changes**) and the guideline company's current outstanding shares. This is done by downloading monthly stock pricing reports for the 12 months prior to the valuation date. Calculate the average trading volume for 6 and 12 months prior to the valuation date. Trading activity is equal to the calculated averages divided by current shares outstanding. This should be formatted as a percentage. See W/P reference \_\_\_\_\_ for a printout of this information. If the shares are too thinly traded, go to Part D of this form.

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**EXHIBIT 9.2 Guideline Company Comparative Worksheet****C. Comparisons to the Company Being Valued**

Compare the potential guideline company to the company being valued in the following areas. Highlight significant difference and similarities.

## 1. Product similarity:

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---

---

## 2. Similarity of customer services:

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## 3. Competitive advantages and disadvantages:

---

---

---

## 4. Historical trends (including growth rates):

---

---

---

## 5. Financial risk (capital structure, credit status, liquidity, and so on):

---

---

---

## 6. Size, including geographic diversification:

---

---

---

## 7. Management depth:

---

---

---

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(continued)

**EXHIBIT 9.2 Guideline Company Comparative Worksheet** *(continued)*

8. Other factors:

---



---



---

**D. Conclusion**

Check one of the following conclusions:

 The company is comparable to the company being valued in many material respects.

---



---

 The company is insufficiently comparable to the company being valued and, therefore, will not be used. (Explain.)

---



---

 The company's stock is too thinly traded to be useable as a guideline company.

---



---

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**EXHIBIT 9.3 Valuation Multiple Worksheet**

Company: \_\_\_\_\_ Valuation Date: \_\_\_\_\_

Prepared by: \_\_\_\_\_ Date: \_\_\_\_\_

**INSTRUCTIONS:** The valuation analyst should complete one of these forms for each guideline company. The form is a guide to the key factors that affect the numerator and the denominator of the value multiple computation.

**A. General Information**

Name of guideline company: \_\_\_\_\_

Check the value multiple\*\* that will be computed for this engagement:

Measures of operations for the period ended: \_\_\_\_\_.\*

\_\_\_\_\_ Price/earnings \_\_\_\_\_ Price/gross cash flow

\_\_\_\_\_ Price/dividends \_\_\_\_\_ Price/revenues

Measures as of a single point in time

\_\_\_\_\_ Price/net asset value \_\_\_\_\_ Price/book value

**Note:** Adjustments for different time periods used are sometimes needed to make the guideline company more similar to the company being valued.

\*\* Multiples may be equity multiples or invested capital multiples. Modify this form to include the appropriate multiples used.

\* *Note:* The time period used for each guideline company should match exactly, or as closely as possible, the time period over which the same variable is measured for the company being valued.

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**EXHIBIT 9.3 Valuation Multiple Worksheet**

If a measure of operations for a given period of time is selected in the preceding, indicate how the period will be determined:

\_\_\_\_\_ Most recent 12 months \_\_\_\_\_ Most recent fiscal year  
(or 4 quarters)

\_\_\_\_\_ Projected operations \_\_\_\_\_ Historical average

\_\_\_\_\_ Five-year \_\_\_\_\_ Three-year

\_\_\_\_\_ Simple \_\_\_\_\_ Weighted

\_\_\_\_\_ Other (Describe) \_\_\_\_\_

Indicate the type of value the value multiple will be used to determine.

**B. Numerator of the Value Multiple**

Indicate the stock price of the guideline company. \_\_\_\_\_

Note: This could also be the company price if it is based on a merger or acquisition transaction.

\_\_\_\_\_ What is the source of this stock price? \_\_\_\_\_

\_\_\_\_\_ Wall Street Journal dated \_\_\_\_\_

\_\_\_\_\_ Other (describe): \_\_\_\_\_

**C. Denominator of the Value Multiple**

Indicate the company's earnings (or other measure) \_\_\_\_\_

Note: This measure should be in total or per share, depending on how the stock price is measured.

Should the earnings (or other measure) be adjusted in any way? If so, describe the nature of each adjustment and how the amount of each adjustment was determined.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Indicate the adjusted earnings (or other measure) of the comparative company. \_\_\_\_\_

**D. Computation of the Value Multiple**

Compute the value multiple by dividing the stock price of the guideline company from Section B by its adjusted earnings (or other measure) from Section C. \_\_\_\_\_

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The procedures for employing the guideline public company method may go something like those listed in the following sections.

## Creating a List of Potential Guideline Companies

The first step in each guideline public company analysis is to generate a list of potential guideline companies. The first group of questions that should come to the valuation analyst's mind can be found in box 9.2.

It is important to consider as many potential guideline companies as possible, which means that the valuation analyst must perform a thorough and comprehensive search to locate as many as possible. I suggest that the valuation analyst consider, at a minimum, these four sources for learning about or finding potential guideline companies:

1. Management
2. Standard Industrial Classification (SIC) or North American Industry Classification System (NAICS) code search (I am going to refer to these as SIC, but NAICS can be substituted.)
3. Online databases
4. Industry research

### Management

A management interview is a useful part of every valuation assignment. While the valuation analyst is asking management about all the stuff that was on the questionnaire discussed in chapter 5, he or she should make sure to specifically ask about any publicly traded competitors. Good managers have a real handle on their competitive environment and will know who their public competitors are. This is a good starting point for each guideline company search. This will also be very helpful because many databases that classify companies by SIC code use different codes for the same company. If you perform a search of a database (which will soon be explained) and you do not come up with a company that management told you about, see what SIC code that company is categorized under and expand your search. You may find other companies there as well.

#### BOX 9.2

#### Questions to Ask About Comparability

1. What is the business of the subject company?
2. In what industry does the company participate?
  - a. Is the industry concentrated or fragmented?
  - b. Is the industry capital-intensive?
3. Is the company in one, two, or more than two lines of business?
  - a. If it has more than one line of business, how important are each of the business segments to the overall performance of the company? (Probably the most important measure of performance is profitability.)
  - b. How closely related are these businesses?
4. What is the nature of the market?
5. What are the nature, level, and basis of competition?
  - a. Is the company a market leader or follower?
  - b. Does the company have distinctive competencies?
6. Does the company have advantageous intellectual capital?
7. Does the company operate locally, regionally, nationally, or globally?
8. What has the financial performance of the company been like?

That recently happened to us and we explained this in our report as follows:

In an attempt to apply the market approach, the analyst performed computerized searches utilizing the Alacra Public Companies and PitchBook databases. In order to find guideline companies, the analyst used the following search criteria in the Alacra database:

- I. The company's NAICS code was 621493.
- II. The company operated in the United States.
- III. The company had a market capitalization of greater than \$100,000.

The initial search did not return any companies. Knowing that Adeptus is The Company's largest competitor, the analyst looked up Adeptus in the Alacra database in order to locate the NAICS code that Alacra used to classify Adeptus. That NAICS code was 622110: General Medical and Surgical Hospitals. Therefore, the analyst performed a second search using this NAICS code. This search returned 16 companies.

Imagine if we had not known about the one public company. We would have missed 16 other possible guideline companies.

## SIC/NAICS Code Search

An intuitive starting point when the valuation analyst is back at a computer is a SIC or NAICS code search. If the analyst does not know the SIC or NAICS code for the subject or is not sure if the subject is correctly defined, there are many sources for SIC or NAICS code information. The Occupational Safety and Health Administration (OSHA) website ([www.osha.gov](http://www.osha.gov)) will become the valuation analyst's best friend if he or she needs to look things up. Unfortunately, like all government websites, the analyst may need to click around to get to where he or she ultimately needs to go to. Let's make believe that we are valuing a chain of restaurants, and we are looking for the correct SIC or NAICS code. Figure 9.1 illustrates what the process is when using the OSHA website.

**Figure 9.1 OSHA Website**



Of course, this is only the top of the webpage. You want to click on the “A to Z Index” button at the top. You will then get what is illustrated in figure 9.2.

Figure 9.2 OSHA A to Z Index

UNITED STATES  
DEPARTMENT OF LABOR

**OSHA**

Find it in OSHA

For Workers ▾ For Employers ▾ Law & Regulations ▾ Data & Statistics ▾ Enforcement ▾ Training & Education ▾

News & Publications ▾ English About OSHA A to Z Index Contact Us FAQs What's New

Spanish

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

**A**

- Abatement Verification Guide
- About OSHA
- Accident Investigation (see Incident Investigation)
- ACCSH - (Advisory Committee on Construction Safety and Health)
- Additional Documents & Publications
- Advisors/Software [OSHA eTools]
- Advisory Committees
- AED - (Automated External Defibrillators)
- Agricultural Operations
- Airline Cabin Crews
- Airline Industry
- Alliance Program
- Alternatives Assessment
- American Recovery and Reinvestment Act Information (ARRA)
- Ammonium Nitrate
- Ammonia Refrigeration
- Ammonia Refrigeration eTool
- Analytical Methods
- Anthrax
- Anthrax eTool
- Apparel and Footwear Industry
- Archive - Search
- Arsenic
- Asbestos
- Asbestos Advisor (Software Download)
- Asbestos Standards - (Training Materials)
- Asphalt Fumes
- Assigned Protective Factors (APF), Respiratory Protection Standard
- Assistant Secretary
- Autobody Repair and Refinishing
- Automated External Defibrillators - (AED's)
- Avian Flu

**B**

- Baggage Handling eTool
- Basic Steel Products
- Battery Manufacturing
- Benzene
- Beryllium
- Beryllium Rulemaking
- Beverage Delivery eTool
- Biofuels
- Biological Agents
- Bloodborne Pathogens and Needlestick Prevention

**OSHA QuickTakes**  
Keep up with the latest news through our free eNewsletter

Enter your e-mail address

You can click on the letter “S” to take you to the searches that start with the letter “S.” Real hard so far, huh? Anyway, when you click on the “S” you will get what is depicted in figure 9.3.

## Figure 9.3 S Search

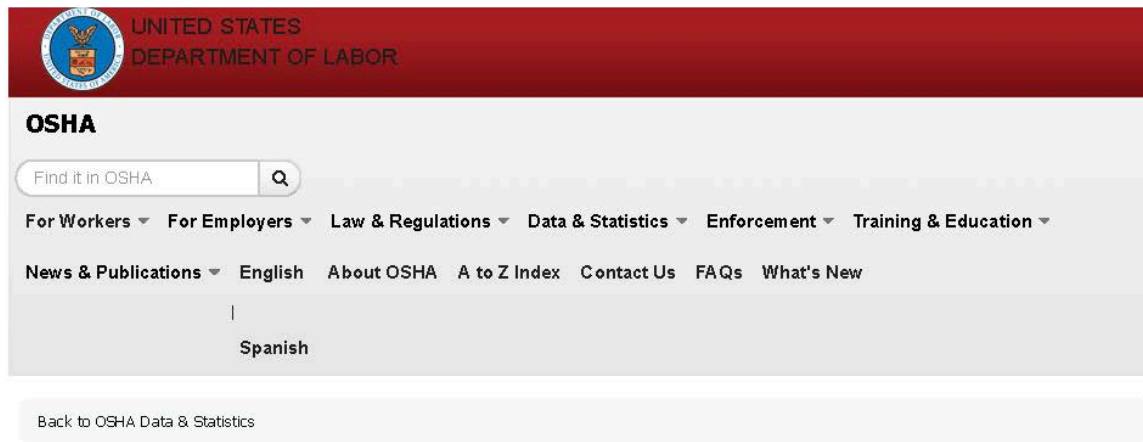
S

[Safe Patient Handling \(Hospitals\)](#)  
[Safer Chemicals](#)  
[Safety and Health Achievement Recognition Program - \(SHARP\)](#)  
[Safety and Health Awareness for Oil Spill Cleanup Workers \(OSHA 3388 - 2010 v7\) \(English, Spanish, Vietnamese\)](#)  
[Safety and Health Information Bulletins - \(SHIBs\)](#)  
[Safety and Health Program Management Guidelines](#)  
[Safety and Health Management Systems \(Hospitals\)](#)  
[Safety and Health Topics, Technical Links](#)  
[Safety Culture \(Hospitals\)](#)  
[Safety Pays Program](#)  
[Safety Stand-Down](#)  
[Salons](#)  
[Sampling and Analysis](#)  
[Sampling and Analytical Methods](#)  
[Sample Programs \[Compliance Assistance\]](#)  
[Sanitation \(see Restrooms\)](#)  
[Sawmills](#)  
[Scaffolding](#)  
[Scaffolding eTool](#)  
[Science, Technology, & Medicine, Directorate of](#)  
[Scissor Lift](#)  
[Sealant, Waterproofing, and Restoration Industry](#)  
[Seasonal Flu](#)  
[Semiconductors](#)  
[Services & Programs](#)  
[Severe Acute Respiratory Syndrome - \(SARS\)](#)  
[Sewing eTool - en Español](#)  
[SHARE - \(Safety, Health and Return to Employment, a Presidential Initiative\)](#)  
[Ship Building & Repair](#)  
[Shipyards, Ergonomics Guidelines](#)  
[Shipyard Employment eTool](#)  
[SIC/NAICS Manual](#)  
[SIC/NAICS Search \(Requires Java\)](#)

---

If the valuation analyst forgets the SIC code for restaurants, he or she can click here to find it. In a previous chapter, I discussed getting industry data from various sources that would have required the valuation analyst to have already done this. If you click on the first SIC item, you get what is shown in figure 9.4.

Figure 9.4 NAICS Search Screen



### North American Industry Classification System (NAICS)

On January 1, 2003 OSHA began using the North American Industry Classification System (NAICS) for industry identification in its various data sets.

NAICS uses a six digit hierarchical coding system to classify all economic activity into twenty industry sectors. Five sectors are mainly goods-producing sectors and fifteen are entirely services-producing sectors. This six digit hierarchical structure allows greater coding flexibility than the four digit structure of the Standard Industrial Classification (SIC) system. NAICS allows for the identification of 1,170 industries compared to the 1,004 found in the SIC. For detailed information on the NAICS coding structure please visit the U.S. Census Bureau.

The Standard Industrial Classification has been replaced by the North American Industry Classification System (NAICS), but several OSHA data sets are still available with SIC-based data. For information on the Standard Industrial Classification system, please visit Standard Industrial Classification (SIC) System Search.



If you notice, the website takes the valuation analyst to the NAICS referencing, rather than the SIC codes. The analyst can get back to the SIC codes if desired, but the NAICS coding system permits a more detailed search because of a greater breakdown of the codes within each category. The website provides a hyperlink that allows the user to go directly to the U.S. Census Bureau to further search for the NAICS codes. Figure 9.5 depicts that result.

Figure 9.5 Introduction to NAICS

United States Census Bureau

U.S. Department of Commerce | Blogs | Index A-Z | Glossary | FAQs

Search

Topics: Population, Economy; Geography: Maps, Products; Library: Infographics, Publications; Data: Tools, Developers; Surveys/Programs: Respond, Survey Data; Newsroom: News, Blogs; About Us: Our Research

You are here: [Census.gov](#) > [Business & Industry](#) > [NAICS](#)

## North American Industry Classification System

Main | History | Development Partners | Federal Register Notices | NAPCS | FAQs

### NAICS Search:

Enter keyword or 2-6 digit code

Enter keyword or 2-6 digit code

Enter keyword or 2-6 digit code

### Downloads/Reference Files/Tools

- 2012 NAICS
- 2007 NAICS
- 2002 NAICS
- 1997 NAICS
- Concordances
- NAICS Update Process Fact

### Introduction to NAICS

The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

NAICS was developed under the auspices of the Office of Management and Budget (OMB), and adopted in 1997 to replace the [Standard Industrial Classification \(SIC\) system](#). It was developed jointly by the [U.S. Economic Classification Policy Committee \(ECPC\)](#), [Statistics Canada](#), and Mexico's [Instituto Nacional de Estadística y Geografía](#), to allow for a high level of comparability in business statistics among the North American countries.

This official U.S. Government Web site provides the latest information on plans for NAICS revisions, as well as access to various NAICS reference files and tools.

The official 2012 U.S. NAICS Manual includes definitions for each industry, background information, tables showing changes between 2007 and 2012, and a comprehensive index. The official 2012 U.S. NAICS Manual is available in print and on CD-ROM from the National Technical Information Service (NTIS) at (800) 553-6847 or (703) 605-6000, or through the [NTIS](#) Web site. Previous versions of the NAICS Manual are available.

Additional information on the background and development of NAICS is available in the [History](#) section of this Web site.

### Announcements

**NAICS 2017 Revision is final**  
[August 08, 2016](#) [PDF, 290KB]  
 North American Industry Classification System—Revision for 2017; Notice. Vol. 81, No. 152

**2017 NAICS Structure** [XLSX, 94KB]

**2017 NAICS to 2012 NAICS** [XLSX, 59KB]

**2012 NAICS to 2017 NAICS** [XLSX, 58KB]

[August 04, 2015](#) [PDF, 325KB]  
 North American Industry Classification System (NAICS) - Updates for NAICS 2017; Notice. Vol. 80, No. 149


[August 08, 2014](#) [PDF, 292KB]  
 2017 North American Industry Classification System (NAICS)

Notice that there are three different references to the NAICS system because they had been updated in 2002, 2007, and 2012. In this instance, I did a keyword search for “restaurant” because I knew that the SIC code was 5812, but I did not know what the NAICS code was. The search is shown in figure 9.6.

## Figure 9.6 Key Word Search

9/30/2016 NAICS Search

U.S. Department of Commerce ([www.commerce.gov](http://www.commerce.gov)) | Blogs ([www.census.gov/about/contact-us/social\\_media.html](http://www.census.gov/about/contact-us/social_media.html)) | Index A-Z ([www.census.gov/about/index.html](http://www.census.gov/about/index.html)) | Glossary ([www.census.gov/glossary/](http://www.census.gov/glossary/)) | FAQs ([ask.census.gov](http://ask.census.gov))

 Search

<http://www.census.gov/en.html>

### North American Industry Classification System

You are here: [Census.gov](http://www.census.gov) > [Business & Industry](http://www.census.gov/econ/www/index.html) > [NAICS](http://www.census.gov/eos/www/naics/index.html) > [NAICS Search/Tools](http://www.census.gov/eos/www/naics/index.html)

[Main](http://www.census.gov/eos/www/naics/history/history.html)     
 [History](http://www.census.gov/eos/www/naics/development_partners/devpartners.html)     
 [Development](http://www.census.gov/eos/www/naics/development_partners/devpartners.html)  
[Federal](http://www.census.gov/eos/www/naics/federal_register_notices/fedregister.html)     
 [NAPCS](http://www.census.gov/eos/www/naics/faqs/faqs.html)     
 [FAQs](http://www.census.gov/eos/www/naics/faqs/faqs.html)  
[Register Notices](http://www.census.gov/eos/www/naics/federal_register_notices/fedregister.html)     
 [Federal](http://www.census.gov/eos/www/naics/faqs/faqs.html)     
 [NAPCS](http://www.census.gov/eos/www/naics/faqs/faqs.html)     
 [FAQs](http://www.census.gov/eos/www/naics/faqs/faqs.html)

#### NAICS Search:

Enter keyword or 2-6 digit code

Enter keyword or 2-6 digit code


Enter keyword or 2-6 digit code

#### Downloads/Reference Files/Tools

- [2012 NAICS](http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2012) ([cgi-bin/sssd/naics/naicsrch?chart=2012](http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2012))
- [2007 NAICS](http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2007) ([cgi-bin/sssd/naics/naicsrch?chart=2007](http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2007))
- [2002 NAICS](http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2002) ([cgi-bin/sssd/naics/naicsrch?chart=2002](http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2002))
- [1997 NAICS](http://www.census.gov/eos/www/naics/reference_files_tools/1997/1997.html) ([eos/www/naics/reference\\_files\\_tools/1997/1997.html](http://www.census.gov/eos/www/naics/reference_files_tools/1997/1997.html))
- [Concordances](http://www.census.gov/eos/www/naics/concordances/concordances.html) ([eos/www/naics/concordances/concordances.html](http://www.census.gov/eos/www/naics/concordances/concordances.html))
- [NAICS Update Process Fact Sheet](http://www.census.gov/eos/www/naics/reference_files_tools/NAICS_Update_Process_Fact_Sheet.pdf) ([eos/www/naics/reference\\_files\\_tools/NAICS\\_Update\\_Process\\_Fact\\_Sheet.pdf](http://www.census.gov/eos/www/naics/reference_files_tools/NAICS_Update_Process_Fact_Sheet.pdf)) [PDF, 37KB]

#### Contact Us

Email Us: [naics@census.gov](mailto:naics@census.gov) (<mailto:naics@census.gov>)



#### 2012 NAICS

The following table provides detailed information on the structure of NAICS. Also included, on this page, are downloadable, Excel and text, concordance files for 2012, 2007 and 2002.

Sector	Description
11 ( <a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart_code=11&amp;search=2012%20NAICS%20Search">cgi-bin/sssd/naics/naicsrch?chart_code=11&amp;search=2012 NAICS Search</a> )	Agriculture, Forestry, Fishing and Hunting
21 ( <a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart_code=21&amp;search=2012%20NAICS%20Search">cgi-bin/sssd/naics/naicsrch?chart_code=21&amp;search=2012 NAICS Search</a> )	Mining, Quarrying, and Oil and Gas Extraction
22 ( <a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart_code=22&amp;search=2012%20NAICS%20Search">cgi-bin/sssd/naics/naicsrch?chart_code=22&amp;search=2012 NAICS Search</a> )	Utilities
23 ( <a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart_code=23&amp;search=2012%20NAICS%20Search">cgi-bin/sssd/naics/naicsrch?chart_code=23&amp;search=2012 NAICS Search</a> )	Construction
31-33 ( <a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart_code=31&amp;search=2012%20NAICS%20Search">cgi-bin/sssd/naics/naicsrch?chart_code=31&amp;search=2012 NAICS Search</a> )	Manufacturing
42 ( <a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart_code=42&amp;search=2012%20NAICS%20Search">cgi-bin/sssd/naics/naicsrch?chart_code=42&amp;search=2012 NAICS Search</a> )	Wholesale Trade
44-45 ( <a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart_code=44&amp;search=2012%20NAICS%20Search">cgi-bin/sssd/naics/naicsrch?chart_code=44&amp;search=2012 NAICS Search</a> )	Retail Trade

<http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2012> 1/3

The results of this keyword search appear in figure 9.7.




## Figure 9.7 Results of Keyword Search

9/30/2016 NAICS Search

U.S. Department of Commerce ([www.commerce.gov](http://www.commerce.gov)) | Blogs ([www.census.gov/about/contact-us/social\\_media.html](http://www.census.gov/about/contact-us/social_media.html)) | Index A-Z ([www.census.gov/about/index.html](http://www.census.gov/about/index.html)) | Gloss ([www.census.gov/glossary/](http://www.census.gov/glossary/)) | FAQs ([ask.census.gov](http://ask.census.gov))

Search

 ([www.census.gov/en.html](http://www.census.gov/en.html))

### North American Industry Classification System

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#### 2012 NAICS Key Word Search

**Search results for: restaurant**

Number of records found: 23.

<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=236220&amp;search=2012%20NAICS%20Search">236220</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=236220&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=236220&amp;search=2012 NAICS Search</a>	Restaurant construction
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=337127&amp;search=2012%20NAICS%20Search">337127</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=337127&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=337127&amp;search=2012 NAICS Search</a>	Restaurant furniture (e.g., carts, chairs, foodwagons, tables) manufacturing
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=337127&amp;search=2012%20NAICS%20Search">337127</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=337127&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=337127&amp;search=2012 NAICS Search</a>	Tray trucks, restaurant, manufacturing
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=337127&amp;search=2012%20NAICS%20Search">337127</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=337127&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=337127&amp;search=2012 NAICS Search</a>	Furniture, restaurant-type, manufacturing
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=423210&amp;search=2012%20NAICS%20Search">423210</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=423210&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=423210&amp;search=2012 NAICS Search</a>	Restaurant furniture merchant wholesalers
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=423440&amp;search=2012%20NAICS%20Search">423440</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=423440&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=423440&amp;search=2012 NAICS Search</a>	Restaurant equipment (except furniture) merchant wholesalers
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=445210&amp;search=2012%20NAICS%20Search">445210</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=445210&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=445210&amp;search=2012 NAICS Search</a>	Delicatessens (except grocery store, restaurants)
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=492210&amp;search=2012%20NAICS%20Search">492210</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=492210&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=492210&amp;search=2012 NAICS Search</a>	Restaurant meals delivery services (i.e., independent delivery services)
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=561599&amp;search=2012%20NAICS%20Search">561599</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=561599&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=561599&amp;search=2012 NAICS Search</a>	Reservation (e.g., airline, car rental, hotel, restaurant) services
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=561720&amp;search=2012%20NAICS%20Search">561720</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=561720&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=561720&amp;search=2012 NAICS Search</a>	Restaurant kitchen cleaning services
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=611519&amp;search=2012%20NAICS%20Search">611519</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=611519&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=611519&amp;search=2012 NAICS Search</a>	Restaurant management schools (except academic)
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012%20NAICS%20Search">722511</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012 NAICS Search</a>	Restaurants, full service
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012%20NAICS%20Search">722511</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012 NAICS Search</a>	Family restaurants, full service
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012%20NAICS%20Search">722511</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012 NAICS Search</a>	Full service restaurants
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012%20NAICS%20Search">722511</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=722511&amp;search=2012 NAICS Search</a>	Fine dining restaurants, full service
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">722513</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012 NAICS Search</a>	Restaurants, fast food
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">722513</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012 NAICS Search</a>	Carryout restaurants
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">722513</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012 NAICS Search</a>	Family restaurants, limited-service
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">722513</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012 NAICS Search</a>	Drive-in restaurants
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">722513</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012 NAICS Search</a>	Fast-food restaurants
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">722513</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012 NAICS Search</a>	Restaurants, carryout
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">722513</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=722513&amp;search=2012 NAICS Search</a>	Delicatessen restaurants
<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=813910&amp;search=2012%20NAICS%20Search">813910</a>	<a href="http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=813910&amp;search=2012%20NAICS%20Search">/cgi-bin/sssd/naics/naicsrch?code=813910&amp;search=2012 NAICS Search</a>	Restaurant associations

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 FAQs ([ask.census.gov](http://ask.census.gov))  
 Directors' Corner ([www.census.gov/about/leadership.html](http://www.census.gov/about/leadership.html))  
 Regional Offices ([www.census.gov/about/regions.html](http://www.census.gov/about/regions.html))  
 History ([www.census.gov/about/history.html](http://www.census.gov/about/history.html))

<http://www.census.gov/cgi-bin/sssd/naics/naicsrch> 1/2

As you can see, the results yielded 23 different subcomponents involving the word “restaurant.” By clicking on “full service restaurants,” I got the information that appears in figure 9.8.

Figure 9.8 Restaurants—Full Service

9/30/2016

NAICS Search



U.S. Department of Commerce (//www.commerce.gov) | Blogs (//www.census.gov/about/contact-us/social\_media.html) | Index A-Z (//www.census.gov/about/index.html) | Gloss (//www.census.gov/glossary/) | FAQs (//ask.census.gov)

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2012 NAICS Definition

T = Canadian, Mexican, and United States industries are comparable.

722511 Full-Service Restaurants

This U.S. industry comprises establishments primarily engaged in providing food services to patrons who order and are served while seated (i.e., waiter/waitress service) and pay after eating. These establishments may provide this type of food service to patrons in combination with selling alcoholic beverages, providing carryout services, or presenting live nontheatrical entertainment.

Cross-References: Establishments primarily engaged in--

- Providing food services where patrons generally order or select items and pay before eating--are classified in U.S. Industry [722513](#) (//cgs-bin/sssd/naics/naicsrch?code=722513&search=2012), Limited-Service Restaurants;
- Selling a specialty snack or nonalcoholic beverage for consumption on or near the premises--are classified in U.S. Industry [722515](#) (//cgs-bin/sssd/naics/naicsrch?code=722515&search=2012), Snack and Nonalcoholic Beverage Bars;
- Preparing and serving alcoholic beverages and known as bars, taverns, or nightclubs--are classified in Industry [722410](#) (//cgs-bin/sssd/naics/naicsrch?code=722410&search=2012), Drinking Places (Alcoholic Beverages); and
- Presenting live theatrical productions and providing food and beverages for consumption on the premises--are classified in Industry [711110](#) (//cgs-bin/sssd/naics/naicsrch?code=711110&search=2012), Theater Companies and Dinner Theaters.

2002 NAICS	2007 NAICS	2012 NAICS	Corresponding Index Entries
722110	722110	722511	Bagel shops, full service
722110	722110	722511	Diners, full service
722110	722110	722511	Doughnut shops, full service
722110	722110	722511	Family restaurants, full service
722110	722110	722511	Fine dining restaurants, full service
722110	722110	722511	Full service restaurants
722110	722110	722511	Pizza parlors, full service
722110	722110	722511	Pizzerias, full service
722110	722110	722511	Restaurants, full service
722110	722110	722511	Steak houses, full service

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http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=722511&search=2012%20NAICS%20Search

1/2

The results of the search for an NAICS code provides us with a considerable amount of detail that the old SIC search did not. This is a really good way to isolate certain data from a larger population if you can benefit from the smaller grouping.

If the valuation analyst decides to use a SIC code instead, the OSHA website allows the analyst to review two-, three-, and four-digit SIC code descriptions, which is helpful in determining the subject's SIC code. There are still certain databases that do not use NAICS codes and require a SIC code to be entered.

Remember that the goal of this exercise is to locate companies that are in the same or similar industry as the subject company. Using the information available on these sites will help the valuation analyst research other NAICS and SIC codes to determine if he or she could possibly use multiple codes to search for guideline companies.

Now that the valuation analyst has an SIC or NAICS code or group of codes, he or she can use one of many search engines to find companies by industry code. The question becomes which one to use. There are not many free websites that allow the retrieval of information about guideline companies anymore. There are several fee-based websites that charge without mercy. Basically, it works out that the higher the fees, the more services the valuation analyst sometimes gets. I discussed some of these sites in chapter 5. For free public company information, the main option is the SEC ([www.sec.gov/edgar/searchedgar/webusers.htm](http://www.sec.gov/edgar/searchedgar/webusers.htm)).

There has been so much consolidation among data providers that many of the free or almost free sites have gone away. Although the valuation analyst can perform a search for a guideline company on the SEC site, it is cumbersome and not necessarily user-friendly. The analyst is probably better off going to a business school library and using one of the paid subscription services that they frequently offer without charge.

## Online Databases

There are a multitude of financial advice websites in existence that will provide some type of industry analysis. These tools should not be substituted for performing a thorough industry analysis, but they can serve as a useful resource for locating guideline companies. For instance, Hoover's Online ([www.hoovers.com](http://www.hoovers.com)) provides free industry lists on its website. However, these industry lists are nothing more than company names. I would not depend on these types of services as a sole source for locating guideline companies, but they do help to expand a potential guideline companies list.

Some of the more sophisticated databases allow the valuation analyst to put in greater search criteria than those which I just described. For example, using a database such as Standard & Poor's or Disclosure, the analyst can enter search criteria, which may include the NAICS or SIC code, country of location, and maximum sales volume. I will explain the maximum sales volume criteria in a little while. There are also databases such as TagniFi and Pitchbook that can help in this area as well. Each of these has significant advantages over the SEC's database, but there is a cost to subscribe. I am actually going to provide you with a bit of a demo of Pitchbook later in this chapter. It's a pretty neat database that is more affordable than many of the others.

## Industry Research

As previously discussed, an analyst should have a thorough understanding of the valuation subject and its industry. In performing the industry analysis, the valuation analyst will frequently become aware of publicly traded companies in the subject company's industry. Trade journals and published industry reports are excellent tools for locating potential guideline companies. Another great source of information is industry experts. Business brokers, financial analysts, accountants, and industry consultants can be excellent sources of information; the valuation analyst just needs to find them.

## Get the Business Description

After the possible guideline companies are identified by the initial set of criteria, we used to examine the corporate description included in databases such as Standard & Poor's. Now we look at the business descriptions that are included in the company's Form 10-K. Because access to the 10-K is free, we can view a more

in-depth description by looking at the databases. This allows us to look at the narrative about the possible guideline company to further determine if the company appears to be similar enough to use in our analysis.

From this description, the valuation analyst can find the business purpose, products, market segments, and many other significant pieces of information. The analyst can use this information to perform a qualitative analysis of the potential guideline company.

Search engines can also be a valuable tool when finding information about the guideline companies. A quick search on a company name can turn up valuable information that may not have been picked up by a major news service. In addition to getting the 10-K, we generally will visit the company's website.

## Size Criteria

If a valuation analyst who has valued small companies is reading this, by now, that person probably thinks I am nuts; there is no way someone will jump through all the hoops that I have been discussing. Number one, the analyst does not have the budget for it, and number two, he or she is never going to find a public company that is comparable to the small company that the analyst is valuing. I hear that nonsense all the time. If a student or a new valuation analyst is reading this, he or she may just think that I am nuts, but for other reasons. But, this is where I say "trust me."

Believe it or not, a valuation analyst can still use public company data when applying the market approach to smaller companies. First of all, the standards that were covered in chapter 2 do not differentiate between valuing large and small companies. The budget with the client certainly cannot influence the work the valuation analyst is required to do when performing a valuation engagement. Second, it is generally a good idea to place a size restriction as part of the criteria used to select guideline companies. The size restriction will depend. In a perfect world, I would like the guideline companies to be no more than 10 times the sales revenues of the valuation subject. However, this is not a perfect world. There will be times that I increase the size restriction to 20 or 25 times revenues. There are even times that I will go higher. For a company with \$100 million in revenues, a guideline company with \$4 billion may not upset me. In fact, the larger the subject company, the less restrictions I will place on the guideline companies for size. But, what about a \$25 million sales company? Would a \$2 billion sales company be a good guideline company? I doubt it. But with that said, I have used very large public companies as guideline companies in certain industries where the guideline companies would have been the logical acquirer of the smaller closely held company. It really does depend on the facts and circumstances of the assignment. In some instances, criteria other than revenues may be used to determine size. For example, a holding company's size may be better measured using asset size, rather than revenues.

Another interesting fact that you should be aware of is that at the time I was working on this book, there were 1,259 companies listed on a public stock exchange in the United States with revenues of \$10 million or less. There are a lot of small public companies. The problem with many of these companies is that they may be too thinly traded to be used as a good guideline company. I will discuss this further in a little while.

There are many valuation analysts who believe that no size restriction should be placed on the guideline company search criteria. Instead, they believe that the size differential should be adjusted in the multiple because of the risk factors relative to size. I have a difficult time comparing Microsoft with the local software company. Here also, common sense must be applied. If the guideline companies are too big, they lose relevance to the valuation subject. It is not so much that they are too big but, rather, that much larger companies tend to have a very different business model and are frequently much more diversified.

Individuals who disagree with the use of public company data for small, closely held companies generally state that the size differentials are often so great that the result is meaningless. I disagree. As I have already stated, there are many public companies that are small. In addition, when you look closely at these publicly traded companies, you will find that other than their financial ability to go public, they are not run much differently than many of our valuation subjects. Granted, there are differences, for example, fewer prerequisites for the owners, more reliable financial statements, and not much ability to raise additional capital.

## Active Trading and Penny Stocks

Once the valuation analyst has located possible guideline companies, it is generally a good idea to test these companies to see if their stocks are actively traded and make sure that these stocks are not penny stocks. According to Revenue Ruling 59-60, guideline companies should have their stock actively traded in the market. Active trading is essential if the market forces are to interact in the manner necessary to reach the equilibrium point in the market known as fair market value. Greater market activity increases the possibility that fair market value will be achieved because many of the personal motivations of particular buyers and sellers would have been eliminated by offsetting their unique situations in arriving at the equilibrium point.

The question is, what does active trading mean? None of the valuation textbooks that I have reviewed provides an explanation of active trading. I used to consider active trading to mean that at least 5 percent of the company's outstanding stock trades over the six-month period prior to the valuation date. However, like everything else in valuation, 5 percent is not a hard and fast rule. In fact, more often than not, we are not finding companies that have 5 percent trading volume. We have used companies with much less, but the valuation analyst really has to be careful when he or she does this. Keep in mind that more trading activity is better.

The problem with using stocks that are thinly traded is that the analyst must be able to investigate whether the trading that took place is among market participants or insiders. If insiders are involved, they may have knowledge that the hypothetical individual may not have, and, therefore, the true definition of fair market value may be violated. Many data sources provide information about insider trading, so this can be investigated.

With that being said, if the valuation analyst finds many companies that are thinly traded, it may still be better than having no guideline companies at all. It may come down to how much weight is placed on the conclusions derived using this method. Even if the analyst cannot use the guideline company method for this reason, it may serve as a good sanity check on the income approach.

## Stock Pricing Reports and Active Trading

Before selecting guideline companies from the pool of businesses that made our initial list, we check the stock price and trading activity of each. A monthly stock pricing report from Yahoo! Finance is depicted in figure 9.9 on the following page.

A pricing report such as this can tell you many important things about a company. From this report, you can see if a business has a very low stock price and would be classified as a penny stock. There is often speculation in the market for penny stocks, which may limit the quality of the pricing multiples. We generally prefer to use guideline companies when the stock is selling for at least \$2 or \$3 (used to be \$5, but we were eliminating too many possible guideline companies) per share. This gets rid of the speculators who violate the requirement that a willing seller be typically motivated. Speculation is not typical motivation. Here also, there is nothing absolute about a \$2 or \$3 price. We will use a lower price if it makes sense to do so. We certainly do not want to use stocks that are priced at \$1 or less. These are the true penny stocks.

Stock price volatility is another factor that can be seen on a stock pricing history. Highly volatile stocks, or stocks that have large swings in stock value, suggest that the valuation analyst should take a closer look at that company. Large price swings could indicate changes in the economy, industry, or company, and the valuation analyst will need to understand these factors to properly apply guideline company multiples.

Trading activity can also be calculated with the assistance of a stock pricing report. Calculating the average trading volume over a certain period will allow the analyst to see if the stock is trading regularly or if it is thinly traded. A trading activity analysis is shown in table 9.2. As seen in this analysis, we have divided the average monthly trading volume of the potential guideline companies by their respective shares outstanding to calculate a percentage of outstanding shares traded, which can be used as a criterion for thin trading. If some of the company's shares are owned by insiders, you might want to subtract those shares to get an average "float" for this calculation.

Figure 9.9 Yahoo! Finance

9/30/2016

T 40.80 0.07 0.17% : AT&T Inc. - Yahoo Finance

The screenshot shows the Yahoo! Finance website interface for AT&T Inc. (T). The current price is 40.80, up 0.07 (+0.17%) as of 2:30 PM EDT. The page includes navigation tabs for various sections and a 'Historical Data' tab that is active. Below the tabs, there are filters for 'Time Period' and 'Frequency' (set to Daily). A table of historical prices is displayed, showing columns for Date, Open, High, Low, Close, Adj Close, and Volume. The data spans from September 7, 2016, to September 30, 2016. To the right of the table, there is a placeholder for an Amazon.com advertisement and a 'Compare Stock Brokers' button. At the bottom of the page, there are links for 'Data Disclaimer', 'Help', 'Suggestions', 'Privacy', 'About Our Ads', and 'Terms', along with social media icons for Twitter, Facebook, and Tumblr.

Date	Open	High	Low	Close	Adj Close*	Volume
Sep 30, 2016	40.91	41.04	40.75	40.80	40.80	8,469,429
Sep 29, 2016	40.75	41.07	40.44	40.73	40.73	17,010,300
Sep 28, 2016	41.01	41.07	40.58	40.85	40.85	26,340,200
Sep 27, 2016	41.23	41.70	41.06	41.46	41.46	18,440,200
Sep 26, 2016	41.28	41.41	41.11	41.14	41.14	16,647,200
Sep 23, 2016	41.15	41.39	40.73	41.28	41.28	18,867,600
Sep 22, 2016	40.73	41.19	40.70	41.11	41.11	22,283,300
Sep 21, 2016	40.05	40.63	39.97	40.57	40.57	19,130,900
Sep 20, 2016	40.16	40.43	39.88	39.96	39.96	14,197,800
Sep 19, 2016	40.20	40.24	39.86	40.06	40.06	16,182,800
Sep 16, 2016	40.34	40.41	39.90	40.20	40.20	41,350,600
Sep 15, 2016	39.80	40.62	39.62	40.45	40.45	22,935,900
Sep 14, 2016	39.95	40.26	39.76	39.89	39.89	26,539,500
Sep 13, 2016	40.45	40.46	39.77	39.97	39.97	25,529,500
Sep 12, 2016	39.57	40.85	39.55	40.71	40.71	26,864,200
Sep 09, 2016	40.98	41.08	39.68	39.71	39.71	38,500,100
Sep 08, 2016	41.27	41.39	41.05	41.19	41.19	13,524,500
Sep 07, 2016	41.26	41.34	40.99	41.27	41.27	13,531,300

http://finance.yahoo.com/quote/T/history?p=T

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TABLE 9.2 Stock Trading Activity Worksheet

TRADING ACTIVITY ANALYSIS												
AVERAGE MONTHLY TRADING (000)												
	AIND	CFWY	HTLD	JBHT	KNX	MSCA	CRGO	ODFL	TCAM	USAK	WERN	
Nov-99	961,857	1,465,524	65,371	338,476	87,200	277,905	577,810	5,425	14,566	48,390	144,695	
Dec-99	602,500	2,383,045	83,586	302,945	56,840	512,955	165,955	6,682	15,522	40,695	300,309	
Jan-00	423,350	1,321,750	75,905	314,860	37,275	789,250	147,059	15,721	92,095	22,755	234,585	
Feb-00	532,500	2,349,650	129,442	397,473	52,600	636,500	122,158	11,427	116,068	24,884	203,110	
Mar-00	429,435	748,565	268,530	732,000	94,878	495,870	148,650	6,277	48,530	75,904	230,181	
Apr-00	419,000	1,286,211	114,710	479,852	28,889	317,158	56,765	13,268	33,505	34,621	223,531	
May-00	570,364	778,619	84,077	328,200	16,327	634,409	62,667	8,650	20,595	22,518	209,568	
Jun-00	612,955	2,020,783	152,865	447,640	44,561	831,000	126,824	22,260	44,676	48,652	250,715	
Jul-00	416,450	942,750	94,165	206,960	33,030	210,150	92,200	9,290	16,925	31,390	160,120	
Aug-00	312,783	1,551,348	47,623	244,990	38,585	166,191	210,875	22,590	58,557	11,757	83,723	
Sep-00	448,400	698,200	62,410	260,460	24,790	184,950	169,923	20,070	45,905	21,105	179,085	
Oct-00	287,727	814,955	80,940	260,509	23,931	186,273	127,667	19,895	61,836	18,368	172,336	
Average Monthly Trading (A)	501,443	1,363,450	104,969	359,530	44,909	436,884	167,379	13,46	347,398	33,420	199,330	
Outstanding Shares September-00 10Q (B)	34,647,976	21,658,943	25,366,582	35,165,323	15,236,423	11,150,001	6,601,340	8,312,840	8,331,083	9,224,354	47,006,202	
Average Shares Traded (A / B)	1.45%	6.30%	0.41%	1.02%	0.29%	3.92%	2.54%	0.16%	0.57%	0.36%	0.42%	
Shares Held by Insiders (C)	5,562,148	1,553,871	13,667,576	18,425,704	8,215,845	3,133,050	4,274,061	4,499,144	888,021	5,126,431	19,286,685	
Shares Actively Traded (D)	29,085,828	20,105,072	11,699,006	16,739,619	7,020,578	8,016,951	2,327,279	3,813,696	7,443,062	4,097,923	27,719,517	
Actively Traded Shares (A / D)	1.72%	6.78%	0.90%	2.15%	0.64%	5.45%	7.19%	0.35%	0.64%	0.82%	0.72%	

Many of the small public companies are relatively thinly traded. Little activity makes it a bit more uncomfortable for the valuation analyst, but it does not mean that the company cannot be used. After all, what is the alternative? In general, thinly traded data can be used, albeit cautiously, if the valuation analyst can determine adequate information about the thin trading. In order to learn more about a company's trading activity, we will search the public documents filed with the SEC, look for press releases and other announcements, and even go as far as to call the investor relations people in the company to inquire whether there is anything special about the stock transactions that would disqualify the activity from being used in this analysis. Often, the thin trading takes place among insiders. This information can be used if it is determined that the logical market for the valuation subject is insiders.

Let's talk about insiders for a moment. There are many times when a valuation analyst must struggle to decide who the logical players are in the market. A fractional interest in a closely held business may be worth more in the hands of an insider than in those of an outside investor. As a matter of fact, there are many times when there may not be a market for a minority interest in a closely held business, other than for the other shareholders of the company. Swing votes and insider knowledge may create value for the insiders that an outsider would not be privy to. Remember, one of the components of fair market value is that the willing buyer and willing seller must have reasonable knowledge about the subject property.

### For Those That Pass Muster...

For those companies that pass muster, we now download financial information that is included as part of the Form 10-K filed with the SEC from one of the databases. In fact, we will generally download the entire Form 10-K so that we can gain a thorough understanding about the public company. This will allow us to take a much more detailed look at the company to determine its level of comparability to the valuation subject. The various sources of guideline public company data may make it easy for the analyst to plug financial information into a valuation model, but primary data sources should also be downloaded to make certain that the information from the various data providers is accurate. You would be amazed at how many errors we find.

So what are primary data sources? I would generally look at the following documents filed with the SEC:

- *Form 10-K*. The 10-K provides a narrative about the company's operations, competition, customer base, industry and employment force, as well as the balance sheet for two years and income statements and statements of cash flow for three years.
- *Form 10-Q*. The 10-Q is the quarterly financial statement filed with the SEC. This form may be necessary if a latest 12 months (LTM) analysis is to be performed.
- *Forms 10-KA and 10-QA*. These forms are issued when a correction needs to be made to an original filing. They can contain a correction to a financial statement or other nonfinancial information.
- *Form 8-K*. The 8-K is filed with the SEC to mark significant events in the company such as a change in key personnel, major acquisitions, divestitures, and so on.

There is a variety of other sources of financial statement information on public companies; virtually all provide data in electronic format. Besides the SEC website, these include Standard & Poor, Compustat, OneSource, EdgarScan, Hoovers, Value Line, Reuters, Bloomberg, Thomson, Dialog, Yahoo! Finance, 10K Wizard, Capital IQ, TagniFi, and Mergent.

The advantage of using electronic sources is that the data can be downloaded into a spreadsheet or some other computer program, eliminating the need for manual data entry. This can speed up the analysis and reduce the potential for data entry errors. In addition, many of these providers put the companies' data in a standard format; this facilitates cross comparisons.

The negative side of using any electronic source is in the existence of data errors; although they are infrequent, there are data entry errors in these sources. (The exception to this is with the SEC's website). Because the electronic documents filed with the SEC are now the official documents, they are, by definition, without error.)

With the standardization of data comes the loss of detail. This can be important for certain companies that have unique products or service mixes. Sales and profit information by product line is often shown as additional information in the 10-K. Much of this detail and precision is lost when the information is placed onto



electronic media. Further, when a company's written data is put into a standard format, the data entry clerk might misinterpret some of the information and categorize it incorrectly.

However, each of these electronic sources has certain advantages and disadvantages apart from the general issues discussed in the preceding paragraphs. Some of these data sets have a large amount of textual information (such as footnotes, names of auditors, and detailed business descriptions) but have a limited number of numeric concepts. This can be useful when the valuation analyst is trying to identify and obtain basic financial statement data on guideline companies. Other electronic data providers have very limited textual information but a large number of pre-calculated financial ratios as well as sophisticated analytical capabilities that allow users to create their own financial measures.

With the exception of the SEC, and the company itself, these types of data can be quite costly. Some of these data sets are available through large public or university libraries. Of course, the information is almost always subject to copyright restrictions.

Regardless of the source used, the valuation analyst still needs to perform a proper comparison between the subject company and the potential guideline companies. This can be accomplished by comparing financial ratios and other attributes of the guideline companies with those of the valuation subject. Before we can do this, certain adjustments may be necessary to the guideline company data.

## Analyzing Publicly Traded Information

Part of using public company information in the valuation process requires the valuation analyst to obtain and analyze the financial and operating data of the guideline companies. The valuation analyst will use this information to ensure that the valuation subject can be properly compared with these other companies. Sometimes, there will be differences in the manner in which the publicly traded company reports its financial results, or nonrecurring events may have taken place that require the valuation analyst to recalculate the multiples used after adjusting the public company data. These adjustments are made to compare the valuation subject more appropriately with the guideline companies.

The valuation analyst should always keep in mind that there are limits to what can be done with the information that is obtained. Exact comparability will most likely never be achieved. Don't let this upset you. The adjustments that will be made will generally be similar to the normalization adjustments discussed in chapter 6, particularly the comparability adjustments and the nonrecurring adjustments. Rarely will you have to make a discretionary adjustment. The stockholders of the public company would go bonkers! Besides, the CEO's nephew being on the books would be an insignificant adjustment that you could never find even if you were looking for it.

Some of the adjustments that are encountered as a result of the differences between public companies and closely held companies are for (1) inventory accounting such as LIFO-FIFO (last in, first out—first in, first out), (2) items that are nonrecurring, and (3) items that are extraordinary.

If the public company reports its results using the LIFO method of inventory valuation and the valuation subject uses FIFO, an adjustment is generally made to the public company data in order to compare these companies properly. It would be silly, and probably impossible, for the valuation analyst to convert the valuation subject to LIFO. Accountants reading this book will understand this better than anyone. The information necessary to perform a LIFO calculation is not available in any of the documents obtained by a valuation analyst. For the non-accounting types, LIFO inventory valuation is relatively complicated and requires more than a few words to explain it properly. Because this book is a valuation text and not a book on LIFO, my word on this will have to suffice. However, with that being said, an example of how the LIFO-FIFO conversion affects the financial statements is provided in exhibit 9.4. It is also a good refresher for the accounting types reading this book.

**EXHIBIT 9.4 Inventory Accounting**

Assume the following information:

	2012	2013	2014	2015	2016
<b>Summary</b>					
LIFO Reserve	\$ 80,200	\$ 85,200	\$ 90,800	\$ 94,400	\$ 98,800
Adjustment to Cost of Goods Sold		(5,000)	(5,600)	(3,600)	(4,400)
Adjustments to Earnings Before Tax		5,000	5,600	3,600	4,400
<b>Financial Details</b>					
Beginning LIFO Inventory		75,970			
Purchases		315,764	102,728	99,586	103,256
Ending LIFO Inventory	75,970	102,728	99,586	103,256	97,058
LIFO Cost of Goods Sold	341,300	289,006	268,898	250,752	226,378
LIFO Reserve	80,200	85,200	90,800	94,400	98,800
Beginning FIFO Inventory		156,170	187,928	190,386	197,656
Purchases		315,764	265,756	254,422	220,180
Ending FIFO Inventory	156,170	187,928	190,386	197,656	195,858
FIFO Cost of Goods Sold		284,006	263,298	247,152	221,978

Also, assume a 40% tax rate.

To adjust the balance sheet from LIFO to FIFO at year-end 2016, the accounting entry would be:

**Debit:**

Inventory                    98,800 (LIFO reserve)

**Credit:**

Deferred taxes                    39,520 (LIFO reserve × 40%)

Retained earnings                    59,280 (LIFO reserve at YE 2016 × (1 – 40%))

(The adjustment to Retained Earnings includes the impact on 2016 earnings.)

**EXHIBIT 9.4 Inventory Accounting**

Therefore, to adjust YE 2016 inventory from LIFO to FIFO, the calculation would be

Ending 2016 LIFO Inventory	\$ 97,058
Plus: YE 2016 LIFO reserve	98,800
Equals: Ending 2016 FIFO inventory	<u>\$195,858</u>

To calculate the adjustment to retained earnings (tax affected), the calculation would be: YE 2016 LIFO reserve

2016 LIFO reserve	\$ 98,800
Times: (1 – 40%)	60%
Equals: Tax-affected adjustment to retained earnings	<u>\$ 59,280</u>

To calculate the impact on 2016 net income of an adjustment from LIFO to FIFO, the calculation would be:

Change in LIFO reserve during 2016	\$ 4,400
Times: (1 – 40%)	60%
Equals: 2016 net income adjustment	<u>\$ 2,640</u>

The number of adjustments that a valuation analyst will make to the public company information is usually small. The adjustments are intended to achieve consistency. For right now, recognize the importance of being consistent in the analysis. The valuation analyst needs to compare apples with apples, oranges with oranges, and pears with pears. Otherwise, the valuation will take on the characteristics of a fruit salad: a little of this and a little of that.

Before we go to the next step, let's discuss one other item. When searching for publicly traded company financial information, the valuation analyst wants to get as close to the date of the valuation as possible. Many times, this will mean calculating the latest 12 months (LTM) financial results. You may also choose to do this for the subject company, depending on the valuation date. Whenever possible, we will use this information. For an example, see exhibit 9.5.

### EXHIBIT 9.5 Calculating LTM Results

If the intention is to calculate the latest 12 months values, the following simple formula can be used:

Last Full Year Results

+ Current Year Partial Results

– Last Year Partial Results

= LTM Through The Recent Date

In the following example, we are doing a valuation as of June 30, 2016, and we wanted to determine the profitability for the latest 12 months ended June 30, 2016. Our calculations are shown as follows.

	December 31, 2015	June 30, 2016	June 30, 2015	LTM June 30, 2016
Revenues	\$2,189,924	\$1,364,215	\$1,119,501	\$2,434,638
Total Cost of Sales	453,937	343,522	201,664	595,795
Gross Profit	\$1,735,987	\$1,020,693	\$ 917,837	\$1,838,843
Operating Expenses				
Advertising	\$ 65,786	\$ 18,904	\$ 34,551	\$ 50,139
Auto Expense	34,652	16,757	17,033	34,376
Bad Debts	53,648	—	53,648	—
Bank Charges	1,872	1,170	713	2,329
Charitable Contributions	2,270	1,250	1,250	2,270
Depreciation	46,123	1,263	1,434	45,952
Entertainment	7,009	1,008	1,145	6,872
Officers' Compensation	198,746	118,530	99,373	217,903
Insurance—General	28,803	45,631	29,038	45,395
Licenses & Fees	170	—	35	135
Miscellaneous	1,188	937	(24)	2,149
Office Expenses	5,196	5,669	1,905	8,961
Pension, Profit-Sharing Plans	6,463	7,537	2,194	11,806
Postage & Delivery	990	1,551	1,000	1,541

**EXHIBIT 9.5 Calculating LTM Results**

<i>(Table continued)</i>	December 31, 2015	June 30, 2016	June 30, 2015	LTM June 30, 2016
Professional Fees	95,451	24,295	5,705	114,041
Rents	92,415	46,223	41,211	97,428
Repairs and Maintenance	20,266	10,539	9,095	21,711
Equipment Rental	751	677	—	1,429
Salaries & Wages	759,344	439,413	335,209	863,548
Taxes—Other	4,220	4,577	1,471	7,326
Telephone	25,303	12,401	11,367	26,338
Travel	6,931	1,275	2,034	6,172
Utilities	11,723	6,003	7,404	10,323
Dues and Subscriptions	500	200	500	200
Professional Development	19,121	9,067	9,525	18,664
Security	4,629	873	972	4,530
<b>Total Operating Expenses</b>	<b>\$1,493,570</b>	<b>\$775,751</b>	<b>\$667,787</b>	<b>\$1,601,535</b>
Operating Income	\$ 242,417	\$244,941	\$250,050	\$ 237,308
Other Income	\$ 2,358	\$ 1,107	\$ 1,355	\$ 2,109
Interest Expense	(836)	—	(468)	(369)
<b>Total Other Income (Net)</b>	<b>\$ 1,522</b>	<b>\$ 1,107</b>	<b>\$ 887</b>	<b>\$ 1,741</b>
<b>Income Before Taxes</b>	<b>\$ 243,938</b>	<b>\$246,048</b>	<b>\$250,937</b>	<b>\$ 239,049</b>

We typically present financial statements for the guideline companies for periods similar to those that we have for the subject. Doing so allows us to look at trends in operating performance of the guideline companies over as much time as possible. These trends, among other things, will indicate a level of comparability. For instance, if all the guideline companies experience a sales decline but the subject company's sales do not, it may indicate that the subject company is not sensitive to similar economic factors. Another tool that will help us in this analysis is a financial ratio analysis. Comparative financial ratio analysis allows us to look at what some businesses do better, or worse, than others and gives us a quantitative basis to use to compare the subject to the guidelines.

It is a good idea to set up a spreadsheet that will automatically calculate ratios based on the financial statements that have been input. This can be done on a historic basis as well as on an adjusted basis. Tools such as this are helpful in speeding up the analysis for a business, and by setting it up in advance (and checking the formulas), the valuation analyst may limit errors that result from creating the spreadsheet for each valuation. I respect the work that my staff does, but we have password-protected the majority of our spreadsheet template to avoid someone making a mistake by changing a formula. Better to be safe than sorry.

A sample ratio analysis of some guideline companies with the narrative that accompanied it in a report appears in exhibit 9.6.

## EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies

The next step in the analysis is to compare the Triad Entities' financial results with its public counterparts. Select financial ratios appear in table 1. These ratios have been analyzed in order to make quantitative and qualitative assessments regarding the similarities and dissimilarities between the companies. The last column of the balance sheet reflects the balance sheet of the latest quarter prior to the valuation date.

**TABLE 1 Adjusted Financial Ratios**

	AFWY	ABFS	AIND	TRUKQ	HTLD	JBHT	MSCA	OTR	SWFT	TCAM	XPRSA	WERN	TRIAD
<b>LIQUIDITY/SOLVENCY</b>													
Quick ratio	1.08	0.67	1.14	0.38	1.63	0.80	0.67	0.35	0.96	0.47	1.03	1.37	0.92
Current ratio	1.47	1.06	1.41	0.84	1.97	1.01	1.01	0.40	1.11	0.78	1.47	1.86	1.05
Days accounts receivable	29.97	39.80	32.91	29.61	33.81	37.96	33.41	42.75	42.20	30.58	44.48	34.98	30.54
Days working capital	11.03	(2.34)	22.70	(2.84)	41.29	0.78	16.14	(55.85)	8.26	(5.20)	19.52	24.62	3.14
<b>TURNOVER</b>													
Receivables turnover	12.18	9.17	11.09	12.33	10.80	9.61	10.93	8.54	8.65	11.93	8.21	10.44	11.95
Cash turnover	172.29	140.89	22.52	4,907.24	6.82	422.44	21.29	1,726.70	137.59	38.28	71.17	41.31	13.74
Current asset turnover	8.70	5.66	4.90	5.74	3.02	7.34	5.71	7.62	6.92	6.31	5.27	6.09	5.46
Working Capital Turnover	33.10	(155.79)	16.08	(128.59)	8.84	467.01	22.61	(6.54)	44.17	(70.21)	18.70	14.83	116.32
Fixed asset turnover	1.64	4.62	1.79	1.58	2.33	1.69	1.54	1.36	2.11	2.30	2.86	1.49	4.14
Total asset turnover	1.37	2.40	1.30	1.22	1.30	1.35	1.20	1.15	1.61	1.64	1.83	1.20	2.31

## EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies

TABLE 1 Adjusted Financial Ratios (continued)

	AFWY	ABFS	AIND	TRUKQ	HTLD	JBHT	MSCA	OTR	SWFT	TCAM	XPRSA	WERN	TRIAD
<b>DEBT</b>													
Times interest earned	3.09	(1.68)	NM	1.00	385.46	1.56	4.72	0.89	6.96	6.26	1.92	26.74	3.70
Total liabilities to total assets	0.59	0.98	0.32	0.93	0.38	0.65	0.46	0.81	0.58	0.63	0.71	0.39	0.82
Total liabilities to equity	1.44	(31.13)	0.46	12.69	0.60	1.85	0.84	4.34	1.40	1.74	2.48	0.64	4.57
Short-term debt to equity	0.04	(1.60)	0.10	1.97	0.01	0.08	0.11	1.53	0.18	0.35	0.27	—	0.75
Long-term debt to equity	0.97	(16.14)	0.03	8.94	—	0.95	0.31	2.28	0.55	0.67	1.33	0.13	2.61
Total interest-bearing debt to equity	1.01	(17.75)	0.12	10.92	0.01	1.03	0.42	3.80	0.73	1.02	1.60	0.13	3.36
Total assets to equity	2.44	(31.68)	1.46	13.69	1.60	2.85	1.84	5.34	2.40	2.74	3.48	1.64	5.57
Total liabilities to invested capital	0.72	1.86	0.41	1.06	0.60	0.91	0.59	0.90	0.81	0.86	0.95	0.57	1.05
Net fixed assets/equity	2.03	(16.47)	1.14	10.82	0.75	2.27	1.53	4.59	1.85	2.05	2.18	1.32	3.43

(continued)

**EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies (continued)**
**TABLE 1 Adjusted Financial Ratios (continued)**

	AFWY	ABFS	AIND	TRUKQ	HTLD	JBHT	MSCA	OTR	SWFT	TCAM	XPRSA	WERN	TRIAD
<b>PROFITABILITY</b>													
EBITDA return on total assets	14.46%	(2.30%)	28.58%	16.12%	30.77%	16.61%	23.29%	17.48%	25.97%	23.15%	16.10%	24.26%	28.70%
EBIT return on assets	6.59%	(3.66%)	18.64%	6.01%	20.72%	3.80%	9.31%	4.15%	15.48%	12.82%	5.54%	12.20%	17.09%
Pretax return on assets	4.46%	(5.83%)	18.64%	0.00%	20.66%	1.36%	7.34%	(0.52%)	13.25%	10.77%	2.66%	11.75%	12.47%
After-tax return on assets	2.74%	(4.02%)	11.87%	0.39%	13.02%	0.86%	4.70%	(0.32%)	7.62%	6.14%	1.66%	7.17%	7.49%
EBITDA return on net sales	12.07%	(1.25%)	22.25%	14.04%	25.41%	12.49%	19.58%	17.37%	17.14%	15.96%	9.74%	21.38%	14.59%
EBIT return on net sales	5.51%	(1.99%)	14.51%	5.23%	17.11%	2.86%	7.82%	4.13%	10.21%	8.84%	3.36%	10.76%	8.69%
Pretax return on net sales	3.72%	(3.18%)	14.51%	0.00%	17.06%	1.02%	6.17%	(0.51%)	8.75%	7.43%	1.61%	10.35%	6.34%
After-tax return on net sales	2.29%	(2.19%)	9.24%	0.34%	10.75%	0.65%	3.95%	(0.32%)	5.03%	4.23%	1.00%	6.32%	3.81%
EBITDA return on invested capital	17.57%	(4.34%)	37.25%	18.52%	48.99%	23.26%	30.11%	19.44%	36.08%	31.35%	21.55%	35.28%	36.64%
EBIT return on invested capital	8.02%	(6.92%)	24.29%	6.90%	32.98%	5.32%	12.03%	4.62%	21.50%	17.36%	7.42%	17.75%	21.82%
Pretax return on invested capital	5.42%	(11.03%)	24.29%	0.00%	32.90%	1.91%	9.48%	(0.58%)	18.41%	14.59%	3.56%	17.09%	15.92%
Return on invested capital	3.33%	(7.61%)	15.47%	0.45%	20.72%	1.20%	6.07%	(0.36%)	10.59%	8.31%	2.22%	10.42%	9.56%



## EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies

TABLE 1 Adjusted Financial Ratios (continued)

	AFWY	ABFS	AIND	TRUKQ	HTLD	JBHT	MSCA	OTR	SWFT	TCAM	XPRSA	WERN	TRIAD
<b>WORKING CAPITAL</b>													
Working capital (\$000)	24,699	19,148	16,219	(9,161)	40,781	2,479	575	(10,389)	6,735	(6,298)	19,424	46,804	944
Short-term debt to working capital	0.34	2.07	1.03	(3.97)	0.02	12.23	28.98	(1.34)	3.38	(2.02)	0.68	—	7.97
Long-term debt to working capital	7.66	20.85	0.31	(17.99)	—	136.75	82.39	(2.01)	10.24	(3.88)	3.36	0.85	27.72
<b>OTHER</b>													
Size of revenues (\$000)	572,100	1,437,279	330,136	289,527	191,507	1,352,225	333,070	49,211	458,165	144,254	282,468	576,022	109,812
Earnings (\$000)	13,083	(31,495)	30,501	982	20,586	8,725	13,152	(157)	23,040	6,106	2,837	36,380	4,179
3-year compound growth rate earnings	(11.62%)	NM	1.00%	(43.18%)	29.86%	(52.22%)	(1.66%)	NM	37.01%	61.40%	(35.08%)	10.19%	(2.43%)
3-year compound growth rate revenues	31.98%	19.30%	10.03%	7.61%	(9.92%)	15.09%	21.74%	26.72%	28.61%	17.49%	16.75%	17.35%	3.46%

NM = NOT Meaningful

(continued)

**EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies** *(continued)*

Looking at the ratios in totality reveals many differences between the Triad Entities and the guideline companies. In order to do a more comprehensive analysis, we analyzed specific figures and ratios by ranking the information contained in table 1 from highest to lowest to determine how the Triad Entities stack up against the 12 guideline companies.

The first area observed is the size of the company from both a revenue and an earnings standpoint.

Size of Revenues (\$000)		Size of Earnings (\$000)	
ABFS	1,437,279	WERN	\$36,380
JBHT	1,352,225	AIND	30,501
WERN	576,022	SWFT	23,040
AFWY	572,100	HTLD	20,586
SWFT	458,165	MSCA	13,152
MSCA	333,070	AFWY	13,083
AIND	330,136	JBHT	8,725
TRUKQ	289,527	TCAM	6,106
XPRSA	282,468	<b>TRIAD</b>	<b>4,179</b>
HTLD	191,507	XPRSA	2,837
TCAM	144,254	TRUKQ	982
<b>TRIAD</b>	<b>109,812</b>	OTR	(157)
OTR	49,211	ABFS	(31,495)

The Triad Entities are smaller than all the companies, except OTR; most of the companies fall within 5 times the company's revenues, although ABFS and JBHT are 13 and 12 times revenues, respectively. The company has less earnings than most of the guideline companies. This does not necessarily mean that the Triad Entities are less profitable, though. This will be discussed when we look at profitability ratios.

### EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies

In conjunction with the size of revenues and earnings are compound annual growth rates. Three-year rates are shown as follows.

3-Year CAGR—Revenues		3-Year CAGR—Earnings	
AFWY	31.98%	ABFS	NM
SWFT	28.61%	OTR	NM
OTR	26.72%	TCAM	61.40%
MSCA	21.74%	SWFT	37.01%
ABFS	19.30%	HTLD	29.86%
TCAM	17.49%	WERN	10.19%
WERN	17.35%	AIND	1.00%
XPRSA	16.75%	MSCA	-1.66%
JBHT	15.09%	<b>TRIAD</b>	<b>-2.43%</b>
AIND	10.03%	AFWY	-11.62%
TRUKQ	7.61%	XPRSA	-35.08%
<b>TRIAD</b>	<b>3.46%</b>	TRUKQ	-43.18%
HTLD	-9.92%	JBHT	-52.22%

Three-year compound annual growth in revenues indicates that the Triad Entities' revenues have been growing more slowly than all the guideline companies, except one. Looking at earnings growth reveals that the Triad Entities fall about midway between the faster earnings growth and the faster earnings losses. As previously discussed, the economy faltered somewhat in the recent past, resulting in a "down" year for the industry. Analysts who follow these companies have indicated that they expect better results in the near future.

(continued)

**EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies** *(continued)*

Current Ratio		Quick Ratio	
HTLD	1.97	HTLD	1.63
WERN	1.86	WERN	1.37
AFWY	1.47	AIND	1.14
XPRSA	1.47	AFWY	1.08
AIND	1.41	XPRSA	1.03
SWFT	1.11	SWFT	0.96
ABFS	1.06	<b>TRIAD</b>	<b>0.92</b>
<b>TRIAD</b>	<b>1.05</b>	JBHT	0.80
MSCA	1.01	ABFS	0.67
JBHT	1.01	MSCA	0.67
TRUKQ	0.84	TCAM	0.47
TCAM	0.78	TRUKQ	0.38
OTR	0.40	OTR	0.35

In looking at these ratios, the Triad Entities are closest to JBHT despite the difference in the companies' sizes. From a current ratio and quick ratio standpoint, the Triad Entities fall right in the middle.

Two other liquidity ratios, days accounts receivable, and days working capital appear to contradict one another somewhat.

**EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies**

Days Account Receivables		Days Working Capital	
XPRSA	44.48	HTLD	41.29
OTR	42.75	WERN	24.62
SWFT	42.20	AIND	22.70
ABFS	39.80	XPRSA	19.52
JBHT	37.96	MSCA	16.14
WERN	34.98	AFWY	11.03
HTLD	33.81	SWFT	8.26
MSCA	33.41	<b>TRIAD</b>	<b>3.14</b>
AIND	32.91	JBHT	0.78
TCAM	30.58	ABFS	(2.34)
<b>TRIAD</b>	<b>30.54</b>	TRUKQ	(2.84)
AFWY	29.97	TCAM	(5.20)
TRUKQ	29.61	OTR	(55.85)

Although the Triad Entities collect their accounts receivable faster than most of the guideline companies, they have approximately three days of working capital available. Despite this, a number of the guideline companies appear to be ever weaker in this area.

*(continued)*

**EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies** *(continued)*

Turnover ratios measure how effectively a company utilizes its assets.

Current Asset Turnover		Fixed Asset Turnover		Total Asset Turnover	
AFWY	8.70	ABFS	4.62	ABFS	2.40
OTR	7.62	<b>TRIAD</b>	<b>4.14</b>	<b>TRIAD</b>	<b>2.31</b>
JBHT	7.34	XPRSA	2.86	XPRSA	1.83
SWFT	6.92	HTLD	2.33	TCAM	1.64
TCAM	6.31	TCAM	2.30	SWFT	1.61
WERN	6.09	SWFT	2.11	AFWY	1.37
TRUKQ	5.74	AIND	1.79	JBHT	1.35
MSCA	5.71	JBHT	1.69	AIND	1.30
ABFS	5.66	AFWY	1.64	HTLD	1.30
<b>TRIAD</b>	<b>5.46</b>	TRUKQ	1.58	TRUKQ	1.22
XPRSA	5.27	MSCA	1.54	WERN	1.20
AIND	4.90	WERN	1.49	MSCA	1.20
HTLD	3.02	OTR	1.36	OTR	1.15

Overall, the Triad Entities are stronger in utilizing their assets than the guideline companies. Any weakness that exists is in their current asset turnover, which confirms their liquidity ratios. Although the Triad Entities utilize their asset base more efficiently, their liabilities are high, which adds weakness.

**EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies**

The debt ratios indicate that the Triad Entities are more than able to service their debt and they utilize more debt than most of the guideline companies. This is depicted in the following rankings:

Times Interest Earned		Total Liabilities to Total Assets		Total Liabilities to Equity	
AIND	NM	ABFS	0.98	TRUKQ	12.69
HTLD	385.46	TRUKQ	0.93	<b>TRIAD</b>	<b>4.57</b>
WERN	26.74	<b>TRIAD</b>	<b>0.82</b>	OTR	4.34
SWFT	6.96	OTR	0.81	XPRSA	2.48
TCAM	6.26	XPRSA	0.71	JBHT	1.85
MSCA	4.72	JBHT	0.65	TCAM	1.74
<b>TRIAD</b>	<b>3.70</b>	TCAM	0.63	AFWY	1.44
AFWY	3.09	AFWY	0.59	SWFT	1.40
XPRSA	1.92	SWFT	0.58	MSCA	0.84
JBHT	1.56	MSCA	0.46	WERN	0.64
TRUKQ	1.00	WERN	0.39	HTLD	0.60
OTR	0.89	HTLD	0.38	AIND	0.46
ABFS	(1.68)	AIND	0.32	ABFS	(31.13)

With respect to profitability, the Triad Entities fall in the middle of the grouping.

(continued)

**EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies** *(continued)*

EBITDA Return on Net Sales		After-Tax Return on Net Sales	
HTLD	25.41%	HTLD	10.75%
AIND	22.25%	AIND	9.24%
WERN	21.38%	WERN	6.32%
MSCA	19.58%	SWFT	5.03%
OTR	17.37%	TCAM	4.23%
SWFT	17.14%	MSCA	3.95%
TCAM	15.96%	<b>TRIAD</b>	<b>3.81%</b>
<b>TRIAD</b>	<b>14.59%</b>	AFWY	2.29%
TRUKQ	14.04%	XPRSA	1.00%
JBHT	12.49%	JBHT	0.65%
AFWY	12.07%	TRUKQ	0.34%
XPRSA	9.74%	OTR	-0.32%
ABFS	1.25%	ABFS	-2.19%

When looking at after-tax income, the company is closest to MSCA, which is slightly more profitable. Of the 12 guideline companies, 6 are more profitable and 6 are less profitable. This is influenced greatly by debt structure, age of the fixed assets, and tax rates. Therefore, another comparison utilized is EBITDA (earnings before interest, taxes, depreciation, and amortization) to sales. In utilizing this category, the Triad Entities fall in the middle of the group, with 7 companies showing more profitability.



### EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies

One final profitability measurement is the EBITDA return on invested capital, which reflects the amount of profits generated to a company's capital holders. Here, the Triad Entities are at the high end of the ranking. This could be the result of the company's reduced equity due to financial difficulties in the past.

EBITDA Return on Invested Capital	
HTLD	48.99%
AIND	37.25%
<b>TRIAD</b>	<b>36.64%</b>
SWFT	36.08%
WERN	35.28%
TCAM	31.35%
MSCA	30.11%
JBHT	23.26%
XPRSA	21.55%
OTR	19.44%
TRUKQ	18.52%
AFWY	17.57%
ABFS	4.34%

**American Freightways (AFWY):** AFWY is five times the size of the Triad Entities, with faster growing revenues, but weaker earnings growth. Whereas the Triad Entities have low liquidity ratios and working capital, AFWY is highly liquid. AFWY also operates with considerably less debt. Despite all of these factors, the Triad Entities were more profitable in the most recent year.

**Arkansas Best Corp. (ABFS):** ABFS is 13 times the size of the Triad Entities and has revenues that are growing considerably faster. Despite this, earnings have been growing at a negative rate over the past 3 years, and ABFS showed a substantial loss in the most recent period. Looking at liquidity and turnover indicates that each company has strengths and weaknesses, and these are neutral factors. After removing non-operating assets from ABFS's balance sheet, the company shows negative equity. Therefore, we looked at the company's historic debt-to-equity ratio, which is 2.39, and considerably lower than the Triad Entities. Finally, due to ABFS's most recent year loss, the profitability ratios indicate that the Triad Entities are stronger.

**Arnold Industries (AIND):** AIND is approximately three times the size of the Triad Entities and is experiencing faster revenue growth. Earnings growth has been flat, which is positive because many companies have experienced negative earnings. The Triad Entities appear to have weaker liquidity and profitability than AIND and utilize considerably more leverage. Overall, despite the similarity in size, the Triad Entities appear to be weaker than AIND.

(continued)

### EXHIBIT 9.6 Financial Ratio Analysis With Guideline Companies *(continued)*

**Builders Transport (TRUKQ):** TRUKQ is slightly less than three times the size of the Triad Entities in revenues. Revenues have grown a little faster over the past three years and were flat in the most recent year; earnings, on the other hand, decreased considerably over the last three years, particularly in the most recent period. TRUKQ utilizes considerably more debt than the Triad Entities and was less profitable. Finally, its liquidity was extremely weak. Overall, TRUKQ is a very weak company, and the Triad Entities are considerably stronger.

**Heartland Express (HTLD):** HTLD is only two times the revenue size of the Triad Entities. Overall, its growth, liquidity, and profitability are all stronger than the Triad Entities, and HTLD utilizes much less debt. The only weak portion of HTLD is that the company experienced negative revenue growth over the last three years. In spite of this, the company has experienced 30 percent earnings growth over the past three years. Overall, despite its smaller size, HTLD appears to be a strong, well-run company.

**J.B. Hunt Transport Services (JBHT):** JBHT is more than 12 times the size of the Triad Entities. Despite 15 percent growth in revenues over the last 3 years, JBHT's earnings have declined significantly. The company's utilization of debt is considerably lower than the Triad Entities, making it stronger in this area, yet JBHT is still less profitable and its liquidity ratios do not indicate strength. Overall, despite JBHT's size, the company appears weak financially.

**M.S. Carriers (MSCA):** MSCA is approximately three times the size of the Triad Entities but has experienced revenue growth of approximately 22 percent and relatively flat earnings. MSCA utilizes very little debt yet does not show stronger liquidity or profitability than the Triad Entities.

**OTR Express (OTR):** OTR is approximately two times the size of the Triad Entities and has experienced substantial revenue growth over the past three years. The company's earnings had been increasing over the four-year period leading up to the most recent year, but the company experienced a loss in that year. OTR utilizes less debt than the Triad Entities but has very weak liquidity; the company's working capital deficit has been growing and was in excess of \$10 million at the end of the most recent year. Due to OTR's loss in that year, its profitability ratios were also weaker than the Triad Entities.

**Swift Transportation (SWFT):** SWFT is approximately four times the size of the Triad Entities, with revenues and earnings growth of 28.6 and 37 percent, respectively. SWFT utilizes less debt, is more liquid and more profitable than the Triad Entities, and overall appears to be stronger.

**Transport Corp. of America (TCAM):** TCAM is approximately the same size as the Triad Entities; in the most recent year, its revenues were only about 30 percent higher. TCAM has been growing very quickly; earnings and revenues have experienced annual compound growth of 61.4 and 17.5 percent, respectively. This fast growth has created liquidity problems, and at the end of the current year, TCAM had a working capital deficit of \$6.2 million. However, the company has a very strong leverage structure and could possibly borrow money to meet its current obligations. Along with the growth in earnings, TCAM has also been fairly profitable. Overall, TCAM is stronger than the Triad Entities.

**US Xpress Enterprises (XPRSA):** XPRSA is approximately two times the size of the Triad Entities and, despite increasing revenues, is suffering from decreasing earnings. Despite this, XPRSA has built up \$19 million in working capital and has stronger liquidity ratios than the Triad Entities. XPRSA utilizes less debt than the Triad Entities but appears to be less profitable. XPRSA does not appear to be substantially stronger or weaker than the Triad Entities.

**Werner Enterprises (WERN):** WERN is more than five times the size of the Triad Entities. Despite flat earnings from last year to this year, WERN has experienced both earnings and revenue growth over the past three years. Overall, WERN is more liquid and more profitable than the Triad Entities and operates with less debt. It appears to be stronger overall than the Triad Entities.

As you can see from exhibit 9.6, there can be a tremendous amount of analysis required in the application of the guideline company method. Although this analysis is a bit unusual, particularly because we had 12 good guideline companies, it is a good teaching tool because the analysis is the same regardless of how many guideline companies you find. The more guideline companies that the valuation analyst ends up with, the more time will be spent. The valuation analyst needs to make sure that an adequate amount of time is built into the budget when fees are quoted! What you just saw is an analysis that was done to determine the true level of comparability between the subject company and each of the guideline companies.

This analysis will allow us to select the best guidelines for our subject and ultimately perform our SGLPTL analysis. What is SGLPTL (pronounced “single pittle”)? No, it is not what your puppy does on the carpet. If you read the checklist earlier in this chapter, you saw it there. How come you didn’t ask about it then? Well, it stands for *size, growth, leverage, profitability, turnover, and liquidity* (SGLPTL).

SGLPTL is a great analytical tool for comparing the subject and guideline companies. These are the six categories of factors that assist the valuation analyst in determining comparability as well as justifying the multiples that are selected. I will discuss this part of the analysis later.

## Using Valuation Multiples

Valuation multiples are considered to be usable if the valuation analyst has good information about companies that are similar enough to the valuation subject and if the engagement is to value the equity or invested capital of the valuation subject. The old conventional wisdom says that the value derived from the guideline public company method results in a minority marketable estimate of value because the pricing multiples are determined from the public market. In fact, there are still courts and many valuation analysts without recent valuation training that believe this is true. However, as we will discuss in a short while, this is not always the case. In fact, the old conventional wisdom is incorrect and has been replaced.

Once the multiples are derived from the marketplace, they must be adjusted for the differences between the valuation subject and the guideline companies. The multiple that will ultimately be used for the valuation subject will probably not be exactly the same as that which was derived from the guideline companies. Risk and other characteristics generally play an important part in the process of adjusting the multiples. For example, if the publicly traded guideline companies have price-to-earnings multiples of 15 (assume an incredible coincidence and that all companies were the same), and the closely held company that is being valued is considered to be more risky, the logical conclusion is that the closely held company would be worth less. Therefore, a lower multiple would be used.

### BOX 9.3

#### Commonly Used Multiples

##### Equity Multiples

- Price to net earnings
- Price to pretax earnings
- Price to cash flow
- Price to operating income
- Price to book value
- Price to dividend paying capacity or dividend yield

##### Invested Capital Multiples

- MVIC to revenues
- MVIC to EBIT
- MVIC to EBITDA
- MVIC to net operating profit after tax
- MVIC to tangible book value and debt

The price represented in equity multiples is the equity price of the common stock of the public company. In other words, it is the price of a share of common stock that you could look up in the newspaper. This is used when the valuation analyst chooses to value the equity directly. There will be times when the valuation analyst chooses to value the invested capital of the company. This is usually done when there are significant differences in the financial leverage (amount of debt on the balance sheet) between the subject and guideline companies. Some of the more commonly used equity and invested capital multiples are listed in box 9.3. Be patient, and I will demonstrate this point in a little while.

In these instances, MVIC represents the market value of invested capital, defined as the market value of equity and debt.

Those valuation analysts who value small- and medium-sized companies often lose sight of the reason why certain multiples are used, rather than others. Comparability is probably the single most important factor in choosing a particular multiple. Sometimes, the choice of multiples depends on the availability of good data. The valuation analyst should avoid choosing a favorite multiple and using it in every valuation. Chances are, if the valuation analyst sticks with the same multiple all of the time, he or she will be wrong a good portion of the time. On the bright side, the analyst will be consistent. Unfortunately, being consistently wrong is not necessarily a good thing.

## Price-to-Net Earnings

The appropriate situation for using a price-to-net earnings multiple is (1) when the valuation subject has relatively high income compared to its depreciation and amortization or when depreciation represents actual or economic physical wear and tear and (2) when the valuation subject has normal tax rates. If a company has higher net income compared to depreciation and amortization, a price-to-net earnings multiple is considered to be the appropriate multiple to use. However, this considers the fact that the depreciation and amortization must be a good representation of the actual wear and tear of the assets so that replacements are being accounted for properly. If book or tax depreciation is used, rather than economic depreciation, the company may need to replace these assets either more quickly or more slowly than the manner in which depreciation is being recorded. Capital expenditures can greatly affect the cash flow of the company and, therefore, have an effect on its value. In that case, a cash flow, rather than a net earnings multiple, would be more appropriate.

A company with normal tax rates allows comparison to publicly traded guideline company data that is reported on an after-tax basis. If the company has a unique tax structure (for example, S corporation, limited liability company, or interest charge domestic international sales corporation [IC DISC]), better comparability may be achieved by using pretax earnings. For nontax people, an IC DISC does not pay tax. The shareholders are taxed on the income when it is distributed. Of course, a valuation analyst could also tax-affect the subject company's earnings to make them consistent with those of the guideline companies. Tax-affecting pretax earnings means that a provision for income taxes is subtracted as if the company paid these taxes in the normal course of business.

## Price-to-Pretax Earnings

A price-to-pretax-earnings multiple should be used when the subject company (1) has a relatively high income compared to its depreciation and amortization or when depreciation represents actual physical wear and tear but (2) has abnormal tax rates. Once again, the same rules apply for the first two items. Pretax earnings should be used when taxes are different from those of the guideline companies. I generally prefer to use pretax earnings for smaller companies because they frequently pay no taxes. Most smaller companies (and professional practices) conduct business in a manner that minimizes taxes, as opposed to maximizing shareholder wealth. Comparing these companies with similar companies or industry composite data (not large public companies) will frequently be more meaningful if it is performed on a pretax basis (you know, apples with apples, oranges with oranges).

## Price-to-Cash Flow

A price-to-cash-flow multiple is generally used when the valuation subject has a relatively low level of income compared to its depreciation and amortization or when depreciation represents a low level of physical, functional, or economic obsolescence. Low levels of physical, functional, or economic depreciation generally mean that the assets will not have to be replaced in the near term. Many profitable businesses go out of business because of insufficient cash flow. On the other hand, many businesses that have high levels of depreciation and amortization are cash machines, generating very high levels of cash for the owners in comparison to low earnings. These are typical situations in which a cash flow multiple makes sense.

Many experienced business valuation analysts are of the belief that "cash is king." Let's face it: the more cash you have, the more you can buy. This is certainly the theory that my daughter operates under. Therefore, it seems logical that a great emphasis should be placed on cash flow. Thinking of my kid, I wonder if we can



### Author's Note

In chapter 18, I discuss the valuation of pass-through entities, such as S corporations, limited liability companies, and so on. Although this discussion usually takes place with a slant on the income approach, something that the valuation analyst should also think about, particularly in the application of the market approach, is whether the tax rates used to tax-affect the valuation subject are truly comparable to the guideline companies. There have been empirical studies performed that indicate that the average public company only pays about 17 percent in taxes. The question that needs to be addressed is that if different tax rates are applied to the valuation subject than the guideline public companies, are we possibly mismatching the financial information? Unfortunately, I do not have some definitive words of wisdom that I can give you here. I just want to call any potential issue to your attention.

use a multiple of price-to-credit-card? Anyway, in many small companies, there is little difference between cash flow and earnings, so either becomes a pretty good surrogate for the other.

### MVIC-to-Sales

An MVIC-to-sales multiple is generally appropriate in two situations. The first situation is when the valuation subject is “homogeneous” to the guideline companies in terms of operating expenses. The second situation when this multiple may be appropriate is when smaller businesses, particularly cash businesses, are valued. Service companies and companies that are light in tangible assets are considered to be candidates for the application of an MVIC—to-sales multiple.

Some analysts use a price-to-sales multiple based on an equity price, rather than invested capital, under the theory that there is no major difference between the two. For smaller businesses that do not have a lot of debt on their balance sheets, this is probably true. Just keep in mind that whichever is used, the answer needs to make sense.

### Price-to-Dividend or Dividend-Paying Capacity

A price-to-dividend multiple is probably best utilized when the valuation subject actually pays dividends. It can also be useful when the company has the ability to pay dividends, even if it does not actually pay them. Of course, dividend-paying capacity can be measured only after the valuation analyst considers the valuation subject’s ability to finance its operations and growth. Revenue Ruling 59-60 tells us to consider “the dividend paying capacity of the company.” But even the revenue ruling suggests that this is not as important as the other factors to consider.

In a valuation of a minority interest, actual dividends are more important than the dividend-paying capacity because the minority interest cannot force dividends to be paid. Sometimes, you may find that actual dividends paid are disguised as excess compensation. For example, assume the valuation analyst is valuing a 45 percent interest in GRT Corp. The company has two stockholders: One owns 55 percent of the stock, and the interest that the valuation analyst is valuing owns the balance. Compensation and bonuses are taken in proportion to the stockholdings. The salaries were \$55,000 and \$45,000, respectively, and the stockholder-officers received bonuses of \$110,000 and \$90,000. The minority stockholder received a total compensation of \$135,000.

Some valuation analysts argue that if the minority interest is truly a minority, the compensation should not be adjusted because that individual cannot change the policy of the company, nor can he or she force dividends to be paid. However, if the valuation analyst looks at the relationship between the two individuals in my example, he or she may find that they run the company together, they have been friends and business partners for quite a while, and all major decisions are made jointly. In this situation, he or she may also find that *reasonable compensation*—defined as what it would take to replace the individual with someone of sufficient talent, experience, and so forth to do the job that is currently being done—will be less than the sum of the salary and the bonus. If reasonable compensation is deemed to be \$75,000, a dividend was actually paid ( $\$135,000 - \$75,000 = \$60,000$ ). In this instance, a multiple of dividends may allow the valuation analyst to value the minority interest directly by using multiples from the public market and adjusting them for risk.

Another consideration in determining the dividend-paying capacity for minority shareholder valuations is whether the minority shareholder would be considered *oppressed* under state statutes. *Oppression* is a legal term, and the valuation analyst should not try to make a determination without input from legal counsel. If a company has the ability to pay dividends but the controlling shareholder refuses to do so, the minority shareholders may have recourse against the controlling shareholder under the oppressed shareholder statute in that jurisdiction. This could result in a mandatory buyout at fair value, or dividends may have to be paid. What all of this means is that a minority shareholder may have legal rights, at the expense of litigation, to force dividends. This could make this multiple feasible even when dividends are not actually being paid. There is a discussion about stockholder litigation in chapter 24.

## Price-to-Book Value

A price-to-book-value multiple may be appropriate when the valuation subject is in an industry that has a meaningful relationship between the book value and the price of the company's stock. This would require guideline companies to be used. In the determination of the book value, smaller companies would use the sales price of the entire company as the "price" and only those assets that were actually to be sold. The valuation analyst can use return on equity to assist in the adjustment of the price-to-book-value ratio to compensate for differences in quality between the company being valued and the guideline companies being used to assist in the development of the multiple.

Very often, in practice, we see a price to tangible book value multiple used to avoid the vast differences between companies that have recorded intangible assets through acquisitions and those that have grown organically and, as such, do not have many intangible assets on the balance sheet.

## Valuing Invested Capital Instead of Equity

As indicated previously, there may be circumstances in which it makes more sense to value the invested capital of the valuation subject instead of the equity. One of the questions often posed in a valuation assignment is when to use invested capital methods. If the valuation subject's capital structure is significantly different from those of the publicly traded guideline companies, consider using an invested capital method. For example, if the valuation subject is either highly leveraged or significantly under-leveraged but the industry has a very different debt-to-equity relationship, it could make sense to eliminate the effects of leveraging to make a more meaningful comparison. This does not eliminate the financial risk of the subject company. This assumes, however, that the interest being valued has the ability to change the capital structure of the business. A minority interest does not, and, accordingly, the capital structure will generally not be altered in the valuation.

Smaller, closely held companies frequently have debt on their balance sheets that may have been used for either non-operating purposes (a mortgage on a ski resort in Vail, Colorado, when the company is a manufacturer in New Jersey) or to finance the owner's perks (the owner would not have to borrow if an excessive salary was not being taken or if a Ford was the company car instead of a Ferrari). Using valuation multiples that include the non-operating debt, or even operating debt that is out of line with the industry, would result in an incorrect estimate of the value of the company. A willing buyer will rearrange the debt-to-equity relationship as necessary to optimize the value of the company if that is prudent. It may also be necessary to adjust the capital structure of the subject to make it more comparable to the guideline companies. Otherwise, a proper comparison cannot be made.

When an invested capital method is used, the valuation analyst will determine the value of the company's total invested capital (equity plus debt at market values), rather than just the equity. When a valuation analyst values a company based on the total invested capital, some modifications are generally made during the valuation process. Some of these modifications include the following steps:

- Add the market value of the publicly traded guideline company's equity (price per share times the number of shares outstanding) to the guideline company's market value of the interest paying debt. The sum of these two items takes the place of the "price" in the various multiples previously discussed.
- Interest expense reflected on the income statement is added back to the earnings (or cash flow) used in the denominator of the various multiples. If the valuation analyst is using an after-tax basis, interest expense is added back to earnings or cash flow, net of taxes, because there is a tax benefit that is derived from the deductibility of interest expense.
- Once an estimate of value has been reached on a total-invested-capital basis, the valuation analyst then deducts the fair market value of the valuation subject's debt to determine the value of the company's equity.

I will illustrate these computations with an example. But before I illustrate the invested capital computations, let's further explore the concept of using multiples and go over a little more theory, and then you will be ready for some number crunching.

## Adjusting Public Company Multiples for Risk

Once valuation multiples are determined for the guideline companies, it becomes necessary for the valuation analyst to adjust these multiples for the qualitative differences between the guideline companies and the valuation subject. Different risk factors that the valuation analyst should generally consider are included in box 9.4. However, this list does not contain all potential risk factors. These qualitative differences will most likely relate to factors such as expected growth and the risks attributable to the valuation subject that are different from those of the guideline companies.

There are many other risk factors to be considered as well, but these are some of the more important items that a valuation analyst must think about in the application of not only the market approach, but also (as you will see in chapter 12) the income approach. Each of these risk factors should be analyzed from the point of view of how the valuation subject differs from the guideline companies. Most of the information about risk will be obtained from sources other than the financial statements. (Imagine that! There is more to business valuation than number crunching!) Let's discuss the risk factors.

### BOX 9.4

### Valuation Risk Factors

- Economic risk
- Business risk
- Operating risk
- Financial risk
- Asset risk
- Product risk
- Market risk
- Technological risk
- Regulatory risk
- Legal risk

### Economic Risk

Economic risk is analyzed as part of the economic analysis performed by the valuation analyst. Revenue Ruling 59-60 suggests that consideration be given to “the economic outlook in general and the condition and outlook of the specific industry in particular.” The valuation analyst must determine how the subject company will be affected by changes in the economic environment in which it operates. Economic conditions at the valuation date and how they affect the company must also be considered. For example, if the valuation analyst was valuing an automobile dealership, consideration would have to be given to the effect that interest rates have on auto loans. If the economic forecast was that interest rates were expected to go up, one would think that car sales may be affected if people could not afford to borrow at the higher rates. However, the dealership may experience an increase in its service revenues because people may keep their cars for a longer period, thereby requiring more maintenance.

To the extent that the guideline companies selected are good comparables, economic risk will be incorporated in the pricing multiples. The adjustments to be made will more likely compensate for differences between the guideline company and the valuation subject that are due to factors such as regional or local economic risk. The valuation subject may operate in an area that is different from that of the guideline companies, for example, a single location in New Hampshire versus multiple locations in the southwest United States.

### Business Risk

Business risk involves the analysis of the valuation subject's business. Once again, we are interested in how the subject company differs from the guideline companies. The valuation analyst analyzes the company in terms of the risk associated with factors such as sales volatility and the volatility of the company's growth. If a company has revenues that fluctuate widely, a greater risk exists than if the company is somewhat stable. Volatile growth is obviously a greater risk as well when the valuation analyst considers the cash flow needs of a growing company. If growth is volatile, it may be difficult for the company to raise the necessary capital to foster that growth. The banks may be reluctant to lend money to a company that may not be able to repay its debt next year if a reversing trend takes place.

### Operating Risk

The operating risks associated with a business include such factors as the fixed versus variable cost structure of the valuation subject. The valuation analyst must analyze the cost structure of the valuation subject to determine how much risk the company is exposed to as a result of the commitments and costs associated with the business operations. If a company has a high level of fixed costs, this may not bode well in times when revenues decrease. Obviously, if two companies are the same, except that one company has higher fixed

costs than the other, the company with the higher level of fixed costs would be considered to be more risky and, therefore, worth less.

## Financial Risk

The financial risks associated with a company pertain to the amount of leverage the company uses and the company's ability to cover its debt payments. The valuation analyst must pay particular attention to the capital structure of similar companies to analyze the valuation subject. Companies that are heavily leveraged can find themselves in trouble when a recession hits. To determine the valuation subject's level of risk, different debt structures should be analyzed when one performs the valuation.

Proper capital structure plays an important part in the financial success of a business. Companies that are overcapitalized or undercapitalized are not necessarily comparable to companies that have a normal capital structure. A normal capital structure is one that is similar to that of other companies in the same industry. If the valuation subject is heavily leveraged, the valuation analyst may want to consider using an invested capital approach using earnings before tax and interest (EBIT) or earnings before interest, taxes, depreciation, and amortization (EBITDA) in the pricing multiples.

I keep discussing companies that are highly leveraged, but, sometimes, a company that is underleveraged may be just as risky. Although being underleveraged will not necessarily hurt the company when the economy becomes troubled, being underleveraged can also mean that management is not taking advantage of the growth opportunities in its industry because using debt service almost always costs less than using equity. I will discuss this concept further in chapter 13 when I discuss the cost of capital components. However, at least think about the fact that being underleveraged can be a sign of poor management. And yet, there are some managers who do not believe in debt. In some cases, these are some of the wealthiest people that I have ever met, so who am I to question their judgment? Although, if they are not growing their companies as fast as their competitors, how long will they exist?

In many instances, smaller companies that are heavily indebted are structured in that manner as a result of the owner of the business choosing to finance his or her excess salary and perks; therefore, the interest and liability should be treated as non-operating items because they do not affect the business operations of the company.

## Asset Risk

Asset risk relates to the age and condition of the company's assets. Older assets represent a higher degree of risk for a company in terms of higher maintenance costs, a lower level of productivity, and functional and technological differences in available production. Not only do these items increase the level of expenditures for the company, but the future cash flow needs may also be greater due to replacement needs, which further increase the risk of the enterprise.

## Product Risk

Product risk relates to a company that has little diversification in its product line or has a product line that may become extinct with the introduction of a newer product by a different company. An example of this is the effect that smart phones are having on the point-and-shoot digital cameras.

## Market Risk

Market risk relates to how geographically diversified the company is. If the company operates within a local marketplace, it can be greatly affected by changes in that local area. A more diversified market reduces the risk associated with a company. An illustration of market risk is a local restaurant that operates in a community that is dependent on a military base for business. If the government decides to close the military base, what do you think will happen to the restaurant's business?



## Technological Risk

New technology can adversely affect a company if it does not have the ability to keep up with other companies in the valuation subject's industry. For example, a company that is unable to automate its factory would be at a competitive disadvantage, which increases the risk of the company.

## Regulatory Risk

Regulatory agencies can also adversely affect a business. Environmental regulations are probably one of the best examples of the risks that a company faces. A chemical manufacturing company can be put out of business in a very short time by the Department of Environmental Protection. This increased risk will generally cause a willing buyer to pay less for a business because he or she must be able to generate a faster return on the investment to compensate for the possible effect of new regulations. Obviously, only those regulations that can be reasonably forecast can be considered in this analysis. Do not forget about possible clean-up costs if a problem is discovered. A valuation analyst may not be able to quantify these costs, but the increased risk will affect market multiples, discount rates, and capitalization rates.

## Legal Risk

The cost of litigation in today's society can mean the end of any successful business. Even if it is successful, litigation can create such a financial burden on a business that it can be greatly exposed to the risk of being put out of business. Product liability claims, employee discrimination claims, anti-trust litigation, and a host of other types of claims will, at times, significantly affect the value of a business enterprise by affecting future margins, capital expenditures, and so forth, but if these are industry-wide, market prices may have already taken these issues into account.

## Valuation Considerations

Because valuation is premised on investment theory, the valuation analyst must perform a comparative analysis of qualitative and quantitative similarities and differences between the guideline companies and the valuation subject to assess the investment attributes of the guideline companies relative to the valuation subject. Not all pricing multiples will be appropriate for each guideline company. Therefore, the valuation analyst should use only those multiples that are deemed to be appropriate based on the underlying financial data of each guideline company. Financial ratios for the guideline companies, as well as the comparative analysis of the qualitative and quantitative factors regarding the differences between the guideline companies and the valuation subject, should be used together to determine the appropriate valuation multiples to apply to the valuation subject.

Various valuation multiples may be selected for application to the valuation subject, and this results in several value estimates. In arriving at the valuation conclusion, the valuation analyst should consider the quality of the information that is available for the determination of each multiple.

Another consideration is the time period to be covered in the application of pricing multiples. The following are some of the more common time periods that are used:

- Pro forma period
- LTM
- Last fiscal year
- Year ahead
- Average (mean) over number of years
- Weighted average over number of years

Regardless of which time period a valuation analyst uses, Revenue Ruling 59-60 makes it clear that "valuation is a prophecy as to the future." Whether a three-year average, a five-year average, or pro forma earnings are used in the application of these multiples, the ultimate decision on which period will be used is a subjective one on the part of the valuation analyst. Which time period is most representative of what is expected to occur in the future?

The factors to consider in selecting the time period and the method of calculating the earnings base will depend on the valuation analyst's (or management's) ability to forecast the future. For example, if the company has cyclical earnings, the valuation analyst may want to consider an arithmetic average. This has the tendency to smooth out the effect of the periodic cycles of the business. If the past five years, on average, are expected to resemble the next five years, plus or minus some growth, using an arithmetic average as a base and adding or subtracting some growth may be perfectly acceptable.

Because we are addressing the market approach (and not the income approach), consideration must also be given to the timing of the earnings or cash flow of the guideline companies as compared to the subject. For example, let's assume that the subject company went through a large expansion in the most recent year, but the guideline companies went through their expansion last year. In order to capture the expansion of all of the companies, a two-year average of the historical results may be required.

If the valuation subject is experiencing modest growth, the valuation analyst should consider weighted average earnings, the earnings for the LTM, or pro forma earnings. In high growth companies, the valuation analyst should consider a discounted future benefits method (this will be discussed in chapter 12). Because the intention of the valuation process is to arrive at a "prophecy of the future," caution must be exercised when one uses a weighted average, particularly when the company is growing. The result of the weighted average will rarely, if ever, reflect "probable future earnings" (this is the future concept discussed in Revenue Ruling 68-609). The danger in using a weighted average is illustrated in exhibit 9.7.

### EXHIBIT 9.7 Danger of a Weighted Average

Assume that a company's earnings grew from \$1,000 to \$25,000 over a five-year period. If the earnings were as indicated in the table, the weighted average would be calculated as follows:

Year	Earnings		Factor		Extension
2016	\$25,000	×	5	=	\$125,000
2015	15,000	×	4	=	60,000
2014	10,000	×	3	=	30,000
2013	5,000	×	2	=	10,000
2012	1,000	×	1	=	1,000
			15		\$226,000
			$\$226,000 \div 15 =$		\$ 15,066

In the foregoing example, the weighted average earnings would be \$15,066. Clearly, the company's growth would not justify a forecast of earnings of \$15,066 in the subsequent period. The growth would warrant a forecast of earnings greater than \$25,000, all other factors remaining constant. Therefore, applying a pricing multiple to the weighted average earnings would result in a value that is not truly representative of what a willing buyer would use to assess an investment decision, unless the guideline companies have similar trends, which may cause their price-to-five-year weighted average earnings multiple to be pretty high. This same concept applies in the application of the income approach. Using a weighted average is appropriate only if the result reflects the "probable future earnings" of the valuation subject or if the earnings trends are the same for the guideline companies.

If the company's earnings are relatively stable, it does not matter what earnings base is used, as long as it reflects the facts of the engagement. If the historic stable earnings are a reasonable representation of the future, by all means, the valuation analyst should use them. It is not too often that a valuation analyst will get lucky enough to have this portion of the assignment made easy. Forecasting is like using a crystal ball. Good luck!

If the company's earnings are declining, the valuation analyst may want to consider weighted average earnings, the LTM earnings, or pro forma earnings, assuming that a turnaround is expected to take place. If it is not, declining earnings may also require the valuation analyst to consider a liquidation method if the decline appears to be long term or permanent. Applying the concept of "highest and best use" requires the valuation analyst to consider whether the shareholder's value would be maximized by liquidating at the date of the valuation. Continuing to operate could cause the company's equity to decline. Obviously, this is a consideration only if the interest being valued has the ability to liquidate the company.

If the valuation assignment involves a company whose earnings are volatile, the valuation analyst must use common sense and good judgment. Experts in the valuation field who are much smarter than yours truly could not give a valuation analyst better advice. A company with erratic earnings is one of the most difficult valuation subjects. Other than applying common sense to valuation methodologies and trying to support the assumptions with good reasoning, in this situation, the valuation assignment is almost impossible. After the valuation analyst writes the report in this type of case, it is more important than ever to have another valuation professional review the work to see if the valuation analyst's logic holds together. The valuation analyst should make believe his or her doctor just revealed that he or she needs a serious operation. Get a second opinion!

## What Price Do We Use in the Multiples?

Once the earnings base is determined, the next step is to determine the price to be used in the determination of the multiples. For public companies, the price of the stock on the valuation date will be used in most instances. The average of the high and low prices for the day may be preferred to the "close" price; this eliminates any last minute price run-ups that may have taken place on the valuation date. In fact, valuations performed for tax purposes must be performed this way. However, price run-ups may reflect the market; these various prices are generally pretty close to each other. If they are not, that may indicate that the public company may be thinly traded and lacks liquidity.

There may be times when the valuation analyst will choose to use an average of the high and low prices over some time period other than the valuation date in order to compensate for unusual peaks and valleys in the market. For example, a valuation analyst may wish to compensate for stock prices on any day when there was a significant change in the market. These types of unusual stock market corrections can cause the pricing multiples to be skewed.

The valuation analyst must be very careful if he or she uses some date other than the valuation date for the price because the analyst may be changing the standard of value from fair market value.

## Regression Analysis

One of the tools that valuation analysts frequently find useful is the statistical technique known as regression analysis. If you are a statistical nerd like me, you hate this stuff. However, like it or not, the valuation analyst better know how to use it. I gave you a taste of this stuff in chapters 7 and 8. Unfortunately, this statistics stuff is needed in several areas of what we do. I am not trying to turn the valuation analyst into a statistician, but the analyst needs to be familiar with these concepts, particularly if performing services in a litigation arena. I was involved in one case where the opposing expert was disqualified because of the incorrect use of statistics.

## Adjusting Multiples Based on SGLPTL

So, what's the deal with this SGLPTL stuff? This is a technique that I learned from several co-instructors when I was teaching for one of the valuation organizations. It is one of the most logical, well-organized concepts that I have seen. For valuation analysts, one of the most difficult parts of applying the guideline public company method is figuring out how to get from the public company multiples to an appropriate multiple for the subject company. The purpose of the SGLPTL worksheet is to help the analyst do just that.

For each pricing multiple that is chosen to be appropriate in the valuation assignment, we create a separate worksheet. The worksheet in table 9.3 is for a price-to-revenue analysis. The public company multiples are listed across the top of the worksheet. The analyst will then consider each of the six elements of SGLPTL and the similarities or dissimilarities between the public company and the subject company. The question asked is whether the subject company is stronger, weaker, or the same as the public company with regard to each attribute. If the subject is stronger, the analyst knows that the multiple should be higher than the public company multiple and puts a “+” on the appropriate line. A weakness gets “-”, and the same gets a “+/-”.

**TABLE 9.3 SGLPTL Analysis**

Price-to-Revenues Analysis						
	A TEC	MTMC	SVTG	SYCM	Mean	Median
Multiple	0.21	0.26	0.25	0.09	0.2	0.2
Size <sup>1</sup>	-	+	-	+		
Growth <sup>2</sup>	-	+/-	-	+		
Liquidity <sup>3</sup>	-	-				
Profitability <sup>4</sup>	+	-				
Turnover <sup>5</sup>	+	+	+			
Leverage <sup>6</sup>	+					
GPCM multiple*	0.2	0.25	0.2	0.15	0.2	0.2

“+” Indicates that the subject company ratios are higher than the guideline company.

“-” Indicates that the subject company ratios are lower than the guideline company.

+/-” Indicates that the subject company ratios are similar to the guideline company.

\* Guideline public company method.

<sup>1</sup>Size was based on revenues for the most recent period.

<sup>2</sup>Growth was based on three-year and five-year compound average growth of revenues, unless otherwise noted.

<sup>3</sup>Liquidity was based on the current and quick ratios.

<sup>4</sup>Profitability was based on return on sales.

<sup>5</sup>Turnover was based on the working capital turnover.

<sup>6</sup>Leverage was based on the long-term debt-to-equity ratio.

Then, the analyst has to decide which of the six factors are the most important in the view of investors. Typically, growth drives the public market. The really high multiples that we see are created because the investors are paying for anticipated growth. Usually, the higher the growth, the higher the multiples. Our analysts will perform a regression analysis using the guideline company data to see what the investor seems to be putting the most weight on. For example, is the multiple more highly correlated with a return on equity, return on invested capital, or profitability? The analyst must then use his or her subjective judgment to determine the appropriate multiple for the subject company compared to that one guideline company. The same process is then performed for each guideline company.

One quick word of advice is to be careful with any regression analysis that has a limited number of guideline companies. The statistics can become misleading if used as anything more than it is meant to be—a guide. The valuation analyst must also perform the proper amount of research and analysis to confirm that the correct multiples are being used for the right reasons.

The result of the analysis is that the analyst has considered the differences between each public company, individually, compared to the subject and has chosen what is believed to be an appropriate multiple.

Based on the analysis that was performed, the analyst concluded a range of possible multiples for the subject company from 0.15–0.25, fitting well within the range of the mean and median guideline company multiples. In this case, a multiple of 0.2 was chosen. If you notice, this multiple is better than some of the guideline companies and worse than others. The narrative that would appear in the working papers, and eventually the report, would be similar to the example that you saw in exhibit 9.5.

There is no doubt that the valuation process requires the valuation analyst to exercise subjective judgment. We cannot merely apply a mathematical formula to do this. If we could, none of our clients would pay us the kind of fees that we get for this stuff. Although the valuation analyst cannot *quantify* every aspect of the assignment, he or she can at least attempt to *qualify* the judgment calls. This will allow the analyst to explain the thought process that went into selecting multiples to the reader of the report. Hopefully, there is a thought process behind it! Is it perfect? Of course not. That is why we try to use several different pricing multiples in our analysis, as well as why we consider other approaches to valuation as well. Until we have a chance to reconcile all the approaches and methods and then perform additional sanity checks to test the reasonableness of the result, we cannot possibly know if we are in the ballpark. Before we get too far into additional ways to adjust multiples, I want to provide you with some number crunching so that you can catch up on how to do the stuff we have discussed.

A simple example illustrating the application of the market approach using guideline company information is presented in exhibit 9.8. One of the sample reports included in the downloadable materials that accompany this book contains a full-blown market approach from a real report. Be patient! As you review the example in exhibit 9.8, there are several points to keep in mind. First, the selection of the guideline companies would have come from a careful review of many of the items discussed previously that makes these companies similar to the valuation subject. Another consideration is that the median multiple, rather than the arithmetic average, is calculated. This is because the median is often a better statistical measurement because it eliminates highs and lows that may skew the average.

### EXHIBIT 9.8 Example of the Guideline Public Company Method

#### Guideline company information

Guideline Companies	Price/Earnings	MVIC/Sales	Price/ Book Value
ABC Toy Company, Inc.	8.70	55.30%	2.85
XYZ Funtime, Inc.	9.30	47.43%	4.65
Toys, Inc.	8.50	35.25%	3.65
Games Corp.	6.60	54.80%	3.90
Fun Corp.	7.80	48.20%	4.25
<b>Median multiple</b>	<b>8.50</b>	<b>48.20%</b>	<b>3.90</b>
<b>Selected multiple</b>	<b>6.20</b>	<b>44.00%</b>	<b>2.50</b>

(continued)

**EXHIBIT 9.8 Example of the Guideline Public Company Method** *(continued)*

The selected multiples are now applied against the figures of the valuation subject.

Guideline Companies	Price/Earnings	MVIC/Sales	Price/ Book Value
After-tax earnings	\$ 959,446		
Gross sales		\$13,983,541	
Book value (without Non-operating items)			\$2,415,822
Multiple	x 6.20	x 44.00%	x 2.50
Operating entity value	\$5,948,565	\$ 6,152,758	\$6,039,555
Net non-operating assets	+ 250,000	+ 250,000	+ 250,000
Total entity value	\$6,198,565	\$ 6,402,758	\$6,289,555
Rounded	\$6,200,000	\$ 6,400,000	\$6,300,000

This example intentionally omits any calculation of valuation discounts or premiums, which are discussed in chapters 14 and 15.

According to the old conventional wisdom, the results, as presented in exhibit 9.8, represent the value of the company on a marketable, minority basis because the pricing multiples are derived from the public stock market. This also assumes that discretionary normalization adjustments (also considered to be *control* adjustments) were not made for the valuation subject. The old thought process was that stock market activity consists primarily of minority shareholders who trade in a free and active market. Therefore, this was considered to derive a minority basis value. However, today's thinking has changed. The value indication only stays on a minority basis if the valuation analyst does not make *control* normalization adjustments. The stock market is considered to be neutral with regard to control versus minority thinking. This is the same discussion that we will have when you get to the chapter on cost of capital (chapter 13). According to Duff & Phelps, discount rates are neutral with respect to the issue of control or minority. Because discount rates are related to market multiples (which I will explain further shortly) and because they both come from the same market, how can market multiples be considered to be minority if discount rates are not? They can't. Today's thinking is being consistently taught by all the leading valuation organizations. The thinking is that control versus minority is determined based on the normalization adjustments made to the benefit stream used in the application of the multiples. Although there are many practitioners who continue to practice the old way, they are not keeping up with modern thinking. Now, with that said, there are, unfortunately, many courts that are still following the old conventional wisdom because they have not been educated about the new thought process. This leads to confusion and bad results in the case law.

Furthermore, public company shareholders have the ability to call their stockbrokers to sell these shares, and they will generally have their money within three business days. This makes these shares marketable. Regardless of which type of interest (control or minority) is being valued, a discount for lack of marketability would probably be required because a closely held stock is not as marketable as its publicly traded counterparts. This will be discussed in chapter 15.

The selection of the multiple is a subjective process based on the analysis that the valuation analyst performs throughout the valuation assignment. This process considers the risk elements as well as the differences between the guideline companies and the valuation subject with respect to growth expectations, size, financial

performance, and everything else that makes these companies different. Unfortunately, if you bought this book looking for the answer to the mysterious multiple questions, you're out of luck. Seriously, the differential in the multiples has to consider the differences between the companies under analysis, and the valuation analyst has to test his or her conclusion to see if it makes sense.

There are no magic tables that the valuation analyst can turn to for help. Remember, our job is to opine on value, not to develop multiples. If the value conclusion makes sense, the multiples are probably reasonable.

You will also notice that the multiplication of the base amount by the multiple results in the value of the operating entity. This amount includes all the company's operating assets and liabilities (assuming that the valuation analyst is valuing the equity). The non-operating assets and liabilities are added to or subtracted from the value of the operating entity to reach the final entity value. However, this assumes that the non-operating income and expenses were adjusted in the first place. There may be the need to adjust this figure further for items that are not necessarily non-operating, however, they would not be considered as part of the operations of the business. A sample section of a report that addresses this very point is provided in exhibit 9.9.

One item should be noted in the illustration in exhibit 9.9. This valuation was done for a shareholder litigation, and the standard of value was *fair value*. The only manner in which the minority shareholder could have received compensation for the assets of ABC II was to treat it in this fashion. It was his sacrifice of dividends during the construction period that helped build this facility.

### EXHIBIT 9.9 Sample Section of Report Addressing Non-Operating and Other Items

Therefore, in our opinion, the fair value of the Smith Entities as an operating concern is estimated to be \$195.0 million. In addition, the value of the segregated non-operating assets of the company must be added to derive the equity value of the Company. Using book value as a surrogate for market value of the intercompany and shareholder/partner loans, the value of the non-operating assets is approximately \$15.362 million.

As stated previously in this report, the assets and liabilities of ABC II, a related real estate entity, are being treated separate and apart from the operating entity. At the valuation date, the Smith Entities were in the process of constructing a state-of-the-art distribution facility within this entity. It was still under construction as of the valuation date, so all future benefits that would be realized by the Smith Entities (and their owners) would not occur until after the valuation. These future benefits have not been factored into the expected cash flows of the company.

Because ABC II has been considered to be an entity that is not part of the operating business at the valuation date, the value of this entity should be included at this point based on its appraised value. According to the real estate appraisal performed by We Are Real Estate Appraisers, Inc., the value of this property at November 29, 2016 was

\$23.93 million. In addition, according to correspondence from Barry Gold, Esq., ABC II had already spent \$1,852,590 in the year 2016 toward the installation of the new material handling unit.

The value of the assets and liabilities of ABC II are as follows:

Cash	\$ 22,488
Intercompany loans	(8,893,538)
Partner receivables and loans	3,976,197
Equipment	1,852,590
Real estate	23,930,000
Fair value	<u>\$20,887,737</u>

(continued)

### EXHIBIT 9.9 Sample Section of Report Addressing Non-Operating and Other Items *(continued)*

After reflecting the assets and liabilities of ABC II, the net addition to the operating value of the Smith Entities is \$20.887 million, rounded.

Therefore, the fair value of the Smith Entities is derived as follows:

Fair value of operations	\$195,000,000
Fair value of non-operating assets	15,362,000
Fair value of ABC II (net)	<u>20,887,000</u>
Fair value of entity	<u>\$231,250,000</u>

Now that we have the basic concept of the guideline company method for equity under control (ha ha!), let's go back to our discussion about valuing the invested capital of the valuation subject. As indicated previously, there are several different steps that the valuation analyst must take to accomplish this. Let's use one of the guideline companies from exhibit 9.8 for our example. ABC Toy Company, Inc. (ABC) had a price-to-earnings ratio of 8.70 on the valuation date. If the price of ABC's stock was \$47.50 on this date, this means that ABC's earnings would have to have been \$5.46 per share. The price-to-earnings ratio would be calculated as follows:

$$\begin{aligned} \text{Price/earnings} &= \text{Multiple} \\ 47.50/\$5.46 &= 8.70 \end{aligned}$$

To convert the price-to-earnings ratio from an equity multiple to an invested capital multiple, we need to adjust both the price and the earnings. First, the price. To determine the market value of the company's equity, we would multiply the price per share by the number of outstanding shares. The outstanding shares can be obtained from the annual report. Let's assume that there were one million shares outstanding. This would make the market value of ABC's equity equal to \$47.5 million (1,000,000 shares × \$47.50 per share).

ABC's balance sheet includes interest-bearing debt in the amount of \$5 million. Assume that this debt is at a market rate of interest (this way, the market value of the debt is equal to the face amount). Therefore, the market value of the company's invested capital is \$52.5 million, or \$52.50 per share. This becomes the new price in the price-to-earnings ratio. The price is now referred to as MVIC.

Now, we need to adjust the earnings. The earnings previously calculated for ABC were \$5.46 per share. This means that the net income, after taxes, was \$5.46 million (\$5.46 × 1,000,000 shares). Upon review of the company's income statement, you find that the interest expense was \$500,000 for the year. The adjustment to the earnings in the price-to-earnings ratio would be as follows:

Net income after taxes		\$5,460,000
Add: Interest expense (net of taxes)		
Interest expense	\$500,000	
Effective tax rate	× 40%	
Tax benefit	\$200,000	\$ 300,000
Net operating profit after tax		<u>\$5,760,000</u>



ABC's earnings have now been adjusted to an invested capital basis of \$5.76 million, or \$5.76 per share. The new MVIC to net operating profit after tax (NOPAT) ratio would be

$$\$52.50/\$5.76 = 9.11$$

This same calculation would be performed for each of the guideline companies. The valuation analyst then selects the appropriate multiple to apply to the valuation subject's NOPAT. In this situation, our valuation subject had an after-tax net income of \$959,446. Its interest expense, net of taxes, would be added back to get to the NOPAT. It would be this figure against which a multiple would be applied. Let's recalculate the price-to-earnings portion of exhibit 9.8 and do the new calculations. For simplicity, the data in exhibit 9.10 already has the new MVIC to NOPAT multiples for the guideline companies.

### EXHIBIT 9.10 Guideline Public Company Method Using Invested Capital

#### Guideline company information

Guideline Companies	MVIC/NOPAT
ABC Toy Company, Inc.	9.11
XYZ Funtime, Inc.	10.15
Toys, Inc.	9.45
Games Corp.	7.30
Fun Corp.	8.90
<b>Median multiple</b>	<b>9.45</b>
<b>Selected multiple</b>	<b>6.90</b>

The selected multiples are now applied against the figures of the valuation subject.

	MVIC/NOPAT
After-tax earnings	\$ 959,446
Add: Interest (net of taxes)*	90,000
NOPAT	\$1,049,446
Multiple	× 6.90
Value of operating invested capital	\$7,241,177
Net non-operating assets	+ 250,000
Total value of invested capital	\$7,491,177
Rounded	\$7,500,000

\* Interest expense for the year was \$150,000. Effective tax rate was 40 percent.

We have once again intentionally omitted valuation discounts or premiums from this example.

The use of the invested capital pricing multiple is illustrated in exhibit 9.10. If you look at the multiples for the guideline companies, you will see that they were higher on an invested capital basis. This makes sense because the result is the value of the companies' invested capital. The result is that the multiple used for the valuation subject was also higher (6.90 instead of 6.20). A similar type of analysis of the qualitative differences between the guideline companies and the valuation subject would have been performed to derive the selected multiple.

There should always be a correlation between the multiples that you select, regardless of what earnings base you apply them to. In the example in exhibit 9.10, the valuation analyst can test the validity of the selection process by subtracting the interest-bearing debt from the value of the invested capital of the valuation subject. If the valuation subject's balance sheet includes debt in the amount of \$1.3 million, the value of the equity would be calculated as follows:

Value of invested capital	\$7,500,000
Less: Interest-bearing debt	1,300,000
Value of equity	<u>\$6,200,000</u>

The value of the equity is similar to the values illustrated in exhibit 9.8. Rarely will they be exactly the same.

## Making Quantitative Adjustments to Multiples

Most of the adjustments made to the pricing multiples are qualitative in nature. However, many valuation analysts have been attempting to quantify the adjustments in order to remove some of the subjectivity from this process. This is probably as good a time as any to present some of the techniques to you.

There are several different models that can be used to help quantify market multiple adjustments. These models involve adjusting the multiples based upon an analysis of the correlation of changes in a financial performance metric and changes in the market multiples, as well as for differences in size or for differences in the outlook for growth. Observations from a correlation relationship can provide direct methods of quantifying market multiple adjustments. This type of adjustment is especially useful for adjusting book and revenue multiples.

On a more theoretical basis, the adjustments for size and growth can have a considerable impact on value. The idea behind this is to adjust each of the guideline company's pricing multiples for differences between size-related risks and growth rates implicit in the guideline company multiples and the size-related risk and growth rate of the subject company. Before we go any farther, let me provide you with a basic fact: A capitalization rate is the inverse of a pricing multiple. We will talk about capitalization rates in another chapter, but I need to introduce the concept here. The formula to derive a market multiple is as follows:

$$\text{Market Multiple} = \frac{\text{Market Price}}{\text{Operating Performance}} = \frac{1}{(k - g)}$$

Where

k is the risk and benefit adjusted required rate of return, and  
g is the present value weighted perpetual growth rate.

Basically, a capitalization rate is a discount rate minus growth ( $k - g$ ). In simple terms, if the market multiple is equal to 8, the capitalization rate would equal 1 divided by 8, or 12.5 percent. With that brief explanation, the following should make a little more sense to you. The size and growth adjustments are made only to

income-statement-based multiples because they are based on the following relationship between capitalization rates and pricing multiples:

$$\text{value} = \frac{\text{benefit}}{k_B - g_B} \text{ which implies } \frac{\text{value}}{\text{benefit}} = \frac{1}{k_B - g_B} \text{ or } \frac{\text{benefit}}{\text{value}} = k_B - g_B$$

Where

$k_B$  is the discount rate related to that particular benefit stream, and  
 $g_B$  is the expected perpetual growth rate related to the benefit stream.

It should be noted that value/benefit is simply the pricing multiple related to the benefit stream or operating metric being used to apply a multiple to. The size and growth adjustments represent ways to quantify the adjustments that valuation analysts have made qualitatively for years. Of course, these adjustments are only appropriate when the analyst believes that there are significant differences between the various guideline companies and the subject company.

Let's first discuss adjustments based on correlation between performance and the pricing multiple. One example of this would be the correlation between return on equity and the price-to-book value multiple. In this instance, the analyst may want to explore the possibility that a close correlation exists between the guideline companies' returns on equity and their price-to-book value of equity (where price equals market capitalization). Theoretically, there should be a positive correlation because a higher return on equity provides equity investors with higher current returns and higher reinvestment for future capital appreciation. Obviously, this relationship assumes that measures of return on equity are close to normalized expected future return on equity performance.

Correlation between profit margin and price to sales can also be explored to see if the possibility that a close correlation exists between the guideline companies' profit margins (that is, returns on sales) and their corresponding price-to-sales multiples. Theoretically, there should be a positive correlation because higher profit margins provide equity investors with higher current returns and higher reinvestment for future capital appreciation. Obviously, this relationship assumes that the profit margins are close to normalized expected future profitability performance.

Theoretically, the "price" in the price-to-sales ratio should be an invested capital price (total capitalization plus interest-bearing debt), and return on sales should be an invested capital return (EBIT or net operating profit after tax). In practice, many analysts also consider this correlation on an equity basis, with the *price* in the price-to-sales ratio defined as total capitalization and an equity return (pretax income or net income).

Other correlations between market multiples and other operating performance metrics may also be possible. If close correlations are observed, then the valuation analyst may want to use these relationships as a method of quantifying the corresponding market multiple.

## Adjusting the Market Multiple for Size

The small size of a company is frequently associated with a number of risk factors, including the following:

- Lack of management depth
- Lack of product diversification
- Lack of geographic or global diversification
- Reduced access to capital to fund growth
- Limited research and development and marketing resources

The principal study that examines the effect of size on equity returns is the *Duff & Phelps Risk Premium Report*, which is included in the *Valuation Handbook: U.S. Guide to Cost of Capital* (which I will discuss in chapter 13). The discount rate is the place for the adjustment to be made because we have data quantifying the size effect on returns. There have also been studies demonstrating that pricing multiples vary inversely with

firm size; however, the data on firm size and returns is readily available and well accepted. The basic equation is as follows:

$$\frac{\text{benefit}}{\text{value}} = k_{GPC} + [k_{\text{size}_{\text{subject}}} - k_{\text{size}_{GPC}}] - g_{GPC}$$

In this instance, the  $k_{\text{size}}$  is the appropriate rate of return premium due to size (also referred to as the *size premium*). Even though we have not discussed this yet, it is important to note that this size premium is based on those measures that are used for the build-up method and not the capital asset pricing model (to be covered in chapter 13—I figure by the time you are ready to use this adjustment, you will have already read the balance of the book so that this will make sense to you), that is, they should not be adjusted for beta (this process can be used with the premiums adjusted for beta, but it is much more complicated and will not be discussed here). Furthermore, in order to apply this adjustment, we do not need to know the discount or growth rates of the guideline companies; we just need to know the size premium differential between the two.

Because the base on which the size premium is calculated is the same irrespective of the size of the company, the size premium differential is equal to the total return differential (where total return is only a function of size). For example, the size differential between a company in the 4th and 10th deciles is equal to the difference in the arithmetic mean returns of 20.97 percent and 13.91 percent, or 7.06 percent. This might be an appropriate amount to substitute for  $[k_{\text{size}_{\text{subject}}} - k_{\text{size}_{GPC}}]$  in the preceding equation. This assumes that the subject company is about the same size as the 10th decile companies in the public market.

The size premiums, as presented by Duff & Phelps, correspond to cash flows to equity holders because they are measured by observing total returns in the stock market. Relating this to the preceding equation, the *benefit* would have to be the cash flow to equity holders (assuming that a very close proxy is net income), and the *value* is the market value of equity. Assume the original price-to-earnings multiple for a guideline company is 17.0, the guideline company is in the 4th decile, and the subject company would be in the 10th decile.<sup>4</sup> The steps in adjusting the guideline company multiple for the size of the subject would be as follows:

1. Compute the benefit/value ratio (which is just the reciprocal of the pricing multiple):  $1/17.0 = 5.88\%$ .
2. Add the size differential between the guideline company and the subject company (as computed in step 1):  $5.88\% + 7.06\% = 12.94\%$ . This is the adjusted benefit/value ratio.
3. Take the reciprocal to get the new pricing multiple adjusted for size:  $1/0.1294 = 7.7$ , which would now become the recalculated guideline multiple for size. This multiple might then be further adjusted for all the risk factors that I discussed before.

In the most general form, the discount rate and size premiums (as well as the growth rate) in the preceding equation are functions of both the benefit and the value. If benefit and value are other than net income and market value of equity, respectively, the process becomes a bit more complicated. The more generalized approach is discussed by Mattson, Shannon, and Drysdale in the September/October 2001 *Valuation Strategies* article, "Adjusting Guideline Multiples for Size." The generalized equation they use is as follows:

$$\text{Adjusted Multiple} = \frac{1}{\left(\frac{1}{\text{Multiple}}\right) + [\alpha \Sigma \theta]}$$

<sup>4</sup> Although I am discussing this in terms of deciles, the Duff & Phelps publication provides this information in two different formats: 10 deciles and 25 percentiles. Either can be used by the valuation analyst.

It can also be expressed as

$$\frac{\text{benefit}}{\text{value}} = r_{GPC} + \alpha \Sigma [k_{\text{sizeSubject}} - k_{\text{sizeGPC}}] - g_{GPC}$$

Where  $\theta$  is the size premium differential,  $\alpha$  is an adjustment made to  $\theta$  when using a multiple other than one based on net income or net operating profit after tax, and  $\Sigma$  is an adjustment made to  $\theta$  when there is debt in the capital structure and a pricing multiple based on MVIC is being used. Get the article to find out more about this exciting stuff.

## Adjusting the Market Multiple for Growth

We use the same basic equation to adjust for growth; however, this is not as easy as the size adjustment. There are issues with the calculation, the valuation analyst needs to understand what he or she is doing before blindly making this adjustment and saying “Trugman said so.” The  $g_{GPC}$  for each of the guideline companies must be replaced with the  $g_b$  for the subject company. This is done in the following manner:

$$\frac{\text{benefit}}{\text{value}} = k_{GPC} - g_{GPC} + [g_{GPC} - g_{\text{Subject}}]$$

Taking the reciprocal of the benefit/value ratio results in the new pricing multiple. To implement this adjustment, it is not necessary to know the discount rate of the guideline company or the subject; only the perpetual growth rate differential between the subject and guideline company needs to be known. This is problem number one. We rarely know the perpetual growth rate. I will discuss this again in subsequent sections.

Let's discuss another example. Assume the original pricing multiple is 19.0, the perpetual growth of the guideline company is 7.0 percent, and that of the subject company is 5.0 percent. The steps in the calculation are as follows:

1. Compute the benefit/value ratio (which is just the reciprocal of the pricing multiple):  $1/19.0 = 5.26\%$ .
2. Add the growth differential between the guideline company and the subject:  $5.26\% + (7.00\% - 5.00\%) = 7.26\%$ . This is the adjusted benefit/value ratio.
3. Take the reciprocal to get the new pricing multiple adjusted for growth:  $1/0.0726 = 13.8$ , which is the guideline company pricing multiple to be applied to the subject company after adjusting it again for all the other risk factors.

## How to Calculate the Present Value Weighted Perpetual Growth Rate

I really hate to do this, but I need to cover this stuff. If it hasn't been confusing enough already, it's probably about to get worse. If I did not think this was important, I would not have included it in this book.

One of the statistics generally available for public companies is growth. This is the expected growth, as opposed to the actual historical growth, in earnings per share (EPS) over the next five (or so) years. Frequently, it is available for less than five years. This information can be obtained from individual equity analysts or some of the consensus reporting services, such as Zacks Investment Research or Yahoo! Finance.

Three things should be noted about estimates obtained from most consensus reporting services. The first is that these growth figures usually represent annual growth in EPS for the next three to five years; these are not long-term growth estimates. (This is the second time I've mentioned this; it must be important.) In some cases, revenue growth rates may be provided. Second, the analysts from whom these estimates are obtained are from the sell side, meaning that they tend to be quite optimistic about the prospects for these companies

because they work for firms that want to sell the stock. Also, some of these estimates may be a “consensus” of only one analyst. Smaller companies tend to be followed by fewer analysts. Great statistical sample, huh?

The last item of note is that not all publicly traded companies will be covered by these services. In such cases, and in cases in which there is only one analyst following the stock, it might be better to use industry growth estimates if they are available or not use this adjustment. Of course, the implicit assumption here is that the guideline company’s growth is consistent with the industry’s growth. This may not be the case.

In using these growth estimates, the valuation analyst assumes that the average annual growth in net income, EBIT, EBITDA, and the like for the next three to five years is the same as that for EPS. This may not be an unreasonable assumption; however, there may be certain cases in which it is not appropriate. Because the typical analysts’ growth estimate applies only for the next three to five years, an estimate must also be made for the subsequent period (years four, five, six, and beyond), so that a blended average annual growth rate for the period from today into perpetuity can be obtained (again, the growth rate in the preceding equations— $g$ —is the rate into perpetuity, and three to five years is only a small part of that). The blended growth rate— $g$ —that is included in each of the guideline company’s pricing ratios must satisfy the following:

$$\text{Value} = \frac{CF_1}{k-g} = \frac{CF_1}{(1+k)^1} + \frac{CF_1(1+g_1)}{(1+k)^2} + \dots + \frac{CF_1(1+g_1)^4}{(1+k)^5} + \frac{CF_1(1+g_1)^4(1+g_2)}{(1+k)^5(k-g_2)}$$

Where  $g_1$  is the annual growth rate for the first five years and  $g_2$  is the average annual growth rate for each year thereafter, into perpetuity.

This equation assumes two growth rates: one for the next five years and another for everything beyond five years. That is, it is the single growth rate that gives the same value as multiple growth rates. Consequently, not only are the growth rates important, but so is the discount rate. For example, assume a discount rate of 20 percent, a short-term growth rate of 15 percent (four years) and a long-term growth rate (beyond five years) of 5 percent. The steps in the calculation are as follows:

1. Compute the present value of \$1 per year growing at 15 percent for the four years (we assume this first \$1 has already been grown by 15 percent) and 5 percent into perpetuity:

Year	Growth Rate	Cash Flows	Discount Factor @ 20%	Present Value
1	15%	1.00	0.8333	0.83
2	15%	1.15	0.6944	0.80
3	15%	1.32	0.5787	0.77
4	15%	1.52	0.4823	0.73
5	15%	1.75	0.4019	0.70
Perpetuity	5%	1.84	0.4019	4.92
<b>Total Present Value</b>				<b>8.75</b>

2. Now solve the following equation for  $g$ :

$$8.75 = \frac{1}{0.20 - g} \text{ which implies } g = 0.20 - \frac{1}{8.75} = 8.6\%$$

3. The following tables show blended growth rates given short-term growth and long-term growth at two different discount rates.

	Using a 20% Discount Rate Long-Term Growth Rate			
Analysts' Growth	3%	5%	7%	10%
0%	1.57%	2.77%	4.12%	6.51%
3%	3.00%	4.15%	5.43%	7.68%
5%	3.89%	5.00%	6.24%	8.40%
10%	5.90%	6.92%	8.05%	10.00%
15%	7.64%	8.58%	9.60%	11.35%
20%	9.15%	10.00%	10.93%	12.50%
25%	10.45%	11.23%	12.07%	13.47%
30%	11.58%	12.28%	13.04%	14.30%

	Using a 25% Discount Rate Long-Term Growth Rate			
Analysts' Growth	3%	5%	7%	10%
0%	1.32%	2.77%	4.12%	5.36%
3%	3.00%	3.97%	5.04%	6.90%
5%	4.05%	5.00%	6.05%	7.85%
10%	6.46%	7.35%	8.33%	10.00%
15%	8.59%	9.42%	10.33%	11.86%
20%	10.45%	11.23%	12.07%	13.47%
25%	12.09%	12.80%	13.58%	14.86%
30%	13.53%	14.19%	14.90%	16.07%

An alternative to this can be employed if two pieces of information are known about the guideline companies. The first is the pricing multiple and the second is the related discount rate. Using the basic relationship between value and the capitalization rate, the implied growth for the guideline company is as follows:

$$g = k - \frac{\text{benefit}}{\text{value}}$$

For example, if we know that the price-to-earnings multiple for a guideline company is 25.0, and the cost of equity ( $k$ ) is equal to 14.6 percent, then the implied perpetual growth rate is as follows:

$$g = 14.6\% - \frac{1}{25.0} = 10.6\% - 5.0\% = 5.6\%$$

This is a relatively simple calculation for price to earnings; however, it becomes much more complex when trying to determine growth for other income statement line items, such as EBIT, EBITDA, or revenues, when the discount rates may not be as easy to calculate. In chapter 13, I will discuss why the discount rate for EBIT, EBITDA, or revenues is different from the discount rate for net income. We may be able to sometimes assume that net income and net cash flow are close, but that too becomes a problem in this calculation. Who said this stuff was easy?

## Advantages of Using the Guideline Public Company Method

Different approaches and methods have distinct advantages and disadvantages in the valuation process. Not all methods will be appropriate every time, but it is up to the valuation analyst to determine the best methods to be used based on the facts and circumstances of each situation. The use of information from the public stock market is considered by many valuation analysts to be an objective source of data. The stock prices of public companies are set by many transactions involving many buyers and sellers. Therefore, the result is considered to be objective. However, there are some skeptics who believe that factors such as institutional computer trading remove a considerable amount of objectivity. Others believe that the public marketplace is efficient. For those of us who remember the “efficient market hypothesis” from our finance courses, one has to wonder if the creators of this hypothesis could have ever dreamed that computers would be trading stocks on Wall Street (there goes that theory!).

Many studies of the public marketplace have been performed, analyzing the activity that has taken place in the market. These studies assist the valuation analyst in the determination of risk and value. Control premium studies, restricted stock studies, initial public offering studies, and a group of proprietary studies have been performed and published as a basis of empirical data that can be used by a valuation analyst. These items are discussed in chapters 14 and 15.

Valuations of larger closely held companies can be performed using these methods because larger companies frequently take on many of the characteristics of their publicly traded counterparts. Therefore, comparing larger, closely held companies with publicly traded guideline companies is an effective method of valuation (remember: fair market value comes from the market).

## Disadvantages of Using the Guideline Public Company Method

Despite the fact that the public market affords certain advantages to a valuation analyst, many valuation analysts feel that there is a lack of comparability between publicly traded guideline companies and a closely held valuation subject. Although the concept of using publicly traded guideline companies as surrogates is intended to be based on comparability, no two companies are ever so closely alike that they make perfect comparables. Sometimes, particularly if the valuation subject is a small or midsize company, there are so many differences between the valuation subject and the publicly traded companies (for example, size, depth of management, capital structure, ability to borrow, product diversification, and geographical diversification) that a meaningful comparison cannot be made without making extraordinary leaps of faith.



In addition, the public stock market has an emotional aspect to it. This is evidenced by the fact that announcements made by companies, the government, or both create peaks and valleys in the stock market.

Another disadvantage of using publicly traded methods is that it is frequently difficult to interpret and understand the stock market data that is disseminated. Despite the amount of information available about public companies, there is often a considerable amount of information that is not available. This makes it difficult to truly compare the companies. The information that can be obtained about a public company appears in annual reports,

10-Ks, other SEC filings, and proxy statements, as well as information that is published in financial periodicals, trade publications, and the like. Because the valuation analyst is rarely given the opportunity to speak with the long-range planning group, management, or anyone else in the public company, the only information that can be obtained is what the public company wants the valuation analyst (and the public) to know.

For those valuation analysts who value entire companies, there is also the difficulty of translating the minority, marketable value that is derived using these methods into a control, nonmarketable value (you know, small portions of companies with almost instant liquidity versus full companies with no liquidity). Ten shares of IBM stock have very different characteristics from 100 percent of the stock of closely held XYZ Computer, Inc.

### So Let's Be Honest...

The guideline company method is as good as the data used to perform it. There are many analysts who are willing to live and die by the market, especially for a fair market value assignment. I have frequently been told that the income approach (which we will get to in a couple of chapters) is much more subjective because it involves a forecast and the selection of discount rates. Well, no offense, but the market approach is as subjective as, and possibly more so, than the income approach. If you do not feel comfortable with the fact that you have to analyze the valuation subject and then forecast its future performance, imagine the following:

1. Choose guideline companies that are a good enough fit to the subject company.
2. Understand which multiples are the most appropriate.
3. Be able to adjust the multiples for the public companies to make them applicable to the subject company.
4. Determine what income stream is the most representative for the subject company.

Give me a good forecast any day of the week! Although I agree that fair market value comes from the market, there are times when the market approach may be very difficult to apply. Sometimes, the market approach is not the best approach to use. This can especially be the case if you are trying to measure fair value based on what an owner is really giving up. In chapter 24, I have included a critique that addresses the market and income approaches as used in a litigation setting. It has many good references that will emphasize many of the issues that I have discussed in this chapter. Don't read it now because the chapter about the income approach has yet to be covered. Be patient, and the time will come.

### Let's Demo Pitchbook

PitchBook is a really neat product that I have reviewed, and I wanted to share it with the readers of this book. It is brought to us by, who else, Business Valuation Resources ([www.bvresources.com](http://www.bvresources.com)). Since the last edition of this book, there is now a plugin that allows the user to create Excel files and directly link cells within it to the PitchBook data.

Let me start off by giving you the only negative that I found about this product. My only objection to this database, and it is minor in the scheme of things, is that Pitchbook will not automatically populate my valuation model. This requires us to manually input the data into our own template for us to use it in the manner in which our firm operates.

Once you log in to the database, you get a screen that looks like figure 9.10.

Figure 9.10

PitchBook Search companies, firms, or people...

SEARCHING FOR GUIDELINE PUBLIC COMPARABLES

SEARCH BY: Universe: Public Listed X Revenue: Min: 10K X Max: 10000K SIC Code: Total Assets X Revenue X EBITDA X

Key Fields (0)  
 SIC Codes (1)  
 Industry  
 Location  
 Financials (0)  
 Multiples & Ratios  
 REQUEST A FIELD

Name/Symbols (1)

SIC Code: Retail Trade X

Revenue (TTM)  
 Min: 10K Max: 10000K

Total Assets (TTM)  
 Min: Max:

EBITDA (TTM)  
 Min: Max:

Include inactive companies (no longer actively traded)

SEARCH

(Source: PitchBook. Used with permission.)

The first screen allows you to set up your search criteria either by the name of the company or with various search criteria that I discussed in this chapter. So let's do a search. In this example, we will be valuing a small restaurant chain. So, we enter a check in *Retail Trade* under the SIC industries section, and we check the box for SIC 580 from the drop-down menu that appears after checking the retail box. We also enter a size restriction based on revenues so that we do not end up with very large companies in our search results. We can always redo our search and change the criteria if we find that we were too restrictive or, possibly, not restrictive enough. See figure 9.11.

Figure 9.11

PitchBook Search companies, firms, or people...

SEARCHING FOR GUIDELINE PUBLIC COMPARABLES

SEARCH BY: Universe: Public Listed X Revenue: Min: 10K X Max: 10000K SIC Code: Total Assets X Revenue X EBITDA X

Key Fields (0)  
 SIC Codes (1)  
 Industry  
 Location  
 Financials (0)  
 Multiples & Ratios  
 REQUEST A FIELD

SIC Codes (1)

- 01 Agriculture, Forestry & Fishing
- 10 Mining
- 15 Construction
- 20 Manufacturing
- 40 Transportation & Public Utilities
- 50 Wholesale Trade
- 52 Retail Trade
  - 521 Sporting, Recreation, Hardware & Garden Supply
  - 522 General Merchandise Stores
  - 523 Food Stores
  - 524 Auto Dealers & Service Stations
  - 525 Apparel & Accessory Stores
  - 526 Home Furnishings, Furnishings & Equipment Stores
  - 527 Restaurants & Diners
  - 528 Miscellaneous Retail
- 60 Finance, Insurance & Real Estate
- 70 Services
- 80 Public Administration

SEARCH

(Source: PitchBook. Used with permission.)

Figures 9.12–9.18 illustrate the results of the search. It is much easier to view after you download this stuff into a spreadsheet because there are so many columns of data. That, however, is a really good thing.

**Figure 9.12 Search Results**

Company Name	Total Debt (TTM)	Market Cap - Diluted	Market Cap - Diluted (TTM)	Cash and Cash Equiva...	Price/Book (TTM)	Price/Book (FY)	Cash and Cash Equiva...	Stock Price	Price/Book	Excl. Intang...	Dividends per Share...	Div. Yield
1 AF Ocean Investment Management (AF...)				352	352	900.6	918.4	61	1.50	2,211.5		
2 AI Document Services (AIDC)	538			4					0.15			
3 Art Dimensions (RIBS)	1,874			111	111	10.4	8.2	1,107	0.03	10.8		
4 Baristas Coffee Company (BCCI)	818			2		5.3	4.2	0	0.02	6.0		
5 Blue Note (CDG)	251			54	50			54	2.80			
6 Cardiff International (CDIF)	369			12		-8.3			0.17	-8.3		
7 China Energy Development (00228)	6,739			26,355	30,213	0.7	0.7	26,355	0.01	4.9		
8 Cooks Global Foods (CGF)	1,227			694		4.9	4.9	694	0.07	-191.5		
9 Dowell Property Holdings (00668)	52,526			27,505	28,131	0.7	0.7	27,505	0.05	0.7		
10 Eat At Joes (SPYR)				5,014	5,014	6.4	4.0	6,904	0.46	6.4		
11 Giggles N' Hugs (GIGL)	1,088			113	113	-2.1	-4.4	334	0.01	-2.1		
12 Hampton Vickers and Waterman (HVCW)	1,361			80		-0.1			0.01	-0.1		
13 Libba Leisure (GRDG)	8			40	40	-36.9	-56.9	12	0.15	-36.9		
14 Loton (LIVX)	1,738	30,222.2x	14,206.8x	77	77	229.9	1,983.7	37	6.00	229.9		
15 Mr Hamburger (MRH)						15.0	13.7	30	0.33	15.0		
16 Noble Romans (NRDM)	4,478	3.3x	3.4x	626	626	0.9	1.4	194	0.48	0.9		
17 PF Hospitality Group (EKDL)	378			8	8	-4.8	-5.7	273	0.19	-4.6		
18 Premium Food Restaurants (PFR)						-1.2	-1.3	57	0.15	-1.2		
19 SIF Hoteluri (CAGR)	2,506			648	648	0.8	0.7	815	0.58	0.8		
20 Sundance Strategies (SUND)	4,575	178.4x	178.3x	6	6	5.5	5.8	25	3.15	5.5		
21 Sweet Spot Games (GRAS)	449			69		-0.1	-0.1	54	0.01	-0.1		
22 The Grilled Cheese Truck (GRLD)	1,826			0		-5.8			0.32	-5.7		

(Source: PitchBook. Used with permission.)

**Figure 9.13 Search Results (continued)**

Company Name	Beta - 3 Year	Beta - 5 Year	Market Cap (TSO)...	Market Cap (TSO)... (TTM)	Market Cap (TSO)... (Diluted)	Market Cap (TSO)...	EV/EBITDA (FY)	EBITDA (FY)	EBITDA (TTM)	EBITDA % Growth (FY)	Return Growth
1 AF Ocean Investment Management (AF...)	-0.03	-0.15			1,233.1x	426,365	447,012		(312)	(173)	
2 AI Document Services (AIDC)					206.3x	30,343	13,055			(74)	
3 Art Dimensions (RIBS)	-1.69	-1.74			0.3x	1,870	2,158		(2,580)	(2,248)	
4 Baristas Coffee Company (BCCI)	1.08	2.78			1.0x	546	1,181		(725)	(822)	
5 Blue Note (CDG)									(597)	(597)	
6 Cardiff International (CDIF)	3.55	2.52			1.5x	1,076	2,239			(15,453)	
7 China Energy Development (00228)	1.54	1.18			123.2x	117,643	117,643		(5,165)	(5,165)	
8 Cooks Global Foods (CGF)	-0.67	-0.67			5.2x	23,199	27,120		(8,048)	(8,048)	
9 Dowell Property Holdings (00668)	0.77	0.82			15.2x	59,131	59,363		(6,514)	(6,514)	
10 Eat At Joes (SPYR)	0.14	-0.50			60.8x	70,498	70,514		(3,883)	(2,432)	
11 Giggles N' Hugs (GIGL)	-1.38	0.13			0.1x	272	309		(1,661)	(1,462)	
12 Hampton Vickers and Waterman (HVCW)					0.1x	140	192			(14)	
13 Libba Leisure (GRDG)					937.2x	12,691	13,694		(811)	(1,116)	
14 Loton (LIVX)	-0.76	0.00	20,720.1x	14,556.6x	165.0x	545,272	558,667		(3,973)	(4,451)	
15 Mr Hamburger (MRH)					1.4x		3,447		(286)	(487)	
16 Noble Romans (NRDM)	1.12	0.74	3.4x	3.4x	1.3x	10,150	9,978	8.1x	3,040	2,969	-4.0%
17 PF Hospitality Group (EKDL)	-1.30	2.72			44.1x	15,778	15,596		(519)	(1,100)	
18 Premium Food Restaurants (PFR)					0.2x	864	864		(540)	(1,556)	
19 SIF Hoteluri (CAGR)	-0.88	0.00			4.6x	21,963	18,616		(2,307)	(1,244)	
20 Sundance Strategies (SUND)	0.63	0.86	171.8x	171.5x	30.6x	144,521	139,005	465.1x	317	811	125.7%
21 Sweet Spot Games (GRAS)	-2.59	-0.86			0.1x	36	98		(383)	(201)	
22 The Grilled Cheese Truck (GRLD)					2.0x	6,229	6,360			(6,401)	

(Source: PitchBook. Used with permission.)

Figure 9.14 Search Results (continued)

Company Name	% Pre-Tax Margin (FY)	Net Income % Growth (3Y)	EBIT % Growth (FY)	EBITDA % Growth (5Y)	Net Income % Growth (FY)	Enterprise Value (FY)	EBIT % Growth (TTM)	Revenue % Growth (TTM)	EBITDA % Growth (TTM)	Net Income % Growth (3Y)	Price Change	
1 AF Ocean Investment Management (AF...)	-30.5%	-0.6%				423,692		-2.7%			-	
2 AI Document Services (AIDC)								191.7%			-	
3 Art Dimensions (RIBS)	27.9%	-37.8%				14,895		30.6%			-6	
4 Baristas Coffee Company (BCCI)	-7.0%					4,678		-13.0%			-7	
5 Blue Note (CDG)	2.8%							-2.8%			-1	
6 Cardiff International (CDFI)								258.8%			-5	
7 China Energy Development (00228)	80.1%					161,733		-80.1%			-3	
8 Cooks Global Foods (CGF)	27.1%					26,664		27.1%			-1	
9 Dowell Property Holdings (00668)	83.3%					105,227		83.3%			-1	
10 Eat At Joes (SPYR)	10.1%	-304.1%				23,241		-21.5%			8	
11 Giggles N' Hugs (GIGL)	3.3%	-21.1%				4,254		-0.9%			-16	
12 Harrison Vickers and Waberman (HVW)											-5	
13 Liboa Leisure (GROG)	-63.3%					9,990		42.5%			-	
14 Loton (LIVX)						453,533		-55.0%			12	
15 Mr Hamburger (MRH)	-14.5%	2.4%						-10.0%			1	
16 Noble Romans (NRDM)	-2.3%	41.1%	-64.3%	-3.2%	-0.4%	-50.6%	24,631	-3.8%	-5.1%	-5.9%	8.0%	-6
17 PF Hospitality Group (EXOL)	-33.1%	-1,968.4%					26,848		109.3%		-7	
18 Premium Food Restaurants (PFR)	-0.3%	-22.3%					999		-4.4%		-2	
19 SIF Hoteluri (CADR)	-8.9%	-11.2%					17,810		46.7%		-	
20 Sundance Strategies (SUND)	59.3%	44.1%	404.5%	168.2%			147,421	104.0%	67.2%	95.1%	-1	
21 Sweet Spot Games (GRAS)	3.6%						365		-25.4%		-	
22 The Grilled Cheese Truck (GRLD)									-0.6%		-6	

(Source: PitchBook. Used with permission.)

Figure 9.15 Search Results (continued)

Company Name	Enterprise Value (FY)	Revenue % Growth (3Y)	EV/EBIT (FY)	Market Cap	EBITDA % Growth (3Y)	Date - Price Close	% of 52 Week High	Revenue (TTM)	Net Income (TTM)	EBIT (TTM)	Earnings per Share (TTM)	EV/R (TTM)
1 AF Ocean Investment Management (AF...)	446,660	26.1%		426,265		10-31-20	78.95%	363	(177)	(178)	(0.01)	
2 AI Document Services (AIDC)				20,243		10-31-20	100.00%	63	(87)	(74)	(0.01)	
3 Art Dimensions (RIBS)	11,431			1,870		10-31-20	9.68%	7,385	(3,163)	(2,925)	(0.05)	
4 Baristas Coffee Company (BCCI)				546		10-31-20	7.67%	1,141	(2,171)	(938)	(0.01)	
5 Blue Note (CDG)						10-31-20	81.27%	4,911	(850)	(817)		
6 Cardiff International (CDFI)				1,076		10-31-20	20.17%	1,537	(16,195)	(15,524)	(7.90)	
7 China Energy Development (00228)	96,204	-50.8%		117,843		10-31-20	52.71%	955	(165,325)	(5,252)	(0.02)	
8 Cooks Global Foods (CGF)				23,199		10-31-20	75.59%	5,236	(5,345)	(8,328)	(0.02)	
9 Dowell Property Holdings (00668)	94,261	-25.6%		59,131		10-31-20	74.94%	3,917	(4,904)	(6,687)	(0.01)	
10 Eat At Joes (SPYR)	35,634	12.6%		70,498		10-31-20	68.52%	1,159	(5,971)	(2,564)	(0.05)	
11 Giggles N' Hugs (GIGL)	4,014	36.8%		272		10-31-20	3.50%	3,413	(1,645)	(1,623)	(0.05)	
12 Harrison Vickers and Waberman (HVW)				131		10-31-20	3.64%	3,875	(9,673)	(202)	(0.08)	
13 Liboa Leisure (GROG)	32,043			12,691		10-31-20	68.18%	15	(1,102)	(1,143)	(0.01)	
14 Loton (LIVX)	464,646			545,272		10-31-20	100.00%	3,386	(4,780)	(4,463)	(0.05)	
15 Mr Hamburger (MRH)		5.1%				10-31-20	91.05%	2,409	(341)	(591)	(0.03)	
16 Noble Romans (NRDM)	17,386	1.9%	8.4x	9,965	0.4%	10-31-20	30.97%	7,435	404	2,901	0.02	
17 PF Hospitality Group (EXOL)	10,195			13,984		10-31-20	4.02%	354	(4,185)	(1,118)	(0.06)	
18 Premium Food Restaurants (PFR)	865	-1.7%		864		10-31-20	51.52%	5,162	(813)	(1,681)	(0.14)	
19 SIF Hoteluri (CADR)	20,199	6.5%		21,963		10-31-20	95.10%	4,072	(2,240)	(2,259)	(0.02)	
20 Sundance Strategies (SUND)	145,564		472.9x	139,224		10-31-20	86.30%	4,539	531	810	0.01	
21 Sweet Spot Games (GRAS)		7.4%		36		10-31-20	50.00%	1,182	373	(218)	(0.03)	
22 The Grilled Cheese Truck (GRLD)				6,229		10-31-20	31.07%	3,235	(6,487)	(6,475)	(0.37)	

(Source: PitchBook. Used with permission.)

Figure 9.16 Search Results (continued)

Company Name	Revenue	EV/EBIT (TTM)	Fiscal Year End	Total Assets (FYE)	Total Debt (FYE)	Net Debt (FYE)	Debt/Capital (FYE)	Debt/Equity (FYE)	Employees	Ticker Symbol	Primary Exchange	City
1 AF Ocean Investment Management (AF...)	1,175.1x		12-31-2...	877						AFAN	PINK	New York
2 AI Document Services (AIDC)			12-31-2...							AIDC	PINK	Suwanee
3 Art Dimensions (RIBS)	1.4x		12-31-2...	5,777	2,507	1,399	57.8%	158.6%	87	RIBS	PINK	Colorado Springs
4 Baristas Coffee Company (BCCI)	3.9x		12-31-2...	3,327	842	842	42.7%	76.4%		BCCI	PINK	Kent
5 Blue Note (CDG)			12-31-2...	1,809	251	197	78.7%	368.5%	18	CDG	MLL	Milan
6 Cardiff International (CDIF)	1.9x		12-31-2...							CDIF	PINK	Fort Lauderdale
7 China Energy Development (00238)	169.4x		12-31-2...	342,706	6,739		2.4%	2.5%		00238	HKG	Hong Kong
8 Cooks Global Foods (CGF)	5.1x		03-31-2...	14,100	1,227	522	16.3%	19.5%		CGF	NZE	Auckland
9 Dowell Property Holdings (00668)	26.9x		12-31-2...	177,664	52,526	25,003	35.6%	55.3%		00668	HKG	Hong Kong
10 Eat At Joe's (SPYR)	30.8x		12-31-2...	7,703						SPYR	PINK	Scarsdale
11 Giggles N' Hugs (GIGL)	1.1x		12-31-2...	2,161	925	591	-2,311.5%			GIGL	PINK	Los Angeles
12 Harrison Vickers and Waterman (HVCW)	0.4x		06-30-2...							HVCW	PINK	Bronx
13 Lisboa Leisure (GROG)	802.7x		05-31-2...	193	9	(4)	-4.9%			GROG	PINK	Springville
14 Loton (LIVX)	134.7x	16,913.4x	03-31-2...	5,210	3,156	3,119	93.2%	1,368.0%		LIVX	PINK	Beverly Hills
15 Mr Hamburger (MRH)			12-31-2...	812	113	83	30.9%	44.8%		MRH	WAR	Gorriacna
16 Noble Romans (NRDM)	2.3x	6.0x	12-31-2...	18,465	2,743	2,549	15.6%	18.4%	27	NRDM	PINK	Indianapolis
17 PF Hospitality Group (EXOL)	52.0x		09-30-2...	480	227	4	-19.7%			EXOL	PINK	London
18 Premium Food Restaurants (PFR)	0.2x		12-31-2...	1,101	339	265	-149.3%			PFR	WAR	Warsaw
19 SIF Hoteluri (CAOR)	5.8x		12-31-2...	26,735	2,480	1,665	10.0%	11.1%		CAOR	BSE	Oradea
20 Sundance Strategies (SUND)	32.3x	181.2x	03-31-2...	29,849	4,520	4,495	15.8%	18.8%	1	SUND	PINK	Provo
21 Sweet Spot Games (GRAS)	0.4x		12-31-2...	150	401	346	-37.0%			GRAS	PINK	West Palm Beach
22 The Grilled Cheese Truck (GRLD)	8.1x		12-31-2...							GRLD	PINK	Newport Beach

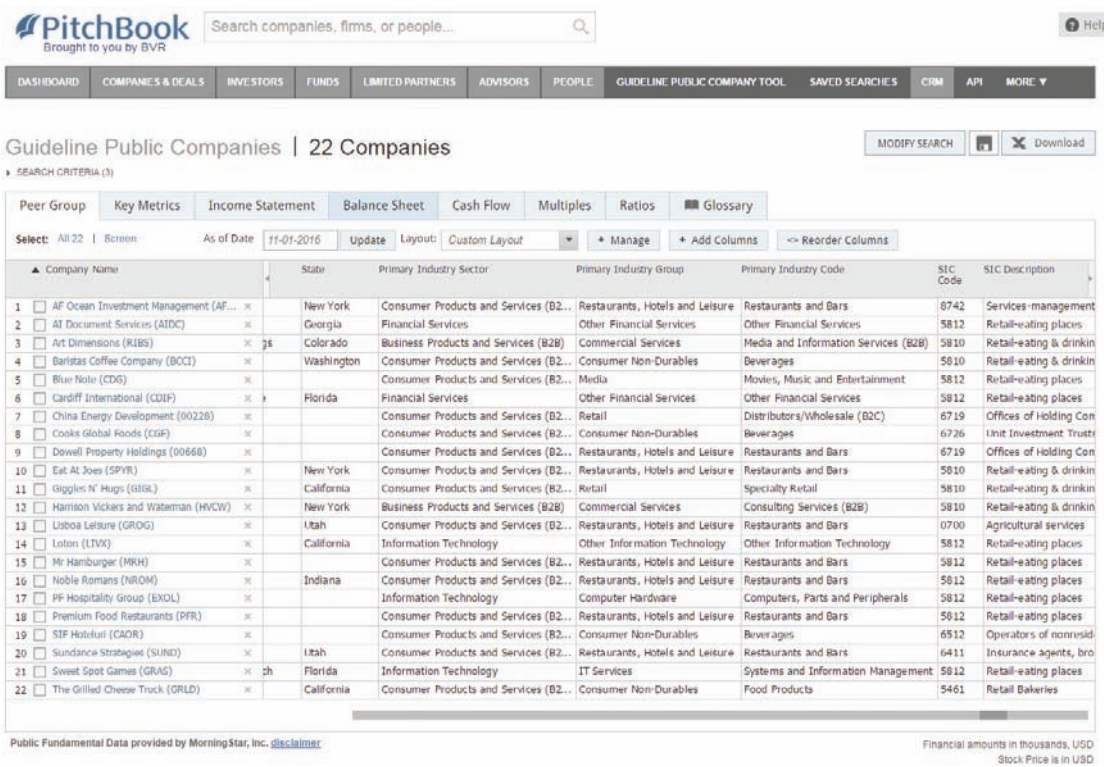
(Source: PitchBook. Used with permission.)

Figure 9.17 Search Results (continued)

Company Name	State	Primary Industry Sector	Primary Industry Group	Primary Industry Code	SIC Code	SIC Description
1 AF Ocean Investment Management (AF...)	New York	Consumer Products and Services (32...)	Restaurants, Hotels and Leisure	Restaurants and Bars	5740	Service management
2 AI Document Services (AIDC)	Georgia	Financial Services	Other Financial Services	Other Financial Services	5612	Retail trading stores
3 Art Dimensions (RIBS)	Colorado	Business Products and Services (22...)	Commercial Services	Media and Information Services (223)	5610	Retail eating & drinking
4 Baristas Coffee Company (BCCI)	Washington	Consumer Products and Services (32...)	Consumer Retail Goods	Beverages	5810	Retail eating & drinking
5 Blue Note (CDG)		Consumer Products and Services (32...)	Media	Movies, Music and Entertainment	5812	Retail eating stores
6 Cardiff International (CDIF)	Florida	Financial Services	Other Financial Services	Other Financial Services	5812	Retail eating stores
7 China Energy Development (00238)		Consumer Products and Services (32...)	Retail	Other Supermarkets (52)	6719	Office of holding corp
8 Cooks Global Foods (CGF)		Consumer Products and Services (32...)	Consumer Retail Goods	Beverages	6728	Unit investment trust
9 Dowell Property Holdings (00668)		Consumer Products and Services (32...)	Restaurants, Hotels and Leisure	Restaurants and Bars	6719	Office of holding corp
10 Eat At Joe's (SPYR)	New York	Consumer Products and Services (32...)	Restaurants, Hotels and Leisure	Restaurants and Bars	5810	Retail eating & drinking
11 Giggles N' Hugs (GIGL)	California	Consumer Products and Services (32...)	Retail	Specialty Retail	5810	Retail eating & drinking
12 Harrison Vickers and Waterman (HVCW)	New York	Business Products and Services (22...)	Commercial Services	Consulting Services (223)	5810	Retail eating & drinking
13 Lisboa Leisure (GROG)	Mass	Consumer Products and Services (32...)	Restaurants, Hotels and Leisure	Restaurants and Bars	0700	Agricultural services
14 Loton (LIVX)	California	Information Technology	Other Information Technology	Other Information Technology	5812	Retail eating stores
15 Mr Hamburger (MRH)		Consumer Products and Services (32...)	Restaurants, Hotels and Leisure	Restaurants and Bars	5812	Retail eating stores
16 Noble Romans (NRDM)	Indiana	Consumer Products and Services (32...)	Restaurants, Hotels and Leisure	Restaurants and Bars	5812	Retail eating stores
17 PF Hospitality Group (EXOL)		Information Technology	Computer Hardware	Computers, Parts and Peripherals	5812	Retail eating stores
18 Premium Food Restaurants (PFR)		Consumer Products and Services (32...)	Restaurants, Hotels and Leisure	Restaurants and Bars	5812	Retail eating stores
19 SIF Hoteluri (CAOR)		Consumer Products and Services (32...)	Restaurants, Hotels and Leisure	Restaurants and Bars	6512	Operation of streetcar
20 Sundance Strategies (SUND)	Utah	Consumer Products and Services (32...)	Restaurants, Hotels and Leisure	Restaurants and Bars	6411	Domestic agents, bro
21 Sweet Spot Games (GRAS)	Florida	Information Technology	IT Services	Systems and Information Management	5812	Retail eating stores
22 The Grilled Cheese Truck (GRLD)	California	Consumer Products and Services (32...)	Consumer Retail Goods	Food Products	5461	Retail Bakery

(Source: PitchBook. Used with permission.)

**Figure 9.18 Search Results** (continued)



(Source: PitchBook. Used with permission.)

The search located 22 possible guideline companies based on our criteria. If you look at the headings of the various tabs in this figure, you will get an idea of what is coming. Figures 9.12–9.18 also provides us with a host of summary statistics, including some multiples (EV is *enterprise value*, which is similar to but not the same invested capital that I described previously. In this instance, it is invested capital less cash and short-term investments). In the right hand portion of the figure, you have the option of clicking on three buttons: (1) Modify Search, (2) Save Comparables, or (3) Download.

There are many different options for downloading the data, and you can actually customize it if you do not want the predetermined formats. All the way to the right of the screen in figure 9.18 is the website for the public company. You can click on it and go there for more information about the potential guideline company. This database makes your life easy in that regard.

Now let's look at the different tabs. The amount of data will blow your mind. Figure 9.19 illustrates the Key Metrics tab.



The Key Metrics tab provides the user with information about each of the possible guideline companies selected. If you have a large selection, this data will go all the way out to the right. A mean and median is calculated for each item based on the guideline companies. The data is broken down by income statement, balance sheet, cash flow, pricing multiples, financial ratios, audit information, and information about the data. For example, is the data audited or restated?

Because there is not a lot more to discuss about this, I am now going to provide the various figures that you can review by yourself. The following figures relate to the information contained in this database:

Figure No.	Tab
9.21 and 9.22	Income Statement
9.23, 9.24, and 9.25	Balance Sheet
9.26 and 9.27	Cash Flow
9.28	Multiples
9.29 and 9.30	Ratios

## Figure 9.21 Income Statement

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Peer Group Key Metrics **Income Statement** Balance Sheet Cash Flow Multiples Ratios Glossary

Period: TTM Ending Most Recent Quarterly Annual Summary Columns Reorder Columns

Income Statement (TTM)	AFAN AF Ocean Investment	AIDC AI Document Services	RIBS Art Dimensions	BCCI Baristas Coffee Company	CDG Blue Note	CDIF Cardiff International	00228 China Energy Development	CGF Cooke Global Foods	00668 Dovell Property Holdings	SPYR Eat At Joes	GIGL Giorges N' Huq
Amounts in thousands, USD (except for EPS and Dividends)	06-30-2016	09-30-2015	06-30-2016	03-31-2016	12-31-2015	09-30-2015	12-31-2015	03-31-2016	12-31-2015	06-30-2016	06-30-2016
<b>Revenue</b>											
Product Sales	176	63	7,385	1,141	4,911	1,537	955	5,236	3,917	1,159	3,413
Received Fees	186										
Operating Revenue	363	63	7,385	1,141	4,911	1,537	955	5,236	3,917	1,159	3,413
Excise Taxes											
Total Revenue	363	63	7,385	1,141	4,911	1,537	955	5,236	3,917	1,159	3,413
<b>Gross Profit</b>											
Cost of Revenue	0	51	7,610	402	4,340	1,109	681	2,990	302	482	3,055
Gross Profit	75	12	(226)	739	572	428	273	2,246	3,616	697	358
<b>Operating Income or Loss</b>											
Sales & Marketing Expense	0		346					1,155	339		
Labor Expense	57			970				3,867		1,469	158
Other General & Administrative ...	72			590				1,614		1,681	208
General & Administrative Expense	551	87	1,676	1,561	0		53	5,482	1,242	3,149	1,286
Other Selling, General & Adminis...	0		0					(1)	(1)		
Selling, General & Administrative...	551	87	2,022	1,561	0		53	6,637	1,582	3,149	1,286
Research & Development Expense											
Depreciation Expense					38		88	197	119		
Amortization Expense					181			84	54		
Depreciation & Amortization Exp...	6		677	116	219		88	281	172	111	381
Restructuring, Remediation & Im...											
Other Operating Expenses					28		3,428		154		161
Operating Expenses	541	87	2,700	1,677	1,389	15,952	5,526	10,575	10,302	3,260	2,181
Cost & Operating Expenses	131	138	10,310	2,079	5,728	17,061	6,207	13,565	10,604	3,723	5,238
Total Operating Expenses	541	138	10,310	2,079	17,061					3,723	5,238
Operating Income	(178)	(74)	(2,925)	(938)	(812)	(15,524)	(4,168)	(8,328)	(5,995)	(2,564)	(1,823)

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**Figure 9.24 Balance Sheet (continued)**

<b>Liabilities</b>										
Accounts Payable	0	37	61	127	756	17	373	2,517		703
Accrued Expenses	0	108	279	997		669				67
Other Accounts Payable and...	318	0	597	319		567				0
Accts Payable and Accrued Ek...	318	145	907	1,443		1,253		4,066		79
Amts Due to Related Parties...	318		597			528				0
Deferred Income Tax Liabilities...								11		
Deferred Liability Charges										472
Income Taxes Payable										
Short-term Borrowings		34	415	818		300		1,216	6,453	1,088
Total Short-term Debt		34	415	818		300		1,216	6,470	1,088
Other Current Liabilities		4		46		28	59,849	1,466	1,621	76
Total Current Liabilities	318	183	1,322	2,284	1,293	1,581	65,434	6,758	11,341	79
Long-term Debt		504	1,459		251	70	6,739		46,056	
Other Borrowings				602		215				
Payables	318	37	628	446	984	584	5,585	4,066	3,237	0
Total Long-term Debt		504	1,459		251	70	6,739		46,056	
Total Debt		538	1,874	818	251	369	6,739	1,227	52,526	1,088
Net Debt		535	1,703	816	107	357		622	25,003	975
Pension/Postretirement Obliga...										
Long-term Deferred Income Ta...								7		
Long-term Deferred Liability Ch...			297							
Other Liabilities					1		97	1,046	25,316	
Minority Interest			399	(85)			97		25,316	
Total Long-term Liabilities	0	504	2,154	(85)	449	70	6,843	1,057	71,372	0
Total Liabilities	318	697	3,477	2,200	1,741	1,650	72,277	7,816	82,714	79
<b>Shareholders' Equity</b>										
Common Stock	2,980	87		52		9	61,317	24,478	151,513	15
Preferred Stock	1	1	23	27		6		0		1
Additional Paid-in Capital	514	46	14,440	13,234	1,135	42,248	220,512			32,094
Additional Paid-in Capital - Pre...	513	45	14,417	13,208		42,242				32,094
Retained Earnings	(3,001)	(200)	(13,562)	(12,195)	(2,423)	(42,706)	(88,881)	(18,189)	(2,480)	(9,792)
Treasury Stock										
Other Accumulated Comprehe...	2			(2)				(3)		
Other Equity										
Total Shareholders' Equity	496	(125)	902	1,116	68	(443)	270,429	6,284	94,951	6,463
Partners' Capital										
Total Liabilities & Equity	814	562	4,379	3,315	1,809	1,208	342,706	14,100	177,664	6,543

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**Figure 9.25 Balance Sheet (continued)**

<b>Supplemental Items</b>										
Book Value	496	(125)	902	1,116	68	(443)	270,429	6,284	94,951	6,463
Enterprise Value	420,014		10,291	4,497		2,911	161,733	26,664	105,227	35,749
Enterprise Value (TSO)	446,690		11,528	6,640		4,023	161,733	31,080	105,469	35,752
Market Cap	426,365		8,105	3,738		2,547	190,082	26,131	61,639	41,307
Market Cap (Diluted)	426,365		8,105	3,738		2,547	190,082	26,131	61,639	41,307
Market Cap (TSO)	447,012		9,342	5,881		3,659	190,082	30,547	61,881	41,310
Total Shares Outstanding (TSO)	296,007,797	87,030,000	71,864,318	52,045,606		9,147,688	9,505,344,000	412,666,151	1,279,039,000	153,000,627
Basic Weighted Average Shares	284,243,168	134,951,154	62,348,742	33,079,616		6,367,592	9,505,344,000	353,012,555	1,274,039,000	152,989,823
Diluted Weighted Average Sha...	284,243,168	134,951,154	62,348,742	33,079,616		6,367,592	9,505,344,000	353,012,555	1,274,039,000	152,989,823
Stock Price	1.50	0.13	0.11	0.11	3.23	0.40	0.02	0.07	0.05	0.27
Number of Employees	6	1	126	41	30	26	28		50	20
Number of Shareholders										78
Operating Leases										
Book Equity (FV)					106					
Net Working Capital	192	(155)	(1,051)	(2,251)	(446)	(1,542)	(22,129)	(163)	101,353	5,888
Long Term Capital							277,272			
Total Capital	496	379	2,361	1,116	319	(373)	277,168	6,284	141,007	6,463
<b>Data Origination</b>										
Original	No	No	No	No		No				No
Preliminary	No	No	No	No		No				No
Restated	Yes	Yes	Yes	Yes		Yes				Yes
Calculated	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Figure 9.26 Cash Flow

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Period: TTM Ending Most Recent Quarterly Annual Summary Columns Reorder Columns

Cash Flow (TTM)	AFAN AF Ocean Investment Management	AIDC AI Document Services	RIBS ART Dimensions	BCCI Baristas Coffee Company	CDG Blue Note	CDIF Cardiff International	00228 China Energy Development	CGF Cooks Global Foods	00668 Dowell Property Holdings	SPYR Eat At Joes	GIGL Grades N' Huas
Amounts in thousands, USD	08-30-2016	09-30-2016	08-30-2016	03-31-2016	12-31-2015	06-30-2015	12-31-2015	03-31-2016	12-31-2015	06-30-2016	06-30-2016
<b>Cash Flow from Operating ...</b>											
CF Net Income	(177)	(65)		(2,171)		(12,875)				(5,971)	(1,845)
CF Depreciation & Amortization	6			116	220	71	88		172	132	361
CF Depreciation, Amort. & Dep...	6			116		71				132	361
Employee Compensation				426		210			830	200	389
Stock Option Tax Benefits											
Adjustment for Special Charges				0							
Deferred Income Taxes					38						
Realized Gains or Losses				808		(870)				901	(238)
Change in Accounts Receivable	(46)			(2)		(4)				(22)	
Change in Inventories				9	9		0		0	4	9
Change in Prepaid Expenses	1			1		(14)				(39)	1
Change in Other Current Assets	(3)										
Change in Accounts Payable ...	0				72	79					(44)
Change in Income Taxes Paya...											
Change in Other Current Liabil...											
Other Asset and Liability Chan...	101			1		(11)				(80)	259
Change in Operating Assets &...	7	41		(44)	164	161	(4,515)		(22,599)	(188)	226
Total Adjustments					346		180,451		4,407		
Cash from Operating Activities	223	(44)	(2,144)	(318)	(457)	(618)	(9,678)	(4,128)	(22,909)	(3,050)	(950)
<b>Cash from Investing Activi...</b>											
Capital Expenditures			(800)		1	(74)	(60)	(262)	(198)	(8)	(131)
Purchase of Investments							(22,193)	0	(26,193)	(510)	(6)
Sale of Investments					12		7,753	0	17,796	1,381	
Investment Changes, Net					12		(14,439)	0	(8,397)	871	
Acquisition and Sales of Busin...			0					(407)			
Sale of Property, Plant & Equit...					0	0	0				
Other Investing Activities							2,939	205	1,935	10	350
Cash from Investing Activities	0	11	(800)	15	(74)	23	(11,762)	(398)	2,381	741	354

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Figure 9.27 Cash Flow (continued)

<b>Cash from Financing Activi...</b>											
Change in Short-term Borrowin...	0		(25)	262	250	(61)					139
Long-term Debt Proceeds			525			67		0	33,814		200
Long-term Debt Payments			(479)					326	(4,000)		0
Change in Long-term Debt, Net			(368)			64		326	29,724		200
Change in Debt, Net	0		(368)	262	250	71		326	29,724		439
Issuance of Equity			2,546	0	0	409	0	2,337			128
Repurchase of Equity					(48)						
Change in Equity, Net			2,546		(48)	409	0	2,337			128
Dividends Paid			(86)		0			0			
Other Financing Activities, Net			308	1	33			(1,024)			
Cash from Financing Activities	(341)	36	2,488	262	204	513	0	1,639	25,108	15	564
Cash from Discontinued Opera...											
Effect of Exchange Rate on C...	(2)						(36)	0	(5,185)		
Net Change in Cash & Cash E...	(120)	4	(258)	(41)	(329)	(79)	(21,440)	(2,885)	4,654	(2,295)	(31)
Beginning Cash Balance	0	0	290	0	382	62	47,831	2,363	29,037	5,890	77
Ending Cash Balance	81	0	549	(2)		46				7,256	184
Cash Paid for Income Taxes			0								0
Cash Paid for Interest Expense	0	0		2				(159)		0	0
<b>Data Origination</b>											
Original	No	No	No	No	No	No				No	No
Preliminary	No	No	No	No	No	No				No	No
Restated	Yes	Yes	Yes	Yes	Yes	Yes				Yes	Yes
Calculated	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Figure 9.28 Multiples

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Period: TTM Ending Most Recent Quarterly Annual Summary Columns

Multiples (TTM)	AFAN AF Ocean Investment Management	AIDC AI Document Services	RIBS Art Dimensions	BCCI Baristas Coffee Company	CDG Blue Note	CDIF Cardiff International	00228 China Energy Development	CGF Cooks Global Foods	00668 Doyell Property Holdings	SPYR East At Joes	GIGL Gigles N' Huas
	06-30-2016	09-30-2015	06-30-2016	03-31-2016	12-31-2015	09-30-2015	12-31-2015	03-31-2016	12-31-2015	06-30-2016	06-30-2016
<b>Multiples</b>											
Enterprise Value/Revenue	1,175.1x		1.4x	3.9x		1.9x	169.4x	5.1x	26.9x	30.8x	1.1x
Enterprise Value/EBIT											
Enterprise Value/EBITDA											
EV(TSO)/Revenue	1,232.1x		1.6x	5.8x		2.6x	169.4x	5.9x	26.9x	30.8x	1.2x
EV(TSO)/EBIT											
EV(TSO)/EBITDA											
Market Cap/Revenue	1,176.1x		1.1x	3.3x		1.7x	199.1x	5.0x	15.7x	35.6x	0.8x
Market Cap/EBIT											
Market Cap/EBITDA											
Market Cap (Diluted)/Revenue	1,176.1x		1.1x	3.3x		1.7x	199.1x	5.0x	15.7x	35.6x	0.8x
Market Cap (Diluted)/EBIT											
Market Cap (Diluted)/EBITDA											
Market Cap (TSO)/EBIT											
Market Cap (TSO)/EBITDA											
Market Cap (TSO)/Revenue	1,233.1x		1.3x	5.2x		2.4x	199.1x	5.8x	15.8x	35.6x	0.9x
Price/Earnings	-2,318.4x		-2.6x	-10.1x		-0.1x	-1.1x	-4.9x	-12.6x	-5.4x	-1.3x
Price/Earnings to Growth	847.8x		6.9x	10.6x		0.1x	-0.1x	-15.9x	-45.9x	-23.1x	13.3x
Price/Revenue	1,233.1x		1.3x	5.2x		2.4x	199.1x	5.8x	15.8x	35.6x	0.9x
Price/Free Cash Flow, TTM	1,910.4x		-3.0x	-11.7x		-4.1x	-19.1x	-6.0x	-2.7x	-13.0x	-2.9x
Price/Book Value	900.6x		10.4x	5.3x		-8.3x	0.7x	4.9x	0.7x	6.4x	-2.1x
Price/Book, Excl. Intangibles	2,211.5x		10.8x	6.0x		-8.3x	4.9x	-191.5x	0.7x	6.4x	-2.1x

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Figure 9.29 Ratios

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Peer Group Key Metrics Income Statement Balance Sheet Cash Flow Multiples Ratios Glossary

Period: TTM Ending Most Recent Quarterly Annual Summary Columns

Ratios (TTM)	AFAN AF Ocean Investment Management	AIDC AI Document Services	RIBS Art Dimensions	BCCI Baristas Coffee Company	CDG Blue Note	CDIF Cardiff International	00228 China Energy Development	CGF Cooks Global Foods	00668 Doyell Property Holdings	SPYR East At Joes	GIGL Gigles N' Huas
	06-30-2016	09-30-2015	06-30-2016	03-31-2016	12-31-2015	09-30-2015	12-31-2015	03-31-2016	12-31-2015	06-30-2016	06-30-2016
<b>Profitability</b>											
Return on Assets %											
Return on Equity %											
Return on Invested Capital %											
<b>Asset Turnover</b>											
Inventory Turnover			83.8	16.2	87.5			4.6		37.4	96.3
Accounts Payable Turnover (Days)		263.2	2.9	115.4	63.6	5.7	199.7	307.2			84.0
Receivables Turnover					24.9	557.7					12.4
Receivables Collection Period											
Fixed Assets Turnover	55.5		1.9	7.5	30.3	1.3	0.1	5.8	17.7	4.5	2.0
Total Assets Turnover	0.4	0.1	1.7	0.3	2.7	1.3	0.1	0.4	0.1	0.2	2.6
<b>Margins</b>											
Gross Margin %	100.0%	19.7%	-3.1%	64.7%	11.6%	27.8%	28.8%	42.9%	92.3%	60.1%	10.5%
Selling, General, & Admin Exp...	152.0%	137.1%	27.4%	138.7%	0.0%		5.5%	126.7%	40.4%	271.7%	37.7%
EBITDA Margin %											
EBITA Margin %	-47.6%	-117.4%	-30.4%	-72.0%	-12.9%	-1,005.6%	-550.2%	-157.4%	-169.3%	-209.8%	-42.8%
EBIT Margin %											
Net Income Margin %											
Net Income Applicable to Com...	-48.9%	-137.8%	-42.8%	-167.6%	-17.3%	-1,053.9%	-17,319.0%	-102.1%	-125.2%	-515.1%	-54.1%
Operating Margin %	-49.2%	-117.4%	-39.6%	-82.2%	-16.5%	-1,010.3%	-436.6%	-159.1%	-153.0%	-221.2%	-53.4%
Pre-tax Margin %	-48.9%	-123.7%	-49.4%	-197.8%	-16.5%	-1,053.9%	-17,352.6%	-101.7%	-120.4%	-312.5%	-54.0%
After-tax Margin % (TTM)	-48.9%	-123.7%	-49.4%	-197.8%	-17.3%	-1,053.9%	-17,319.0%	-102.1%	-133.7%	-312.5%	-54.1%
Free Cash Flow Margin %	61.6%	-88.8%	-37.2%	-27.9%	-10.8%	-40.5%	-1,041.3%	-82.5%	-585.0%	-274.4%	-28.0%
Normalized Net Income Margin %								102.1%			

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Financial amounts in thousands, USD

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Figure 9.30 Ratios (continued)

<b>Leverage</b>											
Degree of Financial Leverage (...)	1.6	-4.5	5.0	3.0	26.6	-2.7	1.3	2.2	1.9	1.0	-0.9
Degree of Operational Leverage...											
Degree of Combined Leverage...											
<b>Employee Ratios</b>											
Employees	6	1	126	41	30	28	28		50	20	78
Revenue per Employee (thous...)	60	63	59	28	164	59	34		78	58	44
Net Income per Employee (tho...											
<b>Financial Ratios</b>											
Free Cash Flow (thousand, USD)	223	(44)	(2,743)	(319)	(531)	(622)	(9,940)	(4,322)	(22,914)	(3,181)	(956)
Net Operating Profit after Tax (...)		(74)		(958)	(850)		(4,160)	(8,359)	(6,860)	(2,564)	(1,824)
Operating Cash Flow (thousan...	223	(44)	(2,144)	(319)	(457)	(616)	(9,676)	(4,126)	(22,906)	(3,050)	(950)
Free Cash Flow Return on Ass...	27.4%	-7.7%	-62.7%	-9.6%	-20.4%	-51.5%	-2.9%	-30.7%	-12.0%	-48.6%	-72.1%
Debt/Equity		-426.6%	213.3%	75.2%	368.5%	-82.3%	2.5%	19.5%	55.3%		-75.5%
LT Debt/LT Capital		133.0%	61.8%		78.7%	-18.6%	2.4%	0.2%	27.7%		
LT Debt/Total Capital		133.0%	45.9%		78.7%	-18.6%	2.4%	0.2%	26.7%		
Debt/EBITDA											
Debt/Assets		95.7%	42.8%	24.7%	13.9%	30.6%	2.0%	8.7%	29.6%		82.1%
Revenue % Growth	-2.7%	191.7%	30.6%	-13.0%	2.8%	258.8%	-80.1%	27.1%	83.3%	-21.9%	-0.9%
EBITDA % Growth											
EBIT % Growth											
Net Income % Growth											
Current Ratio	1.6	0.2	0.2	0.1	0.7	0.1	0.7	1.0	9.9	72.6	0.1
Quick Ratio	1.6					0.1		0.6		70.3	
Cash Ratio	1.1	0.1	0.1	0.1	0.1	0.1	0.4	0.1	2.4	83.1	0.1
EBITDA/Interest Coverage											
Page: 1 2											

Public Fundamental Data provided by MorningStar, Inc. [disclaimer](#)

Financial amounts in thousands, USD

(Source: PitchBook. Used with permission.)

The beauty of using this type of product is that it is Excel-based and can be downloaded and saved as files that you can then work with.

## Conclusion

By now, either valuation analysts should be very excited and ready to forge ahead, or they may be suffering from an anxiety attack. If it is the latter, take a Prozac! The guideline public company methodology can be overwhelming for the valuation analyst who has never done this stuff before. In fact, even if the analyst has done it before, it still can be overwhelming. We discussed the methodology, the selection of multiples, the assessment of risk, and the advantages and disadvantages of the method. I hope it has become apparent that the guideline public company method can be applied to small- and medium-sized companies. Sometimes, it may be difficult to apply, but that does not excuse the valuation analyst from considering it. In the next chapter, we get to apply the spirit of this same approach at the entity level. Let's do it!



## Chapter 10

# The Market Approach— Part II

### Learning Objectives

In this chapter, I will finish explaining the market approach. Because the last chapter discussed the theory behind the market approach, it will not be repeated (too much) here. This chapter will include the following:

- A discussion about the merger and acquisition (transaction) method
- Highlights of different private transaction databases
- The practical application of the merger and acquisition method
- Internal transactions
- Rules of thumb (the only thing that some folks use!)

### Introduction

After the last chapter, the general thought is probably that if the valuation analyst values small businesses, he or she will never use the market approach. And if that is not the general thought, it might be that if one is an accountant or thinking about becoming one, a job preparing income tax returns is starting to look better and better. So, now I am going to shift gears to show you how the market approach can be used even for small- and medium-sized businesses. The guideline public company method will not be applicable in all assignments, particularly if the subject company is very small, but the valuation analyst has alternatives. The merger and acquisition method allows the valuation analyst to locate sales of businesses in the same or a similar industry for the purpose of applying the market approach. Sometimes, transactions that are internal to the subject company are the best data to be used to determine value. Also, although rules of thumb should never be used as a valuation method, the valuation analyst needs to be aware of them. Just sit back, grab a drink, and let's discuss the market approach some more.

### Merger and Acquisition (Transaction) Method

The spirit of Revenue Ruling 59-60 is frequently applied through the use of the merger and acquisition method. With this method, transaction data is used in a manner similar to that in the guideline public company method previously described. Instead of selecting individual guideline companies, actual transactions involving companies similar to the valuation subject are used to determine pricing multiples. In this instance, the price is that of the entire company instead of a share of stock.

The merger and acquisition method can be applied by using either public company or private company data. Because the entire company has been sold, the transaction is considered to result in a control value. If public company transactions are used to develop the multiples, the results are control, marketable values. If private companies are used instead, the result is a control, nonmarketable value.

Because we never want this stuff to be easy, let's discuss a contradiction in the valuation theory. If minority shares from the public market are used in the guideline company method, the results of the application of this method are dependent on the normalization adjustments made to the benefit stream used in creating the market multiple. However, if all the shares of the same public company are purchased, regardless of the normalization adjustments made, the theory indicates that the result is a control value. How can that be? In reality, it should not be. As we will discuss in chapter 14, not all transactions in the public market take place at

the trading price of the shares. Some purchases take place at a premium (synergistic purchases) and others at a discount (these are not synergistic, but they are a form of negative control premium).

The use of public data for the transaction method requires more analysis to figure out whether it is truly synergistic or maybe control without synergies. The theory is pretty clear for the use of the private databases. These are control transactions.

Before we go too far, let's discuss this concept of control, nonmarketable value. This tends to confuse a lot of people. The control portion of that phrase should not be the problem. Obviously, if an entire company is sold, it represents a controlling interest. But how can it be nonmarketable if it has been sold? Here is where the confusion sets in. This stuff will be covered in more detail in chapter 15, but a preview is in order. An interest in a privately held company is often considered to be less marketable than an interest in a publicly traded company. If you own shares of a public company, you can call your broker, sell the stock, and usually receive cash in about three days. You cannot do that with closely held stock. That is why the private company is considered nonmarketable compared to the public stock. Perhaps a better term would be *illiquid*.

Because selling a privately held company takes more than three days, it, too, is considered nonmarketable. This does not mean that it cannot be sold. It only means that it lacks the liquidity of shares of publicly traded stock. There is a debate in the valuation profession that has been going on for a very long time about this entire topic, and I discuss it in much greater detail in chapter 15. However, for the purpose of this chapter, and until the valuation analyst decides which side of the battle he or she wants to defend, sales of closely held companies are considered nonmarketable. Sales of entire publicly traded companies are considered marketable. This should give you enough for the time being, but here's something to tuck away in the back of your head (if it isn't already spinning from this stuff): Can an entire company really be sold in three days, and if not, does the closely held company, taken as a whole, really have any less liquidity than the public company sold as an entire unit?

Sources of data about acquired or merged companies were discussed in chapter 5. At this point, the manner in which the valuation analyst will proceed depends on whether he or she is using transaction data from the public or private marketplace. Let's discuss each separately:

- *Public market.* Once the valuation analyst has identified transaction data from the public market, an analysis must be performed similar to what was suggested under the guideline public company method. Once the target companies are determined to be similar enough to the valuation subject, pricing multiples can be calculated for the transactions. These multiples can then be adjusted for the differences between the valuation subject and the target companies and then applied to the valuation subject's figures. If the target company is a public company, the valuation analyst can track down much of the same information that would be used in the application of the guideline public company method. Because this process is so closely related to the guideline public company method, there is little need to elaborate further.
- *Closely held market.* The real difference in the merger and acquisition method comes when the valuation analyst uses closely held company transaction data. This type of data is frequently available with limited amounts of details. Some authors believe that if the valuation analyst cannot verify each and every transaction, he or she cannot use this data. I believe that some data may be better than no data. As long as the valuation analyst recognizes the potential deficiencies in the application of this method, it remains a viable alternative. In fact, sometimes, I would rather use this method than any other for small businesses.



Getting away from the public sector moves our discussion to compilations of actual transactions in the closely held world. Our firm has found several sources to be somewhat useful in our quest for transaction data for the closely held business. These sources can be found in box 10.1. Needless to say, some are better than others.

The resources in box 10.1 are presented in no particular order, but the first few will be more useful for smaller businesses. Items 4–7 in box 10.1 contain both public and private transactions. The Mergerstat reference is actually to a control premium study as opposed to a transaction database. The control premia result from transactions and it is for this reason that I have included it in this list. One of the first things that the valuation analyst must do if these databases are going to be used is to learn the various definitions used by each one. The terminology used in these databases varies, therefore, if the valuation analyst is not careful, it is very easy to apply a multiple to the wrong level of earnings or other benefit stream. Some of the more important variations of the terminology will be detailed in this discussion. Recognizing that each of these sources of information has certain deficiencies, the valuation analyst is faced with using common sense and sanity tests to ensure the reasonableness of the results. This is not any different from everything else that we do in this business.

**BOX 10.1****Sources of Business Transactions**

1. The Institute of Business Appraisers (IBA) Market Database
2. BizComps®
3. Pratt's Stats®
4. DoneDeals® Database
5. Public Stats®
6. FactSet Mergerstat/BVR Control Premium Study™
7. Thomson Financial Mergers and Acquisitions
8. Business Brokers

## IBA Market Database

Available from the Institute of Business Appraisers (IBA) or Key Value Data, this database is the largest known source of market transactions of small, closely held businesses. It is free to IBA members, but nonmembers require a subscription. It is available through the online resource Key Value Data ([keyvaluedata.com](http://keyvaluedata.com)) or through the IBA website ([go-iba.org](http://go-iba.org)). This database has been compiled over the years from IBA members and other professionals associated with the sales of businesses (mostly business brokers).

The IBA Market Database includes more than 39,000 transactions across a broad number of Standard Industrial Classification (SIC) codes. Many SIC categories have so many transactions that a highly supportable statistical inference can be drawn from this data. Most of the transactions included in the database are for businesses that had a sales volume below \$1 million. The database is geared toward transactions of the very small business. Small businesses typically are sold as asset sales as opposed to stock sales. An *asset sale* is a transaction in which only certain assets (and maybe liabilities) are transferred to a purchaser who will effectively become the new owner of the business. More often than not, only the operating assets (the assets that are needed to conduct the business operations) of the business are transferred to the buyer. This type of transaction is common for smaller businesses. It is also very different from a *stock sale*, which is typical of larger business transactions. In a stock sale, the stock (all assets and liabilities) is transferred to a buyer. This transfer represents the entire equity of the company. The transaction type is a critical point to understand when considering multiples, and it will be addressed at length later in this chapter.

Figure 10.1 depicts a sample of a search under SIC code 5812 (restaurants) when you request information from this database. It can be downloaded into an Excel spreadsheet.

**Figure 10.1 IBA Market Database Search**

Subscription expires : 9/1/2017 : Renew now  
Exports remaining : unlimited

1 A. Click on item(s) to search.  B. Enter SIC Codes  C. Search

SIC Codes Disc. Earnings Price to DE  
Description Price State  
Sales Price to Sales Date of Sale

Limit sale to most recent 10 years

2 Review Records (1596) Sort by: SIC Codes low to high Show page: 1

SIC	Business Description	Sales (\$000)	DE (\$000)	Selling Price (\$000)	Price/Sales	Price/DE	State	Sale Date
5812	Restaurant Pizza-Shop	741		525	0.71		FL	1/29/2007
5812	Coffee Café	544		350	0.64		FL	12/28/2006
5812	Restaurant/ Café	346		250	0.72		FL	1/30/2007
5812	Café	299	72	113	0.38	1.57	CA	1/2/2007
5812	Restaurant/Sports Bar	631		220	0.35		FL	3/15/2007
5812	Pizza Shop	490	90	215	0.44	2.39	FL	1/18/2007
5812	Restaurants Breakfast Lunch	110	19	40	0.36	2.11	FL	12/20/2006
5812	Pizza Restaurant	623		492	0.79		FL	6/18/2007
5812	Franchise Sandwich Shop	478		175	0.37		FL	5/22/2007
5812	Franchise Sandwich Shop	192		50	0.26		FL	5/22/2007
5812	Coffee Shop and Bar	274	20	125	0.46	6.19	PA	6/29/2007
5812	Sub Shop	403		260	0.65		FL	9/11/2007
5812	Italian Restaurant	167		70	0.42		FL	7/30/2007
5812	franchise Food Service	542	43	220	0.41	5.12	CA	5/21/2007
5812	Restaurants Steak Restaurant	1,607	170	980	0.61	5.76	CO	11/1/2006
5812	Restaurants Sub Shop	161	0	55	0.34		MS	11/6/2006
5812	Restaurants Pizza Shop	340	0	95	0.28		MD	11/6/2006
5812	Restaurants Pizza Shop	780	0	350	0.45		AL	11/7/2006
5812	Restaurants Breakfast Lunch	110	0	4	0.04		FL	11/8/2006
5812	Restaurants Office Bldg Restaurant	299	0	175	0.59		AL	11/8/2006
5812	Restaurants Pizza Shop	296	45	40	0.14	0.89	GA	12/1/2006
5812	Restaurants Catering	239	0	135	0.56		NM	12/1/2006
5812	Restaurants Pizza Shop	275	0	65	0.24		KS	12/1/2006
5812	Restaurants Brew/Pub	110	19	50	0.45	2.63	IL	12/1/2006
5812	Restaurants Pizza Shop	300	0	50	0.17		CA	12/5/2006
5812	Restaurants Office Bldg Restaurant	81	0	53	0.65		TX	12/7/2006
5812	Restaurants Latin Restaurant	146	0	60	0.41		PA	12/8/2006
5812	Restaurants American Restaurant	332	89	250	0.75	2.81	GA	12/8/2006
5812	Restaurants Italian Restaurant	843	30	259	0.31	8.63	PA	12/8/2006
5812	Restaurants Deli Restaurant	1,223	135	438	0.36	3.24	NJ	1/2/2007
5812	Restaurants Deli Restaurant	1,469	0	438	0.30		GA	1/2/2007
5812	Restaurants Take Out Only	240	0	18	0.08		OR	1/4/2007
5812	Restaurants Cafe Type Eatery	550	0	160	0.29		WI	1/4/2007
5812	Restaurants Coffee Shop/House	141	0	88	0.62		FL	1/4/2007
5812	Restaurants Italian Restaurant	2,363	25	575	0.24	23.00	CA	1/5/2007
5812	Restaurants Seafood Restaurant	286	0	77	0.27		PA	1/5/2007
5812	Restaurants Cafe Type Eatery	452	26	100	0.22	3.85	OR	1/8/2007
5812	Restaurants Breakfast Lunch	297	0	80	0.27		RI	1/9/2007
5812	Restaurants Italian Restaurant	576	0	125	0.22		NJ	1/9/2007
5812	Restaurants Fast Food Franchise	876	0	250	0.29		NC	1/11/2007
5812	Restaurants Cafe Type Eatery	104	0	73	0.70		MS	1/12/2007
5812	Restaurants Pizza Shop	254	54	375	1.48	6.94	LA	1/12/2007
5812	New Franchises NF Fast Foods	360	0	170	0.47		KY	1/13/2007
5812	Restaurants Ethnic Restaurant	132	0	80	0.61		OH	1/13/2007
5812	Food Business Retail Food Deli Take Out	180	0	33	0.18		TX	1/15/2007
5812	Restaurants Coffee Shop/House	316	0	80	0.25		WV	1/15/2007
5812	Restaurants Pizza Shop	287	17	71	0.25	4.18	MI	1/15/2007
5812	Restaurants Deli Restaurant	320	0	183	0.57		NJ	1/15/2007
5812	Restaurants Sub Shop	369	0	120	0.33		WA	1/19/2007
5812	Restaurants Fast Food Franchise	342	30	50	0.15	1.67	AL	1/22/2007
5812	Restaurants Specialty Restaurant	546	39	200	0.37	5.13	OH	1/25/2007
5812	Restaurants Coffee Shop/House	71	0	35	0.49		MI	1/25/2007
5812	Restaurants Pizza Shop	418	31	95	0.23	3.06	FL	1/29/2007

3 Export Records  Data Only  Direct Market Data Method Report  Transaction Analysis

(Source: ValuSource IBA Market DataBase. Used with permission.)

If you highlight a particular line and click the “View Detail” button (not shown in figure 10.1), you see what appears in figure 10.2.

Figure 10.2 IBA Market Database Detail

The screenshot shows the KeyValueData IBA Market Data interface. At the top, it indicates the subscription expires on 9/1/2017 and exports are unlimited. The interface is divided into three main sections: A. Click on item(s) to search, B. Enter SIC Codes, and C. Search. Section A includes filters for SIC Codes, Description, Price, State, Sales, Price to Sales, and Date of Sale. Section B shows the SIC Code(s) entered as 5812, with 1,596 records and 1,596 values. Section C has a Search button. Below these sections is a 'Review Records (1596)' section with a 'Show record' indicator set to 11. The main table displays a detailed financial record for a business in Pennsylvania, including fields for location, financial metrics, and terms.

H_LocationText:	Pennsylvania	I1_Interest_expense:	3.80	I3_EBT:	-51.34
H_StateCode:	PA	I1_EBT:	20.20	I3_Taxes:	0.00
H_CensusRegion:	Northeast	I1_Taxes:	0.00	I3_Net_Income:	-75.04
H_CensusDivision:	Middle Atlantic	I1_Net_Income:	-28.60	I3_Net_Cash_Flow:	43.80
H_OtherArea:	East	I1_Net_Cash_Flow:	24.60	A_Date_of_statement:	12/31/2005
H_Business_Description:	Coffee Shop and Bar	I2_Gross_Sales:	259.70	A_Cash_Equivalents:	1.60
H_SIC:	5,812	I2_COGS:	130.70	A_Trade_Receivables:	
Net_Worth:		I2_Gross_Profit:	128.90	A_Inventory:	
Years_established:		I2_Yearly_rent:	38.40	A_Other_Current_Assets:	3.50
Years_owned:		I2_Owner_Compensation:	45.00	A_Total_Current_Assets:	
Employees_Full_time:		I2_Other_Operating_exp:	40.00	A_Fixed_Assets:	151.19
Employees_Part_time:		I2_Noncash_charges:	23.50	A_Real_Estate:	
F_Additional_information:		I2_Total_Operating_exp:	146.90	A_Intangibles:	33.70
F_Terms:		I2_Operating_Profit:	-18.00	A_Other_Noncurrent_Assets:	
F_Balance_Assumed_Lease:		I2_Interest_expense:	2.50	A_Total_Assets:	190.05
F_Terms_of_Lease:	5 yrs, 3%	I2_EBT:	-18.00	A_Liabilities_Assumed:	599.23
F_Noncompete_Length:	no	I2_Taxes:	0.00	A_Emplymnt_ConstlAgreemnt:	0.00
F_Noncompete_Distance:	no	I2_Net_Income:	-20.50	A_Noncompete_Value:	0.00
F_Employment_Agreement:	no	I2_Net_Cash_Flow:	3.00	T_Date_of_Sale_Initiated:	9/6/2005
I1_Date_of_statement:	12/31/2005	I3_Gross_Sales:	226.30	T_Date_of_Sale:	6/29/2007
I1_Gross_Profit:	161.20	I3_COGS:	131.60	T_Asking_Price:	150.00
I1_COGS:	117.60	I3_Gross_Profit:	95.06	T_Selling_Price:	125.00
I1_Gross_Sales:	273.90	I3_Yearly_rent:	37.20	T_inventory_incl_in_sale_price:	0.00
I1_Yearly_rent:	39.60	I3_Owner_Compensation:	40.00	T_DP_\$:	0.00
I1_Owner_Compensation:	45.00	I3_Other_Operating_exp:	38.00	T_DP_Percent:	
I1_Other_Operating_exp:	101.40	I3_Noncash_charges:	31.20	T_Asset_or_Stock_Sale:	Asset
I1_Noncash_charges:	0.00	I3_Total_Operating_exp:	146.40	T_Company_Type:	S Corp
I1_Total_Operating_exp:	166.00	I3_Operating_Profit:	-51.34		
I1_Operating_Profit:	-24.80	I3_Interest_expense:	23.70		

(Source: ValuSource IBA Market DataBase. Used with permission.)

Although this detailed record seems to contain a lot of information, it really does not. This is one of the major drawbacks of this database. It does not contain enough information for any transactions to be used with any confidence. I will discuss this again shortly.

Now that you have a feel for what the data looks like, you may want to know what the data represents. Box 10.2 lists the major fields contained in the IBA database, along with a definition of each item. I expect this to change over time, so please keep checking the information provided by the database to make sure that you use this information correctly.

In reviewing the information in box 10.2, there are a few things that may come to your attention. The first is that the database lists only the principal line of business, which is typically two or three words. Not much information is given about the target company (the one that was acquired) that will aid a valuation analyst in determining comparability. One of the major drawbacks of this database is that it contains little qualitative information about each business.

Annual earnings are reported as earnings before owner's compensation, interest, and taxes, which reflect the total compensation of an investor in a small business (assuming that the owner will be the operator of that business; it also assumes only one owner). As discussed throughout this book, a valuation analyst must take care to apply a multiple to the correct level of earnings. When applying an IBA multiple to earnings, make sure that the earnings stream is defined and calculated as indicated in box 10.2.

**BOX 10.2****IBA Data and Definitions**

Business description	Description of the primary business activity of the firm sold.
SIC code	Principal Standard Industrial Classification number applicable to the business sold
Sales	Year 1 Gross Sales (most recent year)
DE	Year 1 Discretionary Earnings. Annual earnings before owner's compensation, interest, and income tax expense
Owner's compensation	Year 1 owner's compensation
Price	Total reported consideration (that is, cash and liabilities assumed, among other items, but excluding real estate)
Price/sales	= Price / Year 1 gross sales
Price/DE	= Price / Year 1 DE
Date of Sale	Date the sale was completed

Another question that may arise when using this data is about the sales price, which is reported as a dollar figure. Terms of the deal (typically including some type of seller financing) are generally not disclosed. If the valuation analyst gets lucky, he or she may find it for a few transactions in the details. However, as every good student knows, a dollar today is more valuable than a dollar 10 years from now. Because fair market value is considered to be a cash or cash equivalent value, knowing the terms of the deal could make a difference. If the valuation analyst does not know the terms of a deal, the IBA listed price may not be its cash equivalent value.

In an attempt to better understand the significance of the transaction data included in the database, an empirical study was undertaken by Raymond Miles, the founder and past Executive Director of IBA, and his results were presented at an IBA national conference many years ago. Mr. Miles concluded the following:

The price-to-earnings<sup>1</sup> and price-to-gross revenue multiples are almost equally valid criteria for estimating the market value of businesses. This conflicts with the conventional wisdom that the price-to-earnings ratio is the most significant performance criterion of a business.

In practice, the price-to-gross revenue multiple is especially useful for appraising closely held businesses, because price-to-gross revenue multiples are available for all sales in the IBA Market Database, while price-to-earnings multiples are only available for some sales.<sup>2</sup>

Empirical data for all business categories, in aggregate, does not show any significant change in business value as a function of time. This is contrary to the conventional wisdom that only recent sales should be considered when choosing guideline (comparable) companies.

The data shows no significant correlation between the selling price and the percentage down payment. This differs from the conventional wisdom that a business sold for cash should bring a lower total price than one sold for terms.

As expected, business values, as measured by price-to-earnings and price-to-gross multiples, differ from one kind of business to another. However, this difference is not as large as one might expect. This suggests that the search for guideline transactions does not need to be limited to businesses in the same SIC category as the business being valued. Thus, the search for guideline transactions can reasonably include SIC categories other than the category assigned to the business being valued.

Empirical evidence indicates that the *most probable price* for a business is significantly different from the average price of businesses that have been sold. Thus, when the standard of value is *most probable price*, use of the average selling price of guideline transactions can lead to a value estimate that is in error by a significant

1 This is also considered to be the price-to-DE (discretionary earnings) ratio in today's materials.

2 *Ibid.*

amount.<sup>3</sup> Being the accountant that I am, and being suspicious of people who publish information that could be deemed self-serving, I was provided with the opportunity to review Mr. Miles' study in this area. His findings were accurate. In fact, what really blew my mind was the fact that transactions that were 10 and 15 years old, in most industries, were still valid. Now, don't get me wrong, using dated transactions can often be a difficult task, especially when certain industries have been fairly inconsistent over the years. With that said, certain industries have been extremely consistent from year to year. What I am really saying is analyze the data to see what the impact is for the particular situation.

Even geographically, the multiples were not materially different. In another study<sup>4</sup> published by Mr. Miles, he disclosed the data presented in table 10.1.

**TABLE 10.1 Miles' Price to Earnings and Price to Gross Revenue Difference Study**

Region	Price to Earnings Different From		Price to Gross Revenue Different From	
	Mean	Nat'l Avg.	Mean	Nat'l Avg.
Southwest	2.10	-11.00%	0.54	-4.00%
Northwest	2.60	11.00%	0.57	6.00%
Southeast	2.23	-7.00%	0.56	1.66%
Northeast	2.99	25.00%	0.54	1.66%
All Regions	2.39	—	0.54	—

As can be gleaned from the data included, the price-to-gross-revenue multiples were not materially different from one geographic region to another. Following completion of the study, the author determined that a major reason for the higher price-to-earnings multiples for the Northeast geographic region was submission of many business sales by one business broker who dealt with high-end businesses.<sup>5</sup>

Now, of course, the valuation analyst wants to test the data before he or she uses it, but this database gives the valuation analyst a methodology that can be applied to small businesses. The valuation analyst must be smart when using this or any other database to ensure that there are enough transactions to be statistically reasonable. As you can see, there are many things to consider when using this data. Answers to many of the issues discussed previously, as well as others that may not have been addressed, can be found in various publications available from IBA. In fact, IBA also has a variety of tutorials on its website to show how to use this data.

## BizComps

The BizComps<sup>®</sup> database includes sales information by SIC category as accumulated by Jack Sanders, a well-respected business broker. The most convenient manner in which to subscribe to this database is through Business Valuation Resources, LLC ([www.bvmarketdata.com](http://www.bvmarketdata.com)). It contains a lot of useful data, but the valuation analyst should be careful to understand what is included in each item. Much like the IBA database, BizComps reports seller's discretionary cash flow as a measure of earnings, but this definition includes depreciation, amortization, and all other noncash and non-operating expenses. According to Business Valuation

<sup>3</sup> Raymond C. Miles, "Business Appraising in the Real World: Evidence From the IBA Market Database" (paper presented at the IBA National Conference, Orlando, FL, February 7, 1992).

<sup>4</sup> Raymond C. Miles, "Business Values in the Real World: Evidence from the IBA Transaction Database" (paper presented at the American Society of Appraisers Business Valuation Conference, Houston, TX, October 23, 1993).

<sup>5</sup> *Ibid.*

Resources, BizComps contains transactional information on “Main Street” businesses (service station, restaurant, convenience store, print shop, travel agent, florist, coin laundry, beauty salon, auto repair shop, video rental, day care center, and so on) dating back to 2000.

Historically, transaction data about small business transfers had been virtually nonexistent, leaving the investor or adviser to speculate about the fair market value of the small business enterprise. This database removes the marketplace uncertainty and provides the user with detailed, meaningful financial information about these real-world transactions.

Subscribers to BizComps are granted access to all of the details in the database, including annual gross revenue, asset figures, operating ratios, and the price and terms of the sale. Additionally, sale price to gross revenues and sale price to seller’s discretionary earnings multiples are calculated for each transaction reported. And once you have found the information you need, you can effortlessly export it to a Microsoft Excel spreadsheet, print the individual transaction reports, or recalculate the summary financial statistics.

As of October 2016, BizComps contained 12,120+ transactions. Within the database, 57.2 percent of the deals have less than \$500,000 in annual gross revenues, whereas 19.4 percent of the deals have annual gross revenues over \$1 million. The entire database is searchable by various parameters, with transactions updated throughout the year.<sup>6</sup>

According to the *BizComps User Guide*, what was actually sold includes the following:

Only two elements are contained in either the BizComps Asking Price or the Sale Price. The items are Fixtures & Equipment (F&E) and Goodwill or the intangible value. Cash, accounts receivable, loans receivable, real estate, and other assets are not included, and all liabilities have been excluded. All licenses necessary to conduct business are generally included. This is nothing magical—just simply the way these businesses are sold. They are all asset sales or have been converted to an asset sale.

The sellers of these businesses rarely are willing to part with the cash and accounts receivable and the buyers are rarely willing to pay for it. And the businesses are considered to be debt-free at close even if there are new loans coming on board from the seller or others. Sellers usually are responsible for paying off all debt at the close of sale.<sup>7</sup>

To better illustrate the contents of this database, as well as what the contents include, I have included a listing of the BizComps fields as outlined in its user guide in box 10.3 on the following page.

There are many useful data points in the BizComps database that the IBA database does not have. BizComps has the asking price as well as the sales price, which can give a valuation analyst a better idea of what is really going on in the market. Two important pieces of information included in BizComps are the percent down payment and terms of financing. Although the Miles study claims that the down payment does not matter, the terms of financing certainly do. This will allow a valuation analyst to estimate the cash equivalent value of the transaction price.

When logging into this database, various search parameters can be entered in order to locate transactions that may be relevant to a particular valuation. For this example, a search was conducted based on SIC code 5813, Drinking Places, located in North America. We also limited the search to include only those transactions that took place after 2010. The search screen is presented in figure 10.3 on the following page.

6 BizComps, [www.bvmarketdata.com/defaulttextonly.asp?f=BIZCOMPS%20Intro](http://www.bvmarketdata.com/defaulttextonly.asp?f=BIZCOMPS%20Intro) (accessed October 17, 2011).

7 BizComps, “User Guide,” [www.bvmarketdata.com/pdf/BIZCOMPS-Guide.pdf](http://www.bvmarketdata.com/pdf/BIZCOMPS-Guide.pdf) (accessed October 17, 2011).

**BOX 10.3**

**BizComps Field Definitions**

- SIC = Small Business Industry Classification Number (Standard Industrial Classification)
- NAICS = North American Industry Classification System
- BUS TYPE = Best Description of Subject Business
- ASK PRICE = Asking Price (000's). Does not include inventory
- ANN GROSS = Annual Gross Sales (Normally Net of State Sales Tax)
- SDE = Seller's Discretionary Earnings (Net Profit Before Taxes and any compensation to owner plus Amortization, Depreciation, Interest, Other Non-Cash Expense and Non-Business Related Expense) SDE Assumes One Working Owner
- SDE/GROSS SALES = Seller's Discretionary Earnings Divided by Gross Sales
- SALE DATE = Actual Date of Sale
- SALE PRICE = Actual Sale Price (in 000's). Inventory has been deducted if it was in Sale Price
- % DOWN = Down Payment as a Percent of Sale Price
- TERMS = Terms of New or Assumed Encumbrance
- SALE/GROSS = Sale Price Divided by Gross Sales
- SALE/SDE = Sale Price Divided by Seller's Discretionary Earnings
- INV = Inventory at The Time of Sale (in 000's) Inventory is not included in Sale Price
- FF&E = Estimate of Value of Furniture, Fixtures & Equipment
- RENT/SALES = Rent as a Percent of Sales
- DAYS ON MKT = Actual Number of Days Business Was on Market
- FRANCHISE ROYALTY = Actual Royalty Less Advertising Percentage
- AREA = Region or Geographical Location of Business

**Figure 10.3 BizComps Search**

BIZCOMPS FAQ Page | Subscriber Quick Reference Guide | Subscriber Services

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**SUBSCRIBER SEARCH**    **RESET FORM**

**SOLD BUSINESS DESCRIPTION**

SIC Code:

Search for a SIC code  
(www.osha.gov)

NAICS Code:

Search for a NAICS code  
(www.naics.com)

Business Description:

Location (City, State or Region):

Country:

---

**TRANSACTION DATA**

Annual Gross Revenue (\$000s): From:  To:

Sale Date: From:  To:

SDE (Seller's Discretionary Earnings in \$000s): From:  To:

Sale Price (\$000s): From:  To:

SDE to Annual Gross Revenues (Profitability): From:  To:

**SUBSCRIBER SEARCH**    **RESET FORM**

(Source: BIZCOMPS®. Used with permission.)

Partial results of our search are presented in figure 10.4. As you can see, 111 transactions were located after 2010. You can change the search parameters to limit the search to more recent years if you want the most current data.

**Figure 10.4 BizComps Summary Search Results**

## BIZCOMPS

### Subscriber Search Results

BIZCOMPS FAQ Page | Subscriber Quick Reference Guide | Subscriber Services | Questions?

Total transactions found meeting criteria: 111

#### Search Criteria

Your search was executed: 11/1/2016 7:42:55 AM (PST)  
Your search results are based upon this criteria:

1. SIC Code ('5813')
2. Sale Date (mm/dd/yyyy) (1/1/2011 - 7/15/2016)

#### Transaction Summary

Financial values are (\$000).

Statistic	Count	Range	Mean	Median	Harmonic Mean	Coefficient of Variation
Sale Date	111	1/12/2011 - 2/29/2016	N/A	N/A	N/A	N/A
Annual Gross	111	\$60 - \$5,534	\$798	\$627	N/A	N/A
SDE	106	(\$38) - \$30,184	\$444	\$121	N/A	N/A
Sale Price (Excludes Inventory)	111	\$10 - \$1,150	\$266	\$200	N/A	N/A
SDE To Annual Gross	106	-0.14 - 54.39	0.73	0.20	N/A	N/A
Rent To Annual Gross	66	0.01 - 0.44	0.10	0.09	N/A	N/A
Sale Price To Annual Gross	111	0.04 - 1.34	0.40	0.33	0.26	0.62
Sale Price To SDE	102	0.01 - 17.59	2.27	1.68	0.44	1.06

(Source: BIZCOMPS®. Used with permission.)

The bottom portion of the initial search shows each transaction as reflected in figure 10.5.

**Figure 10.5 BizComps Transaction Summary From Search**

#### Transactions

Financial values are (\$000). To sort any of the columns, click on the column header. Click on the column header again to reverse the sort order.

Transaction Detail Report
  Include in Recalculation
  Print Detail Report Package

No.	SIC Code	Business Description	Annual Gross	SDE	SDE To Annual Gross	Sale Date	Sale Price	Sale Price To Annual Gross	Sale Price To SDE
1	5813	Cocktails W/Food	\$5,534	\$128	0.02	12/16/2011	\$220	0.04	1.72
2	5813	Sports Bar	\$2,748	\$383	0.14	9/12/2011	\$1,150	0.42	3.00
3	5813	Cocktails W/Package Sales	\$2,428	\$596	0.16	8/15/2012	\$450	0.19	1.14
4	5813	Cocktails W/Food	\$2,246	\$467	0.21	1/14/2013	\$385	0.17	0.82
5	5813	Nightclub	\$2,164	\$690	0.32	3/15/2013	\$900	0.42	1.30
6	5812	Cocktail Lounge	\$2,102	\$129	0.06	5/31/2015	\$165	0.08	1.28
7	5813	Sports Bar/Night Club	\$2,000	\$500	0.25	1/17/2012	\$640	0.32	1.28
8	5813	Adult Night Club	\$1,988	\$290	0.15	1/2/2012	\$355	0.18	1.22
9	5813	Adult Entertainment	\$1,565	\$591	0.38	12/22/2014	\$1,025	0.65	1.73
10	5813	Sports Bar	\$1,500	\$202	0.13	8/15/2012	\$150	0.10	0.74
11	5813	Sports Bar	\$1,494	\$328	0.22	10/30/2011	\$745	0.50	2.27
12	5812	Night Club	\$1,453	\$400	0.28	8/14/2012	\$470	0.32	1.18
13	5813	Brew Pub	\$1,362	\$98	0.07	2/21/2011	\$100	0.07	1.02
14	5812	Cocktails W/Food	\$1,344	\$164	0.12	10/22/2012	\$176	0.13	1.06
15	5813	Cocktail Lounge	\$1,311	\$632	0.48	1/13/2012	\$689	0.53	1.09
16	5813	Nite Club W/Louor	\$1,310	\$620	0.47	2/16/2012	\$683	0.52	1.10
17	5813	Cocktail Lounge	\$1,200	\$280	0.23	4/25/2011	\$300	0.25	1.07
18	5813	Brew Pub	\$1,200	\$0	0.00	7/6/2011	\$119	0.10	N/A
19	5813	Sports Bar	\$1,170	\$127	0.11	9/19/2012	\$200	0.17	1.57
20	5813	Brew Pub	\$1,137	\$228	0.20	9/28/2012	\$420	0.37	1.84
21	5813	Cocktail Lounge	\$1,134	\$228	0.20	12/20/2012	\$225	0.20	0.99
22	5813	Cocktail Lounge	\$1,134	\$231	0.20	10/15/2014	\$690	0.61	2.81
23	5813	Sports Bar	\$1,110	\$89	0.08	10/13/2011	\$350	0.32	3.53
24	5813	Sports Bar	\$1,110	\$89	0.08	2/16/2012	\$380	0.32	3.83
25	5813	Cocktails W/Food	\$1,035	\$296	0.29	2/29/2016	\$175	0.17	0.59
26	5813	Adult Nite Club	\$1,000	\$200	0.20	10/17/2012	\$390	0.39	1.78
27	5813	Night Club	\$1,000	N/A	N/A	10/10/2012	\$275	0.28	N/A
28	5813	Cocktail Lounge	\$996	\$61	0.06	2/28/2014	\$435	0.44	7.13
29	5813	Cocktail Lounge	\$957	\$29	0.03	7/15/2015	\$510	0.53	17.59
30	5813	Cocktails W/Food	\$946	\$159	0.17	7/12/2011	\$150	0.16	0.54

(Source: BIZCOMPS®. Used with permission.)



Every transaction that meets the search criteria is listed in summary format. The valuation analyst can review the details of each transaction on his or her computer or print each one out for the working papers. By checking the box, you can print the detailed records for each transaction. The detailed listing is presented in figure 10.6.

**Figure 10.6 BizComps Detail**

BIZCOMPS			
Transaction Detail			
<a href="#">PRINTABLE FORMAT</a>		<a href="#">RETURN TO RESULTS</a>	
<b>Transaction Details</b>			
Business Description	Cocktails w/ Food		
NAICS	541113 (Alcoholic Beverage)		
Location	Florida, United States		
Number of Employees	11		
<b>Transaction Data</b>			
Sale Date	12/16/2011		
Days on Market	154		
Ask Price (\$000's)	550.0		
Sale Price (\$000's) (Excludes Inventory)	550.0		
Hours of Use	20184		
Terms on Outstanding Consideration	N/A		
<b>Income Data (\$000's)</b>		<b>Asset Data (\$000's)</b>	
Current Fiscal Year	\$408.11	Inventory Value	\$111
Franchise Royalty	No	Furniture, Fixtures and Equipment	\$180.0
SCC	\$ 28.0		
<b>Operating Ratios</b>		<b>Valuation Multiples</b>	
SCC Annual Gross Sales	0.02	Sale Price/Annual Gross Sales	0.04
Hours of Use/Annual Gross Sales	0.00	Sale Price/Hours of Use	1.75
<a href="#">PRINTABLE FORMAT</a>		<a href="#">RETURN TO RESULTS</a>	
N/A = Not Available			
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(Source: BIZCOMPS®. Used with permission.)

The detail included in the transaction provides the analyst with a little more information than was included in the IBA database. More information is a good thing in our business. It provides you with the opportunity to do more analysis of the data.

Having transaction details can allow the analyst to calculate a cash equivalent value for each transaction. Let's do an example. Assume that this particular transaction was closed at a sales price of \$550,000, with a 15 percent down payment and the remainder financed over seven years at an interest rate of 8.5 percent. As of the date of the sale, the prime rate was 7.5 percent. For argument's sake, let's assume that a typical buyer of this type of business could only get financing at the prime rate plus 3 percent, or 10.5 percent. What this means is that this buyer was able to obtain below-market-rate financing, which adds value for the buyer, but the price listed is not indicative of a cash equivalent value. To calculate the cash equivalent value, the analyst must forecast all cash flows from the loan and discount them to the present value at the date of the transaction using the market rate of debt as the discount factor. For illustration purposes, let's assume that the loan is paid out in equal installments over a seven-year period (see table 10.2).

Sale price	\$550,000						
Down payment	82,500						
Amount financed	\$467,500						
Financing period	77						
Interest rate	8.5						
Market interest rate	10.5						
Year	1	2	3	4	5	6	7
Loan balance	\$467,500	\$416,438	\$360,861	\$300,372	\$234,536	\$162,879	\$84,889
Principal payment	\$ 51,062	\$ 55,577	\$ 60,489	\$ 65,836	\$ 71,657	\$ 77,990	\$84,883
Interest payment	37,776	33,264	28,352	23,007	17,187	10,853	3,959
Total payment	\$ 88,838	\$ 88,841	\$ 88,841	\$ 88,843	\$ 88,844	\$ 88,843	\$88,842
Present value of total payment	\$ 80,396	\$ 72,759	\$ 65,846	\$ 59,590	\$ 53,928	\$ 48,803	\$44,165
Total present value	\$425,488						
Plus: down payment	82,500						
Cash value	\$507,988						

The data from table 10.2 indicates that the cash equivalent value of this deal was only \$507,988, almost \$42,000 below the reported transaction price. If the valuation analyst was to calculate the multiple of sales price to annual revenues using the adjusted sales price, the result calculated will be very different (see table 10.3). Table 10.3 indicates a relatively small difference, but imagine how far off you could be depending on the financing terms.

	As Reported	Cash Equivalent Value
Annual revenues	\$1,040,000	\$1,040,000
Deal value	550,000	507,988
Multiple	0.529	0.489

Also, stated separately in this database are inventory and fixed assets. As with the IBA Market Database, the BizComps transactions are asset sales, meaning that only the operating assets are transferred to the purchaser. The \$550,000 sales price, by definition in the database, excludes inventory, but in this case, there is none. However, it would include the fixed assets (these are the operating assets). Therefore, even though it is not given in the database, the intangible assets that were part of the transaction can be calculated by subtracting the value of the fixed assets from the transaction price ( $\$550,000 - \$10,000 = \$540,000$ ). By including the operating assets in the database, BizComps gives the user the ability to estimate the intangible value that was part of the deal.

BizComps lists rent and franchise royalties as a percent of sales so that a user of the database can get a better idea of the fixed costs of the business. It also provides the number of days that the business was on the market before the sale closed. This piece of information is very interesting. One of the issues that analysts encounter with every assignment is the level of marketability of the subject business and a corresponding discount for lack of marketability (discussed in chapter 15) if it is applicable. Although using a sales-price-to-earnings-stream multiple yields a control, nonmarketable value, this information gives the user some basis with which to support a discount for lack of marketability for an indication of value derived from another method (for example, capitalized earnings, which is discussed in chapter 12).

Overall, BizComps gives more data fields than the IBA Market Database, but as discussed, it contains much fewer transactions (12,000 as compared with 39,000). The desktop version of the database comes with software that enables quick and easy analysis of selected transactions and gives the user the ability to value subject companies based on sets of transaction multiples. The analysis performed is by no means all inclusive, but it provides an easy way to do a quick analysis. Analysis of transaction data will be discussed in more detail later in this chapter.

## Pratt's Stats

Pratt's Stats<sup>®</sup> is another resource for closely held company sale information. Pratt's Stats contains details on approximately 26,000 closely held business sales from 1990 to the present, ranging in target revenues from \$1,000 to \$17,178,097,000. The industries represented in Pratt's Stats are also pretty broad, as evidenced by the roughly 770 unique SIC codes. This database, started by Shannon Pratt, and now carried on by Business Valuation Resources, is an excellent source for transaction data, and it has taken small business transaction reporting to the next level. Pratt's Stats data is available online at [www.bvmarketdata.com](http://www.bvmarketdata.com).

Pratt's Stats search criteria includes the industry SIC or North American Industry Classification System (NAICS) code, company description, city and state location, revenue range, text searches, and many other key data fields for each transaction. The valuation analyst can also search by a secondary SIC code. The ability to further select specific deals from the initial search, recalculate the summary statistics, and print or export to Excel spreadsheet formats are some of the features found here. Currently, you can download up to 149 fields of information for each transaction from the database (although, as you may have noticed with IBA and BizComps, not all information is available for each transaction). Figure 10.7 displays a Pratt's Stats search for SIC code 5813.

Figure 10.7 Pratt's Stats Search Screen –Top Portion

# Pratt's Stats

## Advanced Search

[Pratt's Stats FAQ Page](#) | [Subscriber Quick Reference Guide](#) | [Subscriber Services](#)

**SUBSCRIBER SEARCH**

RESET FORM

### COMPANY DESCRIPTION

SIC Codes:

Need help finding which SIC code to use?  
Click here. ([www.osha.gov](http://www.osha.gov))

Include Secondary SIC Codes?

NAICS Codes:

Need help finding which NAICS code to use? Click here. ([www.census.gov](http://www.census.gov))

Include Secondary NAICS Codes?

5812 Eating and Drinking Places  
5813 Drinking Places (Alcoholic Beverages)  
5912 Drug Stores and Proprietary Stores  
5921 Liquor Stores  
5932 Used Merchandise Stores  
5941 Sporting Goods Stores and Bicycle Shop  
5942 Book Stores  
5943 Stationery Stores

-all-  
111199 All Other Grain Farming  
111219 Other Vegetable (except Potato) and  
111331 Apple Orchards  
111332 Grape Vineyards  
111334 Berry (except Strawberry) Farming  
111335 Tree Nut Farming  
111339 Other Noncitrus Fruit Farming  
111419 Other Food Crops Grown Under Cover

Target Name:

Target Business Description:

Target Structure:

-all- ▼

Franchise:

-all- ▼

Development Stage Company:

-all- ▼

Real Estate Acquired:

-all- ▼

Sale Country:

-all- ▼

Sale City:

-all- ▼

Sale State:

-all- ▼

Sale Region:

-all- ▼

Acquirer Type:

-all- ▼

(Source: Pratt's Stats. Used with permission.)

The balance of the search screen appears in figure 10.8.

**Figure 10.8 Pratt's Stats Search Screen—Bottom Portion****FINANCIAL DATA**

Net Sales:	From: \$0	To: \$17,178,097,000
Operating Profit:	From: (\$2,335,316,000)	To: \$4,023,000,000
Net Income:	From: (\$2,335,316,000)	To: \$2,060,000,000
EBITDA:	From: (\$1,449,898,000)	To: \$4,092,000,000
Discretionary Earnings:	From: (\$828,740,000)	To: \$224,940,000
Total Assets:	From: (\$431,524)	To: \$221,673,000,000

**TRANSACTION DATA**

Sale Date:	From: 1/1/2011	To: 10/19/2016
MVIC Price (Market Value of Invested Capital):	From: \$1,000	To: \$17,497,000,000
Transaction Type:	-all- ▼	

**FINANCIAL PERFORMANCE RATIOS**

Net Profit Margin (0.1 = 10%):	From: -4,206.16	To: 4,406.67
Operating Profit Margin (0.1 = 10%):	From: -4,132.45	To: 1.09
Fixed Charge Coverage:	From: -49,091.14	To: 256,937.50
Asset Turnover:	From: -684.13	To: 2,078.94

**SOURCE OF DATA**

Source:	<input type="text" value="-all-"/> <ul style="list-style-type: none"> <li>AM&amp;AA</li> <li>BBF</li> <li>GABB</li> <li>IBBA</li> <li>M&amp;A Source</li> <li>Other</li> <li>SEC</li> </ul>
Contributor Name:	<input type="text" value="-all-"/>

**SUBSCRIBER SEARCH**

RESET FORM

*(Source: Pratt's Stats. Used with permission.)*

Even the search capabilities are much greater for this database. The valuation analyst can base a search on date ranges, financial metrics, and even the source of the data. This provides a much greater ability to focus on those metrics that are important to the particular valuation assignment.

After inputting the search criteria and pressing the search button, the valuation analyst gets a summary report, illustrated in figures 10.9 and 10.10.

**Figure 10.9 Pratt's Stats Summary Results–Top Portion**

### Pratt's Stats

#### Subscriber Search Results

Pratt's Stats FAQ Page | Subscriber Quick Reference Guide | Subscriber Services | Questions?

Total transactions found meeting criteria: 163

#### Search Criteria

Your search was executed: 11/1/2016 11:00:27 AM (PST)  
Your search results are based upon this criteria:

1. Primary SIC Code ('5813')
2. Sale Date (>= 1/1/2011)

#### Transaction Summary

Statistic	Count	Range	Mean	Median	Harmonic Mean	Coefficient of Variation
Sale Date	163	1/14/2011 - 6/14/2016				
Net Sales	163	\$50,000 - \$14,278,000	\$902,266	\$576,000		
Market Value of Invested Capital (MVIC)	163	\$10,000 - \$26,000,000	\$527,632	\$179,000		
EBITDA	151	(\$411,000) - \$1,503,371	\$107,725	\$75,120		
Operating Profit	162	(\$824,000) - \$1,198,034	\$99,656	\$68,451		
Net Income	154	(\$1,363,000) - \$1,042,552	\$84,642	\$63,064		
Gross Profit To Sales	163	0.10 - 1.01	0.66	0.67		
Operating Profit To Sales	162	-0.44 - 0.55	0.15	0.15		
Net Income to Sales	154	-0.47 - 0.55	0.14	0.13		
MVIC/Net Sales	163	0.01 - 2.50	0.40	0.33	0.24	0.76
MVIC/Gross Profit	163	0.02 - 5.01	0.62	0.50	0.37	0.84
MVIC/EBIT	135	0.33 - 45.08	3.98	1.88	1.59	1.55
MVIC/EBITDA	131	0.33 - 45.08	3.76	1.88	1.59	1.61
MVIC/Discretionary Earnings	135	0.33 - 41.66	2.77	1.81	1.52	1.45
MVIC/Book Value of Invested Capital	8	0.35 - 10.05	2.85	1.86	1.23	1.09

(Source: Pratt's Stats. Used with permission.)

**Figure 10.10 Pratt's Stats Summary Results–Bottom Portion**

#### Transactions

To sort any of the columns, click on the column header. Click on the column header again to reverse the sort order.

No	SIC Code	Business Description	Market Value of Invested Capital	Sale Date	Net Sales	MVIC/Net Sales	MVIC/Gross Profit	MVIC/EBITDA
1	5813	Bar	\$59,900	6/14/2016	\$190,000	0.32	0.67	4.28
2	8813	Sports Bar	\$128,000	5/23/2016	\$739,132	0.17	0.27	39.79
3	5813	Bar	\$115,000	5/14/2016	\$414,856	0.28	0.29	1.65
4	5813	Wine Bar and Bistro	\$55,000	5/2/2016	\$207,870	0.26	0.37	0.70
5	5813	Sports Bar	\$315,000	4/4/2016	\$1,077,400	0.29	0.50	1.82
6	5813	Bar	\$440,000	3/31/2016	\$362,798	1.21	1.69	7.37
7	5813	Night Club	\$350,000	3/15/2016	\$1,200,000	0.29	0.58	1.49
8	5813	Franchise Bar and Restaurant	\$126,390	3/1/2016	\$1,792,372	0.07	0.12	N/A
9	5813	Sports Bar	\$147,000	2/29/2016	\$298,773	0.49	0.68	2.19
10	5813	Bar and Nightclub	\$147,000	2/22/2016	\$298,773	0.49	0.68	2.67
11	5813	Bar and Restaurant	\$125,000	2/11/2016	\$1,029,369	0.12	0.20	N/A
12	5813	Bar	\$199,900	2/8/2016	\$284,377	0.70	0.97	2.26
13	5813	Sports Bar	\$85,000	2/1/2016	\$576,000	0.15	0.22	0.99
14	5813	Bar and Night Club	\$35,000	2/1/2016	\$174,737	0.20	0.31	0.65
15	5813	Craft Brewery - Also Owns a Brewpub.	\$4,410,000	12/20/2015	\$5,243,000	0.84	1.74	4.36
16	5813	Sports Bar	\$350,000	12/1/2015	\$482,187	0.73	1.15	1.73
17	5813	Bar	\$100,000	11/5/2015	\$155,552	0.64	1.11	N/A
18	5813	Wine Bar and Restaurant	\$100,000	10/30/2015	\$448,148	0.22	0.37	5.29
19	5813	Night Club and Bar	\$375,000	10/17/2015	\$780,000	0.48	0.64	4.68
20	5813	Sports Bar	\$70,000	10/14/2015	\$414,856	0.17	0.18	1.00
21	5813	Sports Bar	\$150,000	10/13/2015	\$635,152	0.24	0.39	7.88
22	5813	Bar and Restaurant	\$490,000	9/21/2015	\$1,621,568	0.30	0.46	20.40
23	5813	Bar and Grill - Franchise	\$142,500	9/8/2015	\$1,258,623	0.11	0.18	N/A
24	5813	Bar	\$700,000	9/1/2015	\$1,311,116	0.53	0.71	1.72
25	5813	Beer and Wine Bar	\$218,000	8/1/2015	\$534,000	0.41	0.68	2.08

(Source: Pratt's Stats. Used with permission.)

Summary data is provided in figures 10.9 and 10.10. By the way, remember the statistics that we discussed in chapter 7? Look at the statistical data provided in this summary. There is a reason that I included statistics in this book. The detail shown in these figures appears to be similar to the detailed report from BizComps, but look at the illustration more closely and notice a drop-down menu that allows you to choose which multiples you want to include for this report. Once you select the transactions, a detailed report for each transaction can be printed. A transaction report for one of the drinking establishments that was sold is illustrated in figures 10.11 and 10.12.

The detailed transaction reports illustrated in figures 10.11 and 10.12 contain many more data points for each transaction than IBA or BizComps. For instance, look at the item on the page, titled “Broker Firm Name.” As previously discussed, the first two databases had limited data that could be used to determine comparability, whereas Pratt’s Stats has taken the next step and given the user the name of the intermediary who participated in the transaction. Just from this one field, you have the opportunity to verify the listed transaction with the broker.

**Figure 10.11 Pratt’s Stats Transaction Details**

PRINTABLE FORMAT		RETURN TO RESULTS		Comments?		
<b>Seller Details</b>			<b>Source Data</b>			
Company Name:	N/A	Broker Name:	N/A			
Business Description:	Bar	Broker Firm Name:	N/A			
Sale Location:	FL, United States	Years in Business:	18			
Sale Region:	South Atlantic	Number Employees:	7			
Company Type:	C Corporation	Contact Broker (Retrieve broker contact information from BVR's "Find a Broker" database.)				
<u>SIC Codes</u>		<u>NAICS Codes</u>				
5813 - Drinking Places (Alcoholic Beverages)		722410 - Drinking Places (Alcoholic Beverages)				
<b>Transaction Data</b>						
Date Sale Initiated:	3/4/2015	Asking Price:	\$199,000	Amount of Down Payment:	\$199,000	
Date of Sale:	2/8/2016	Market Value of Invested Capital:	\$199,000	Stock or Asset Sale:	Asset	
Days to Sell:	341	Debt Assumed:	\$0	Transaction Costs:	N/A	
<b>Income Data</b>		<b>Balance Sheet Data</b>		<b>Purchase Price Allocation Data</b>		
Data is "Latest Full Year" Reported	Yes	Balance Sheet Date	N/A		PPA Date	2/8/2016
Data is Restated (see Notes for any explanation)	No	Cash Equivalents	N/A		Cash Equivalents	\$0
Income Statement Date	12/31/2014	Trade Receivables	N/A		Trade Receivables	\$0
Net Sales	\$284,377	Inventory	N/A		Inventory	\$0
COGS	\$79,625	Other Current Assets	N/A		Other Current Assets	\$0
Gross Profit	\$204,752	Total Current Assets	N/A		Total Current Assets	\$0
Yearly Rent	\$43,200	Fixed Assets	N/A		Fixed Assets	\$69,000
Owner's Compensation	\$0	Real Estate	N/A		Real Estate	\$0
Other Operating Expenses	\$73,568	Intangibles	N/A		Identifiable Intangibles	\$0
Noncash Charges	\$0	Other Noncurrent Assets	N/A		Customer Related	\$0
Total Operating Expenses	\$116,768	Total Assets	N/A		Backlog	\$0
Operating Income	\$87,984	Current Liabilities	N/A		Developed Technology	\$0
Interest Expense	\$0	Long-term Liabilities	N/A		In-Process R & D	\$0
Interest Income	\$0	Total Liabilities	N/A		Tradenames/marks	\$0
Other Expense	\$0	Stockholder's Equity	N/A		Non-Compete	\$0
Other Income	\$0				Other Intangibles	\$130,000
Earnings Before Taxes	\$87,984				Total	\$130,000
Tax Expense	N/A				Goodwill	\$0
Tax Benefit	N/A				Total Intangibles	\$130,000
Net Income	N/A				Other Noncurrent Assets	\$0
					Total Assets	\$199,000
					Interest-Bearing Liabilities	\$0
					Total Liabilities	\$0

(Source: Pratt’s Stats. Used with permission.)

Figure 10.12 Pratt's Stats More Transaction Details

Additional Transaction Information					
Deal Terms: Consideration: Cash payment in the amount of \$199,000.					
Was there a Note in the consideration paid?	No	Was there a Noncompete Agreement?	Yes	Was there an Employment/Consulting Agreement?	Yes
Was there a personal guarantee on the Note?	No	Noncompete Value:	N/A	Employment Agreement Value:	\$0
Amount Seller Financed:	\$0	Noncompete Length (Months):	60	Assumed Lease (Months):	N/A
Terms of Lease: Rent is \$3,600/month. The lease expires on 03/04/2020. The business operated in 3,400 sq. ft.					
Noncompete Agreement: 5 mile radius.					
Employment/Consulting Agreement: The seller will train the buyer for 2 months at no cost to the buyer.					
Additional Notes: This transaction was submitted by a member of the Business Brokers of Florida (BBF). The sold business was located in Pasco county. Other intangible assets acquired include a 4-cop license for \$130,000.					
Valuation Multiples		Profitability Ratios		Leverage Ratios	
MVIC/Net Sales	0.70	Net Profit Margin	N/A	Fixed Charge Coverage	N/A
MVIC/Gross Profit	0.97	Operating Profit Margin	0.31	Long-Term Debt to Assets	N/A
MVIC/EBITDA	2.26	Gross Profit Margin	0.72	Long-Term Debt to Equity	N/A
MVIC/EBIT	2.26	Return on Assets	N/A		
MVIC/Discretionary Earnings	2.26	Return on Equity	N/A		
MVIC/Book Value of Invested Capital	N/A				
Earnings		Liquidity Ratios		Activity Ratios	
EBITDA	\$87,984	Current Ratio	N/A	Total Asset Turnover	N/A
Discretionary Earnings	\$87,984	Quick Ratio	N/A	Fixed Asset Turnover	N/A
Gross Cash Flow	N/A			Inventory Turnover	N/A

PRINTABLE FORMAT

RETURN TO RESULTS

Comments?

N/A = Not Available

(Source: Pratt's Stats. Used with permission.)

In addition to the multiples and financial information about the target and the deal, additional information about whether there was an employment contract or a covenant not to compete is also provided. The more information available to the valuation analyst, the better his or her ability will be to determine comparability.

There are many other useful data points included in Pratt's Stats, and full definitions for all fields are available on the website under Pratt's Stats FAQs (frequently asked questions).

Each transaction does not have information in every data field, but this database does a good job of increasing the amount of information that is available for small company transactions. The more information that is available, the better the decision-making process will be. This will lead to better valuation opinions. Pratt's Stats provides up to six different valuation multiples based on invested capital (deal price). These include the following:

- MVIC / Net Sales
- MVIC / Gross Profit
- MVIC / EBITDA
- MVIC / EBIT
- MVIC / Discretionary Earnings
- MVIC / Book Value of Invested Capital

In addition, the database gives the user information to calculate other multiples (for example, equity-price-to-book value). With so much data available, the possibilities are endless, but the valuation analyst has to be careful to make sure that he or she understands what is listed in each field before making up multiples.

Another important item that the valuation analyst must consider is that Pratt's Stats reports two different transaction types. BizComps and IBA report only asset sales. In addition to asset sales, Pratt's Stats also reports stock sales. Stock sales are transactions in which a business transfers its equity to the acquirer, or in other words, transfers all of its assets and liabilities. Based on the transaction type, price will most likely reflect different assets or liabilities, or both, that were transferred as part of the deal. This becomes very important in comparing and applying multiples. I will demonstrate this shortly.



Pratt's Stats automatically calculates statistics on selected transaction data, and these are displayed on the subscriber results page. Users can limit the data set to include certain transactions and may recalculate statistics such as count, range, mean, median, harmonic mean, and coefficient of variation for each data set. These statistics can be useful in performing transaction searches, as well as multiple selections. Another very useful tool that comes out of Pratt's Stats is the ability to calculate multiples for S corporations versus C corporations. This can further support the valuation analyst's analysis when it comes time to address the question of whether to tax affect the earnings of an S corporation. This topic is discussed in greater detail in chapter 18.

Finally, one more useful tool that comes out of this database is the ability to calculate the relationship of the value of non-compete agreements to the total transaction price of the deal. This is really handy when the valuation analyst has to address the issue of personal goodwill allocations. This topic will be discussed in much greater detail in chapters 20 and 22.

## DoneDeals Database

The DoneDeals® database, now published by Thomson Reuters, as part of PPC (Practitioners Publishing Company), contains slightly larger transactions than the databases discussed previously, with purchase prices ranging between \$1 million and \$1 billion. According to its website, DoneDeals indicated that there are approximately 8,800 deals as of November 2016. The company says that they add new transactions weekly, up to 250 new transactions each quarter depending upon merger and acquisition activity among mid-market companies and the number of deals for which they are able to obtain full financials, but the number of deals has actually gone down since the last edition of this book was published.

Over 79 percent of the companies sold in the DoneDeals database were privately owned. Another 11 percent of the companies sold were subsidiaries of public companies. Most of the DoneDeals data comes from company financial reports filed with the SEC with financial data subject to generally accepted accounting principles. Other sources provide supplemental information. DoneDeals focuses on the smallest acquisitions reported to the SEC.

As time has passed, I have found that many of the transactions found in this database can be obtained through other databases. You may find many of the transactions to be duplicative and probably too large for the small- to mid-size valuations that you do. However, with that said, it is another resource that you should consider.

## Public Stats

Public Stats® is offered by Business Valuation Resources, the same organization that brings us Pratt's Stats. Public Stats is a database of public company purchases of 100 percent of public companies. Some of the transactions are international. Public Stats compiles and reports information on 64 data points, highlighting the financial and transactional details of the sales of publicly held companies.

According to its website, benefits enjoyed by Public Stats' users include the following:

- An easy-to-use search engine that quickly identifies comparable transactions based on criteria specified by the user
- Hard-to-find data on how deals are structured, including payment terms, employment agreements, and non-compete agreements
- Deal details with five valuation multiples and 13 financial ratios sorted by profitability, leverage, and activity ratios (getting close to size, growth, leverage, profitability, turnover ratio, and liquidity [SGLPTL]?) calculated for each transaction found in Public Stats, making the identification of value drivers with the greatest market reliance transparent to the user
- The ability to track market pricing trends via the Public Stats' timely deal updates

As of November 2016, Public Stats had compiled details on more than 3,795 public company business sales from 1995 to the present. Public Stats collects its data from SEC filings submitted to the SEC by the business buyer. Public Stats data is updated online monthly with several transactions added per month.

## Factset Mergerstat/BVR Control Premium Study

Another database that we search when looking for larger transactions is another brought to us by, who else, Business Valuation Resources. Any valuation analyst who has been working in this field for a number of years should recognize the name Mergerstat. We have been using *Mergerstat Review*<sup>8</sup> for as long as I have been in this business (you know, when the dinosaurs roamed the earth). Shannon Pratt teamed up with Mergerstat to create this database, and it is now being continued by the folks at BV Resources. The Mergerstat database is offered through other resellers as well, such as Alacra, Lexis-Nexis, and Dialog, and should not be confused with the FactSet Mergerstat/BVR Control Premium Study.<sup>TM</sup>

FactSet Mergerstat, LLC, located in Santa Monica, California, publishes this study, which is mainly used to quantify minority discounts and control premiums used in the business valuation, venture capital, and merger and acquisition professions. However, this database also allows you to find transactions. This database can be searched by specifying any of the following variables:

- Individual four-digit SIC code or NAICS code
- An industry (a range of SIC codes)
- Financial performance ratios (operating profit margin and net profit margin)
- Keyword from a business description
- Range of control premiums
- Financial data (including net sales, EBITDA, earnings before income and taxes [EBIT], net income, and invested capital)
- Sale details (including sale date, deal value, attitude, form, and consideration and transaction purpose)

Subscribers to the FactSet Mergerstat/BVR Control Premium Study are granted access to all the details in the database, including the control premium, five valuation multiples, and the available information to calculate the return on equity (Net Income / [book value per share × number of shares outstanding]). The database contains more than 10,490 transactions that detail up to 57 data points for each transaction. The differences between *Mergerstat Review* and FactSet Mergerstat/BVR Control Premium Study are highlighted in figure 10.13.

**Figure 10.13 Difference Between Mergerstat Review and the Database**

Control Premium Study Online	Mergerstat Review <sup>1</sup>
Used to calculate controls premiums and implied minority discounts	Used to stay current with deals by size or industry sector
Quarterly updates of controlling acquisitions	Monthly updates of major deal activity
Greater focus on individual transactions	Focus on aggregate data (plus individual)
Updated quarterly	Updated annually
Only includes deals that are closed	Includes deals that are announced and closed
Uses unaffected date price to calculate Control Premium (could be difference of days or weeks)	Uses five days before the acquisition announcement date to calculate Premium - but it's not a Control Premium (see below Review note)
Includes only controlling purchases	Includes controlling and NON-controlling purchases
Details on individual transactions are available	Details on transactions are available but not quite as much detail
Contains information only on public targets	Contains public, private, divestitures, and cross-border deals
Contains information from non-US companies - both sides can be non-US based companies	Contains information from non-US companies - one side MUST be US based company
Allows for inclusion of negative premiums	Excludes negative premiums
Includes transaction codes for Vertical Integration (V), Horizontal Integration (H), Conglomerate (C) and Financial transactions (F)	Does not include transaction codes

<sup>1</sup> Also includes monthly emailed Factset Mergerstat Monthly Review in PDF format

Review note - for the Review, there is the premium you pay for the right to control an entity but there is also the premium you may have to pay over the current share price to get the piece of the company you want to own. The moment your demand for the shares is realized in the market - the price of those shares are going to adjust (usually up in price) - almost as quickly as you can buy (especially if you are looking for a large piece). That differential between the share price (unaffected by your demand) and what you may actually have to pay to get the share is the "premium". It may be zero, negative, a small amount or a considerable amount depending on the market's reaction to your demand.

**General Comments:**

There are advantages for any firm to owning both publications because there is little overlap. The Mergerstat Review covers a much broader spectrum of overall M&A market & industry statistics and analysis plus details of the underlying transactions, whereas the Factset Mergerstat/BVR Control Premium Study focuses on transactions where a controlling interest is being exchanged and the associated control premiums.

(Source: Mergerstat. Used with permission.)

<sup>8</sup> Mergerstat Review. Santa Monica, CA: FactSet Mergerstat.

## Thomson Financial Mergers & Acquisitions (TF Mergers & Acquisitions)

The Thomas Financial (TF) Mergers & Acquisitions database contains information about public company mergers and acquisitions of public and private companies. This database will be overkill for the valuation analyst who only values small companies. However, I think that a valuation analyst should be aware of it because you never know when that gas station valuation will turn into Shell Oil.

We access the TF Mergers & Acquisitions database through Alacra ([www.alacra.com](http://www.alacra.com)), which is a fee-based service. The database contains information about U.S. transactions from 1979 to the present. Non-U.S. transactions have been included since 1985. The exact number of transactions is unknown because the figures on the website continue to show that there are 121,300 U.S. transactions and 157,350 non-U.S. transactions included in this database. These numbers have not changed in years, but we do know that the total number is big!

Included in this database are all corporate transactions involving at least 5 percent of the ownership of a company in which the transaction was valued at \$1 million or more (after 1992, deals of any value are covered) or the value of the transaction was undisclosed. Public and private transactions are covered. Transactions include the following:

- Mergers and acquisitions
- Stake purchases
- Stock swaps
- Real estate investment trust acquisitions
- Asset sales and divestitures
- Rumored and seeking buyer transactions
- Leveraged buyouts
- Tender offers
- Privatizations
- Spinoffs and splitoffs
- Bankruptcy liquidations

This database boasts that there are 1,400 data elements available, but the reality is that many of the transactions have many blank fields. In some databases, when downloading reports, the cost is “per field” regardless of whether there is data. This database can become very expensive to use. A more in-depth discussion about this database is beyond the scope of this book.

## Business Brokers

Business brokers can also be an excellent source of market transaction data. The local business broker is frequently involved in many transactions and has access to information about businesses that have been bought and sold in the geographical region of the valuation subject. The major problem with business broker information is twofold: First, the broker may not have access to fully reliable financial information about the company that was sold because the seller frequently provides the figures to the broker without any verification. Second, the seller or the buyer, or both, are generally going to require the broker to respect their confidentiality, which would prohibit the broker from opening the file to the valuation analyst.

On occasion, enough data can be obtained from a business broker to allow some empirical data to be used in applying the market approach. There may be times when a reliable broker will be allowed to verify the transactions and the other party, assuming a litigation, will stipulate to confidentiality, because his or her expert will want to do the same. This is exactly what happened in the report excerpted in exhibit 10.1.

To help get data from business brokers, the valuation analyst may find it helpful to offer the broker compensation for his or her time. (Brokers just love me!) Another excellent way to gain cooperation is to refer some sales to the broker. Because brokers are involved in the market, it is only natural that they should be able to provide good market information in the valuation analyst's local area.

### EXHIBIT 10.1 Business Broker Information

This valuation method uses information that comes from the actual sales transactions of similar properties to determine a ratio of the sales price to the net profit from the property (commonly known as a *multiple*), which is then applied against the appraisal subject's net profit. This is probably the most widely used ratio in valuation methodologies today. Two important components of this method are the net profit (for this appraisal, net profit is defined as the amount available to the owner after normal business expenses but before taxes, loan payments, and owner's compensation; this is sometimes called *seller's discretionary cash flow*) and the appropriate multiple to be used.

XYZ Products, Inc. had an average net profit for the past three years of \$110,500. The multiple applied to the net profit must reflect the appropriate amount of risk that is associated with the net profit as calculated. In this instance, a multiple of 1.81 has been deemed appropriate, as explained in a later section of this report.

Therefore, the value of the intangible assets of XYZ Products, Inc. is calculated as follows:

Average net profit	\$110,500
Multiple	× 1.81
Estimate of value	<u>\$200,005</u>
Rounded	<u>\$200,000</u>

#### THE MARKET PRICE OF THE SALES OF CLOSELY HELD FOOD ROUTES

To assess the market price of sales of routes comparable to XYZ Products, Inc., we consulted with John Smith, President of Busbroke Inc. and a business broker who specializes in the sale of food route businesses. Mr. Smith provided us with the actual sales transactions of 10 routes that were used as guidelines for sales of similar types of businesses to the subject company. Table 1 provides financial data regarding the 10 guideline companies. All 10 routes relate to either dairy, cheese, or yogurt product lines. Table 1 provides ratios based on the relationship of the purchase price of the route to the net profits of the selling company.

**TABLE 1 Summary of Food Route Sales\***

Rout	Type	Net Sales (\$)	Purchase Profit (\$)	Gross Profit (\$)	Price/Net Price (R)	Profit (\$)	Multiple**
1465	Cheese	390,000	50,700	44,200	100,000	13.00	2.26
1474	Dairy	520,000	78,000	68,380	125,000	15.00	1.83
1514	Yogurt	650,000	110,500	85,800	248,000	17.00	2.89
1543	Yogurt	610,000	118,950	85,700	200,000	19.50	2.33
1546	Yogurt	478,400	119,600	91,780	205,000	25.00	2.23
1571	Yogurt	442,000	88,400	80,600	165,000	20.00	2.05
1726	Yogurt	338,000	60,840	54,860	155,000	18.00	2.83
1773	Cheese	936,000	112,320	90,740	200,000	12.00	2.20
1784	Dairy	327,600	88,400	82,160	120,000	26.98	1.46
1818	Dairy	468,000	93,600	70,980	85,000	20.00	1.20
						Average	2.13

\* Supplied by Busbroke, Inc.

\*\* Calculated by the valuation analyst.

## EXHIBIT 10.1 Business Broker Information

Some additional information should be highlighted about these transactions. The sale of food routes generally involves an individual purchasing a food route with the intention of working the route; in essence, the individual is purchasing his employment. This is in contrast to the potential investor, who would buy a route and then pay someone to service the route. As a result, an individual purchasing these food routes tends to be motivated and frequently bases the amount that he or she is willing to pay on a figure that is considered to be net profit but, in fact, excludes owner's compensation.

The cash flow generated by the food route must be adequate not only to allow the owner to make a living, but also to pay down the debt service that comes about as a result of the purchasing of the route itself. To determine the fair market value of a food route business, reasonable compensation should be considered to avoid confusing a true return on investment with the owner receiving compensation for working the business. Logically, value is generally measured by the return received in excess of reasonable compensation; otherwise, employees would be paying their employer for the opportunity to work.

In comparing XYZ Dairy Products, Inc. with the routes listed in Table 1, we noted that the guideline companies reflect a gross profit (sales less direct cost of sales) of 12 percent to 26.98 percent, whereas XYZ Dairy Products, Inc. has averaged only 10.35 percent over the last five years. Many of the guideline companies reflect a net profit to the owners of \$85,000–\$90,000 based on sales of \$300,000–\$600,000, whereas XYZ Dairy Products, Inc. reflects an average net profit of \$105,771 based on average net sales of approximately \$3,373,000.

In addition to the preceding, a price-to-net profit ratio was calculated by the valuation analyst for each actual transaction, resulting in ratios of 1.20–2.89, with an average ratio actually paid of 2.13 times the net profit. In fact, a multiple of 2.13 is equivalent to a capitalization rate of 46.9 percent, indicating an extremely high rate of return required by the buyers in the food route marketplace. This is the same as saying that the willing buyers expect to recoup their investments in a little over two years, in addition to their labor.

Another important factor that must be considered in reaching a value conclusion about intangible assets is risk. The level of risk associated with an investment generally determines the required rate of return for an investor.

This is why, for example, certificates of deposit may pay 5 percent, whereas corporate bonds pay 8 percent and junk bonds pay 16 percent. The higher the level of risk, the higher the required rate of return must be in order to attract an investor.

Almost every closely held business is extremely risky. XYZ Dairy Products, Inc. is certainly no exception. The willing buyer of a customer list is not assured that customers will continue with that company. In fact, unless there were contracts guaranteeing volume, a substantial discount would normally be applied in the value of the company. In the real world, buyers and sellers address this contingency through sales contracts because if a customer were lost, no payment would be required. This is almost like buying a business on a royalty basis. If the business volume continues as anticipated, the willing buyer will pay the willing seller.

Some of the more pertinent risk factors that a willing buyer would consider are the following:

- Brand X represented approximately 90 percent of XYZ Dairy Products, Inc.'s business.
- XYZ Dairy Products, Inc. had no contract with Brand X indicating that business would continue at any point in the future. The fact that the company had been delivering Brand X products for a number of years could not, by itself, be relied upon for continuity to take place in the future.

In the early 2000s, PQZ became a broker for Brand X. PQZ represented Brand X in stores and supermarket headquarters and actively worked with the supermarkets through central billing. At that point XYZ Dairy Products, Inc. started billing with Brand X invoices, and Brand X collected the money directly. PQZ also began handling the promotional aspects with the supermarket to further change the role of the company.

In approximately 2004, Cheese, Inc. purchased Brand X. According to the deposition of Sam Jones, when Cheese, Inc. took over Brand X, many distributors were concerned about Brand X "going warehouse" (that is, distributing through a central warehouse instead of directly to the supermarkets).

Compared to the guideline companies, XYZ Dairy Products, Inc. was considerably less profitable despite a larger sales volume. The company's gross profit on sales was lower than all 10 guideline companies. XYZ Dairy Products, Inc. had no control over the billing, distribution, and collections associated with Brand X products. The company was primarily a one-company distribution agent with little diversification.

In addition to the preceding, a financial analysis was performed by the analyst using Integra's Business Profiler. This database contains statistical data broken down by Standard Industrial Classification (SIC). In this instance, SIC code 5143, "Wholesalers of Dairy Products," was used.

In our opinion, XYZ Dairy Products, Inc. appears to be weaker than the industry group, due primarily to its lower profitability. As a result, we believe that a 15 percent discount is appropriate from the average guideline company multiple. This indicates that an appropriate multiple to be used for XYZ Dairy Products, Inc. is 1.81, to be applied against the net profit available to the owner.

## Transaction Analysis

Get ready, here comes the good stuff! Now that the valuation analyst knows where to find transaction data, I will shed some light on how to use it. The fact of the matter is that the merger and acquisition method has some major limitations because most of the transactions retrieved through database services cannot be independently verified, and there is a limited amount of information for each transaction. Real estate appraisers verify each transaction, whereas valuation analysts must rely on someone else's work, which comprises limited information about the target companies.

However, fear not! Although a valuation analyst may have limited data, it can still be used. Actually, this method is often the most direct and applicable method for valuing a small company (just don't use it by itself as the only method). There is a wide array of tools and techniques that can help you analyze transaction data. Before we start in on the analysis, I want to clearly define what the valuation analyst is really trying to do. A valuation analyst needs to fully understand the purpose of this exercise to perform the task correctly. When we get a data set (transaction data), be it from IBA, BizComps, Pratt's Stats, or any other transaction information, we attempt to determine

- if the transactions appear to be usable transactions (qualitative analysis) and
- what multiple, if any, should be applied to the subject company (quantitative analysis).

A valuation analyst can utilize qualitative and quantitative analysis, much the same as was done in applying the guideline public company method to build a meaningful and supportable indication of value for the subject company.

## Qualitative Analysis

*Qualitative analysis* refers to the soft stuff, or the nonnumerical information, known about the transactions. As discussed, we know very little about the transactions as compared to real estate appraisers, who can get all sorts of information about their comparables. However, we have to work with what we've got. For instance, the business descriptions listed in the IBA and BizComps databases may be brief (often one or two words), but they still serve as a good indicator of what a business does. Analyzing business descriptions, particularly in large data sets, can prove to be invaluable to an analyst. An analysis of IBA transactions performed for an Italian restaurant and pizzeria located in a mall is shown in exhibit 10.2. Even though the dates are older, the analysis would continue to be the same, so I did not update this exhibit from the last edition.

### EXHIBIT 10.2 Institute of Business Appraisers' Transactions Analysis

This database was searched for transactions involving companies in SIC code 5812: Retail Trade, Eating Places. Our search located approximately 1,500 transactions in this SIC code that contained all types of restaurants whose revenues ranged from \$13,000 to in excess of \$200,000,000. In order to more appropriately utilize this information, we stratified this data into several more applicable categories.

The first category consisted of small Italian restaurants and pizzerias. This data is presented in table 1.

**EXHIBIT 10.2 Institute of Business Appraisers' Transactions Analysis****TABLE 1 Institute of Business Appraisers Market Data Italian Restaurants/Pizzerias**

Business Type	Annual Gross \$000's	Sales Price \$000's	Price / Gross	Geographic	Year/ Month of Sale
Deli with pizza	89	28	0.31	CA	1986/04
Fast Food, Pizza	227	55	0.24	GA	1993/07
Fast Food, Pizza	230	49	0.21	CA	1994/12
Restaurant, Pizza	306	120	0.39	CA	1990/05
Restaurant, Italian	310	29	0.09	CA	1995/08
Restaurant, Pizza	317	81	0.26	TX	1991/04
Restaurant, Italian	324	75	0.23	FL	1994/05
Restaurant, Italian	390	53	0.14	CA	1995/07
Restaurant, Pizza	477	397	0.83	ID	1995/04
Restaurant, Italian	516	212	0.41	CA	1995/08
Restaurant, Italian	653	89	0.14	CA	1995/02
<b>Mean</b>			<b>0.30</b>		
<b>Median</b>			<b>0.24</b>		

As indicated, there were 11 transactions in this category, indicating an average price-to-revenue multiple of 0.30 and a median of 0.24. The second category consisted of 55 restaurants categorized as fast food restaurants. This information is shown in table 2.

*(continued)*

**EXHIBIT 10.2 Institute of Business Appraisers' Transactions  
Analysis** *(continued)*
**TABLE 2 Institute of Business Appraisers Market Data Fast Food  
Restaurants**

Business Type	Annual Gross \$000's	Sales Price \$000's	Price / Gross	Geographic	Year/ Month of Sale
Fast Food, Coffee Shop	58	23	0.40	FL	1996/02
Fast Food, Yogurt	65	24	0.37	LA	1993/12
Fast Food, Coffee Shop	74	60	0.81	FL	1996/06
Fast Food, Smoothies	80	40	0.50	LA	1995/02
Fast Food, Yogurt	86	27	0.31	LA	1993/04
Fast Food, Coffee Shop	90	20	0.22	FL	1995/09
Fast Food, Sandwich Shop	90	34	0.38	Midwest	1986/07
Fast Food, Coffee Shop	100	32	0.32	FL	1994/10
Fast Food, Coffee Shop	108	50	0.46	FL	1993/12
Fast Food Restaurant	111	20	0.18	Midwest	1987/02
Fast Food, Chicken	120	68	0.57	FL	1994/04
Fast Food, Yogurt	120	52	0.43	FL	1994/08
Fast Food, Chicken	120	40	0.33	FL	1995/01
Fast Food, Coffee Shop	120	40	0.33	FL	1995/02
Fast Food, Yogurt	120	38	0.32	TX	1992/02
Fast Food, Mall Store	120	48	0.40	FL	1991/03
Fast Food, Coffee Shop	120	56	0.47	FL	1994/08
Fast Food, Coffee Shop	132	27	0.20	FL	1995/08
Fast Food, Chicken	132	25	0.19	FL	1995/07
Fast Food, Deli	132	55	0.42	NJ	1991/
Fast Food, Yogurt	135	70	0.52	Midwest	1993/03
Fast Food, Yogurt	136	100	0.74	ID	1992/07

*(Table continued)*



**EXHIBIT 10.2 Institute of Business Appraisers' Transactions Analysis**
**TABLE 2 Institute of Business Appraisers Market Data Fast Food Restaurants** *(continued)*

Business Type	Annual Gross \$000's	Sales Price \$000's	Price / Gross	Geographic	Year/ Month of Sale
Fast Food, Coffee Shop	140	85	0.61	FL	1994/07
Fast Food, Coffee Shop	147	85	0.58	FL	1994/08
Fast Food, Coffee Shop	150	65	0.43	FL	1996/01
Fast Food, Baked Potatoes	152	43	0.28	MN	1994/11
Fast Food, Yogurt	160	80	0.50	CA	1992/01
Fast Food, Deli	175	76	0.43	MA	1990/09
Fast Food, Coffee Shop	175	70	0.40	FL	1996/10
Fast Food, Dairy Queen	185	25	0.14	NM	1992/09
Fast Food, Dairy Queen	186	20	0.11	NM	1991/10
Fast Food, Bakery/Coffee	200	95	0.48	FL	1995/03
Fast Food, Coffee Shop	200	65	0.33	FL	1996/11
Fast Food, Deli	200	70	0.35	MA	1990/08
Fast Food, Dairy Queen	220	99	0.45	Midwest	1993/09
Fast Food, Mall Store	220	90	0.41	NC	1996/10
Fast Food, Mexican	222	88	0.40	OR	1995/03
Fast Food, Pizza	227	55	0.24	GA	1993/07
Fast Food, Pizza	230	49	0.21	CA	1994/12
Fast Food, Hamburgers	237	140	0.59	CA	1991/08
Fast Food, Coffee Shop	250	128	0.51	FL	1995/05
Fast Food, Dairy Queen	275	57	0.21	NM	1991/07
Fast Food, Deli	285	83	0.29	FL	1991/11
Fast Food, Coffee Shop	300	70	0.23	FL	1997/05
Fast Food, Take Out	300	161	0.54	ID	1995/09

*(Table continued)*

### EXHIBIT 10.2 Institute of Business Appraisers' Transactions Analysis *(continued)*

#### TABLE 2 Institute of Business Appraisers Market Data Fast Food Restaurants *(continued)*

Business Type	Annual Gross \$000's	Sales Price \$000's	Price / Gross	Geographic	Year/ Month of Sale
Fast Food, Dairy Queen	312	117	0.38	NM	1991/07
Fast Food, Dairy Queen	324	40	0.12	Midwest	1994/01
Fast Food, Coffee Shop	346	150	0.43	FL	1995/03
Fast Food, Coffee Shop	346	100	0.29	FL	1995/06
Fast Food, Sandwich Shop	354	205	0.58	IL	1989/
Fast Food, Ice Cream	354	185	0.52	CA	1995/07
Fast Food, Roast Beef	398	93	0.23	CA	1994/11
Fast Food, Fried Chicken	540	248	0.46	TX	1994/08
Fast Food, Coffee Shop	832	200	0.24	FL	1994/11
Fast Food, Hamburgers	832	200	0.24	FL	1994/10
Fast Food, Hamburger	936	665	0.71	NV	1990/07
<b>Mean</b>			<b>0.39</b>		
<b>Median</b>			<b>0.40</b>		

This category indicated an average multiple of 0.39 and a median of 0.40. The final category consisted of restaurants with sales in the range of \$400,000 to \$700,000, regardless of type, because this range more appropriately reflects the revenues of the subject company. There were 168 transactions in this category as shown in table 3.

#### TABLE 3 Institute of Business Appraisers Market Data Revenues of \$400,000 to \$700,000

Business Type	Annual Gross \$000's	Sales Price \$000's	Price / Gross	Geographic	Year/ Month of Sale
Bagel Shop	400	190	0.48	L I New York	1990/03
Restaurant	400	125	0.31		1984/02
Bagel Shop	400	160	0.40	FL	1995/01
Bagel Shop	400	150	0.38	FL	1995/04
Deli/Bakery	425	125	0.29	NJ	1993/08
Restaurant	426	20	0.05	Texas	1986/03

*(Table continued)*

### EXHIBIT 10.2 Institute of Business Appraisers' Transactions Analysis

**TABLE 3 Institute of Business Appraisers Market Data Revenues of \$400,000 to \$700,000** (continued)

Business Type	Annual Gross \$000's	Sales Price \$000's	Price / Gross	Geographic	Year/ Month of Sale
Restaurant in Office Building	430	175	0.41	CT	1990/
Café	430	175	0.41	Texas	1992/
Restaurant	433	145	0.33	HI	1992/03
Restaurant with Lounge	435	142	0.33		1993/
Café, Gourmet	435	105	0.24	FL	1995/09
Delicatessen & Stationery	438	275	0.63		1984/10
<b>Many transactions were omitted from this exhibit to save space.</b>					
Restaurant, Italian	638	275	0.43	CA	1996/08
Restaurant, Ice Cream	639	215	0.34	IL	1991/
Restaurant, Ice Cream	639	215	0.34	IL	1991/
Franchise Store, Yogurt	640	400	0.63	PA	1990/
Restaurant, Full Service	643	175	0.27	WA	1990/
Restaurant, Dinner Only	644	190	0.30	FL	1996/01
Restaurant, Family	650	250	0.38	TN	1989/01
Restaurant, Italian	653	89	0.14	CA	1995/02
Restaurant, Function Center	654	125	0.19	NH	1996/03
Restaurant	669	90	0.13	AL	1993/
Restaurant, Function Center	654	125	0.19	NH	1996/03
Restaurant	669	90	0.13	AL	1993/
Restaurant	669	90	0.13	AL	1993/
Restaurant, Dinner Only	672	158	0.24	FL	1992/08
Restaurant, Family-style	678	152	0.22		1989/12
Restaurant	679	275	0.41		1988/09

(Table continued)

### EXHIBIT 10.2 Institute of Business Appraisers' Transactions Analysis *(continued)*

**TABLE 3 Institute of Business Appraisers Market Data Revenues of \$400,000 To \$700,000 *(continued)***

Business Type	Annual Gross \$000's	Sales Price \$000's	Price / Gross	Geographic	Year/ Month of Sale
Restaurant, Full Line	680	325	0.48	NC	1993/
Restaurant	693	205	0.30	WA	1990/
Restaurant, Dinner Only	700	140	0.20	MA	1992/10
Donut Shop	700	400	0.57	East	1990/01
Diner	700	235	0.34	FL	1993/12
<b>Mean</b>			<b>0.36</b>		
<b>Median</b>			<b>0.34</b>		

This category indicates an average price-to-revenue multiple of 0.36 and a median multiple of 0.34. The price-to-revenue multiple was analyzed because this is typically the way that small businesses sell. This is because owners of very small companies tend to adjust expenses in order to minimize taxes; therefore, a willing buyer looks at the revenues he or she will be able to generate, believing that there will be certain costs that will be eliminated when he or she takes over the running of the business.

For each category, a mean and median price-to-revenue multiple was calculated. Statistically, the median is more appropriate than the mean because an average can be skewed by data that are outliers in the sample. The median is the point of central tendency when all the values are arranged by size. Therefore, the median multiple was utilized.

The three median multiples derived result in an average price-to-revenues multiple of 0.33. This is the multiple that will be applied to the appropriate revenue stream.

An analysis of historic and adjusted revenues was performed in the financial analysis section of the report. This analysis indicated that revenues increased over the past few years but declined in the most recent year. Because there appears to be no consistent growth pattern over the last five years, it appears that average adjusted revenues over the period should be used to reflect the future. This amounts to \$703,067. The values derived using the Institute of Business Appraisers (IBA) database include any assets that the buyer will receive, such as equipment, but do not include the assets that the seller will keep, such as cash, accounts receivable, and accounts payable. Therefore, the value of these assets and liabilities must be added or subtracted from the sales value to determine the value of the operating entity.

Therefore, the calculation of value on a control, nonmarketable basis utilizing the data from the IBA database is as follows:

Average revenues	\$703,067
Price-to-revenue multiple	× 0.33
Value	\$232,012
Plus: Inventory	6,250
Less: Current liabilities	(63,460)
Value of operating entity	\$174,802
Rounded	\$175,000

## EXHIBIT 10.2 Institute of Business Appraisers' Transactions Analysis



### Author's Note

The IBA suggests that when a valuation analyst uses its database, he or she uses the most recent year's data and not an average of the past. However, there are times that I believe we need to be a little subjective by applying more of a common-sense type of analysis. Be especially careful in a litigation engagement because it will provide the cross-examining attorney with material for attack.

The analysis shown in exhibit 10.2 illustrates how the valuation analyst can “slice and dice” the transaction data to attempt to get various cross-sections of data that may be considered similar enough to provide guidance about pricing multiples. Other useful analysis can be done considering geography or any of the other descriptive factors found in the different databases. Stratification analysis based on qualitative factors can be an extremely useful tool in understanding how businesses are sold.

If more data is available, then why not use it? As I mentioned before, the Pratt's Stats database has many more data points, many of which can be very useful. Pratt's Stats provides the valuation analyst with a business name and location, which can add a little meat to any analysis. Knowing this information allows the valuation analyst to perform additional research about the company and the transaction itself. You can use search engines, such as Google, to find out much more information about a particular target company or transaction. Don't be afraid to do the necessary research to truly determine if you are using good data. If you don't, the expert on the other side of a litigation engagement probably will. The end result is that you will be embarrassed.

## Quantitative Analysis

Once the valuation analyst has performed a qualitative analysis of a transaction set and is comfortable (ha ha!) with the remaining transactions, then it is time to figure out how to use the selected transactions to indicate values. There are important questions to answer, including the following:

- Are multiples calculated from a transaction set meaningful?
- Which multiple(s) should be used to indicate value?
- What multiple should be applied to the subject company?

These three questions should come to mind when looking at any set of pricing multiples, but the final, and often confusing, question is how to go about answering them. As indicated previously, all the databases offer some type of statistical toolbox to analyze transactions. The reason for this is because statistics are one of the few means that we have to glean information from a transaction data set. In chapter 7, I touched on the topic of statistics. I'm going to try again. Personally, the word *statistics* alone is enough to put me to sleep. Numbers and graphs and natural logarithms—it can be overwhelming. Like it or not, statistics provide an analytical toolbox that does what we need to do, which, as indicated in the transaction data described previously, is to pull significant information out of a data set. It is easy enough to take an average of multiples and not think about it anymore, but that can get you into a lot of trouble.

Years ago, many of us did just that. If we really got crazy, we would use a median instead. However, to properly apply these ideas and techniques, the valuation analyst must be somewhat comfortable with the theory. A course in statistics is beyond the scope of this book, but I am going to try to provide you with some additional stuff that you need to know. Think of some of this as a refresher and other parts that may have been forgotten from chapter 7 as new material.

According to *Webster's New World Dictionary*, *statistics* is defined as follows:

**Statistics.** Facts or data of a numerical kind, assembled, classified and tabulated so as to present significant information about a given subject.<sup>9</sup>

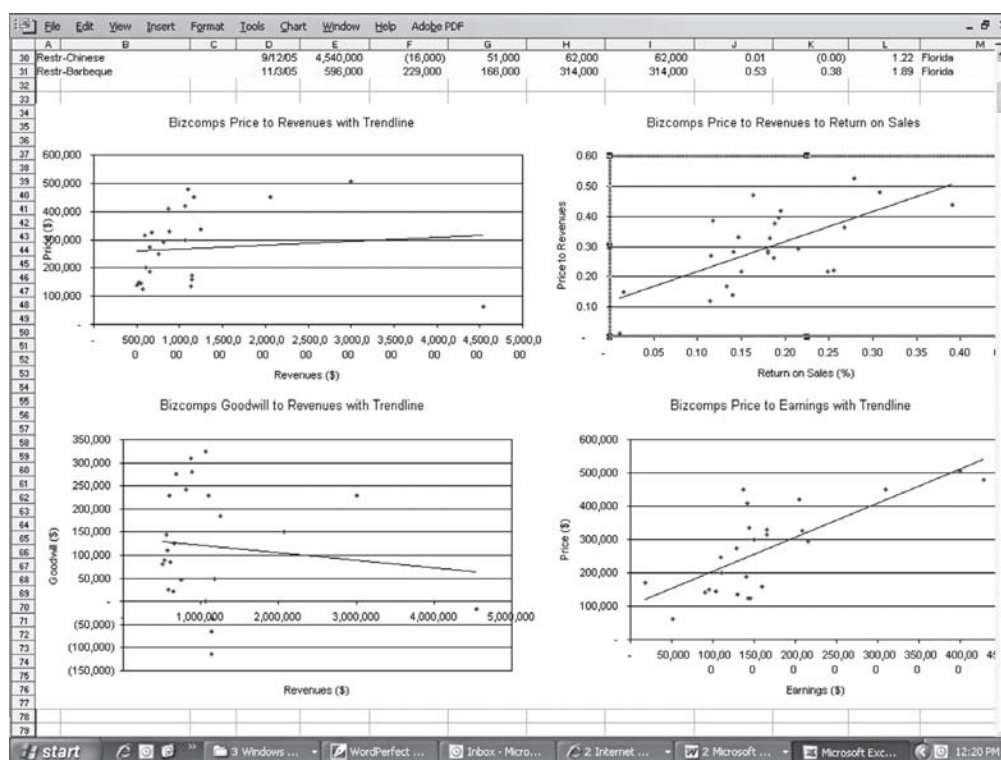
The mean and the median reflect measures of central tendency. These are proxies for the most probable observation in a data set. If the valuation analyst has a set of multiples and he or she wants to figure out what multiple to use, means and medians approximate the most likely one. Whether he or she uses a mean or median is based on professional judgment. Some prefer one over the other. Means can be skewed dramatically by outliers, whereas medians have less reliability as the size of a data set decreases. Like everything else, the one to use is based on the facts and circumstances of the assignment.

Using statistics to assist in the selection process for the various multiples can make the valuation analyst's conclusion stronger. Regardless of statistics, let's try to keep in mind that businesses often sell based on operating performance (profitability). Revenues, assets, and book value, although used to calculate multiples, do not reflect a level of operating performance. To compensate for this, we plot price to revenues and asset and equity multiples with their corresponding returns (return on revenues, among others). Several of these charts are shown in figure 10.14.

In my experience, these charts tend to be more meaningful for larger companies. Small companies are often bought based on sales, regardless of profitability. People buy jobs. Some of us also believe in the bigger fool theory. Some bigger fool will come along and overpay for a business, thinking that he or she will do a better job of running the business than the seller. Sometimes, the bigger fool can even be a large company. Think about Wall Street! Many of these public companies are the bigger fools.

We have built charts such as those found in figure 10.14 into our statistical analysis templates, so they come up automatically. Once the valuation analyst has constructed such spreadsheets, it does not take any additional time to perform these statistical exercises because the calculations are done automatically as new data is added. The charts give us an idea of which multiples are similar, but how do you choose a single multiple to apply to an earnings stream? One intuitive comment is, "If you have a regression through a good data set with high correlation, then use the equation of the line to estimate price." This seems very logical, and sometimes it may be the best way, but think about what you are doing. A chart reflects how price varies with one variable. Thinking back to the SGLPTL analysis in chapter 9, there are many factors that affect the value of a business. For example, let's suppose that there is a high correlation between price and revenues in the selected data set. Now, consider that the subject company has very high debt and is having problems meeting its obligations. Can the valuation analyst simply apply a revenue multiple to it? He or she must consider other pertinent factors, including the SGLPTL factors when performing a merger and acquisition method. In the case of IBA or BizComps, the valuation analyst will not get enough information to do much analysis, but he or she does have price-to-revenues information. BizComps has a little more information, but when the analyst gets to Pratt's Stats, there is a lot of financial information. There is no reason not to perform SGLPTL analysis for data derived from the larger databases.

<sup>9</sup> *Webster's New World Dictionary of the American Language*, college ed. (New York: World Publishing Company, 1968), 1425.

**Figure 10.14 Price to Revenues to Return on Sales**

In addition to the charts, we calculate means, medians, standard deviations, and percentiles from the price-to-multiple data sets. All of these terms were defined in chapter 7. Most of the readers of this book should already have some familiarity with these terms. If not, it is important to become familiar with them. This gives us a basis from which to estimate an applicable multiple. We base our analysis on all information available for the subject company, as well as what is available for the transactions. Weighing the strengths and weaknesses of each transaction and the guideline transactions can prove to be an invaluable tool for developing a meaningful and supportable analysis. An analysis of Pratt's Stats transactions for an insurance agency is presented in exhibit 10.3.

### EXHIBIT 10.3 Pratt's Stats

The Pratt's Stats database yielded 55 transactions. Of these transactions, 19 involved acquisitions of companies outside of the state of Florida and another 19 companies with revenues less than \$230,000. After eliminating these companies, 17 transactions remained. All 17 of these transactions were asset sales.

Because Pratt's Stats provides invested capital multiples, we looked at those. We focused on the MVIC-to-revenues multiple because it was determined that the subject company's historic earnings streams and profit margins are not reflective of probable future earnings.

A summary of the 17 transactions from the Pratt's Stats database is presented in table 22.

(continued)

### EXHIBIT 10.3 Pratt's Stats (continued)

#### TABLE 22 Pratt's Stats Data

Business Description	Sale State	Net Sales	Sale Date	MVIC Price	Discretionary Earnings	Discretionary Earnings Margin	MVIC to Sales
Auto Insurance Agency	FL	\$ 248,618	10/15/2010	\$ 225,000	\$ 54,503	21.9%	0.91
Insurance Agency (homeowner property and casualty)	FL	250,000	5/2/2011	420,000	132,871	53.1%	1.68
General Insurance Agent (homeowner and auto policies)	FL	250,000	4/29/2010	475,000	170,488	68.2%	1.90
Insurance Agency	FL	270,003	4/1/2010	250,000	160,999	59.6%	0.93
General Insurance	FL	287,430	7/31/2009	500,000	39,807	13.8%	1.74
Insurance Agency	FL	311,968	10/7/2009	400,000	188,160	60.3%	1.28
Auto and Homeowner's Insurance Agency	FL	367,781	9/1/2010	699,000	176,740	48.1%	1.90
Insurance Agency	FL	380,070	2/5/2009	590,000	188,051	49.5%	1.55
Health Insurance Agency	FL	476,035	11/19/2010	250,000	135,037	28.4%	0.53
Insurance Agency (property and casualty)	FL	495,617	11/12/2010	850,000	204,183	41.2%	1.72
Insurance Agency	FL	587,037	12/22/2010	735,000	253,204	43.1%	1.25
General Insurance	FL	670,347	9/25/2008	265,000	143,185	21.4%	0.40
Insurance Agency – Allstate® franchise	FL	730,976	1/21/2011	100,000	80,103	11.0%	0.14
Auto Insurance Agency	FL	818,216	10/8/2010	240,000	127,906	15.6%	0.29
Property and Casualty Insurance Agency	FL	880,337	3/17/2010	1,500,000	413,235	46.9%	1.70
Insurance Agency (personal property and casualty)	FL	1,533,110	12/31/2010	3,870,000	852,294	55.6%	2.52
Automotive Insurance	FL	3,296,441	10/15/2008	850,000	300,276	9.1%	0.26



**EXHIBIT 10.3 Pratt's Stats**

Net sales for the 17 companies located in the Pratt's Stats database ranged from \$248,618 to \$3,296,441. The discretionary earnings profit margins of these companies ranged from 9.1 percent to 68.2 percent. In comparison to the 17 companies, the subject company is larger than all but one in terms of revenues and its discretionary earnings margin of 15.3 percent<sup>1</sup> is higher than only four of the companies.

A statistical summary of the 17 MVIC-to-revenues transactions is presented in table 23.

<b>TABLE 23 Pratt's Stats—Statistical Analysis</b>	
	<b>MVIC to Revenues</b>
Statistical Analysis:	
Count	17
Mean	1.22
Standard Deviation	0.71
Coefficient of Variation	0.58
90th Percentile	1.90
75th Percentile	1.72
60th Percentile	1.65
Median	1.28
40th Percentile	0.99
25th Percentile	0.53
10th Percentile	0.28

The average and median MVIC-to-revenues multiple for the 17 transactions were 1.22 and 1.28, respectively. The subject company is less profitable than most of the acquired companies but is larger than all but one of the companies in terms of revenues. Based on these factors, the 40th percentile multiple of 0.99 was selected, which falls just below the median. Therefore, the indication of value using the Pratt's Stats transactions appears in table 24.

<sup>1</sup> Discretionary earnings was calculated as follows:

EBITDA	\$216,105
1/3 of Reasonable Comp.	127,053
Shareholder Health Insurance	<u>14,555</u>
	<u>\$357,713</u>

(continued)

**EXHIBIT 10.3 Pratt's Stats** *(continued)***TABLE 24 Pratt's Stats Indication of Value MVIC to Revenues**

Selected Multiple	0.99
Subject Company Earnings Stream	× 2,333,855
Indication of Value	<b>\$ 2,310,516</b>
Calculation of Retained Assets	
Cash	\$ 34,492
Accounts Receivable	64,840
Total Liabilities	(271,063)
Plus Net Retained Assets	\$ (171,731)
Market Value of Operating Invested Capital	\$ 2,138,735
Less: Interest-Bearing Debt	79,326
Indication of Operating Value Before Working Capital Adjustment	\$ 2,059,459
Working Capital Adjustment*	(177,585)
<b>Indication of Operating Value</b>	<b>\$ 1,881,874</b>

\* See section of report entitled "Working Capital Deficiency."

## Let's Get Back to Valuation Theory

As with any valuation methodology, the merger and acquisition method has both advantages and disadvantages. Let's discuss them in case they aren't readily apparent.

### Advantages of Using the Merger and Acquisition Method

Merger and acquisition methods are those that value a company based on transactions involving a large portion of the company or its entirety. The most readily determinable advantage of using this methodology is that the valuation analyst is able to estimate the value of the valuation subject based on the prices of entire companies that changed hands. Because most closely held transactions involve entire companies, this method is a logical application of the market approach.

The merger and acquisition transactions used in this method are considered to be an objective source of information because they come from the market. Market transactions are assumed to be between informed buyers and sellers; therefore, a good representation of fair market value occurs if there are enough transactions to be statistically meaningful. The problem becomes how to determine the number of transactions required for them to be statistically valid. Now that you are an expert on statistics, who said it would be easy?

## Disadvantages of Using the Merger and Acquisition Method

Although the merger and acquisition method is logical and inherently makes sense, it is difficult to find similar companies that have been acquired. It would be great if we had access to the same type of data that the real estate appraisers have, but unfortunately, we do not. Although public company information is sometimes available, there are generally not enough of these transactions to adequately help the valuation analyst. For a meaningful analysis to be performed, there should be enough transactions to enable the valuation analyst to reach a conclusion. (If you just asked yourself, “how many is enough?” you are getting the hang of this stuff!)

An experienced valuation analyst recognizes that valuation analysts do not work in a perfect world and, frequently, are forced to use less-than-perfect information. Although a greater amount of detail is generally available about public companies that are acquired, frequently, there are times when a valuation analyst turns to closely held data. Private company transactions are difficult to locate, particularly because the owners of these businesses do not feel that they are anyone’s business, and if a transaction is located, the details of the transaction are rarely available. For the deal to be consummated, the terms of the deal are frequently an important part of small company transactions. Hearing about 2 businesses that sold for \$200,000 could lead you to believe that they were of similar value if you did not know the terms of the transaction. If one sold for all cash and the other sold for \$20,000 down, with the balance due over 10 years, with no interest, the value of these 2 transactions would be very different. This is because of the time value of money.

Another problem with this method is that once the transaction is located, it is generally difficult to find out anything other than the financial terms of the transaction. Of considerable importance would be whether the transaction was an asset or a stock sale. Acquisitions frequently involve specific buyers who pay a premium for special or unique considerations, such as the synergies between the two companies. This also makes it difficult to know if the price paid for the business truly represents the value of the business.

Another disadvantage of this method is that because the values derived under these methods result in a control value, it is difficult to translate the estimated value into a minority interest value. If the valuation subject is a minority interest in a closely held business, the results of the merger and acquisition method will have to be discounted for the minority interest. The problems with these discounts will be discussed later.



### Author's Note

Before we conclude our discussion of the merger and acquisition method, I need to provide a few words of caution. First and foremost, know as much about the provided information as possible. If the valuation analyst is working in a litigation environment, he or she can expect that the other side will do their homework. The valuation analyst must know how each data point is defined so that he or she can properly apply multiples to the subject company.

Second, the valuation analyst should not mix and match data from different databases. Even though the analyst may know how information is defined, it may not be input under the same assumptions or using the same conventions. Combining the information from the different databases is not a good idea.

Third, beware of duplicates. Duplicate transactions appear in some of these databases. If it looks like a flower and smells like a flower, it's probably a flower. Duplicates will mess up any statistical analysis.

Finally, combine suggestions 2 and 3. If you bite the bullet and decide to combine databases, be very, very careful of duplicates. The databases get their data from business brokers, who may submit the same data to more than one database. It's not uncommon to find very similar deals in the previously referenced databases, so carefully review the transaction data.

One final point worth noting is the fact that some of the “errors” in the databases have already been corrected, and others are being corrected on a regular basis. This means that the valuation analyst really must understand the data that is being used and not just populate a field in a computer program and assume that it is correct. As I was writing this chapter for the last edition, I had just finished reviewing another valuation analyst’s report; he used a computer software program and its report writer that so totally destroyed the market

approach using BizComps data that I wanted to tar and feather him. But somehow, I felt that tarring and feathering was too light a punishment for the job that was done. Instead, I got to see him in court! It was ugly.

## Internal Transactions

Another variation of the market approach comes from Revenue Ruling 59-60. This ruling suggests that the valuation analyst consider any sales of the company's own stock. These internal transactions may provide the valuation analyst with information for use in the market approach. If internal transactions are located, the next step will be to determine whether these transactions were consummated at arm's length. Arm's length means that the transaction should not be longer than your arm. Actually, it is important to make sure that the transaction is a properly negotiated transaction between parties who have their own best interest in mind. The closer the relationship between the parties, the closer you need to look at that relationship to see if it was truly a negotiation as if between strangers.

Internal transactions are very useful if the valuation analyst has many transactions, rather than just a few. Professional practices, which sometimes have partners coming and going on a regular basis, may be a good example of when to use this data. In these instances, partnership agreements often are used as a road map showing how partners come and go. This concept is discussed further and illustrated in chapter 23.

## Industry Method

Sometimes called "rules of thumb," the industry method can prove to be a valuable tool but should never be relied on by itself in a valuation assignment. Industry methods are an important part of the valuation process. If an industry uses a particular method to determine the value of a business, the valuation analyst should pay close attention to that method. If enough transactions take place using a particular method, then there is market data that will support the use of that method. However, if these formulas are the only methods used, an inappropriate valuation may result.

Sources of rules of thumb include published compilations, industry sources, business brokers, trade associations, and industry members. The advantage of the industry method is that it generally provides a sanity check on other valuation methods. The disadvantages of the industry method are as follows:

- Different sources may provide different rules of thumb for the same industry.
- The application of an uninformed rule of thumb may result in an incorrect estimate of value.
- Although they are simplistic in their applications, rules of thumb may ignore the economic reality of the situation.
- Information (profit margins and capital structure, among others) about the companies that made up the rule of thumb transactions is not known.

Rules of thumb are sometimes used in the application of the market approach, but the valuation analyst must exercise care. Rules of thumb should not be used alone because valuation analysts frequently lack the information required to adjust the rule of thumb for particular questions, such as the following:

- Was the transaction based on an asset or equity purchase?
- Did the buyer pay cash, or were there terms that would affect the purchase price?
- Was there a continuation of employment by the seller or a covenant not to compete?
- Was the business profitable?

Clearly, if used incorrectly, a rule of thumb can be dangerous. However, it serves a useful purpose in some smaller appraisals when all else fails. Just be careful! In exhibit 10.4, the potential uses and dangers of rules of thumbs are discussed. This exhibit is based on excerpts from actual reports.

## EXHIBIT 10.4 Rules of Thumb

A very popular but often abused method of valuation for professional practices is the multiple-of-revenue method.

This method is also referred to as the “industry rule of thumb” method. There are many disadvantages to this method, but the major disadvantage is the number of different multiples that are used for the same type of practice. A classic example of the danger in applying this method is the rule of thumb for an accounting practice. Over the years, accounting practices are said to have been sold for an amount that ranges between 50 percent and 150 percent of gross billings. This means that an accounting practice with gross billings of \$1 million could be valued anywhere from \$500,000 to \$1.5 million. This is clearly too wide a spread to be meaningful. Disparities such as this take place all of the time and must be considered before applying unsupported rules of thumb.

The major advantage of this method is that it is easily understood by all parties: buyer, seller, financier, and valuation analyst. According to Ronald Klein, CPA, “a particular multiplier may, in fact, be self-serving, used because it is so widely quoted.” In New Jersey, the multiplier of three became popular because of its application in *Dugan v. Dugan*. Since 1983, this multiplier has been used over and over again, regardless of the facts and circumstances of the current appraisal subject.

Some valuation analysts have extended the use of Dugan and have applied the Dugan multiplier to different types of professional practices. Mr. Dugan was an attorney. Even an appraisal of another law practice may not result in an appropriate multiple of three. Qualitative factors (such as the type of practice, the type of clients, and profitability) must be considered in the development of an appropriate multiplier.

Looking for rules of thumb for our valuation subject (a dental practice), we found several methods. In *Valuing Professional Practices*, published by CCH International, James L. Horvath, CA, CBV, ASA, suggests two different methods: (1) fair market value of furniture, fixtures, and equipment plus 20–60 percent of annual revenues; and (2) net asset value plus one year’s pretax earnings before owner’s compensation. Using method 1 results in a range of values from \$307,655 to \$802,615, whereas method 2 yields a value of \$730,489.

The *Business Reference Guide*<sup>1</sup> lists four different methods. These methods, with their calculated range of values, are as follows:

- 1 to 1.5 times annual adjusted earnings plus fixtures, equipment, and inventory: \$212,073 to \$286,272
- Net assets plus 25 to 30 percent of gross annual revenues: \$567,935 to \$629,805
- 20–60 percent of annual fee revenues plus fixtures, equipment, and inventory: \$311,155 to \$806,115
- One year’s pretax earnings before owners’ salary, plus fixtures, equipment, and inventory: \$535,579

In *Handbook of Small Business Valuation Formulas and Rules of Thumb*,<sup>2</sup> Glenn M. Desmond, ASA, MAI, suggests two additional methods: (1) monthly revenues times 8 to 12, plus net asset value, less fixed assets, which yields values of \$1,023,343 to \$1,435,810; and (2) monthly revenues times 2.5 to 5, plus net asset value, yielding a range of \$516,377 to \$774,168.

Finally, in *Valuing Small Businesses and Professional Practices*,<sup>3</sup> Shannon P. Pratt mentions two additional methods: (1) equipment and fixtures plus 25 to 35 percent of revenue, resulting in a range of \$369,525 to \$493,263; or (2) equipment and fixtures plus 50 to 100 percent of earnings available to the doctor, yielding values of \$291,270 to \$532,079.

Although some of the methods discussed previously are similar, there are 10 different methods that yield values for the practice ranging from \$212,000 to \$1.4 million.

<sup>1</sup> Tom West, *Business Reference Guide*, 18th ed. (Wilmington, NC: Business Brokers Press, 2008).

<sup>2</sup> Camden, ME: Valuation Press, 1993.

<sup>3</sup> New York: McGraw-Hill, 1998.

## Conclusion

By now, either you should be very excited and ready to forge ahead, or your anxiety attack has gotten worse. The market approach chapters contained a lot of stuff. We discussed methodologies, the selection of multiples, the assessment of risk, and the advantages and disadvantages of these methods. We even discussed statistics. Wow, if my mother could see me now! I hope it has become more apparent that the market approach can be applied to all sized companies. Sometimes, it may be difficult to apply, but that is not an excuse not to use it.



# Chapter 11

## The Asset-Based Approach

### Learning Objectives

In this chapter, I will attempt to explain the following:

- When to use the asset-based approach
- The advantages and disadvantages of the asset-based approach
- The adjusted book value method
- How to communicate with other appraisers
- Economic obsolescence
- How to find other appraisers
- The liquidation value method
- The cost to create method

### Introduction

The asset-based approach is also commonly known as the *cost approach* or the *replacement cost approach*. Sometimes, you may even see this approach called the *asset accumulation approach*. In this approach, each component of the balance sheet is valued separately, including liabilities. The asset values are totaled, and the total of the liabilities is subtracted to derive the value of the enterprise.

The valuation analyst estimates value by adjusting the asset values of the individual assets and liabilities of the business to fair market value. Some valuation analysts will use this approach for the tangible assets only and consider it to be complete. In fact, I used to do this. However, as we get older, we get wiser; or maybe I should say that if we make enough mistakes, we eventually get it right. This approach, like the market and income approaches, is intended to value the entire company. This means that the tangible assets, as well as the intangible assets, should be valued and the liabilities subtracted. You may have to use other approaches to value the intangible assets, but I will discuss that later. If the valuation analyst only uses this approach to value a company, he or she could overstate the value of the business as a going concern because if there are insufficient earnings to support the asset base, he or she will end up with a higher value under this approach than the other approaches. This could be due to a concept known as *economic obsolescence*, which I will discuss in considerable detail later in this chapter.

I used to think that valuing the tangible assets and liabilities would result in a “floor” value for an enterprise being valued as a going concern. I hate to admit it, but I was wrong. The purpose and function of the assignment (remember that from the beginning of this book?) has a lot to do with whether it can truly be a floor value.

### Common Applications of the Asset-Based Approach

The asset-based approach is most commonly applied to the following types of business valuations:

- Not-for-profit organizations
- Holding companies
- Manufacturing companies
- Asset-intensive companies
- Controlling interests that have the ability to liquidate assets

In all of these instances, the valuation subject will have most, if not all, of its value in its tangible assets or identifiable intangible assets, such as copyrights, patents, or trademarks. Intangible assets, such as goodwill, will not play an important role in the value of this type of enterprise. If goodwill or another type of intangible value exists, it will be added to the value of the other assets.

This approach is generally not used for the following types of business valuation assignments:

- Service businesses
- Asset-light businesses
- Operating companies with intangible value
- Minority interests, which have no control over the sale of the assets

Service businesses and asset-light businesses generally get the bulk of their value from intangible assets. Therefore, it seems logical that the asset-based approach would not be an effective means of valuing these types of entities. Operating companies are generally valued based on the ability of the company to generate earnings and cash flow; therefore, they rely on a market or income approach for the determination of their value. If you recall, Revenue Ruling 59-60 states the following in Section 5:

**Weight to Be Accorded Various Factors.** The valuation of closely held corporate stock entails the consideration of all relevant factors as stated in section 4. Depending upon the circumstances in each case, certain factors may carry more weight than others because of the nature of the company's business. To illustrate:

- (a) Earnings may be the most important criterion of value in some cases whereas asset value will receive primary consideration in others. In general, the appraiser will accord primary consideration to earnings when valuing stocks of companies that sell products or services to the public; conversely, in the investment or holding type of company, the appraiser may accord the greatest weight to the assets underlying the security to be valued.
- (b) The value of the stock of a closely held investment or real estate holding company, whether or not family owned, is closely related to the value of the assets underlying the stock. For companies of this type, the appraiser should determine the fair market values of the assets of the company. Operating expenses of such a company and the cost of liquidating it, if any, merit consideration when appraising the relative values of the stock and the underlying assets. The market values of the underlying assets give due weight to potential earnings and dividends of the particular items of property underlying the stock, capitalized at rates deemed proper by the investing public at the date of appraisal.

A current appraisal by the investing public should be superior to the retrospective opinion of an individual. For these reasons, adjusted net worth should be accorded greater weight in valuing the stock of a closely held investment or real estate holding company, whether or not family owned, than any of the other customary yardsticks of appraisal, such as earnings and dividend paying capacity.

Minority interests will usually not be valued using an asset-based approach because the minority shareholder does not have the ability to liquidate the assets. However, do not take this as a hard and fast rule. In chapter 21, I discuss valuing minority interests in family limited partnerships, which are frequently valued using an asset-based approach. If you have not yet figured it out, business valuation is full of contradictions. All of this stuff will be explained further later in this chapter in my discussion about adjusting the balance sheet. Meanwhile, as a general rule, if the ownership interest cannot get to the cash flow that will be generated by selling off the assets, this approach will not get to the value of the cash flow to the minority owner. After all, value is based on the future benefits stream that will flow to the investor.

## Advantages and Disadvantages of the Asset-Based Approach

The asset-based approach has both advantages and disadvantages. Included in box 11.1 are some of the advantages and disadvantages to consider when using an asset-based approach.



The asset values derived using this approach allow a valuation analyst to test the reasonableness of the concept of highest and best use when he or she compares the results with other methodologies in the income or market approach. If these other approaches yield a value considerably less than the value of the entity's assets, liquidation may be a viable alternative if the interest being valued has the ability to effect a liquidation.

**BOX 11.1****Advantages and Disadvantages of the Asset-Based Approach****Advantages**

- Net tangible assets can be valued more reliably under this approach than under the other two approaches.
- This approach creates a better reflection of the economic balance sheet of the valuation subject.
- Net tangible assets can generally be seen and felt, giving the user of the valuation a “warmer” feeling about the value.

**Disadvantages**

- The asset-based approach provides the valuation analyst with the cost of duplicating the business being valued.
- This approach is frequently more time consuming (and sometimes more costly) to apply than the other approaches.

## Valuation Methods

Included in the asset-based approach are the following valuation methods: (1) the adjusted book value method, (2) the liquidation value method<sup>1</sup>, and (3) the cost to create method.

### Adjusted Book Value Method

The adjusted book value method finds its theoretical basis in the principle of substitution, which was discussed in chapter 4. In the adjusted book value method, all the assets and liabilities (including all intangible assets) are adjusted to reflect their fair market values. The fair market value of the subject company's equity will be the fair market values of the assets less the fair market values of the liabilities. It is important to recognize that certain assets and liabilities may not be reflected on the books of the subject company, but these items need to be included in the valuation of the equity of the company. For example, goodwill that is internally generated, as opposed to purchased, would not be on the balance sheet under “generally accepted accounting principles.” However, this is an asset of the company that needs to be valued. The same could apply to a contractual right.

The adjusted book value method is primarily used in the valuation of asset-intensive businesses when valuing a controlling interest. Just as a reminder, a control valuation is one in which the owner of the interest being valued has the ability to throw his or her weight around. This is to be distinguished from a minority interest valuation or an interest that lacks control.

The mechanics of the adjusted book value method are to convert the book values of the assets and liabilities shown or not shown on the valuation subject's balance sheet to a market-oriented basis. This will generally involve adjusting the valuation subject's balance sheet to fair market value. Certain values are easily ascertained by the business valuation analyst, but others are not. There will be times when the business valuation analyst will look to other appraisers (such as real estate or machinery and equipment) to provide the values of certain assets. As a reminder, when the valuation analyst relies on the work of others, he or she needs to pay attention to the standards regarding his or her responsibilities.

<sup>1</sup> Liquidation is actually a premise of value as opposed to a valuation method. Later in this chapter, I am going to discuss the machinery and equipment concepts of fair market value in continued use (going concern) and fair market value in liquidation. Similar concepts can be applied here as well.

## Adjusting the Balance Sheet

The adjustments made to the balance sheet will depend on the purpose and function of the valuation assignment. If the assignment is to value the equity of the company, every asset and liability should be reviewed for possible adjustment to fair market value. If specific assets, liabilities, or both, are the subject of the valuation, only those assets or liabilities should be valued.

Balance sheet adjustments should generally be made only if the interest being valued has the ability to liquidate the assets and liabilities of the company. If a minority interest does not have the ability to sell off the assets to realize the fair market values of these assets, it makes little sense to revalue them when the standard of value is fair market value. Sometimes, valuation analysts will adjust the values to fair market value and then apply a discount for lack of control. I find this to be a time-consuming and costly exercise. However, if fair value is the definition of value being used, the minority owner is sometimes put in a position to receive the benefit of the appreciated net assets of the company.

In the *U.S. News & World Report* case,<sup>2</sup> this point was a much-disputed part of the litigation. Retiring employee shareholders were being bought out based on an annual valuation performed by one of the large valuation firms.

The stock was valued on a minority, nonmarketable basis (as if closely held). The company had amassed a large portfolio of highly appreciated real estate that was not valued at fair market value because the assignment called for a minority valuation. A short while after a buyout of some employee shareholders, the company was sold for a considerably larger amount than the amount that appeared in the valuation. Disgruntled former employees sued the valuation firm and the company, claiming that their shares had been undervalued at the time that they were bought out. The court found otherwise. In the opinion, Judge Barrington D. Parker stated the following:

In a minority valuation...assets may or may not play an important part in arriving at a per share figure, because a minority shareholder cannot reach those assets....Generally speaking, if the valuation being undertaken is of a business, such as *U.S. News*, that produces goods or services, primary consideration will be given to the earnings of the company and the resultant return on a shareholder's investment.

This was a good opinion and can be used as instruction for all valuation analysts. Get a copy of this case! It is worth having in your library.

Generally, the balance sheet should be adjusted as follows:

- *Cash and equivalents.* Cash and equivalents usually require no adjustment. On occasion, excess cash may be considered non-operating and should be segregated from what is used for working capital. This is done for analysis purposes only because it will not affect the value when using an asset-based approach. However, segregating excess cash will be useful to the valuation analyst when applying the income and market approaches because the excess would be added to the value of the operating enterprise.
- *Marketable securities.* Marketable securities should be adjusted to their fair market value. Usually, an average of the high and low prices on the valuation date will be used to accomplish this. There are times, however, when the closing price of the securities may be used instead.
- *Accounts receivable.* Accounts receivable should be reviewed to see what portion of the receivables is collectible. There are many companies that carry accounts receivable without writing off the uncollectible amounts hoping that they will be collected (eventually). Older receivables may require a present value adjustment because of the time value of money. A comparison of the ratio of receivables to revenues with industry composite data should be made to determine if there are any significant differences. In certain valuation assignments, such as medical practices, in which the entity reports its

<sup>2</sup> *Charles S. Foltz et al. v. U.S. News & World Report, Inc., et al., and David B. Richardson et al. v. U.S. News & World Report, Inc., et al.*, U.S. District Court, District of Columbia, Civil Actions Nos. 84-0447 and 85-2195 (June 22, 1987).

results using the cash method of accounting, it may make sense to treat the accounts receivable as a non-operating (or really an excess) asset. Medical practices that report their financial statements on an accrual basis must be analyzed to determine whether the amount being carried on the books is the amount billed, the amount allowable for reimbursement, or some other variation of these. I will discuss this in greater detail in chapter 23. Professional practices, such as law firms and accounting firms, frequently have an additional subset of accounts receivable, namely, work in progress. Work in progress in these types of professional practices represents unbilled work as of a particular date. If an accounting firm bills its clients at the end of each month, there will be billable hours that the staff worked throughout the month that would be considered to be work in progress.

- **Inventory.** Inventory should be adjusted to reflect fair market value, which is generally the current cost to replace salable inventory. However, inventory valuations for income tax purposes must consider Revenue Procedure 77-12. A valuation analyst may want to consider the following procedures with respect to inventory:
  - Determine the method used to value the inventory carried on the books of the valuation subject (first in, first out [FIFO] or last in, first out [LIFO], among others).
  - Determine if the inventory can be sold, and if it cannot, adjust the book value accordingly.
  - If the company uses the LIFO method, adjust the value to reflect the current cost to replace the inventory. Although LIFO provides better matching on the income statement, FIFO provides a better balance sheet valuation.
  - If the company does not maintain proper inventory records, consider if there are any necessary adjustments to management's estimate to compensate for possible errors in the valuation of the inventory. If the effective date of the valuation is relatively recent, suggest a physical inventory. A physical inventory that was taken long ago may prove to be meaningless (but, what's "long ago"?). Exhibit 11.1 illustrates a portion of a rebuttal report addressing the other side's adjustment to inventory and some of the types of issues that come up in these assignments. The valuation date was in 2010.

### EXHIBIT 11.1 Inventory Adjustment Rebuttal

On page 25, the valuation analyst begins discussing his application of the adjusted book value method. The valuation analyst begins by discussing its adjustment to "Material Inventory." The report reads as follows:

- 1.) **Material Inventory:** Our initial inquiries found that the stated inventories for ABC Company as reported on its financial statements may have been understated. ABC Company's inventory was reported as \$263,791 in 2000. However, a large company paid ABC Company \$2.7 million to move its inventory and other assets to its new location in 2000 when the large company purchased the property from which ABC Company was then operating. Management confirmed that over 1,400 truckloads of material were moved from the original yard to the new yard. It is unlikely that such activities were undertaken to move only roughly \$260,000 of inventory. In addition, there was an inventory count taken in 2001, and again in 2010, which showed very significant discrepancies in the ABC Company inventory. We requested Counsel seek a more complete survey of ABC Company inventories.

This section should be read again and again to see how adversarial it is. First of all, ABC Company was not paid \$2.7 million to move its inventory. It was paid this amount to move the entire business from its old location to a new location. The payment was also to compensate the company for the period of time that it would be "out of business" due to the move. The payment was for approximately 1,300 truckloads (dump truck, tractor trailer loads, and so on) that were used to move all of the company's fixed assets from the original location, the entire office, garage, equipment, and inventory. There is absolutely no way to determine how much of the move was for inventory. Furthermore, construction of a new office building also took place from these proceeds, and each of the owners had to recognize \$750,000 apiece as taxable income according to John Smith, CPA, in his testimony of May 16, 2014. Therefore, the entire underlying premise is false and cannot be trusted.

Besides, the valuation analyst is referring to inventory values as of the year 2000, 10 years prior to the valuation date. Other than his client telling him to include this, how is it relevant for a 2010 valuation? We recognize that there are frequently discrepancies on the books of small companies between what is considered to be useable inventory and recorded inventory on the books, but this statement is nothing more than unsupported conjecture.

(continued)

### EXHIBIT 11.1 Inventory Adjustment Rebuttal *(continued)*

The valuation analyst then proceeds to mention an inventory count that took place in 2001 (which is nine years prior to the valuation date) and another in 2010. The valuation analyst obtained these “inventory counts” from the documents that were produced during the discovery phase of this litigation. First, it should be noted that the inventory count, according to these documents, was as of 2011 not 2010 as the valuation analyst indicates in the report. Therefore, once again, the valuation analyst is relying on data that was not *known or knowable* as of the valuation date.

The valuation analyst continues on the topic of its “material inventory” adjustment by stating the following:

The requested appraisal of inventories stored at the current site confirmed our expectation that the inventories owned and stored by ABC Company had a value far in excess of amounts reported on the financial statements for ABC Company. We note that generally accepted accounting principles do not require assets such as inventory to be stated at full market value. However, the difference in this case between market value and the value reported on financial statements is extremely significant. The independent inventory appraiser presented a range of inventory value of \$6,886,390 (minimum) to \$9,582,303 (maximum) as of the valuation date. For purposes of this analysis, we used the average of the minimum/maximum ranges, that is, \$8,234,347.

The inventory valuation report that the valuation analyst is relying on is problematic and cannot be relied upon for the purpose of this valuation. The problem with this valuation report is that the inventory appraiser performed his inspection over six days during April and May 2013, three years after the valuation date. Using this inventory count as of 2013, the appraiser then adjusts the prices using 2010 pricing data to estimate the value of these items as of the valuation date. This assumes that the exact same inventory is maintained by ABC Company at all times, which is absolutely false. Furthermore, it is our understanding that several of the pictures that were included in the inventory appraisal were either stock photos or photos from a property not belonging to ABC Company because of the manner in which the inventory was organized and bound. That raises another question entirely that is beyond the scope of this critique.

The valuation analyst uses the 2013 inventory count that was adjusted using 2010 pricing data and simply averages the minimum and maximum values that were determined by the inventory appraiser. He ignores the fact that over this time period, ABC Company purchased additional inventory required to support its business, and as a result, inventory grew on its balance sheet as well. A summary of the company’s purchases<sup>1</sup> and end-of-year inventory balances<sup>2</sup> reflect the changes and are presented as follows:

	2009	2010	2011	2012
Materials Purchases	\$2,544,660	\$5,327,973	\$1,097,096	\$1,763,108
% Change		109.4%	-79.4%	60.7%
Inventory Balance	\$ 362,837	\$ 637,786	\$1,075,231	\$1,502,048
% Change		75.8%	68.6%	39.7%

From 2009–2012, ABC Company’s materials purchases totaled \$10,732,837, and the company’s ending inventory balance more than quadrupled from \$362,837 to \$1,502,048. This further demonstrates why an inventory count as of 2013 cannot be relied on for a 2010 valuation. This, by itself, explains the fact that the inventory was growing and that a post-valuation date inventory could easily be in error unless proper cut-off procedures were applied, which they were not, in this situation.

The appropriate procedure that should have been followed would have been to take the physical inventory, and then trace all purchases and uses of that inventory, in order to backtrack to the valuation date. However, with that being said, with the amount of time that passed from the valuation date to the physical inventory, this would have been a monumental assignment. But, what the valuation analyst relied on does not work as a surrogate for doing it the correct way. This causes the entire calculation under the adjusted book value method to be incorrect and should be completely disregarded.

<sup>1</sup> Purchases are reflected at cost.

<sup>2</sup> Inventory is reflected at lower of cost or market and is not expected to be at fair value.

- *Prepaid expenses.* Prepaid expenses should be reviewed to determine whether the balance included on the balance sheet reflects fair market value. Prepaid insurance may be subject to short ratings by the insurance company and, as such, may be worth less than its face value. Many cash-basis professional practices write off insurance when it is paid, although it may have value on the balance sheet as a prepaid asset. This is particularly true with medical practices, for which the malpractice insurance premiums can be substantial. These days, it seems like we all have malpractice premiums that are substantial. I do not remember the last time one of my valuations killed someone!
- *Land.* Land should be appraised at fair market value and adjusted accordingly. This will generally require the services of a real estate appraiser. If the standard of value is not fair market value, the valuation analyst may be faced with an interesting challenge. Real estate appraisers use a concept called *market value*. This may not always fit the assignment.
- *Buildings.* Buildings should also be valued at fair market value, which is generally considered to be the estimated depreciated replacement cost, considering such factors as age and economic depreciation. The alternative is to value the property using an income or market approach. This will also require the services of a real estate appraiser and may have the same issues as land when it comes to the standard of value.
- *Machinery and equipment.* Machinery and equipment should be adjusted to reflect their estimated fair market value consistent with the premise being used by the business valuation analyst. This may be much more difficult than it seems because of the need for the valuation analyst to be in communication with the machinery appraiser. Assets owned by the business that are not being used can be valued as if those assets will be sold. We will discuss some definitions later in this chapter.
- A visit to the business premises will often disclose assets that may be fully depreciated or expensed, or both, and do not appear on fixed asset schedules. These assets may have significant value to the enterprise and must be considered in the valuation. The services of a machinery and equipment appraiser will frequently be required.
- *Leasehold improvements.* Leasehold improvements may have a fair market value greater than what is shown on the balance sheet, if the expected life of the improvements is greater than the term of the lease and if the probability of a renewal of the lease is high. In certain situations, the value of the leasehold improvements may be practically nil, particularly when these improvements will shortly revert to the property owner.
- *Leasehold interests.* Leasehold interests may have value to the lessee if the lease is transferable and calls for favorable rental payments based on the current market conditions for that type of property. The fair market value of the lease is usually determined as the discounted present value of the future benefits to the lessee. This is the difference between the market rent and the actual rent being paid. An unfavorable lease could be a liability for the company, and if it is not treated in that manner, it will affect profitability and make the company worth less.
- *Identifiable intangible assets.* Identifiable intangible assets may require the services of a specialist in the valuation of a particular type of asset. Regardless of whether a specialist is employed, an estimate of the remaining useful economic life of the asset is essential. All three approaches to value may be used depending on the type of asset being valued. A market approach may be difficult to apply in many cases due to the lack of information about comparable sales of similar intangible assets, but it should not be overlooked. It may be applicable for such assets as customer lists. A cost approach may be used for such assets as an assembled workforce, architectural drawings, or computer software, whereas an income approach may be appropriate for patents, copyrights, and trademarks. These types of assets are discussed in chapter 20.
- *Contracts.* Contracts that provide future income to the business, such as royalty agreements, often have a determinable value. Other types of contracts may require the business to actually make payments, but by the very nature of the contract (for example, a covenant not to compete), these contracts may also have value. However, there may also be the need to recognize a corresponding liability in some instances.
- *Accounts payable.* Accounts payable should be reviewed to determine if these items would actually be paid. If the payable has been on the company's books for a long time, the valuation analyst may want to discount the liability based on when it might actually be paid. Cash-basis taxpayers may need to have accounts payable added to the balance sheet because this item is frequently omitted. This is similar to accounts receivable.

- *Notes payable.* Notes payable, particularly the current portion, should be reviewed to determine not only whether the liability is valid but also whether it is properly classified as short term. The valuation analyst uses this information in the financial analysis portion of the assignment. Therefore, incorrect classification will result in the use of incorrect ratios when comparison is made with guideline company data or industry composite data.
- *Credit lines.* Working capital credit lines must be carefully analyzed to determine whether this form of debt is temporary or permanent in nature. A credit line that is used and paid down on a regular basis should be considered as short-term debt. However, some companies use the credit line as a form of permanent financing that keeps growing as the company grows, with no principal reductions taking place. This may be considered long-term financing or a form of invested capital.
- *Long-term debt.* Long-term debt should be analyzed similarly to the current portion. All notes payable should be adjusted to fair market value if the interest rate does not reflect the market rate of interest.
- *Deferred taxes.* Deferred taxes can be valued by estimating their market value and adjusting the book value of the deferred taxes account to its market value. Deferred taxes caused by temporary timing differences are similar to zero percent government financing, and as such, they are essentially the same as an interest-free loan. The valuation analyst should calculate the present value using a discount rate based on the current market rate of interest. If the liability can be permanently deferred (this may be possible if the company is growing and the asset base grows while the tax rates do not change), the valuation analyst may be able to exclude this item from the economic balance sheet.
- *Other deferred liabilities.* There may be other deferred liabilities (or assets) on a company's balance sheet due to the manner in which they are recorded under generally accepted accounting principles. We had one valuation that had a large deferred rent liability on the books, and we addressed the valuation issue as appears in exhibit 11.2.
- *Stockholder loans.* Stockholder loans frequently show up on the company's books and records. More often than not, the subject company, particularly a smaller business, is undercapitalized, and the "loans" are actually a form of paid-in capital. In these instances, the loans should not be considered a valid liability of the business but, rather, equity. In other situations, the stockholder loan shows up as a receivable because the stockholder is either disguising compensation in this manner or because the stockholder is using the company's checkbook as his or her personal checkbook. Because the likelihood of repayment is slim, the value of these loans would be zero. If the loan is legitimate and in lieu of bank financing, it should be treated as a bank loan and valued accordingly.

The final acid test would be to determine if these loans would have to be repaid if the business was sold.

## EXHIBIT 11.2 Deferred Rent Liability

In addition to the restrictions on transfer for the remaining owners, an additional item that needs to be considered is the fact that all the owners have previously been able to take advantage of the favorable cash flow resulting from the accounting treatment of the deferred rent. While paying lower rent, the owners recognized a greater expense for accounting purposes, thus, reducing the amount of profit that has been passed through to the members, resulting in a lower tax and better cash flows. However, this will not continue into the future and the remaining owners will experience the reversing of timing differences of the accounting treatment resulting in a less favorable tax treatment in the future.

In order to quantify the impact of the deferred taxes relating to the deferred rent, the analyst asked management for their schedule of the deferred rent, and the changes thereto, and calculated the implied tax benefit and detriment (using the same 18.75 percent tax rate as calculated for the pass-through taxes<sup>1</sup>) over the life of the leases that are in place at the valuation date. The results of the analysis are shown in table 73.

<sup>1</sup> The analyst used the same 18.75 percent tax rate, which is believed to be extremely conservative because it is more likely than not that the tax rates will change before the year 2036, which is how long the deferred rent is scheduled for at the valuation date. It would be speculative for the analyst to use a higher rate in this valuation but The Court might want to consider the equity of such an adjustment. The analyst will gladly assist The Court with other calculations.

**EXHIBIT 11.2 Deferred Rent Liability****TABLE 73 Unfavorable Tax Impact of Deferred Rent**

Month	Change in Deferred Rent	Tax 18.75%	P.V. Period	P.V. Factor	Present Value
Jun-14	101,720	19,073	1	0.9996	19,065
Jul-14	101,720	19,073	2	0.9992	19,057
Aug-14	64,471	12,088	3	0.9988	12,073
Sep-14	63,495	11,905	4	0.9983	11,885
Oct-14	63,495	11,905	5	0.9979	11,881
Nov-14	63,495	11,905	6	0.9975	11,876
Dec-14	(8,505)	(1,595)	7	0.9971	(1,590)
Jan-15	107,151	20,091	8	0.9967	20,024
Feb-15	64,785	12,147	9	0.9963	12,102
Mar-15	64,785	12,147	10	0.9959	12,097
Apr-15	59,047	11,071	11	0.9954	11,021
May-15	58,606	10,989	12	0.9950	10,934
Jun-15	58,606	10,989	13	0.9946	10,929
Jul-15	52,356	9,817	14	0.9942	9,760
Aug-15	50,505	9,470	15	0.9938	9,411
Sep-15	27,028	5,068	16	0.9934	5,034
Oct-15	23,528	4,411	17	0.9930	4,380
Nov-15	23,528	4,411	18	0.9925	4,379
Dec-15	21,528	4,036	19	0.9921	4,005
Jan-16	21,528	4,036	20	0.9917	4,003
Feb-16	21,528	4,036	21	0.9913	4,001
Mar-16	21,528	4,036	22	0.9909	4,000
Apr-16	20,708	3,883	23	0.9905	3,846
May-16	12,055	2,260	24	0.9901	2,238
Jun-16	12,055	2,260	25	0.9897	2,237
Jul-16	12,055	2,260	26	0.9893	2,236
Aug-16	6,314	1,184	27	0.9888	1,171
Sep-16	5,338	1,001	28	0.9884	989
Oct-16	(1,245)	(233)	29	0.9880	(231)
Nov-16	(9,579)	(1,796)	30	0.9876	(1,774)
Dec-16	(14,139)	(2,651)	31	0.9872	(2,617)
Jan-17	(14,139)	(2,651)	32	0.9868	(2,616)
Feb-17	(17,938)	(3,363)	33	0.9864	(3,318)
Mar-17	(17,938)	(3,363)	34	0.9860	(3,316)
Apr-17	(18,775)	(3,520)	35	0.9856	(3,469)
May-17	(19,632)	(3,681)	36	0.9851	(3,626)
Jun-17	(30,724)	(5,761)	37	0.9847	(5,673)
Jul-17	(40,795)	(7,649)	38	0.9843	(7,529)
Aug-17	(42,807)	(8,026)	39	0.9839	(7,897)
Sep-17	(43,783)	(8,209)	40	0.9835	(8,074)
Oct-17	(52,036)	(9,757)	41	0.9831	(9,592)

*(Table continued)*

**EXHIBIT 11.2 Deferred Rent Liability** *(continued)***TABLE 73 Unfavorable Tax Impact of Deferred Rent** *(continued)*

Month	Change in Deferred Rent	Tax 18.75%	P.V. Period	P.V. Factor	Present Value
Nov-17	(58,152)	(10,904)	42	0.9827	(10,715)
Dec-17	(60,274)	(11,301)	43	0.9823	(11,101)
Jan-18	(62,628)	(11,743)	44	0.9819	(11,530)
Feb-18	(62,628)	(11,743)	45	0.9815	(11,525)
Mar-18	(62,628)	(11,743)	46	0.9811	(11,520)
Apr-18	(63,481)	(11,903)	47	0.9807	(11,672)
May-18	(68,398)	(12,825)	48	0.9802	(12,571)
Jun-18	(76,529)	(14,349)	49	0.9798	(14,060)
Jul-18	(82,729)	(15,512)	50	0.9794	(15,193)
Aug-18	(84,761)	(15,893)	51	0.9790	(15,559)
Sep-18	(84,761)	(15,893)	52	0.9786	(15,553)
Oct-18	(84,761)	(15,893)	53	0.9782	(15,546)
Nov-18	(84,761)	(15,893)	54	0.9778	(15,540)
Dec-18	(86,946)	(16,302)	55	0.9774	(15,934)
Jan-19	(86,946)	(16,302)	56	0.9770	(15,927)
Feb-19	(93,330)	(17,499)	57	0.9766	(17,090)
Mar-19	(93,330)	(17,499)	58	0.9762	(17,083)
Apr-19	(94,200)	(17,663)	59	0.9758	(17,235)
May-19	(95,091)	(17,830)	60	0.9754	(17,391)
Jun-19	(95,091)	(17,830)	61	0.9750	(17,383)
Jul-19	(95,091)	(17,830)	62	0.9746	(17,376)
Aug-19	(97,145)	(18,215)	63	0.9742	(17,744)
Sep-19	(102,545)	(19,227)	64	0.9738	(18,722)
Oct-19	(106,477)	(19,965)	65	0.9733	(19,432)
Nov-19	(106,477)	(19,965)	66	0.9729	(19,424)
Dec-19	(108,728)	(20,387)	67	0.9725	(19,827)
Jan-20	(108,728)	(20,387)	68	0.9721	(19,818)
Feb-20	(108,728)	(20,387)	69	0.9717	(19,810)
Mar-20	(108,728)	(20,387)	70	0.9713	(19,802)
Apr-20	(115,291)	(21,617)	71	0.9709	(20,988)
May-20	(116,200)	(21,788)	72	0.9705	(21,145)
Jun-20	(116,200)	(21,788)	73	0.9701	(21,136)
Jul-20	(116,200)	(21,788)	74	0.9697	(21,128)
Aug-20	(118,275)	(22,177)	75	0.9693	(21,496)
Sep-20	(118,275)	(22,177)	76	0.9689	(21,487)
Oct-20	(118,275)	(22,177)	77	0.9685	(21,478)
Nov-20	(118,275)	(22,177)	78	0.9681	(21,469)

*(Table continued)*



**EXHIBIT 11.2 Deferred Rent Liability****TABLE 73 Unfavorable Tax Impact of Deferred Rent** *(continued)*

Month	Change in Deferred Rent	Tax 18.75%	P.V. Period	P.V. Factor	Present Value
Dec-20	(120,594)	(22,611)	79	0.9677	(21,881)
Jan-21	(123,183)	(23,097)	80	0.9673	(22,342)
Feb-21	(127,363)	(23,881)	81	0.9669	(23,090)
Mar-21	(127,363)	(23,881)	82	0.9665	(23,080)
Apr-21	(128,268)	(24,050)	83	0.9661	(23,235)
May-21	(137,985)	(25,872)	84	0.9657	(24,984)
Jun-21	(137,985)	(25,872)	85	0.9653	(24,974)
Jul-21	(137,985)	(25,872)	86	0.9649	(24,964)
Aug-21	(144,340)	(27,064)	87	0.9645	(26,103)
Sep-21	(144,340)	(27,064)	88	0.9641	(26,092)
Oct-21	(155,750)	(29,203)	89	0.9637	(28,143)
Nov-21	(164,084)	(30,766)	90	0.9633	(29,636)
Dec-21	(169,772)	(31,832)	91	0.9629	(30,651)
Jan-22	(169,772)	(31,832)	92	0.9625	(30,638)
Feb-22	(169,772)	(31,832)	93	0.9621	(30,625)
Mar-22	(169,772)	(31,832)	94	0.9617	(30,613)
Apr-22	(170,695)	(32,005)	95	0.9613	(30,766)
May-22	(171,641)	(32,183)	96	0.9609	(30,924)
Jun-22	(194,270)	(36,426)	97	0.9605	(34,986)
Jul-22	(182,666)	(34,250)	98	0.9601	(32,883)
Aug-22	(184,919)	(34,672)	99	0.9597	(33,275)
Sep-22	(189,215)	(35,478)	100	0.9593	(34,033)
Oct-22	(194,213)	(36,415)	101	0.9589	(34,918)
Nov-22	(200,942)	(37,677)	102	0.9585	(36,113)
Dec-22	(203,401)	(38,138)	103	0.9581	(36,540)
Jan-23	(203,401)	(38,138)	104	0.9577	(36,524)
Feb-23	(203,401)	(38,138)	105	0.9573	(36,509)
Mar-23	(203,401)	(38,138)	106	0.9569	(36,494)
Apr-23	(199,361)	(37,380)	107	0.9565	(35,754)
May-23	(200,326)	(37,561)	108	0.9561	(35,912)
Jun-23	(202,214)	(37,915)	109	0.9557	(36,236)
Jul-23	(203,542)	(38,164)	110	0.9553	(36,459)
Aug-23	(205,819)	(38,591)	111	0.9549	(36,851)
Sep-23	(205,819)	(38,591)	112	0.9545	(36,836)
Oct-23	(210,238)	(39,420)	113	0.9541	(37,611)
Nov-23	(210,238)	(39,420)	114	0.9537	(37,595)
Dec-23	(212,771)	(39,895)	115	0.9533	(38,033)

*(Table continued)*

**EXHIBIT 11.2 Deferred Rent Liability** *(continued)***TABLE 73 Unfavorable Tax Impact of Deferred Rent** *(continued)*

Month	Change in Deferred Rent	Tax 18.75%	P.V. Period	P.V. Factor	Present Value
Jan-24	(215,620)	(40,429)	116	0.9529	(38,526)
Feb-24	(212,315)	(39,809)	117	0.9525	(37,919)
Mar-24	(212,315)	(39,809)	118	0.9521	(37,904)
Apr-24	(204,369)	(38,319)	119	0.9517	(36,470)
May-24	(205,353)	(38,504)	120	0.9513	(6,630)
Jun-24	(777,790)	(145,836)	121	0.9510	(138,683)
Jul-24	(194,456)	(36,461)	122	0.9506	(34,658)
Aug-24	(196,758)	(36,892)	123	0.9502	(35,054)
Sep-24	(202,806)	(38,026)	124	0.9498	(36,116)
Oct-24	(202,806)	(38,026)	125	0.9494	(36,101)
Nov-24	(202,806)	(38,026)	126	0.9490	(36,086)
Dec-24	(205,416)	(38,516)	127	0.9486	(36,535)
Jan-25	(205,416)	(38,516)	128	0.9482	(36,520)
Feb-25	(192,304)	(36,057)	129	0.9478	(34,175)
Mar-25	(192,304)	(36,057)	130	0.9474	(34,160)
Apr-25	(184,872)	(34,663)	131	0.9470	(32,827)
May-25	(185,876)	(34,852)	132	0.9466	(32,991)
Jun-25	(172,400)	(32,325)	133	0.9462	(30,587)
Jul-25	(172,400)	(32,325)	134	0.9458	(30,574)
Aug-25	(161,583)	(30,297)	135	0.9454	(28,644)
Sep-25	(161,583)	(30,297)	136	0.9450	(28,632)
Oct-25	(161,583)	(30,297)	137	0.9446	(28,620)
Nov-25	(161,583)	(30,297)	138	0.9443	(28,608)
Dec-25	(164,271)	(30,801)	139	0.9439	(29,072)
Jan-26	(156,173)	(29,282)	140	0.9435	(27,627)
Feb-26	(156,173)	(29,282)	141	0.9431	(27,616)
Mar-26	(156,173)	(29,282)	142	0.9427	(27,604)
Apr-26	(156,173)	(29,282)	143	0.9423	(27,593)
May-26	(145,314)	(27,246)	144	0.9419	(25,663)
Jun-26	(145,314)	(27,246)	145	0.9415	(25,653)
Jul-26	(145,314)	(27,246)	146	0.9411	(25,642)
Aug-26	(150,753)	(28,266)	147	0.9407	(26,591)
Sep-26	(150,753)	(28,266)	148	0.9403	(26,580)
Oct-26	(140,805)	(26,401)	149	0.9399	(24,816)
Nov-26	(128,869)	(24,163)	150	0.9396	(22,703)
Dec-26	(135,333)	(25,375)	151	0.9392	(23,831)
Jan-27	(135,333)	(25,375)	152	0.9388	(23,821)

*(Table continued)*

**EXHIBIT 11.2 Deferred Rent Liability****TABLE 73 Unfavorable Tax Impact of Deferred Rent** *(continued)*

Month	Change in Deferred Rent	Tax 18.75%	P.V. Period	P.V. Factor	Present Value
Feb-27	(135,333)	(25,375)	153	0.9384	(23,812)
Mar-27	(135,333)	(25,375)	154	0.9380	(23,802)
Apr-27	(135,333)	(25,375)	155	0.9376	(23,792)
May-27	(136,377)	(25,571)	156	0.9372	(23,965)
Jun-27	(125,834)	(23,594)	157	0.9368	(22,104)
Jul-27	(125,833)	(23,594)	158	0.9364	(22,094)
Aug-27	(118,369)	(22,194)	159	0.9361	(20,775)
Sep-27	(112,524)	(21,098)	160	0.9357	(19,741)
Oct-27	(118,018)	(22,128)	161	0.9353	(20,696)
Nov-27	(108,926)	(20,424)	162	0.9349	(19,094)
Dec-27	(111,777)	(20,958)	163	0.9345	(19,585)
Jan-28	(111,777)	(20,958)	164	0.9341	(19,577)
Feb-28	(97,950)	(18,366)	165	0.9337	(17,148)
Mar-28	(97,949)	(18,365)	166	0.9333	(17,141)
Apr-28	(97,949)	(18,365)	167	0.9329	(17,134)
May-28	(97,949)	(18,365)	168	0.9326	(17,127)
Jun-28	(87,172)	(16,345)	169	0.9322	(15,236)
Jul-28	(81,696)	(15,318)	170	0.9318	(14,273)
Aug-28	(74,222)	(13,917)	171	0.9314	(12,962)
Sep-28	(74,222)	(13,917)	172	0.9310	(12,957)
Oct-28	(74,222)	(13,917)	173	0.9306	(12,951)
Nov-28	(74,222)	(13,917)	174	0.9302	(12,946)
Dec-28	(77,159)	(14,467)	175	0.9298	(13,452)
Jan-29	(77,159)	(14,467)	176	0.9295	(13,447)
Feb-29	(66,156)	(12,404)	177	0.9291	(11,524)
Mar-29	(66,156)	(12,404)	178	0.9287	(11,520)
Apr-29	(43,939)	(8,239)	179	0.9283	(7,648)
May-29	(43,852)	(8,222)	180	0.9279	(7,630)
Jun-29	(34,964)	(6,556)	181	0.9275	(6,081)
Jul-29	(34,964)	(6,556)	182	0.9271	(6,078)
Aug-29	(34,964)	(6,556)	183	0.9268	(6,076)
Sep-29	(34,964)	(6,556)	184	0.9264	(6,073)
Oct-29	(34,964)	(6,556)	185	0.9260	(6,071)
Nov-29	(34,964)	(6,556)	186	0.9256	(6,068)
Dec-29	(37,989)	(7,123)	187	0.9252	(6,590)
Jan-30	(37,989)	(7,123)	188	0.9248	(6,588)
Feb-30	(37,989)	(7,123)	189	0.9245	(6,585)

*(Table continued)*

**EXHIBIT 11.2 Deferred Rent Liability** *(continued)***TABLE 73 Unfavorable Tax Impact of Deferred Rent** *(continued)*

Month	Change in Deferred Rent	Tax 18.75%	P.V. Period	P.V. Factor	Present Value
Mar-30	(37,989)	(7,123)	190	0.9241	(6,582)
Apr-30	(37,989)	(7,123)	191	0.9237	(6,579)
May-30	(37,989)	(7,123)	192	0.9233	(6,577)
Jun-30	(37,989)	(7,123)	193	0.9229	(6,574)
Jul-30	(37,989)	(7,123)	194	0.9225	(6,571)
Aug-30	(37,989)	(7,123)	195	0.9221	(6,568)
Sep-30	(37,394)	(7,011)	196	0.9218	(6,463)
Oct-30	(35,905)	(6,732)	197	0.9214	(6,203)
Nov-30	(35,905)	(6,732)	198	0.9210	(6,200)
Dec-30	(39,021)	(7,316)	199	0.9206	(6,736)
Jan-31	(39,021)	(7,316)	200	0.9202	(6,733)
Feb-31	(39,021)	(7,316)	201	0.9199	(6,730)
Mar-31	(39,021)	(7,316)	202	0.9195	(6,727)
Apr-31	(39,021)	(7,316)	203	0.9191	(6,724)
May-31	(39,021)	(7,316)	204	0.9187	(6,722)
Jun-31	(38,606)	(7,239)	205	0.9183	(6,647)
Jul-31	(30,189)	(5,660)	206	0.9179	(5,196)
Aug-31	(30,189)	(5,660)	207	0.9176	(5,194)
Sep-31	(30,189)	(5,660)	208	0.9172	(5,192)
Oct-31	(30,189)	(5,660)	209	0.9168	(5,189)
Nov-31	(30,189)	(5,660)	210	0.9164	(5,187)
Dec-31	(36,398)	(6,825)	211	0.9160	(6,252)
Jan-32	(36,398)	(6,825)	212	0.9157	(6,249)
Feb-32	(36,398)	(6,825)	213	0.9153	(6,246)
Mar-32	(36,398)	(6,825)	214	0.9149	(6,244)
Apr-32	(36,398)	(6,825)	215	0.9145	(6,241)
May-32	(36,398)	(6,825)	216	0.9141	(6,239)
Jun-32	(34,226)	(6,417)	217	0.9138	(5,864)
Jul-32	(34,219)	(6,416)	218	0.9134	(5,860)
Aug-32	(34,219)	(6,416)	219	0.9130	(5,858)
Sep-32	(34,219)	(6,416)	220	0.9126	(5,855)
Oct-32	(34,219)	(6,416)	221	0.9122	(5,853)
Nov-32	(34,219)	(6,416)	222	0.9119	(5,851)
Dec-32	(34,219)	(6,416)	223	0.9115	(5,848)
Jan-33	(34,219)	(6,416)	224	0.9111	(5,846)
Feb-33	(34,219)	(6,416)	225	0.9107	(5,843)
Mar-33	(34,219)	(6,416)	226	0.9103	(5,841)

*(Table continued)*

**EXHIBIT 11.2 Deferred Rent Liability****TABLE 73 Unfavorable Tax Impact of Deferred Rent** *(continued)*

Month	Change in Deferred Rent	Tax 18.75%	P.V. Period	P.V. Factor	Present Value
Apr-33	(34,219)	(6,416)	227	0.9100	(5,838)
May-33	(34,219)	(6,416)	228	0.9096	(5,836)
Jun-33	(34,219)	(6,416)	229	0.9092	(5,834)
Jul-33	(34,219)	(6,416)	230	0.9088	(5,831)
Aug-33	(34,219)	(6,416)	231	0.9085	(5,829)
Sep-33	(34,219)	(6,416)	232	0.9081	(5,826)
Oct-33	(34,219)	(6,416)	233	0.9077	(5,824)
Nov-33	(34,219)	(6,416)	234	0.9073	(5,821)
Dec-33	(34,219)	(6,416)	235	0.9069	(5,819)
Jan-34	(34,219)	(6,416)	236	0.9066	(5,817)
Feb-34	(34,219)	(6,416)	237	0.9062	(5,814)
Mar-34	(9,473)	(1,776)	238	0.9058	(1,609)
Apr-34	(9,473)	(1,776)	239	0.9054	(1,608)
May-34	(9,473)	(1,776)	240	0.9051	(1,608)
Jun-34	(9,473)	(1,776)	241	0.9047	(1,607)
Jul-34	(9,473)	(1,776)	242	0.9043	(1,606)
Aug-34	(9,473)	(1,776)	243	0.9039	(1,606)
Sep-34	(9,473)	(1,776)	244	0.9036	(1,605)
Oct-34	(9,473)	(1,776)	245	0.9032	(1,604)
Nov-34	(9,473)	(1,776)	246	0.9028	(1,604)
Dec-34	(9,473)	(1,776)	247	0.9024	(1,603)
Jan-35	(9,473)	(1,776)	248	0.9021	(1,602)
Feb-35	(9,473)	(1,776)	249	0.9017	(1,602)
Mar-35	(9,473)	(1,776)	250	0.9013	(1,601)
Apr-35	(9,473)	(1,776)	251	0.9009	(1,600)
May-35	(9,473)	(1,776)	252	0.9006	(1,600)
Jun-35	(9,473)	(1,776)	253	0.9002	(1,599)
Jul-35	(9,473)	(1,776)	254	0.8998	(1,598)
Aug-35	(9,473)	(1,776)	255	0.8994	(1,598)
Sep-35	(9,473)	(1,776)	256	0.8991	(1,597)
Oct-35	(9,473)	(1,776)	257	0.8987	(1,596)
Nov-35	(9,473)	(1,776)	258	0.8983	(1,596)
Dec-35	(9,473)	(1,776)	259	0.8979	(1,595)
Jan-36	(9,473)	(1,776)	260	0.8976	(1,594)
Feb-36	(9,473)	(1,776)	261	0.8972	(1,594)
Mar-36	(9,473)	(1,776)	262	0.8968	(1,593)
Apr-36	(9,473)	(1,776)	263	0.8965	(1,592)

*(Table continued)*

**EXHIBIT 11.2 Deferred Rent Liability** *(continued)***TABLE 73 Unfavorable Tax Impact of Deferred Rent** *(continued)*

Month	Change in Deferred Rent	Tax 18.75%	P.V. Period	P.V. Factor	Present Value
May-36	(9,473)	(1,776)	264	0.8961	(1,592)
Jun-36	(9,473)	(1,776)	265	0.8957	(1,591)
Jul-36	(9,473)	(1,776)	266	0.8953	(1,590)
Aug-36	(9,473)	(1,776)	267	0.8950	(1,590)
Sep-36	(9,473)	(1,776)	268	0.8946	(1,589)
Oct-36	(9,473)	(1,776)	269	0.8942	(1,588)
Nov-36	(9,473)	(1,776)	270	0.8938	(1,588)
Dec-36	(9,473)	(1,776)	271	0.8935	(1,587)
					<u><u>\$(3,763,280)</u></u>

The discount rate used to discount the taxes to present value is 6 percent, the cost of debt capital for the subject company. Because this is a timing difference, the present value factors used should reflect the lower risk. Having a \$3.7 million tax detriment would indicate a discount of about 39 percent based on the overall value of \$9.6 million. This detriment will be considered in the selection of the discount for lack of marketability.

**Author's Note**

In this particular valuation assignment, it was decided to use the unfavorable tax impact of the deferred rent to support the discount for lack of marketability of 35 percent that we ultimately ended up with at the end of our valuation. We used an income approach to value the company and used this unfavorable deferred rent to demonstrate that the company was less marketable because a buyer would be concerned about the lack of profitability in the future as the timing difference of the deferred rent reverses itself.

**Tax Affecting the Balance Sheet**

Since the last edition of this book, I have received more questions about this section of my book than any other section. Tax affecting of the balance sheet adjustments will often depend on the purpose and function of the valuation assignment. The Treasury Department indicated in Private Letter Ruling 91-50001 that capital gains taxes should not be considered when the valuation analyst determines fair market value if there is no plan of liquidation. However, since that time, the Tax Court has allowed built-in gains taxes to be considered as part of the discount for lack of marketability. I will discuss this in greater detail in chapter 15.

Before the Tax Reform Act of 1986 (I just realized that some of the students reading this book were not born when this tax act was passed. Man, I feel old!), a tax-free liquidation of a corporation could have been accomplished under what was known as the General Utilities Doctrine.<sup>3</sup> The former position of the Tax Court was that if there was no plan of liquidation, the taxpayer should not be allowed to value an asset as if it were going to be liquidated. However, as the tax law changed, the prevailing wisdom presented to the Tax Court by an IRS valuation analyst was that the willing buyer and the willing seller would consider taxes, even if there was no plan of liquidation. Quite frankly, a willing buyer is not going to pay market value for an asset without considering the impact of a large built-in gains tax on the asset.

<sup>3</sup> See previous IRC Sections 336 and 337, as amended by Section 631 of the Tax Reform Act of 1986. The General Utilities Doctrine allowed a tax-free liquidation under certain circumstances. This provision was removed in the 1986 tax act.

In the first edition of this book (1998), I said that in my opinion, Private Letter Ruling 91-50001 was problematic. At that time, I said

It defies the concept of what a willing buyer would pay a willing seller if all of the facts are known. In some instances, the potential built-in gains tax could be so great that the purchaser would not purchase the corporate stock at all. The real estate would be sold as an asset sale, and the taxes would be paid at the corporate level. In the *Estate of William Luton*,<sup>4</sup> the Tax Court did not permit a discount for the costs in selling the stock in a real estate holding company, nor was the potential capital gains tax at the corporate level taken into account. The Internal Revenue Service has recently settled several cases that have allowed some discount for the built-in taxes.

Do not think that built-in gains taxes are an automatic deduction from the value of the assets. The case law has not always allowed a full deduction for the amount of taxes that would be paid by the purchaser of these assets. In fact, as you read the case law, the rationale in which the taxes were calculated is unclear in some cases because the taxes were buried into the discount for lack of marketability. However, the valuation analyst must be aware of the circuit in which the valuation will be filed because the different circuit courts have ruled very differently on this point. I will discuss that in greater detail in chapter 15. Tax affecting the balance sheet is being done inconsistently, but most experienced valuation analysts believe that accounts receivable and accounts payable (also known as the *accrual assets and liabilities*) should be tax affected when going from cash basis to accrual basis, if there is a likelihood that taxes would be paid or saved by the entity. The valuation analyst must be careful not to get caught in the trap of automatically tax affecting these items. The purpose and function of the assignment must be considered here. If the accounts receivable are the same at the beginning and end of the accounting period and revenues have been flat, taxes will probably not be paid in the immediate future. In addition, many professional practices bonus out profits, eliminating any tax. If it is assumed that the hypothetical willing buyer will do the same, there may not be tax.

If an asset, such as inventory, is sold as a normal part of the business, the adjustment should be tax affected if there is a likelihood that taxes would be paid by the entity. This relates to income taxes, as opposed to capital gains taxes. Therefore, it appears that a reasonable argument can be made for making this type of adjustment.

Changes from LIFO to FIFO will frequently require a tax adjustment. Here also, the income tax implications must be considered. Clearly, there are no hard and fast rules about tax affecting. Why should this be any different from everything else that we have discussed? Common sense must be used to justify tax affecting. There is no substitute for the valuation analyst using his or her head to support his or her position.

It is now time to address the many questions that I get about tax affecting the receivables and payables when valuing a professional practice. Very often, professional practices are sold based on cash basis financial statements. Let's think about a simple dental practice. A purchaser pays some multiple of revenues that are determined based on actual collections. More often than not, the seller keeps the receivables and has to pay all the payables because the transaction is an asset sale, rather than a stock sale. If you recall, I discussed this in chapter 10 not that long ago. So, what happens when the seller collects the receivables and pays the payables? Taxes are paid on the monies collected, net of the expenses paid for. Therefore, isn't it logical that these accrual assets and liabilities should be tax affected if the valuation analyst is valuing the practice based on amounts that exclude these items? This only works if the practice is valued on a cash basis.

One more point for clarification: Any accrual assets or liabilities (accounts receivable or accounts payable) would flow through to the income statement affecting revenues, expenses, and profits. For example, if accounts receivable is recorded on the balance sheet, the corresponding entry would be to record sales or revenues on the income statement. Accounts payable would result in an expense being recorded on the income statement. Therefore, if the valuation analyst uses the income or market approach and applies these other approaches to revenues, earnings, or cash flows that already consider the accrual assets and liabilities, there would be a double-counting of these items. Got it?

4 T.C. Memo. 1994-539, RIA T.C. Memo. 94539, 68 CCH T.C.M. 1044 (1994).

## When All Adjustments Have Been Made

After all the adjustments have been made, the difference between the value of the adjusted assets and the value of the adjusted liabilities equals the value of the adjusted equity of the enterprise. If all assets, both tangible and intangible, have been considered, the value should be in the same ballpark as the value estimates reached in the other approaches. However, if the unidentifiable intangible assets (that is, goodwill) are excluded, the result may or may not be considered the “floor” value in a valuation of a controlling interest (without any discounts at this point). This “floor” value is probably greater than what the company would realize in liquidation but may be less than the values derived under the income and market approaches if the company is not strong. That is when the fun really begins!

Most likely, the valuation analyst will have to value the unidentifiable intangible assets using a different methodology and add the result to the adjusted book value estimate of all the other assets and liabilities. A frequently used method to accomplish this is the excess earnings method. The problem with this method is that it should not be used unless there is no better basis for determining the value of the intangibles. If you don't believe me, reread Revenue Ruling 68-609. I will discuss the mechanics of the excess earnings method in the next chapter, so be patient.

## Communication Among Appraisers and Valuation Analysts

Communication among appraisers and valuation analysts is an important component of the valuation process. The business valuation analyst should be thought of as the team's quarterback. This individual will be responsible for making sure that the other appraisers provide information that will be useful in the business valuation. This means that the valuation analyst must have a clear understanding of the terminology used by appraisers in other disciplines (for example, real estate and machinery, among others) to ensure that the same standard of value and premise of value (going concern or liquidation) is consistently applied throughout the valuation. This is more of a problem when the client or attorney hands you a valuation that was done for a different purpose than the assignment that you are involved in. For example, an insurance appraisal may use a very different standard of value than an appraisal for estate tax purposes. A really bad situation exists when the valuation analyst is given a machinery and equipment appraisal that was done for bank financing and is now being used for a business valuation using a going concern premise of value. Chances are that the machinery and equipment appraisal was originally done using some form of liquidation, which is not compatible with a going concern valuation. Think about it: If the loan goes bad, the bank wants to know how much its collateral may be worth if it has to sell it off. That is not a going concern.

To keep the lines of communication open and clear, the valuation analyst should be familiar with certain terminology used by these other professional appraisers. One way to accomplish this is to take the introductory courses in machinery and equipment and real estate offered by the American Society of Appraisers (ASA). Some of the important terms are outlined in box 11.2.

## The Adjusted Book Value Method Illustrated

Following box 11.2 is exhibit 11.3, which illustrates the adjusted book value method. The example in exhibit 11.3 was part of a valuation that was being used by a client for a divorce litigation. This same example will be used to demonstrate economic obsolescence (soon to be explained) and liquidation value (also coming soon).

### BOX 11.2

#### Professional Appraiser Terminology

##### Definitions of Value Relating to Machinery Assets

The underlying theme and elements of the definitions presented here are based in standard appraisal theory. Many terms are used to describe various thoughts or premises of value. These definitions are offered to provide the fundamental value concepts; they are not the only acceptable definitions, since contracts or jurisdictions may dictate somewhat different philosophies. Therefore, these definitions may be expanded or refined as the purpose and function of an appraisal dictate, as long as the fundamental concepts are not altered. In other cases, the laws of a country, state, region, or regulatory agency may require other terms, which, therefore, would take precedence over the definitions shown here.

1. *Reproduction Cost New* is the cost of reproducing a new replica of a property on the basis of current prices with the same or closely similar materials, as of a specific date.
2. *Replacement Cost New* is the current cost of a similar new property having the nearest equivalent utility as the property being appraised, as of a specific date.



**BOX 11.2****Professional Appraiser Terminology**

3. *Fair Market Value* is an opinion expressed in terms of money, at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, as of a specific date.
4. *Fair Market Value in Continued Use with Assumed Earnings* is an opinion, expressed in terms of money, at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, as of a specific date and assuming that the business earnings support the value reported, without verification.
5. *Fair Market Value in Continued Use with an Earnings Analysis* is an opinion, expressed in terms of money, at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, as of a specific date and supported by the earnings of the business.
6. *Fair Market Value Installed* is an opinion, expressed in terms of money, at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, considering market conditions for the asset being valued, independent of earnings generated by the business in which the property is or will be installed, as of a specific date.
7. *Fair Market Value Removed* is an opinion, expressed in terms of money, at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, considering removal of the property to another location, as of a specific date.
8. *Liquidation Value in Place* is an opinion of the gross amount, expressed in terms of money, that typically could be realized from a properly advertised transaction, with the seller being compelled to sell, as of a specific date, for a failed, non-operating facility, assuming that the entire facility is sold intact.
9. *Orderly Liquidation* is an opinion of the gross amount, expressed in terms of money, that typically could be realized from a liquidation sale, given a reasonable period of time to find a purchaser (or purchasers), with the seller being compelled to sell on an as-is, where-is basis, as of a specific date.
10. *Forced Liquidation Value* is an opinion of the gross amount, expressed in terms of money, that typically could be realized from a properly advertised and conducted public auction, with the seller being compelled to sell with a sense of immediacy on an as-is, where-is basis, as of a specific date.
11. *Salvage Value* is an opinion of the amount, expressed in terms of money, that may be expected for the whole property or a component of the whole property that is retired from service for possible use elsewhere, as of a specific date.
12. *Scrap Value* is an opinion of the amount, expressed in terms of money that could be realized for the property if it were sold for its material content, not for a productive use, as of a specific date.

(Source: Machinery & Technical Specialties Committee of the American Society of Appraisers—July 25, 2010.)

**EXHIBIT 11.3 Adjusted Book Value Method**

*To help you understand this exhibit, an explanation is in order. This exhibit comes from a real valuation in which the company had been losing money for years. The asset-based approach was the only approach that made any sense. We had a hunch that liquidation would eventually be used, but we had to satisfy The Court that valuing the business as a going concern would not result in a higher value than valuing the business as if in liquidation. This is the beginning of our analysis. There will be more to come later.*

Of the three approaches to value, the asset-based approach is generally the least used for the valuation of a business enterprise. This is explained in the valuation literature.

In Section 5 of Revenue Ruling 59-60, it states:

The valuation of a closely-held corporate stock entails the consideration of all relevant factors as stated in section 4. Depending upon the circumstances in each case, certain factors may carry more weight than others because of the nature of the company's business. To illustrate:

- (a) Earnings may be the most important criterion of value in some cases whereas asset value will receive primary consideration in others. In general, the appraiser will accord primary consideration to earnings when valuing stocks of companies which sell products or services to the public; conversely, in the investment or holding type of company, the appraiser may accord the greatest weight to the assets underlying the security to be valued.

(continued)

### EXHIBIT 11.3 Adjusted Book Value Method *(continued)*

(b) The value of the stock of a closely-held investment or real estate holding company, whether or not family owned, is closely related to the value of the assets underlying the stock. For companies of this type the appraiser should determine the fair market values of the assets of the company. Operating expenses of such a company and the cost of liquidating it, if any, merit consideration when appraising the relative values of the stock and the underlying assets. The market values of the underlying assets give due weight to potential earnings and dividends of the particular items of property underlying the stock, capitalized at rates deemed proper by the investing public at the date of appraisal. A current appraisal by the investing public should be superior to the retrospective opinion of an individual. For these reasons, adjusted net worth should be accorded greater weight in valuing the stock of a closely-held investment or real estate holding company, whether or not family owned, than any of the other customary yardsticks of appraisal, such as earnings and dividend paying capacity.

In essence, Revenue Ruling 59-60 indicates that a business enterprise is valued based on “earnings” rather than on “assets.”

The value of the intangible assets, if any, are captured more readily using an income or market approach. According to *Financial Valuation*

Although the asset approach can be used in almost any valuation, it is seldom used in the valuation of operating companies. The time and costs involved in valuing individual tangible and intangible assets typically is not justified, because there is little, if any, increase in the accuracy of the valuation. The value of all tangible and intangible assets is captured, in aggregate, in the proper application of the income and market approaches. In many valuations there is no real need to break out the amount of value associated with individual assets, including goodwill. However, it is sometimes used as a floor value. **Other times it may be a value that is too high if the net asset values do not have income support as a going concern.**<sup>1</sup> (Emphasis added)

The major disadvantage to using an asset-based approach is that merely valuing the assets as if they were going to be sold individually fails to consider the true economics of the business enterprise. Using only an asset-based valuation for the individual assets does not consider the value that these assets contribute to the existing business enterprise.

According to *Going Concern Valuation*,

*Use Value* and *Value in Use*—If you look up *Value in Use* in the Dictionary of Real Estate Terms, you will find that it refers to *Use Value*. It defines *Use Value* as, “The Value a specific property has for a specific use.” The 13th Edition has that definition, but goes into a lengthier definition and states it is:

‘a concept based on the productivity of an economic good.’ ‘In estimating use value, the appraiser focuses on the value the real estate contributes to the enterprise of which it is a part, without regard to the highest and best use of the property or the monetary amount that might be realized from its sale.’<sup>23, 2</sup>

(Footnote to Quote 23: *The Appraisal of Real Estate*, 13th Edition, The Appraisal Institute 2008: 27).

We applied the asset-based approach in this valuation assignment on a going concern and a liquidation basis. As indicated early in this report, valuation standards require us to consider the highest and best use of the property.

For the going concern valuation, we adjusted the balance sheet at December 31, 2014, as reported by The Company to fair market value as shown in table 39.

<sup>1</sup> James R. Hitchner, *Financial Valuation: Application and Models*, 3rd ed., (Hoboken, NJ: John Wiley & Sons Inc., 2011): 312.

<sup>2</sup> L. Deane Wilson, MA, ASA and Robin G. Wilson, MAI, *Going Concern Valuation for Real Estate Appraisers, Lenders, Assessors and Eminent Domain Professionals* (2012): 37.

**EXHIBIT 11.3 Adjusted Book Value Method****TABLE 39 Going Concern Balance Sheet**

	Adjusted December 31, 2014	Fair Market Adjustment	Fair Market December 31, 2014
<b>Current Assets</b>			
Cash	\$ 604,915	\$ —	\$ 604,915
Marketable Securities	2,432,532	—	2,432,532
Accounts Receivable <sup>1</sup>	21,314,516	(13,088,039)	8,226,477
Inventories	10,722,898	—	10,722,898
Prepaid Expenses	295,094	—	295,094
<b>Total Current Assets</b>	<b>\$35,369,955</b>	<b>\$(13,088,039)</b>	<b>\$ 22,281,916</b>
<b>Net Fixed Assets<sup>2</sup></b>	<b>\$ 8,227,728</b>	<b>\$ 7,652,272</b>	<b>\$ 15,880,000</b>
<b>Other Assets</b>			
Intangible Assets (Net) <sup>3</sup>	\$ 35	\$ (35)	\$ —
Security Deposits	188,405	—	188,405
Cash Surrender Value of Officer's Life Ins.	3,804,279	—	3,804,279
Investment in China Co. (82%) <sup>4</sup>	—	—	—
Investment in Mexico Co. (50%) <sup>5</sup>	—	—	—
Investment in Real Co. (10%) <sup>6</sup>	—	324,000	324,000
<b>Total Other Assets</b>	<b>\$ 3,992,719</b>	<b>\$ 323,965</b>	<b>\$ 4,316,684</b>
Economic Obsolescence <sup>7</sup>	\$ —	\$(26,602,898)	\$(26,602,898)
<b>TOTAL ASSETS</b>	<b>\$47,590,402</b>	<b>\$(31,714,700)</b>	<b>\$ 15,875,702</b>
<b>Current Liabilities</b>			
Accounts Payable <sup>8</sup>	\$10,108,250	\$ (3,454,812)	\$ 6,653,438
Long-Term Debt—Current Portion	5,776,695	—	5,776,695
Accrued Expenses <sup>9</sup>	7,073,471	(4,579,829)	2,493,642
<b>Total Liabilities</b>	<b>\$22,958,416</b>	<b>\$ (8,034,641)</b>	<b>\$ 14,923,775</b>
<b>Total Equity<sup>10</sup></b>	<b>\$24,631,986</b>	<b>\$(23,680,059)</b>	<b>\$ 951,927</b>
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>\$47,590,402</b>	<b>\$(31,714,700)</b>	<b>\$ 15,875,702</b>

(continued)

**EXHIBIT 11.3 Adjusted Book Value Method** *(continued)*

1. Accounts receivable was adjusted to reduce the book value by the receivable from China Co. because this was determined to be uncollectible. The balance represents several years' worth of sales that have not been paid for. The forecast for China Co. does not indicate an ability to pay this item.
2. Fixed assets were adjusted to reflect the following:

	Going Concern Values
<b>Real Estate:</b>	
East Building – State 1	\$ 1,600,000
West Building – State 1	900,000
State 2	
1234 ABC Drive	525,000
5678 ABC Drive	750,000
7890 ABC Drive	753,684
State 3	400,000
Belgium	4,011,678
<b>Total Real Estate</b>	<b>\$ 8,940,362</b>
<b>Machinery &amp; Equipment</b>	
Belgium	\$ 2,632,712
Less: Equipment Sold From 7/14–12/14	(115,000)
State 1	722,235
Less: Equipment Sold From 7/14–12/14	(1,348)
State 2	3,676,800
State 3	25,410
<b>Total Machinery &amp; Equipment</b>	<b>\$ 6,940,809</b>
<b>TOTAL FIXED ASSETS</b>	<b>\$15,881,171</b>
<b>ROUNDED</b>	<b>\$15,880,000</b>

The real estate values were obtained from appraisals performed by XYZ Real Estate Appraisal Co. as of various dates in May 2014. The machinery and equipment was appraised by Plants Valuation Services, LLC as of December 31, 2014.

Several items must be noted about these appraisals. First, the real estate appraisals use a market value concept. This means that these values assume a sale of the properties, as opposed to valuing them based on their contributions to the business enterprise.

### EXHIBIT 11.3 Adjusted Book Value Method

As for the machinery and equipment, the appraisers valued these assets under a “market value in place” concept, which they define as

*Market Value In-Place:*

The estimated gross amount expressed in terms of money that the subject property would most likely realize in its most common market. The transaction must be between a willing buyer and willing seller with neither party being under any compulsion to buy or sell and with both parties in full knowledge of all relevant facts. Consideration is given to costs of moving and installation in order to arrive at an ‘In-Place’ value.

Once again, this does not consider the economic obsolescence that is specific to the valuation subject’s use of these assets. According to the definition of *economic obsolescence* contained in the machinery and equipment appraisal:

**Economic Obsolescence:**

A form of depreciation, or loss in value, caused by unfavorable external conditions. These can include such things as the economics of the industry, availability of financing, loss of material and labor sources, passage of new legislation, and changes in ordinance. **(Economic Obsolescence, as it pertains directly to the current financial condition of the subject company, has not been considered in the valuation of the subject assets).**<sup>3</sup> (Emphasis Added)

The valuation analyst spoke to the machinery appraiser who confirmed that the underlying assumption behind the valuation is that the economics of the valuation subject would support the values as they have determined them. However, based on the under-capacity and continued losses, we know that this is not the case. A further adjustment will be made by the valuation analyst to support the economic obsolescence built into the balance sheet of The Company.

3. Intangible assets were removed as the earnings do not support the balance sheet values.
4. The Investment in China Co. is explained, in detail, in a later section of this report.
5. The Investment in Mexico Co. is explained in detail in a later section of this report.
6. The Investment in Real Co. is explained in detail in a later section of this report.
7. Economic obsolescence is explained in a separate section of this report.
8. Accounts payable was adjusted to indicate the amount owed to China Co. that will be offset against the uncollectible accounts receivable. It is anticipated that if the valuation subject cannot collect the receivable, it will not pay the payable.
9. Accrued expenses were adjusted to reflect only those expenses that The Company is still liable for. Our review of the detailed accrued expenses indicated that there were items carried by The Company that would most likely not have to be paid in the foreseeable future.
10. Stockholder’s equity has been adjusted for the net of all other adjustments.

As a result of the various adjustments, the stockholder’s equity, on a going concern basis, has been determined to be approximately \$952,000.

<sup>3</sup> Plants Valuation Services Appraisal Report effective December 31, 2014 under cover letter dated June 22, 2015: 6.

## Economic Obsolescence

The example provided in exhibit 11.3 has an adjustment for economic obsolescence. This adjustment is frequently overlooked by valuation analysts because we generally do not see much written about this important concept in business valuation publications. In fact, this concept is being introduced for the first time in this edition of my book despite the fact that it is not a new concept. It just did not seem as important before as it does now. Let me start this discussion by laying out a set of facts. Suppose a valuation analyst determines the value of a company as a going concern as follows:

	Value
Income approach	\$1,000,000
Market approach	\$1,200,000
Asset-based approach	\$4,000,000

The first question that needs to be addressed is why is the net value of the assets so much higher than the values reached under the income and market approaches? There are several possible answers. First, there may be assets that do not contribute to the value of the company's earnings or cash flow. Maybe it has an airplane on the books that is only used to shuttle the CEO around without a significant cost savings. But let's assume that this is not the case. Instead, what if the company has many underutilized assets in its factories that do not make enough of an economic contribution to the company to have as much value to this company as it might have to another company that can fully utilize these assets? This is the concept of economic obsolescence. The assets may be worth more to someone else if sold in the market than they are worth to the company when valued as a going concern.

Let's continue this discussion about a company that had been losing money for many years but appeared to have a significant balance sheet, assuming everything was valued as a going concern. This was the case for the company whose adjusted book value was demonstrated in exhibit 11.3. I previously explained that one factor that must be considered in any business valuation is the highest and best use of the subject business. In this instance, we determined that liquidation ended up being the premise of value that would return the greatest amount to the hypothetical willing buyer. During the course of this assignment, we requested that a machinery and equipment appraisal<sup>5</sup> be performed, and that the machinery and equipment appraiser provide a "market value in-place" and "orderly liquidation value" for each of the assets.

As for the machinery and equipment, the appraiser valued these assets under a "market value in-place" concept, which was defined as follows:

The estimated gross amount expressed in terms of money that the subject property would most likely realize in its most common market. The transaction must be between a willing buyer and willing seller with neither party being under any compulsion to buy or sell and with both parties in full knowledge of all relevant facts. Consideration is given to costs of moving and installation in order to arrive at an 'In-Place' value.

This definition did not consider the economic obsolescence that was specific to the subject company's use of these assets. However, the machinery and equipment appraisal defined *economic obsolescence* as follows:

A form of depreciation, or loss in value, caused by unfavorable external conditions. These can include such things as the economics of the industry, availability of financing, loss of material and labor sources, passage of new legislation, and changes in ordinance. **(Economic Obsolescence, as it pertains directly to the current financial condition of the subject company, has not been considered in the valuation of the subject assets).** (Emphasis added)

As part of this assignment, we consulted with the machinery appraiser who confirmed that the underlying assumption behind the machinery and equipment appraisal is that the economics of the subject company would support the values as they have determined them. However, based on the under-capacity and continued losses of the subject company, we knew that this could not be the case. As a result, a further adjustment was required to be made by the valuation analyst to support the economic obsolescence built into the balance sheet of the subject company.

<sup>5</sup> Economic obsolescence may be applicable to various types of fixed assets, inventory, and so on, including certain types of real estate.

A fundamental requirement of fair market value is the assumption of a willing buyer and a willing seller. However, according to the American Society of Appraisers (ASA), the term *fair market value* needs to be refined with respect to machinery and equipment appraisals to fit the purpose and function of the particular appraisal. As a result, it is necessary to recognize different premises of value that are distinguished based on the anticipated use of the particular asset. These premises of value can be broadly classified into the following categories:

- Sale or removal for a similar or alternate use
- Continued (or installed) use of the asset for the purpose for which it was designed and acquired
- Liquidation<sup>6</sup>

As a result, the term *fair market value* as it pertains to machinery and equipment appraisal is modified to create special definitions to fit the needs of a particular appraisal. These same definitions can be applied to many business assets, not merely the machinery and equipment. Course materials offered by the ASA contain the following definitions of fair market value:

**Fair Market Value** is the amount expressed in terms of money that may reasonably be expected for property in exchange between a willing buyer and a willing seller with equity to both, neither under any compulsion to buy or sell and both fully aware of all relevant facts. (In the valuation of installed personal property with the intent for it to remain installed, this definition must be further defined based on the function and purpose of the appraisal.)

**Fair Market Value in Continued Use** is the estimated amount expressed in terms of money that may reasonably be expected for a property in exchange between a willing buyer and a willing seller with equity to both, neither under any compulsion to buy or sell and both fully aware of all relevant facts and including installation and **assuming that the earnings support the value reported**.

**Fair Market Value—Installed** is the estimated amount of an installed property expressed in terms of money that may reasonably be expected in exchange between a willing buyer and a willing seller with equity to both, neither under any compulsion to buy or sell and both fully aware of all the relevant facts.

**Fair Market Value—Removal** is the estimated amount expressed in terms of money that may reasonably be expected for an item of property between a willing buyer and a willing seller with equity to both, neither under any compulsion to buy or sell and both fully aware of all relevant facts, considering removal of the property to another location<sup>7</sup>. (Emphasis Added)

The definitions of fair market value are refined to reflect the intended use of the assets. The concept of value can assume removal, installation, or continued use of the assets. The removal concept considers the removal of the particular assets to a new location. However, certain assets require large installation costs, and any removal concept tends to incur large discounts for all items that are not economical to remove. According to the ASA, the difference between the installed concept and the continued use concept is the application of what is referred to as *economic obsolescence*.

Economic obsolescence is defined as the “loss in value of a property caused by factors external to the property.” These factors can include the economics of the industry; availability of financing; loss of material or labor sources, or both; passage of new legislation; changes in ordinances; increased cost of raw materials, labor, or utilities; reduced demand for the product; increased competition; inflation or high interest rates; or other similar factors<sup>8</sup>. One author suggests “to determine if economic obsolescence is present, a review must be made of the economics of the subject property and the industry in which it competes, as of the valuation date. The review can be made by examining the earnings history of the subject property and any local or other

6 American Society of Appraisers, *Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets*, Second Edition (Washington, DC, 2000, 2005): 2.

7 American Society of Appraisers, Course Materials for ME207: *The Advanced Cost Approach*.

8 *Valuing Machinery and Equipment*: 67.

influences that may affect the economic performance of the subject and its assets.” This author goes on to state the following:

EO (Economic obsolescence) may exist in any industry or property where the following attributes are found:

- Reduced demand for the company’s products
- Overcapacity in the industry
- Dislocation of raw material supplies
- Increasing cost of raw materials, labor, utilities, or transportation, while the selling price of the product remains fixed or increases at a much lower rate
- Government regulations that require capital expenditures to be made with little or no return on the new investment
- Environmental considerations that require capital expenditures to be made with little or no return on investment.<sup>9</sup>

The ASA teaches “words of art” to assist practitioners in distinguishing between different types of economic obsolescence. These are referred to as *item-specific*, *industry-specific*, and *business-specific economic obsolescence*. These terms are intended to help eliminate confusion as it relates to economic obsolescence. The ASA’s course materials discuss the definitions of the three types of economic obsolescence as follows:

**Item specific** economic obsolescence is defined as the reactions of purchasers after the deduction of physical and functional depreciation factors. It is measured from the market as items similar to the subject that are sold.

**Industry specific** economic obsolescence is related to the industry in which the equipment works. If a machine were operating in the textile industry and the economics of that industry are good, the appraiser could possibly conclude that the industry is standard and has no economic obsolescence factor. On the other hand, if the textile industry was considered as less than standard, there may be an economic penalty that may be assessed that relates to other companies that must compete for like products or operations.

**Business specific** economic obsolescence is usually provided by the valuation analyst. It is that factor for which the subject is measured, as a business, in order to demonstrate whether the earnings can support the values provided by the personal property appraiser and any other capital asset appraisers. In referencing the definition of fair market value in continued use, there is a statement of an assumption that the earnings can support the values reported. If the business indicates that the earnings do not support the values reported, that economic obsolescence factor as a percentage of that difference is the business specific economic obsolescence. Business specific economic obsolescence is only important as it relates to Fair Market Value-In Continued Use as applied to the current business.<sup>10</sup> (Underlined for emphasis).

Item-specific and industry-specific economic obsolescence are typically accounted for by machinery and equipment appraisers through use of a cost approach or a sales comparison approach. However, the values derived by machinery and equipment appraisers assume that the earnings of the business are sufficient enough to support the values derived. It is up to the valuation analyst to determine whether this assumption is applicable to the valuation subject. This business-specific economic obsolescence is the primary factor that distinguishes the installed concept versus the continued use concept. According to ASA course materials:

The difference between Fair Market Value-Installed and Fair Market Value-In Continued Use is the application of economic obsolescence as explained earlier.

<sup>9</sup> Michael J. Remsha, P.E., ASA, CMI, Vice President Managing Director, American Appraisal, *Identifying and Quantifying Economic Obsolescence* (2010):1–2.

<sup>10</sup> Course materials for ME207.



For Fair Market Value-Installed, the concept considers that the buyer is not concerned with the business and its management but rather what new management could create or accomplish with the subject equipment. The new management would consider each machine as a stand-alone piece with some credit for installation. For Fair Market Value-In Continued Use, the concept considers that the buyer appreciates the business for what it can accomplish with the combination of all equipment. **The Fair Market Value-In Continued Use is normally applied to a profitable business and substantiated through a business value appraisal in order to determine if there is any business specific economic penalty. When a business value is accomplished, it is many times stated as an “overlay” that indicates whether the subject business can support the values indicated. The machinery and technical specialties appraiser must understand that the business valuer could discover an additional economic penalty for the subject over and above any that might be determined for the industry.** If the business value appraiser finds additional economic penalty, it may be necessary for the machinery and equipment appraiser to be consulted. Under the internal revenue tax code, an allocation of purchase price applied to the equipment should not have a value lower than that for which the equipment can be liquidated. **It is always possible that prorating the equipment values downward in order to meet this allocation requirement could bring them below a number in which they could sell in the market place. If this were true for all equipment, the recommendation would be to liquidate the company rather than continue the operation.**<sup>11</sup> (Emphasis Added).

So, what are we supposed to do as valuation analysts? The analyst must deal with the economic realities of the subject company. In the business valuation that was partially shown in exhibit 11.3, the valuation subject was a company that had not generated a profit for the past decade. A financial analysis of the subject company's historic financial statements revealed that on a combined basis, the company was legally insolvent (more liabilities than assets), had underutilized assets, and had a high likelihood of going bankrupt in the near future. All of the subject company's facilities were operating well below capacity, and no individual facility had been operating at capacity for the past decade. An analysis of the subject company's forecasts indicated that the company was expected to continue to lose money in at least each of the next five years, with no turnaround in sight. All of these factors suggested that there was a significant amount of business-specific economic obsolescence related to the subject company's assets because the business enterprise was not generating any profits to support the fair market values of the equipment, real estate, or any of the other assets that had been valued.

In order to quantify economic obsolescence, we used the same five-year forecast that we had assisted management in putting together in an attempt to perform a discounted cash flow analysis (this is part of the income approach discussed in chapter 12) taking the subject's projected losses over the next five years into consideration. The fair market value balance sheet reflected the values of the subject company's assets as of the valuation date. However, if the company were to continue to operate as a going concern, it would have continued to incur losses that would further deplete its cash reserves, resulting in diminishing shareholder's equity over the next several years. Therefore, in order to value the subject company's assets as a going concern as of the valuation date, we had to consider the impact that these continued losses would have on the company's balance sheet going forward. This is the economic obsolescence that relates specifically to the company. In reality, this subject company could not possibly survive for the five-year period being forecast without exhausting all of its reserves. The calculation is shown in exhibit 11.4.

11 *Ibid.*

### EXHIBIT 11.4 Calculation of Economic Obsolescence

The valuation analyst performed a discounted net earnings analysis over a five-year period. Because the going concern concept is perpetual in nature, a five-year period was determined to be conservative. In order to discount these losses to present value, the analyst must determine an appropriate discount rate. In this instance, the analyst determined that the subject company's total combined cost of debt was the appropriate rate to use in the analysis.

Based on the average cost of debt of 6.93 percent, economic obsolescence was calculated as shown in the table that follows.

Calculation of Economic Obsolescence					
	2015	2016	2017	2018	2019
Forecasted Losses	\$( 9,269,579)	\$(8,263,054)	\$(7,434,658)	\$(7,434,658)	\$(7,434,658)
Discount Rate 6.93%					
PV Factors	0.9671	0.9044	0.8458	0.7910	0.7397
PV of Losses	\$( 8,964,610)	\$(7,437,106)	\$(6,288,234)	\$(5,880,815)	\$(5,499,417)
<b>Total Present Value of Losses</b>	<b>\$(34,106,182)</b>				

Note: Figures may not add due to rounding.

Although economic obsolescence had been calculated to be \$34,106,182, it must be noted that this amount can only pertain to the tangible business assets owned by The Company, namely inventory and fixed assets. There would be no writedown relating to the financial assets of The Company. Therefore, the amount of economic obsolescence was limited as follows:

Inventory	\$10,722,898
Fixed Assets	15,880,000
<b>Economic Obsolescence</b>	<b>\$26,602,898</b>

The \$26,602,898 would be recorded on the fair market value balance sheet as a going concern adjustment to reduce the value of the assets. This results in bringing the asset-based approach back to a more realistic level if the business is valued as a going concern.

Had we not adjusted for economic obsolescence, the going concern balance sheet would have been more than \$26 million greater. This would not have made sense when we considered the subject company's current financial status. This is an important adjustment that is needed to reconcile values and make the going concern valuation more realistic. Although this is not the only manner in which economic obsolescence could be calculated, it seemed logical when we did it. In fact, I actually called several of my well-respected colleagues to explain what I was thinking about doing to calculate the economic obsolescence and they all agreed that it seemed logical and supportable. Keep in mind that if the asset-based approach value is higher than the other values as a going concern, there must be a reason. Hopefully, that reason is not because the valuation analyst made a mistake. However, the valuation analyst must do everything possible to reconcile the values and understand why the values are not similar. In a perfect world, which I acknowledge does not exist, the values should be in the same ballpark.

## Liquidation Value Method

Before we can discuss the liquidation value method, let's first define *liquidation value*. Liquidation value is the net amount expected to be left over after the assets are sold off and the proceeds are used to satisfy existing liabilities. The types of liquidation value are *orderly liquidation* and *forced liquidation*. Orderly liquidation value is defined as the value given a reasonable amount of time to find a purchaser of the assets. The reasonable amount of time will differ based on the facts and circumstances at the time of the valuation, as well as on the type of assets involved; in general, the time is three to six months or longer. The values used in an orderly liquidation are based on the price that the market would pay for an asset in a similar, depreciated condition.

In a forced liquidation, there is generally a lack of adequate time to find a purchaser for the assets, and a fire sale value will generally apply. This is the case when the assets are disposed of as quickly as possible, usually in less than three months. A forced liquidation will take place primarily when someone other than the owners of the business force the liquidation. Obviously, an owner will want to maximize the amount derived from a liquidation. Thus, a plan of liquidation, combined with an adequate amount of time to get the best price in the market, will accomplish this task. This does not happen in a forced liquidation.

When considering the liquidation value method, all costs of liquidation should be deducted. Some of the following liquidation costs may apply:

- Commissions
- Administrative costs and losses that may continue during the period of liquidation
- Legal and accounting costs
- Taxes on the disposal of assets as a result of the liquidation

The time value of money should also be considered because it may take time to liquidate the company. It is rare that a business owner can liquidate the assets quickly. For example, if the company is no longer servicing its customers, it may take longer to collect the accounts receivable. Furthermore, during the winding-down stage of the business, the company may not be able to dispose of certain assets that may be required until the very end. Depending on the time frame involved, the valuation analyst may feel that a present value adjustment is in order.

When would the valuation analyst use the liquidation value method? The most obvious use of the liquidation method is when an actual liquidation of the business is contemplated. In this situation, the valuation analyst is aware that a liquidation will take place and will generally have the ability to discuss the plan of liquidation with the management of the company. This is the cleanest manner in which to deal with liquidation.

What does the valuation analyst do, however, if a liquidation is not actually planned? The liquidation methodology should also be considered when the highest and best use of the property is to liquidate and if the interest being valued has the right to liquidate.

Let's make sure that you are clear on what I just stated. Even though a business may not plan to liquidate, the valuation analyst may be required to value the company on a liquidation basis if the value estimate is higher than it would be as a going concern. This is especially true if the standard of value is fair market value.

At a minimum, this method may be used to set the lower limit of the range of possible fair market values of a controlling interest in a going concern. However, that may not always be the case. Exhibit 11.5 comes from the same valuation that we discussed earlier in this chapter in which the standard of value was fair market value, indicating that the highest and best use of the property should be considered.

**EXHIBIT 11.5 Liquidation Value**

The analyst has determined that the valuation subject has little value as a going concern. Attempts to value The Company under the income approach and the market approach resulted in no value. Furthermore, The Company was also determined to be worth little under the adjusted book value method under the asset-based approach. As a result, the analyst tested the value under a liquidation value method.

*Liquidation value* is the net amount that would be realized if the business is terminated and the assets are sold piecemeal. There are two types of liquidation value: orderly liquidation and forced liquidation. *Orderly liquidation value* is defined as the liquidation value at which the assets are sold over a reasonable period of time to maximize the proceeds received. *Forced liquidation value* is the liquidation value at which the assets are sold as quickly as possible, such as at an auction.<sup>1</sup> In this instance, the analyst proceeded to calculate the orderly liquidation value of The Company. The orderly liquidation value balance sheet is presented in table 69.

**TABLE 69 Orderly Liquidation Value Balance Sheet**

	Fair Market Value	Liquidation Adjustments	Orderly Liquidation Value
<b>Current Assets</b>			
Cash	\$ 604,915	\$ —	\$ 604,915
Marketable Securities	2,432,532	—	2,432,532
Accounts Receivable <sup>1</sup>	8,226,477	(2,056,619)	6,169,858
Inventories <sup>2</sup>	10,722,898	(4,778,637)	5,944,261
Prepaid Expenses	295,094	—	295,094
Notes Receivable	—	—	—
<b>Total Current Assets</b>	<b>\$22,281,916</b>	<b>\$(6,835,256)</b>	<b>\$15,446,660</b>
<b>Net Fixed Assets<sup>3</sup></b>	<b>\$15,880,000</b>	<b>\$(5,030,000)</b>	<b>\$10,850,000</b>
<b>Other Assets</b>			
Security Deposits	\$ 188,405	\$ —	\$ 188,405
Cash Surrender Value of Officer's Life Ins.	3,804,279	—	3,804,279
Investment in China Co. (82%) <sup>4</sup>	0	—	0
Investment in Mexico Co. (50%) <sup>5</sup>	0	—	0
Investment in Real Co. (10%) <sup>6</sup>	324,000	—	324,000
<b>Total Other Assets</b>	<b>\$ 4,316,684</b>	<b>\$ —</b>	<b>\$ 4,316,684</b>

*(Table continued)*

<sup>1</sup> AICPA, *Statement on Standards for Valuation Services, No. 1*, Appendix B: International Glossary of Business Valuation Terms, June 2007: 44–48.

**EXHIBIT 11.5 Liquidation Value****TABLE 69 Orderly Liquidation Value Balance Sheet** *(continued)*

	Fair Market Value	Liquidation Adjustments	Orderly Liquidation Value
Economic Obsolescence <sup>7</sup>	\$(26,602,898)	\$26,602,898	\$ —
<b>TOTAL ASSETS</b>	<b>\$ 15,875,702</b>	<b>\$14,737,642</b>	<b>\$30,613,344</b>
Current Liabilities			
Accounts Payable	\$ 6,653,438	\$ —	\$ 6,653,438
Long-Term Debt—Current Portion	5,776,695	—	5,776,695
Accrued Expenses	2,493,642	—	2,493,642
Total Liabilities	\$ 14,923,775	\$ —	\$14,923,775
Total Equity <sup>8</sup>	951,927	14,737,642	15,689,569
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>\$ 15,875,702</b>	<b>\$14,737,642</b>	<b>\$30,613,344</b>
Net Book Value on a Liquidation Basis			\$15,689,569
Non-operating Assets (Liabilities) <sup>9</sup>			
Due From Mr. and Mrs. Smith			100,000
Due From Real Co.			716,989
Due to Real Co.			(1,623,999)
Total Equity			\$14,882,559
Present Value of Liquidation Costs <sup>10</sup>			(8,225,050)
<b>NET LIQUIDATION VALUE</b>			<b>\$ 6,657,508</b>
ROUNDED			\$ 6,700,000

1. In the event of liquidation, the valuation subject would likely not collect 100 percent of its accounts receivable because customers would feel less urgency to pay a distressed business. In order to substantiate this claim, the analyst reviewed several liquidation analyses that were located on Bankrupt.com, a website that is co-produced by The Beard Group and Bankruptcy Creditors' Services, Inc. to provide information for restructuring professionals. For each of these liquidation analyses, the analyst reviewed the estimated recovery rates for accounts receivable for the liquidating business. A summary of the recovery rates for a sample of 20 liquidation analyses is presented in table 70.

*(continued)*

**EXHIBIT 11.5 Liquidation Value** *(continued)***TABLE 70 Hypothetical Recovery Rates**

		Low	High	Midpoint
1	Dura Auto Systems	60.7%	70.0%	65.35%
2	Tronix, Inc.			58.00%
3	Aleris			79.00%
4	Performance Transportation Services	79.50%		
5	Almatis	58.0%	78.0%	68.00%
6	RH Donnelly	40.0%	60.0%	50.00%
7	Cooper Standard Holdings	80.0%	90.0%	85.00%
8	Citadel Broadcasting	70.0%	85.0%	77.50%
9	Movie Gallery Inc.			58.00%
10	Circuit City	70.0%	80.0%	75.00%
11	Spectrum			85.00%
12	OSUL (foreign assets only)	60.7%	70.9%	65.80%
13	Tribune Company	60.0%	80.0%	70.00%
14	Tribune Company—Subsidiaries	55.7%	80.0%	67.85%
15	PRC	40.3%	62.6%	51.45%
16	Solutia, Inc.			83.90%
17	Visteon Corporation			43.90%
18	Smurfit Stone	63.0%	72.0%	67.50%
19	Lyondell Basell Industries	55.9%	65.9%	60.90%
20	Six Flags	80.0%	90.0%	85.00%
	<b>Average</b>	<b>61.1%</b>	<b>75.7%</b>	<b>68.8%</b>

(Source: Bankrupt.com Beard Group: Restructuring Company.)

As indicated previously, recovery rates ranged from 61.1 percent to 75.7 percent, on average. Therefore, as a conservative estimate, the analyst selected a recovery rate of 75 percent for this valuation. This results in the following adjustment to accounts receivable.

Accounts Receivable – Trade	\$8,226,477
Collection Percentage	75%
Accounts Receivable, Net	<u>\$6,169,858</u>

**EXHIBIT 11.5 Liquidation Value**

2. The analyst requested that management prepare, and we received liquidation values for, the valuation subject's inventory from The Company, which we reviewed for reasonableness. A breakdown of this inventory valuation, along with the assumptions used in arriving at the liquidation values is presented in table 71.

**TABLE 71 Inventories—December 31, 2014**

	Units	Going Concern \$	Liquidation	
			Assumptions	Liquidation \$
<i>United States</i>				
<b>State 1</b>				
Inventory	61,198	\$ 225,968	35% Full Value	\$ 90,907
Inventory—Over 1 yr Old	140,015	55,023	Zero Value	—
Tow	81,561	152,597	60% Full Value	96,377
Substrate	156,755	100,671	60% Full Value	71,062
Chemicals		190,131	20% Full Value	53,573
FD < aged 6 months	172,486	584,075	35% Full Value	255,533
FD > aged 6 months	230,012	345,018	\$0.80	184,010
Base—	76,657	131,011	50% Full Value	105,654
ROM - R1 & R2	103,361	82,689	\$0.50	51,681
Projects	41,288	26,837	\$0.45	18,580
Second Quality FG & Drops	91,188	72,950	\$0.50	45,594
Sub Total State 1		\$1,966,971		\$972,969
<b>State 2</b>				
Inventory—Range Inventory	74,894	\$160,648	50% Full Value	\$107,098
Inventory—RF Inventory	33,284		Zero Value	
Tow	181,564	307,824	65% Full Value	171,013
Substrate	606,620	297,947	65% Full Value	165,526
Chemicals		503,472	25% Full Value	198,739
Transfer Paper	88,551	92,176	20% Full Value	46,088

*(Table continued)*

**EXHIBIT 11.5 Liquidation Value** *(continued)***TABLE 71 Inventories—December 31, 2014** *(continued)*

	Units	Going Concern \$	Liquidation	
			Assumptions	Liquidation \$
<b>Base &amp; Finished Goods</b>				
WP < Aged 6 Months	81,570	382,600	40% Full Value	171,410
WP C/Outs > Aged 6 Months	52,269	78,404	\$1.10	57,496
RF < Aged 6 Months	24,412	136,049	50% Full Value 50% \$1.35	91,660
RF > Aged 6 Months	19,316	43,461	\$1.35	26,077
PD < Aged 6 Months	141,852	736,835	40% Full Value	343,593
PD C/Outs > 6 Months	122,089	412,309	\$0.95	115,984
FD	2,036	4,063	10% Full Value 90% \$.50	1,931
HTP	15,049	27,836	10% Full Value 90% \$.50	13,392
Imported Goods	125,124	487,858	50% Full Value Balance \$.95	335,001
Imported Goods C/Outs	183,851	284,969	\$0.85	156,273
Imports in Transit	44,262	197,839	50% Full Value Balance \$.05	127,123
Second Quality FG	126,523	136,645	60% Value	91,097
Samples	55,709	47,403	20% Full Value	13,544
First Quality Greige	290,381	540,650	70% Going Concern	378,455
1st Q Greige-Over 6 Months-Purchased Bases	150,879	75,440	\$0.40	60,352
Purchased Bases	125,644	492,940	70% Full Value Balance @.75	105,080
		45,969		30,646
Second Quality Greige	210,264	84,106	\$0.25	52,566
Subtotal State 2		\$5,577,441		\$2,860,144

*(Table continued)*



**EXHIBIT 11.5 Liquidation Value****TABLE 71 Inventories—December 31, 2014** *(continued)*

			Liquidation	
	Units	Going Concern \$	Assumptions	Liquidation \$
<b>State 3</b>				
First Quality FG	177,319	\$446,862	50,000 yds Full Value Bal \$1.35	\$350,416
Imported FG	104,017	262,675	85,000 yds \$1.15 Bal Full Value	181,425
Second Quality FG	—	—		—
<b>Subtotal State 3</b>		<b>\$ 709,537</b>		<b>\$ 531,841</b>
<i>Europe</i>				
<b>Yds</b>				
Year—Chemicals	—	\$ 111,526	25% Full Value	\$ 42,894
0.83 First Quality FG < 1 Year	333,677	1,175,203	35% Full Value	632,802
First Quality FG > 1 Year	164,529	263,246	\$1.00	164,529
First Close Outs				
Second Quality FG	51,592	59,331	\$0.75	38,694
First Quality Greige < 1 Year	171,022	398,073	60% Full Value	298,555
First Quality Greige > 1 Year	101,153	55,634	\$0.40	40,461
Greige Intransit	—	398,613	85% Full Value	356,653
Second Quality Greige	18,872	7,549	\$0.25	4,718
<b>Subtotal Europe</b>		<b>\$ 2,469,174</b>		<b>\$1,579,306</b>
<b>GRAND TOTAL</b>		<b>\$10,723,123</b>		<b>\$5,944,261</b>

*Key:*

FD = Fiber Dyed  
 FG = Finished Goods  
 WP = Wet Prints  
 RF = Register Print & Inventory  
 PD = Piece Dyed  
 HTP = Heat Transfer Print

*(continued)*

**EXHIBIT 11.5 Liquidation Value** *(continued)*

The inventory values were determined based on sales, pricing data, and demand trends that were in effect as of the valuation date. The Company also looked at liquidation inventory pricing information from Action Industries and Westlake, two companies that had recently filed for bankruptcy. With respect to Europe, The Company indicated that it had been trying to sell certain goods over the past nine months but had little success given poor business conditions and market saturation for particular items. In order to move these goods within a six- to nine-month period, The Company would have to slash the prices by a significant margin.

3. Fixed assets were adjusted to reflect their liquidation values as determined in the appraisals performed as discussed previously in this report, with the exception of the real estate located at 7890 ABC, which was valued at its going concern value. This property is owned in common with 2468 ABC, which is owned by Real Co. We have assumed that because it would take approximately 9 months to liquidate the equipment located at this property, the general partners would choose to hold the property to maximize its value (see further explanation in the section of this report for the valuation of Real Co.). These values are presented in table 72.

**TABLE 72 Liquidation Values**

<b>Real Estate:</b>	
East Building—State 1	\$ 1,280,000
West Building—State 1	720,000
State 2	
1234 ABC Drive	340,000
5678 ABC Drive	490,000
7890 ABC Drive	753,684
State 3	
Belgium*	2,660,105
<b>Total Real Estate</b>	<b>\$ 6,543,789</b>
<b>Machinery &amp; Equipment</b>	
Belgium	\$ 1,960,587
Less: Equipment Sold From 7/14–12/14	(115,000)
State 1	417,160
Less: Equipment Sold From 7/14–12/14	(1,348)
State 2	2,033,439
State 3	14,180
<b>Total Machinery &amp; Equipment</b>	<b>\$ 4,309,018</b>
<b>TOTAL FIXED ASSETS</b>	<b>\$10,852,806</b>
<b>ROUNDED</b>	<b>\$10,850,000</b>

\* Because it is anticipated that this property could not be sold before the nine months required to liquidate the machinery and equipment, the analyst used a forward-looking exchange rate to convert the amount to U.S. dollars.

Note: Figures may not add due to rounding.

### EXHIBIT 11.5 Liquidation Value

With respect to the real estate, the assumed liquidation periods for the properties were 6 months for each. For the U.S. properties, the appraisers applied a liquidation discount to the market values of the property. The liquidation discount is used solely to compensate for the reduced time period for the sale. After applying the liquidation discount, the appraisers calculated the gross liquidation values for the properties. The figures presented in table 72 reflect the gross liquidation values (as opposed to the net realizable liquidation values) and do not include sales commissions, closing costs, and other carrying costs. These expenses will be accounted for separately in this valuation.

The Belgium property, however, was appraised using a different methodology. For this property, the appraiser valued the property on a residual basis given its current condition. This value implicitly reflects a purchaser's view of the carrying costs for the property. Therefore, in order to be consistent, the valuation analyst added back the carrying costs and sales commissions associated with the Belgium property to arrive at a gross liquidation value. This adjustment is as follows:

Liquidation Value per Appraisal	\$1,930,400
Plus: Taxes and Fees	300,522
Plus Carrying Costs	429,183
Gross Liquidation Value of Property	<u>\$2,660,105</u>

The analyst took the appraised value of \$1,930,400 (€1,600,000) and added back transfer taxes and other fees, as well as carrying costs, to arrive at a gross liquidation value for the property. Taxes and fees were contained in the real estate appraisal, whereas the carrying costs for the property were obtained from management.

The machinery and equipment appraisal also assumed a six- to nine-month sale period. The values are expressed as gross amounts and do not include sales costs.

4. The investment in China Co. is explained in detail in a later section of this report.
5. The investment in Mexico Co. is explained in detail in a later section of this report.
6. The investment in Real Co. is explained in detail in a later section of this report.
7. Economic obsolescence was removed from the balance sheet because this is not applicable under a liquidation scenario.
8. Stockholder's equity was adjusted to include all the adjustments made to the orderly liquidation value balance sheet.
9. In order to determine the value of the equity, the analyst must account for The Company's non-operating assets and liabilities. In the financial analysis section of this report, the analyst identified three items that were determined to be non-operating: a \$100,000 note receivable due from Mr. and Mrs. Smith, current and long-term notes receivable due from Real Co. in the amounts of \$465,566 and \$251,423, respectively, for a total of \$716,989, and a payable due to Real Co. in the amount of \$1,623,999. These items were netted against the net book value on a liquidation basis to arrive at the value of the equity of The Company before liquidation costs.
10. Liquidation costs will be discussed in the text that follows.

Based on the adjustments to the balance sheet, the fair market value of the valuation subject was determined to be \$6,657,508, or \$6.7 million on a rounded basis under the liquidation value method. Because the going concern value is less than this amount, the analyst has concluded that the highest and best use of this property is on a liquidation basis.

#### LIQUIDATION COSTS

The *International Glossary of Business Valuation Terms* defines *liquidation value* as the net amount that would be realized if the business is terminated and the assets are sold in piecemeal. In order to properly perform the liquidation method, valuation analysts are required to account for the liquidation costs associated with shutting down the business operation to arrive at the net realizable value. According to paragraph .34 of Statement on Standards for Valuation Service No. 1 promulgated by the AICPA:

(continued)

## EXHIBIT 11.5 Liquidation Value *(continued)*

### Asset Approach and Cost Approach

34. A frequently used method under the asset approach is the adjusted net asset method. When using the adjusted net asset method in valuing a business, business ownership interest, or security, the valuation analyst should consider, as appropriate, the following information related to the premise of value:

Identification of the assets and liabilities

Value of the assets and liabilities (individually or in the aggregate)

Liquidation costs (if applicable)

In this instance, because the highest and best use of the business enterprise was determined to be in liquidation, liquidation costs must be deducted from the book value on a liquidation basis to arrive at the net amount that a willing buyer would receive in the event of a sale. PPC's *Guide to Business Valuation* outlines a step-by-step process that can be used as a guide to properly perform the liquidation value method. Step 5 of this publication states the following:

#### Step 5—Reduce Gross Proceeds for Direct and Indirect Expenses

703.7 The gross proceeds in Step 4 should be reduced for direct and indirect expenses. Examples include:

- a. *Direct Expenses.* Selling commissions and other fees or taxes related to the specific sales.
- b. *Indirect Expenses.* Legal expenses, other professional fees, and any holding costs (interest, taxes, insurance, repairs and maintenance, etc.) not included in the interim results of operations (Step 6 below).<sup>81</sup>

<sup>81</sup> Jay E. Fishman, et. al., *PPC's Guide to Business Valuations*, Volume 2 (Carrollton, TX: Thomson Reuters, February 2015): 703.5.

Furthermore, according to *Financial Valuation: Applications and Models*

#### Liquidation Value

*Black's Law Dictionary* defines *liquidation* as "the value of a business or of an asset when it is sold in liquidation, as opposed to being sold in the ordinary course of business." This definition broadly encompasses the idea of liquidation value, that is, that assets and liabilities are valued individually. However, there may be additional refinements to the assumptions under liquidation value, mostly dealing with the time and circumstances surrounding the disposal of the assets and extinguishment of liabilities. **Methodologically, liquidation value not only considers the proceeds from selling the assets of a business but also takes into consideration any associated expenses.**<sup>82</sup> (Footnotes Omitted) (Emphasis added).

<sup>82</sup> *Financial Valuation: Applications and Models*, 37.

In addition, according to *Understanding Business Valuation* published by the AICPA

When considering the liquidation value method, all costs of liquidation should be deducted. Some of the following liquidation costs may apply:

- Commissions
- Administrative costs and losses that may continue during the period of liquidation
- Legal and accounting costs
- Taxes on the disposal of assets as a result of the liquidation

The time value of money should also be considered because it may take time to liquidate the company. It is rare that a business owner can liquidate the assets quickly. For example, if the company is no longer servicing its customers, it may take longer to collect the accounts receivable. Furthermore, during the winding-down stage of the business, the company may not be able to dispose of certain assets that may be required until the very end. Depending on the time frame involved, the valuation analyst may feel that a present value adjustment is in order.<sup>83</sup>

<sup>83</sup> Gary R. Trugman, CPA/ABV, MCBA, ASA, MVS, *Understanding Business Valuation*, Fourth Edition (New York, NY: AICPA, 2012): 401.

The excerpts from the valuation treatises and the business valuation standards support the notion that it is proper procedure to deduct liquidation expenses when performing the liquidation value method.

Liquidation costs for each location were discussed in detail in an earlier section of this report. Because these costs will be incurred in the future, the next step in the analysis is to discount these costs to present value as of December 31, 2014. Using The Company's average debt rate, this calculation is presented in table 73.

## EXHIBIT 11.5 Liquidation Value

TABLE 73 Liquidation Expenses

	1	2	3	4	5	6	7	8	9
State 1	\$ 56,910	\$ 56,910	\$ 56,910	\$ 56,910	\$ 56,910	\$ 56,910	\$ 56,910	\$ 56,910	\$ 156,910
State 2	112,209	112,209	112,209	112,209	112,209	112,209	112,209	112,209	153,709
State 3	14,485	14,485	14,485	3,895	3,895	24,895	—	—	—
Belgium	700,544	700,544	700,544	700,544	700,544	700,544	700,544	700,544	1,001,066
Total Expenses	\$ 884,148	\$884,148	\$884,148	\$873,558	\$873,558	\$894,558	\$869,662	\$869,662	\$1,311,685
6.93% Present Value Factors	0.9972	0.9944	0.9917	0.9889	0.9861	0.9834	0.9806	0.9779	0.9752
Present Value—Expenses	\$ 881,672	\$879,196	\$876,809	\$863,861	\$861,415	\$879,708	\$852,791	\$850,443	\$1,279,155
<b>TOTAL PRESENT VALUE— LIQUIDATION EXPENSES</b>									<b>\$8,225,050</b>

Note: Figures may not add due to rounding.

Based on the calculations in table 73, the present value of liquidation expenses was determined to be \$8,225,050.



## Author's Note

I spared you from the discussion of the liquidation expenses. It went on for about 20 pages in our report. Hopefully, you get the idea.

Remember, the valuation analyst does not want to use this method if the interest that is being valued does not have the ability to liquidate the company (for example, a minority interest). The rights of the interest being valued must be taken into consideration during the valuation process. If the valuation analyst is not sure what those rights are, he or she should reread the articles of incorporation, the bylaws, shareholder agreements, or ask an attorney.

If the valuation is for tax purposes, the valuation analyst might want to consider the case law. The IRS and, particularly, the tax courts have frowned on a liquidation methodology unless a plan of liquidation is in place.

## Cost-to-Create Method

The cost-to-create method is similar to the adjusted book value method. The main difference is that under this method, in addition to valuing the net tangible assets, the valuation analyst values the intangible assets as well. This method requires the valuation analyst to estimate how much it would cost to recreate the enterprise being valued. This would also include trying to estimate the time, effort, and monetary contribution necessary to recreate the intangible assets of the business.

The cost-to-create method will often result in a value estimate that is higher than the cost to reestablish a business enterprise, in much the same manner as I discussed earlier in this chapter when I defined *reproduction cost new*. There is rarely a situation in which the business would be rebuilt from scratch in the same fashion as had been done previously. However, the cost to create method can be useful for valuing intangibles such as customer lists, engineering drawings, and music libraries, among others. For example, let's assume that the valuation analyst is valuing an architectural firm that has a significant library of architectural drawings. Think about the number of hours that it would take to recreate them. These drawings could possibly be valued by determining which drawings have a recurring useful life, how many hours and at what cost per hour would it take to recreate each drawing, and how often might each drawing be used in the future. A forecast could be prepared based on this data that could be discounted to present value (because the monies would be expended in the future) to determine the cost to recreate the drawings.

## Working With Other Appraisers

One of the first steps in working with other appraisers is to properly define the standard of value that will be required as part of the business valuation. Very often, and in my earlier example, the valuation analyst may ask a machinery and equipment appraiser to give two or more estimates of value for the equipment. This may include the value in place, the value if sold, and a liquidation value. The valuation analyst should not leave it up to the other appraiser to give the analyst a value because the result may be totally inconsistent with the valuation approaches and methodologies that are chosen to value the equity of the company. More often than not, the machinery appraiser is used to valuing the assets for a bank loan, meaning that the bank wants to know if the loan goes bad, how much can they get for their collateral. This is often a liquidation value, rather than a going concern value. Sometimes, it may be necessary to have the machinery valued using two or more concepts. We frequently do not know if the highest and best use of the company will be as a going concern or as if in liquidation. Therefore, asking for both of these concepts at the same time is often more cost effective than having to go back to the equipment appraiser and ask for another report. It is also important that the valuation analyst understand the language of the other appraisers. For example, real estate appraisers frequently use *market value* as opposed to *fair market value*. However, if the standard of value for the business valuation is *fair value*, the valuation analyst must determine if the *market value* of the real estate will work in that situation.

## How to Locate and Recognize Specialists

There are various organizations that designate appraisers. Some of the more common designations in real estate are granted by the ASA, the Appraisal Institute, and the National Association of Independent Fee Appraisers. These designations are as follows:

- The ASA
  - *AM*. This designation is granted in various disciplines to individuals who have qualified with at least two years of experience.
  - *ASA*. This designation is granted in various disciplines to individuals who have qualified with at least five years of experience.

The various disciplines of the ASA include business valuation (with a specialty in intangible assets), gems and jewelry (with subspecialties in diamonds and unmounted colored gemstones, contemporary jewelry, art and designer jewelry, Native American or other collectible ethnic jewelry, antique and period jewelry, rough gemstones, gemstone carvings, and mineral specimens), machinery and technical valuation (with subspecialties in agricultural chattels, aircraft, arboriculture, computers and high-tech personal property, cost surveys, industrials, machinery and equipment, marine survey, mines and quarries, natural resources, oil and gas, and public utilities), personal property (with subspecialties in antique and collectible glass, antique and decorative arts, antique firearms, armor and militaria, antique furniture, Asian art, automatic musical instruments, automotive specialties, books, equines, ethnographic art, fine arts, fine arts photography, furs, Native American art, numismatics, oriental rugs, pre-Columbian art, residential contents, silver and metal ware, stamps, violins, and fine and rare wines), and real property (with subspecialties in urban real property, residential real property, rural real property, ad valorem real property, and timber and timberlands).

- The Appraisal Institute
  - *MAI*. The MAI membership designation is held by professionals who can provide a wide range of services relating to all types of real property, such as providing opinions of value, evaluations, review, consulting, and advice regarding investment decisions, among others. Property types may include commercial, industrial, agricultural, residential, vacant land, and others.
  - *SRPA*. The SRPA membership designation is held by professionals who can provide a wide range of services relating to all types of real property, such as providing opinions of value and review, among others. Property types may include valuation of commercial, industrial, agricultural, residential, vacant land, and others.
  - *SRA*. The SRA membership designation is held by professionals who can provide a wide range of services relating to residential properties, including providing opinions of value, evaluations, reviews, consulting, and advice regarding investment decisions, among others.
- The National Association of Independent Fee Appraisers
  - *IFA*. This designation represents a member.
  - *IFAA*. This designation represents an agricultural member.
  - *IFAS*. This designation represents a senior member.
  - *IFAC*. This designation represents an appraiser-counselor.

By now, you must feel like alphabet soup; however, box 11.3 summarizes the various professional designations nicely. The Internet will assist you in finding many of these types of individuals. Most of the appraisal organizations also have directories, which you can obtain by calling them or going online to their websites. Another alternative is to call equipment dealers, but be careful about using the information that you get from them. Problems similar to those discussed earlier when getting information from business brokers can arise. Some pieces of information are going to be better than others.

### BOX 11.3 Professional Appraisal Designations

#### American Society of Appraisers

AM—qualified with 2+ years of experience

ASA—qualified with 5+ years of experience

#### Appraisal Institute

MAI—highest level designator qualified to advise clients in commercial, industrial, and residential real estate valuation

SRPA—next level designator qualified to provide opinions of value and review in commercial, industrial, agricultural, residential, vacant land, and others

SRA—experienced in single family homes, townhomes, and residential income real estate valuation

#### National Association of Independent Fee Appraisers

IFA—member

IFAA—agricultural member

IFAS—senior member

IFAC—appraiser-counselor

## Conclusion

Fortunately, this chapter was easier than the last one. By now, you should know when to use the asset-based approach, how to apply the methods, and the advantages and disadvantages of each of them. So, let's move on.





# Chapter 12

## The Income Approach

### Learning Objectives

In this chapter, I will attempt to explain the following:

- When to use the income approach
- Advantages and disadvantages of using the income approach
- Using pretax or after-tax information
- Valuing invested capital instead of equity
- The capitalization of benefits method
- The discounted future benefits method
- The excess earnings method

### Introduction

Revenue Ruling 59-60 suggests that a valuation analyst should consider the earning capacity of the business in the determination of fair market value. *Earning capacity*, as applied in the methods about to be discussed, may be defined in a number of different ways. Some of the more common definitions include the following:

- Net income after tax
- Net income before tax (pretax income)
- Net cash flow to equity
- Net income to invested capital (aka Net Operating Profit After Tax or NOPAT)
- Net cash flow to invested capital
- Earnings before interest and taxes (EBIT)
- Earnings before interest, taxes, depreciation, and amortization (EBITDA)

These income streams, also known as *benefit streams*, are converted into estimates of the value of the valuation subject. The two processes that are used in the income approach are known as *capitalization* and *discounting*. They are defined as follows:

**Capitalization.** A single period valuation model that converts a benefits stream into value by dividing the benefits stream by a rate of return that is adjusted for growth. A common variation of this theme is the reciprocal of the market multiple price/earnings, which would be earnings/price. An earnings/price ratio is a capitalization rate.

**Discounting.** A multiple period valuation model that converts a future series of benefit streams into value by discounting them to present value at a rate of return that reflects the risk inherent in the benefits stream.

Some of the definitions from the *International Glossary of Business Valuation Terms* regarding these two processes can be found in box 12.1.

Believe it or not, a capitalization model is a shortcut for a discounting model. I will explain this in more detail shortly.

**BOX 12.1****Key Terms Related to Capitalization and Discounting Valuation Methods**

**Capitalization.** A conversion of a single period of economic benefits into value.

**Capitalization factor.** Any multiple or divisor used to convert anticipated economic benefits of a single period into value.

**Capitalization of earnings method.** A method within the income approach whereby economic benefits for a representative single period are converted to value through division by a capitalization rate.

**Capitalization rate.** Any divisor (usually expressed as a percentage) used to convert anticipated economic benefits of a single period into value.

**Discount rate.** A rate of return used to convert a future monetary sum into present value.

**Discounted cash flow method.** A method within the income approach whereby the present value of future expected net cash flows is calculated using a discount rate.

**Discounted future earnings method.** A method within the income approach whereby the present value of future expected economic benefits is calculated using a discount rate.

A capitalization model uses a current benefit stream and assumes that the particular stream of income will be received into perpetuity. A discounting model uses a forecasted benefit stream and discounts that stream back to present value.

In general, the capitalization rates and discount rates used for various benefit streams will be different in each situation. Capitalization and discount rates are discussed in chapter 13.

The fundamental theory behind the income approach to valuing a business interest is that the value of an investment is equal to the sum of the present values of the future benefits it is expected to produce for the owner of the interest. The present value of the future benefits is determined through the application of a rate of return (discount rate), which reflects the time value of money, the relevant investment characteristics, and the degree of risk perceived by the market. The application of the income approach results in an estimate of the value of the normalized net operating assets. In simple terms, the income stream that is capitalized or discounted is produced by using the net assets of the business. Therefore, the value that results from these net assets is included in the income of the company as a going concern. If the income being produced is lower than it should be, this may be a sign of economic obsolescence that is applicable to the value of the assets. The assets alone have value only if they can be sold or exchanged. (Does value in exchange sound familiar? Come on, it was in the last chapter. You could not have forgotten it already!). If the owner sold these assets, the business could no longer generate income, therefore, the value would be sold with the assets.

After the value of the net operating assets is determined, the value of the net non-operating assets is added to the result to obtain the value of the equity. In the invested capital versions of the income approach, the estimate of the value derived results in the value of the invested capital of the enterprise.

## Value Is From an Investor's Viewpoint

The income approach is generally used in determining the value of the valuation subject from the viewpoint of an investor. In many of the older textbooks, the income approach is referred to as the *investment value approach*. This can become confusing because investment value is a standard of value and not an approach to valuation. Although the valuation analyst will most likely understand the difference in these terms, he or she should avoid using the older terminology for the income approach so that users of this information will not be confused. See, you knew there was a reason that you bought the newest edition of this book. Terminology has, in fact, changed over the years, and it is a good idea to make sure that your library contains the current editions of the business valuation treatises.

The income approach is based on the assumption that an investor could invest in a property with similar investment characteristics but not necessarily the same business. This approach looks to the earnings power, or cash generation capabilities, of the enterprise being valued.

Very often, closely held businesses are so unique that the valuation analyst cannot find good information about market multiples or capitalization rates to apply to the company's benefit stream. Instead, the valuation analyst tries to compare the risk associated with the benefit stream to alternative types of investments in the marketplace. This becomes another form of the principle of substitution at work. The valuation analyst will go a long way by having knowledge about the rates of return available in the marketplace.

Although this approach can be difficult to apply at times, it is frequently the best approach to use for estimating the value of a business. Intuitively, if the valuation analyst can put together a reasonable forecast and determine a reasonable rate of return from other similar investment alternatives, this approach may be a much more reasonable approach than attempting to find guideline companies that may or may not be similar enough to the subject company to make a good comparison. If the valuation analyst is lucky enough to find good guideline companies, he or she then has the feat of subjectively choosing how to adjust the multiples that will be applied to the subject company. Although the income approach also has its own degree of subjectivity, a well-grounded forecast is sometimes easier to accomplish. Some valuation analysts reading this may not agree with me, but if they really start to think about companies that are acquiring other companies, most of these companies are using some form of discounting model (usually cash flow) as a primary method of determining the value of the target company. Of course, they may not ignore the market multiples, but it will usually come down to the forecasted cash flow.

## Advantages and Disadvantages of the Income Approach

As to be expected, the income approach has both advantages and disadvantages. By now it should be obvious that this valuation stuff is not perfect. Let's discuss the good, the bad, and the ugly!

### Advantages

The income approach has some definite advantages, including the following:

- It values an enterprise based on its earnings or cash-flow-generating abilities. Therefore, there is a relationship between the value of the enterprise and the earnings or cash flow it produces.
- It requires a simple mathematical application that is frequently performed more quickly relative to the other approaches.
- At times, it is the only approach that can be used to value intangible assets.
- Financial markets frequently use the income approach in the decision-making process.

### Disadvantages

As you would expect, there are also disadvantages to the income approach:

- It is frequently difficult to determine the correct level of the sustainable benefits stream that will be used in the application of this approach. This is especially true for most smaller companies (some of our clients are lucky if they can file their current year's tax returns, let alone forecast the future!).
- It is extremely difficult to choose the correct capitalization or discount rate that will be used to capitalize or discount the benefit stream. This requires the valuation analyst to exercise judgment, which is subjective. At times, it is a difficult number to defend on its own merits.

## Selecting Benefit Streams

The benefit stream(s) to be used in the application of the income approach depends on many factors. These factors are somewhat similar to those factors that were discussed in chapter 9 in applying the market approach. Special attention should be paid to the following factors: (1) the nature of the business and its capital

structure, (2) the purpose and function of the valuation, and (3) the particular subject of the valuation (for example, whether the valuation involves a controlling interest or a minority interest).

## The Nature of the Business and Its Capital Structure

The benefit stream used by the valuation analyst will frequently depend on the nature of the business and its capital structure. For example, net income (after tax) may be the appropriate income stream in certain valuation assignments involving larger companies. Net income may be used to achieve comparability with the guideline companies that report their earnings on an after-tax basis. A pretax income stream may be warranted for smaller valuation subjects that operate the business to minimize taxes. Chances are that the willing buyer will operate the business in a manner similar to that of the willing seller.

The capital structure of the subject business will also be a factor in the determination of the benefit stream to be used by the valuation analyst. Companies that are heavily leveraged, compared with guideline companies or industry composite figures, may be more appropriately valued on an invested capital basis. EBIT may prove to be a more meaningful comparison than net income. Of course, if the goal is to value equity, then the liabilities will be subtracted from the value of the invested capital.

## The Purpose and Function of the Valuation

The purpose and function of the valuation assignment will also play a role in the benefit stream that the valuation analyst will select. As a refresher, the purpose and function of the valuation relates to why you are doing the job and what the valuation will be used for. A valuation assignment for a merger or acquisition will most likely have more of an emphasis on pro forma earnings than on historic earnings. If the valuation analyst is representing the buyer, the investment value to that buyer may require certain adjustments to be made that would not normally exist in a fair market value assignment (for example, removal of certain expenses that will go away because of the synergies between the companies).

In certain jurisdictions, particularly for divorce assignments, future earnings are not allowed to be used in valuations submitted to the courts. In these jurisdictions, the primary emphasis becomes the historic figures. Since when does a willing buyer purchase history? These jurisdictions may be misguided, but I am not going to be the one to tell them that.

## The Particular Subject of the Valuation

The particular subject of the valuation makes a big difference in the benefit stream that can be used in a valuation. When a valuation analyst values a controlling interest, adjustments are commonly made (as discussed in chapter 6). For minority valuations, however, many of the adjustments that would have been made for control are not made. The valuation analyst will use a normalized benefit stream for both valuations, but the benefit stream for the minority valuation will most likely not contain the adjustments related to discretionary items.

Another consideration in this process is the fact that the minority shareholder cannot control the balance sheet of the company. Therefore, valuing the minority shares by assuming a normalized debt-to-equity relationship would not make sense. A small, closely held company with a considerable amount of debt on the balance sheet is going to be paying a lot of interest expense. Valuing this company for the minority shareholder on an invested capital basis would result in an overvaluation of the company's true worth to that individual. The fact that the controlling shareholder has elected to put the company in debt reduces the value of the company.

## Using Pretax or After-Tax Information

In general, it should not really matter whether the valuation analyst is working with pretax or after-tax information. The key is to be consistent. The use of either pretax or after-tax information has advantages and disadvantages. Remember that the valuation analyst is trying to perform an analysis using comparable information from either guideline companies or industry information. The valuation analyst must be able to compare similar information to reach a meaningful conclusion concerning value. The advantages of using pretax and after-tax information as key components in a valuation assessment are outlined in box 12.2.

**BOX 12.2****Advantages of Pretax and After-Tax Valuation Information****Pretax Advantages**

The form of ownership of the valuation subject will not make a difference. This will allow the analyst to compare C corporations with S corporations with partnerships with sole proprietorships. Varying tax rates will affect neither the analysis nor its conclusion.\*

Noncorporate entities can be valued without considering the tax effect of, for example, itemized deductions or personal exemptions.

Small businesses generally operate to minimize income taxes. The willing buyer would probably run the business in a similar manner as the willing seller in that regard. Because comparable data will rarely be found, the analyst will find himself or herself using industry composite data, which is often made up of companies such as the one being valued.

**After-Tax Advantages**

Most data derived from the public market is reported on an after-tax basis. This makes the comparison more meaningful if guideline companies from the public market are used.

After-tax information more appropriately reflects the amount that is available to the stockholders for dividends. Other items affecting cash flow are also considered.

Larger company valuations will frequently be performed this way for mergers and acquisitions, employee stock ownership plans, and initial public offerings because of the available information being reported in this manner.

\* It is also acceptable to tax affect pass-through entities and value these entities on an after-tax basis. In these circumstances, many valuation analysts will use the corporation tax rates for C corporations on the premise that the willing buyer could be a C corporation. This will also avoid getting involved with personal income tax rates, itemized deductions, personal exemptions, the self-employment tax, and other items that vary greatly between taxpayers.

The big controversy in the valuation field regarding the valuation of non-tax-paying entities, such as S corporations, and limited liability companies has been addressed frequently. There is a growing body of knowledge about this topic. The general consensus is that tax affecting depends on the facts and circumstances of each situation. There are no hard and fast rules. Now the valuation analyst must ask “to tax affect or not to tax affect,” that is the question. I feel like Shakespeare. Let’s save this discussion until chapter 18 because this topic deserves its own chapter.

For the nonaccountants reading this book, a C corporation is a typical, tax-paying corporation. An S corporation is a legal corporation that, for tax purposes, is treated like a partnership. This means that the shareholders pay personal taxes on the profit instead of corporate taxes being paid by the entity.

## Valuing Invested Capital Instead Of Equity

This is also like Shakespeare. “To be or not to be...” Should the valuation analyst consider using an invested capital or an equity benefit stream? The same rules apply as we discussed under the market approach (invested capital, remember?). Regardless of which one the valuation analyst uses, the answer should ultimately be the same. The choice of one over the other will frequently be based on comparability with the guideline companies, industry composite data, or the source of the capitalization or discount rates used in the application of this approach.

## Using Cash Flow Instead of Earnings

A valuation analyst will frequently find that using cash flow is a better measure of the company’s earnings capacity. This is particularly true when a more realistic picture is being sought of the amount of money that will be available to pay to the owners of the business as a return on their investment. Many profitable companies go out of business, but it is rare that we see a business with solid cash flow go under. Therefore, cash flow is the name of the game. Similar to pricing multiples (discussed in chapter 9), cash flow, as opposed to earnings, may be a better measure for the business when the net earnings are low compared with depreciation and amortization. The use of cash flow will depend on the facts and circumstances of each case. If the

valuation subject is a controlling interest, it can be assumed that the controlling interest is able to effect changes in the balance sheet of a company. Management must decide what they want to do with respect to the company's cash flow. They can distribute all the available cash and have no funds for growth, or they may reinvest all or part of the available cash into the company and provide for growth.

An operating business must have a sufficient amount of net working capital, a reasonable amount of fixed asset reinvestment, and available cash flow to pay its long-term obligations as they come due. The growth of the company results from investing more than is required to just maintain the existing assets. Growth is funded from internally generated cash flow, new equity, new debt, or a combination of these items.

## Defining Cash Flow

The definition of *cash flow*, as used in a valuation context, differs from the traditional accounting definitions as described in the FASB Statement No. 95, *Statement of Cash Flows* (codified in FASB Accounting Standards Codification 230, *Statement of Cash Flows*). Understanding valuation terminology is an important part of the education process so that the valuation analyst can be conversant in business valuation jargon. The following definitions of cash flow have been used by valuation analysts; therefore, users of business valuation services may already be familiar with the terminology. Even if the users are not terribly familiar with this terminology, there is no point in recreating the wheel with another set of terminology. The basic net cash flow model is depicted in figure 12.1. As you may recall, you also saw this in another chapter. It is worth repeating here.

The net cash flow illustrated in figure 12.1 would be the amount that is available to the equity<sup>1</sup> owners of the company. This could be thought of as the dividend-paying capacity. It is the amount that is left over after the company reinvests in itself to continue its operations while providing for growth. After investing in capital expenditures, reinvesting the amount of working capital to allow the company to grow, and taking care of changes in debt, the company is in a position to begin making distributions to the stockholders or owners. Granted, small businesses do not generally pay dividends, but this would be the amount that would be available if they did.

Gross cash flow is the measure of cash flow that we often see in the pricing multiples in the guideline company method. Net cash flow can't be used in that situation because it is rare that a valuation analyst will have access to the public company's working capital requirements, fixed asset requirements, and other assorted information needed to get from gross cash flow to net cash flow. However, the income approach concentrates on the subject company's cash-generating ability. The more information included in deriving the cash flow available to the stockholders, the less risky the cash flow is usually perceived as being because more factors went into its derivation. Of course, this could also result in more errors regarding these factors. It's not a perfect world!

The manner in which net cash flow is derived will depend on whether the valuation analyst is valuing the equity or the invested capital of the company. As a reminder, valuing the invested capital involves appraising the company on a debt-free basis. The net cash flow model illustrated previously is used by a valuation

**Figure 12.1 The Basic Net Cash Flow Model**

	<b>Normalized net income</b>
+	<b>Normalized noncash charges</b>
=	<b>Gross cash flow</b>
-	<b>Anticipated capital expenditures</b>
+ or -	<b>Working capital necessary to support growth (or generated due to negative growth)</b>
+ or -	<b>Debt borrowings or repayments</b>
-	<b>Preferred stock dividends</b>
=	<b>Net cash flow to common equity</b>

<sup>1</sup> Technically, the cash flow model in figure 12.1 relates to the net cash flow available to common stockholders because of the subtraction of preferred stock dividends. In noncorporate entities, this line item would not exist; therefore, the net cash flow would be to the equity owners that could be proprietors, partners, or members of a limited liability company. Obviously, this could also be applicable to corporations that do not have preferred stockholders.

analyst when he or she is valuing the equity of the company. If the goal is to value the invested capital of the company, certain modifications must be made to get there. Interest expense is added back, net of taxes, to restate the net income on a debt-free basis. Because interest expense gives rise to a tax benefit, the addback must be reduced by the corresponding tax benefit.

Another modification is that there will be no addition or subtraction for new borrowings or repayment of old borrowings. Logically, if we are attempting to derive a debt-free result, debt should be eliminated from the model. This results in the net cash flow model for invested capital (figure 12.2).

Let me take this opportunity to mention that if the company has substantial (long term) other assets or other liabilities on its balance sheet, it is possible that these items must also be considered in the determination of net cash flow, as well. These items could result in another line between gross cash flow and net cash flow in both models.

Now that we have discussed both equity and invested capital cash flows, let's look at these concepts side by side, as shown in figure 12.3.

### Figure 12.2 Net Cash Flow Model For Invested Capital

	<b>Normalized net income</b>
+	<b>Interest expense (net of taxes)</b>
+	<b>Normalized noncash charges</b>
=	<b>Gross cash flow</b>
-	<b>Anticipated capital expenditures</b>
+ or -	<b>Working capital necessary to support growth (or generated due to negative growth)</b>
=	<b>Net cash flow to invested capital</b>

### Figure 12.3 Comparison of Equity Versus Invested Capital Cash Flow

<b>Equity Cash Flow</b>		<b>Invested Capital Cash Flow</b>	
	Revenue		Revenue
less	Cost of sales	less	Cost of sales
less	Operating expense	less	Operating expense
=	Operating income (EBIT)	=	Operating income (EBIT)
less	Interest expense		
=	Pretax income less		
less	Income taxes	less	Taxes on EBIT
=	Net income	=	Net operating profit after tax (NOPAT)
plus	Depreciation & amortization	plus	Depreciation & amortization
=	Gross cash flow	=	Gross cash flow
less	Increase in working capital less	less	Increase in working capital
less	Capital expenditures	less	Capital expenditures
+ or -	Change in debt principal		
=	Equity Net Cash Flow	=	Invested Capital Net cash flow

The charts in figure 12.3 illustrate the flow of the income statement into the valuation determination of net cash flow to the investor. This is probably one of the most important illustrations that you will see in this book. You really must understand this concept if you want to be a valuation analyst.

There must be a clear distinction made between short-term cash flow, specific to a particular year, and long-term sustainable cash flow. It is the long-term sustainable cash flow that generally is of interest to the business valuation analyst. Short-term cash flows may be the result of peaks or valleys in the business cycle or the manner in which management operates the business. In fact, if a manager really wants to generate a lot of cash flow, he or she can sell inventory without replacing it. Of course, if he or she does not replace the inventory, the manager will have nothing to sell in the future, and the business will probably fail. But he or she certainly can generate short-term cash flow!

The forecasted net cash flow should be a normalized cash flow. It assumes a required reinvestment into the business each year in an amount sufficient to finance projected operations, as opposed to a discretionary short-term excess reinvestment or deficiency that is not sustainable in the long run. This also implies that the willing buyer would have control of the cash flow. If a minority valuation is being performed, the valuation analyst will generally not make changes to what the minority investor cannot control. By now, I have emphasized this point enough times that it's obvious now that it's important!

## Forecasting Future Benefit Streams

One of the most important parts of the valuation process is the forecast of the future benefits stream that will be used in the income approach. Because this topic is so important, I pulled it out of this chapter and placed it in chapter 8 so it could be reviewed sooner. The following is a small refresher.

The starting point of the forecasting process is that historical income statements must be analyzed and adjusted (normalized if the valuation analyst is valuing a controlling interest) to reflect the economic income of the business being valued. Some of the more common adjustments that have already been discussed are as follows:

- The inventory accounting method may be adjusted to conform to industry practice or expected future treatment. This could include a change in inventory accounting from last in, first out (LIFO) to first in, first out (FIFO).
- Depreciation may be adjusted to more accurately reflect current economic write-offs based on the value determined by the machinery and equipment appraisers or real estate appraisers.
- Nonrecurring items should be removed.
- Non-operating income or expense items may be eliminated, if appropriate.
- The effect of the non-operating assets on the income statement must be removed if a control position is being valued and the assets are to be separately treated in the valuation.
- Related party transactions may need to be adjusted if the results are other than those that would be negotiated at arm's length.

Some of the normalization adjustments will be made regardless of whether the valuation subject is a controlling interest or a minority interest. These types of adjustments would be those that affect the future benefit stream, particularly when the historical operations are expected to be different from the future operations. I discussed forecasting in chapter 8.

Historical operating results should also be analyzed to gain an understanding of the quality of the earnings reported. The valuation analyst will most likely use historical operating results to support the forecast. At a minimum, the valuation analyst will want to use it to double check what the client provided as a forecast. The valuation analyst should also look for trends that may help predict the future with respect to the direction in which the company is headed. These trends may indicate growing, declining, flat, or volatile income streams. If a company has been growing at an exceptionally high rate, the likelihood is slim that the same rate will continue into the future. Because this rate cannot be maintained, the valuation analyst must compensate in the forecast by reducing the growth going forward.



If the company is in a declining mode, the terminal value (TV) may be calculated on the basis of liquidation, as opposed to that of a going concern. If a decline is forecast indefinitely into the future, the valuation analyst should consider whether the highest and best use of the business is in liquidation. If so, the business should be valued in this manner.

If the company's future appears to be flat, there is no reason to use a multiperiod valuation model; in this situation, a single-period capitalization model will suffice. We will discuss this in the next sections. When a company's results are erratic, forecasts become extremely difficult and may have little value in the valuation process. An averaging of history may prove to be beneficial, but this should be done only as a last resort. The valuation analyst should not forget to use other information that was gathered from the company or through his or her own research. Customer contracts can help the valuation analyst forecast expected changes as a result of a customer's growth. The next question that the valuation analyst asks is how far out into the future the forecast should go. I already addressed this point, but the forecast should go out far enough into the future that it represents sustainable future levels of income for the company. If the company has been showing losses, the forecast should go out far enough to allow the company to return to a level of normal sustainable profitability. The same is true if the company has been making large profits. Go out far enough to reflect the normal conditions for the company. The overall idea is to go out beyond periods that contain the peaks and valleys that may be short term. The willing buyer is going to be looking for the income stream that he or she can count on beyond the near term.

Although I discussed forecasting in chapter 8, this is probably a good time to present a forecast that was prepared for a shareholder litigation assignment. Don't worry about the dates; concentrate on the methodology. Keep in mind that the goal was to ultimately get to the expected cash flow for the company being valued. The forecast from this assignment is explained in exhibit 12.1. The client was a trucking firm with large retail customers. Although this may be larger than some of the companies that you may value on a regular basis, the principles are the same.

### EXHIBIT 12.1 Sample Forecast Section

In this valuation, we will use an invested capital analysis because the capital structure of the company is considerably different from the industry peer group. By removing the effect of the debt from the balance sheet, this will allow a more meaningful analysis to be made when comparing the Smith Entities to the industry. After deriving the value of the total invested capital of the Smith Entities, actual debt will be subtracted to derive an estimate of the equity of the company.

Under normal circumstances, we would be provided with a forecast from a company the size of The Smith Entities. However, throughout this litigation, we have been told over and over again that the company does not forecast its financial results. In the absence of management's forecasts, it is appropriate for the appraiser to create his or her own forecast for use in a valuation. As a result, we have performed a forecast based on the extensive amount of information that was provided to us as part of the discovery in this matter, as well as the information that we researched about the Smith Entities' customers and its industry.

Valuation analysts have prepared forecasts for use in valuation analyses for many years. The fact that management does not provide a forecast does not relieve the valuation analyst of the responsibility to consider the necessity of preparing a forecast on his or her own. In fact, corroborating this practice, the American Society of Appraisers includes the following statement in its course materials:

Practitioner—If the subject company does not prepare forecasts or the prepared forecasts are unreliable, **the appraiser should prepare a forecast independently** or consider a capitalization model\* (emphasis added).

Using the adjusted historical financial statements as a starting point, the valuation analyst prepared a forecast based on the information that was known or knowable at the valuation date.

The forecasted income statement appears in table 1.

(continued)

**EXHIBIT 12.1 Sample Forecast Section** *(continued)***TABLE 1 Forecasted Invested Capital Income Statement**

	2011	2012	2013	2014	2015
Sales	\$175,278	\$186,040	\$196,802	\$207,564	\$218,326
Operating expenses	140,328	148,702	157,048	165,366	173,678
Earnings before depreciation, interest, and taxes	\$ 34,950	\$ 37,338	\$ 39,754	\$ 42,198	\$ 44,648
Depreciation and amortization	11,393	12,093	12,792	13,492	14,191
Debt-free income before taxes	\$ 23,557	\$ 25,245	\$ 26,962	\$ 28,706	\$ 30,457
Taxes	7,852	8,414	8,986	9,568	10,151
<b>Net Operating Profit After Taxes</b>	<b>\$ 15,705</b>	<b>\$ 16,831</b>	<b>\$ 17,975</b>	<b>\$ 19,139</b>	<b>\$ 20,306</b>

Assumptions entering into the forecasted income statement include the following:

- Sales: Sales were forecast based on the historical financial statement trends of the company, as well as the anticipated growth that The Smith Entities' major customers were forecasting on or before the valuation date. The industry section of this report contains a discussion about The Smith Entities' major customers. Anticipated growth rates were as follows:

K-Mart	0.0%
TJX Group	8.5%
Federated	2.0%
Best Buy	12.5%
Dayton (Target)	5.0%
Others	5.6%

Applying these growth rates to the amount of business generated by these customers to The Smith Entities results in a forecast for the following period as follows:

	2010 Sales	Growth	2011 Sales
K-Mart	\$ 42,807,075	0.00%	\$ 42,807,075
TJX Group	36,311,358	8.50%	39,397,823
Federated	30,116,268	2.00%	30,718,593
Best Buy	12,630,330	12.50%	14,209,121
Dayton Group	11,120,324	5.00%	11,676,340
Others	33,187,645	5.60%	35,046,153
<b>Total Sales</b>	<b>\$166,173,000</b>		<b>\$173,855,106</b>

\* BV202N: The Income Approach to Value, Chapter 5, "Forecasting Financial Statements," p. 29.

**EXHIBIT 12.1 Sample Forecast Section**

We also used a trend analysis to forecast the future sales based on the historical financial statements of the company. This trend analysis uses statistical techniques to forecast the future results based on the actual history of The Smith Entities. The customer analysis, shown previously, helps support the trend analysis and shows the reasonableness of the forecast.

The trend analysis results in the following level of revenues:

	Revenues	Growth
2005 (H)	\$109,812,000	—
2006 (H)	123,381,000	12.4%
2007 (H)	133,835,000	8.5%
2008 (H)	139,272,000	4.1%
2009 (H)	153,191,000	10.0%
2010 (H)	166,173,000	8.5%
2011 (F)	175,277,867	5.5%
2012 (F)	186,039,924	6.1%
2013 (F)	196,801,981	5.8%
2014 (F)	207,564,038	5.5%
2015 (F)	218,326,095	5.2%

(H) = Actual historical results  
(F) = Forecasted by valuation analyst

- Operating expenses: Through 2010, The Smith Entities were growing at a reasonable pace. As such, expenses started to grow as well. Total operating expenses, including depreciation expense, were as follows:

2006	90.15%
2007	84.96%
2008	84.60%
2009	86.02%
2010	88.98%
5-Year average	86.95%
Latest 3-year average	86.53%

Over the past three years, depreciation expense has been approximately 6.5 percent of revenues. Therefore, operating expenses will be reduced by this amount so that we can segregate depreciation from the operating expenses.

Although the operating expenses grew during 2010, certain expenses were also changing, partially due to the growth of the company but also due to the changing of the management of the company. There were some expenses that were duplicative in nature as a result of the management transition in the company. Therefore, the future operating expenses of the company would not be expected to rise with revenues at the same pace as during 2010.

*(continued)*

**EXHIBIT 12.1 Sample Forecast Section** *(continued)*

As a company grows, fixed costs, such as rent, are spread over more revenues. Also, administrative employees and management costs are spread over a greater revenue base until the need arises for additional personnel.

Taking The Smith Entities' historical expenses into consideration, as well as the manner in which fixed and variable expenses relate to sales growth, we believe that the historical trend can be forecast as follows:

	Operating expenses (with depreciation)	Growth
2006 (H)	90.15%	-5.8%
2007 (H)	84.96%	-0.4%
2008 (H)	84.60%	1.7%
2009 (H)	86.02%	3.4%
2010 (H)	88.98%	-2.7%
2011 (F)	86.56%	-0.1%
2012 (F)	86.43%	-0.1%
2013 (F)	86.30%	-0.1%
2014 (F)	86.17%	-0.1%
2015 (F)	86.05%	-0.1%

(H) = Actual historical results  
(F) = Forecasted by valuation analyst

Depreciation of 6.5 percent will be subtracted from operating expenses, with the 2010 expenses being maintained as a percentage of sales based on 2009.

- Depreciation: Historic depreciation has been approximately 6.5 percent of revenues. We are assuming that this trend will continue.
- Taxes: Assumed to be 33.33 percent. This is the same rate that was discussed earlier in the report. It is the S corporation equivalent tax rate.

The forecasted balance sheet appears in table 2.

Assumptions entering into the forecasted balance sheet include the following:

- Cash: Assumes the cash turnover ratio from 2010.
- Accounts receivable: Assumes the same day's receivables from 2010.
- Other current assets: Kept as a percent of the relationship of adjusted 2010 other current assets to sales.
- Fixed asset additions: Assumed to increase in a consistent manner with depreciation.
- Other assets: Kept as a percent of the relationship of adjusted 2010 other assets to sales.
- Accounts payable: Assumes the same relationship as adjusted 2010 accounts payable to operating expenses.
- Income taxes payable: Kept as the same percentage of the relationship of adjusted 2010 income tax payable to sales.
- Other current liabilities: Kept as a percent of the relationship of adjusted 2010 other current liabilities to sales.

**EXHIBIT 12.1 Sample Forecast Section****TABLE 2 Forecasted Balance Sheet**

	2011	2012	2013	2014	2015
<b>Current assets</b>					
Cash	\$ 15,042	\$ 15,965	\$ 16,889	\$ 17,812	\$ 18,736
Accounts receivable	18,999	20,166	21,333	22,499	23,666
Other current assets	4,307	4,572	4,836	5,100	5,365
<b>Total current assets</b>	<b>\$ 38,348</b>	<b>\$ 40,703</b>	<b>\$ 43,058</b>	<b>\$ 45,411</b>	<b>\$ 47,767</b>
<b>Fixed assets</b>					
Gross fixed assets	\$116,353	\$127,746	\$139,838	\$152,630	\$166,122
Capital expenditures	11,393	12,093	12,792	13,492	14,191
Accumulated depreciation	76,246	88,338	101,130	114,622	128,813
<b>Net fixed assets</b>	<b>\$ 51,500</b>	<b>\$ 51,500</b>	<b>\$ 51,500</b>	<b>\$ 51,500</b>	<b>\$ 51,500</b>
<b>Other assets</b>	<b>\$ 2,639</b>	<b>\$ 2,801</b>	<b>\$ 2,963</b>	<b>\$ 3,125</b>	<b>\$ 3,288</b>
<b>TOTAL ASSETS</b>	<b>\$ 92,487</b>	<b>\$ 95,004</b>	<b>\$ 97,521</b>	<b>\$100,036</b>	<b>\$102,555</b>
<b>Current liabilities</b>					
Accounts payable	\$ 5,322	\$ 5,507	\$ 5,699	\$ 5,897	\$ 6,102
Income taxes payable	372	399	426	454	481
Other current liabilities	14,899	15,814	16,729	17,643	18,558
<b>TOTAL LIABILITIES</b>	<b>\$ 20,593</b>	<b>\$ 21,720</b>	<b>\$ 22,854</b>	<b>\$ 23,994</b>	<b>\$ 25,141</b>
<b>TOTAL INVESTED CAPITAL</b>	<b>71,894</b>	<b>73,284</b>	<b>74,667</b>	<b>76,042</b>	<b>77,414</b>
<b>TOTAL LIABILITIES AND INVESTED CAPITAL</b>	<b>\$ 92,487</b>	<b>\$ 95,004</b>	<b>\$ 97,521</b>	<b>\$100,036</b>	<b>\$102,555</b>

*(continued)*

**EXHIBIT 12.1 Sample Forecast Section** *(continued)*

As a result of the forecasted financial statements, the debt-free net cash flow is as follows:

**TABLE 3 Invested Capital Net Cash Flow**

	2011	2012	2013	2014	2015
Net income	\$ 15,705	\$ 16,831	\$ 17,975	\$ 19,139	\$ 20,306
+ Depreciation	11,393	12,093	12,792	13,492	14,191
– Capital expenditures	(11,393)	(12,093)	(12,792)	(13,492)	(14,191)
– Increase in working capital	829	(1,228)	(1,221)	(1,213)	(1,209)
– Increase in other assets/ (liabilities)	(136)	(162)	(162)	(162)	(163)
<b>NET CASH FLOW</b>	<b>\$ 16,398</b>	<b>\$ 15,441</b>	<b>\$ 16,592</b>	<b>\$ 17,764</b>	<b>\$ 18,934</b>

What if the forecast is incorrect? The valuation analyst can be absolutely certain that the valuation will be wrong. But don't worry; potential investors are frequently wrong also. If I were right every time that I made an investment, I would probably be retired and paying someone to write this book for me! The concept of fair market value, as well as other standards of value, requires the valuation analyst to put himself or herself in the position of the willing buyer on the valuation date and to make an informed judgment, based on all information known at that time, on what the future will be like. That is what is really being purchased. But don't forget about the willing seller also. Any knowledge that the willing seller has would also be known and factored into the selling price. So, if the forecast turns out to be wrong, the valuation may still be correct based on what was known at the time.

One of the real-world difficulties that will take place regarding the forecasts, especially if the valuation analyst is testifying in a court proceeding, is when the opposing attorney gives the valuation analyst financial data beyond the valuation date to prove that the forecast was wrong. This is where the cross-examining attorney watched too many episodes of *Law and Order* and expects to have a "gotcha" moment.

The valuation analyst should emphasize that the concept of fair market value would be violated if subsequent information was used. A willing buyer cannot know what is in store in the future, other than by performing the same level of due diligence that the valuation analyst attempts to perform. The analysis of the company's historical results, economy and industry forecasts, and other similar information should be used to project the future results of the valuation subject. All of the information gathered during this analysis will assist the valuation analyst in making reasonable forecasts. The valuation analyst should work with management to get the forecast to a reasonable level. He or she must understand, however, that what management wants to accomplish with the valuation may be a factor in the type of information that he or she will be given.

## Income Approach Methods

The value derived under the income approach represents the value of the operating assets less liabilities of the enterprise. The value of the non-operating assets less the non-operating liabilities is then added to the value of the operating entity to obtain the value of the total enterprise. The valuation methods included in the income approach are (1) the capitalization of benefits method and (2) the discounted future benefits method. Although not truly an income approach method, I am also going to cover the excess earnings method in this group of

methods. As you will see, the excess earnings method is really a method used to determine the value of the unidentifiable intangible assets (goodwill). When added to the adjusted book value method, the result is really closer to an asset-based approach than an income approach. However, because capitalization of a benefit stream is required in this method, I chose to cover it here. After all, it's my book!

### Capitalization of Benefits Method

The theoretical value of a business is the present value of all the benefits that can reasonably be expected to be generated to the owners in the future. This concept can be mathematically displayed. Personally, it makes me very unhappy trying to remember all the mathematics of finance that I took in school and forgot shortly thereafter. For students, thankfully, the material is more recent. But this stuff is important, so I am going to provide what I consider to be the minimum amount of math to demonstrate what we will be doing in the application of these models. The mathematical model to express this concept is as follows:

$$PV = \frac{E_1}{(1+k)^1} + \frac{E_2}{(1+k)^2} + \frac{E_3}{(1+k)^3} + \dots + \frac{E_\infty}{(1+k)^\infty}$$

$E$  = Benefit stream  
 $k$  = Discount rate

If you do not like long equations, this one can be reduced to the following:

$$PV = \sum_{n=1}^{n=\infty} \frac{E_n}{(1+k)^n}$$

$E$  = Benefit stream  
 $k$  = Discount rate  
 $n$  = Time period 1 to infinity

For those mathematical neophytes (like myself), the symbol  $\Sigma$  stands for *summation*. Therefore, this formula means the sum of the expected benefit streams from period 1 to period infinity, discounted to present value. Even more simply stated, it is the sum of the present values of the forecasted benefit streams going out for a long, long time (you can't get much longer than infinity; this is as long as perpetuity, and we know that this is a long time from now).

If the growth of the benefit stream (the numerator) is assumed to be constant over time, the equation can be reduced again to the following:

$$PV = \frac{E_1}{(k-g)}$$

$E$  = Benefit stream expected in the next period  
 $k$  = Discount rate  
 $g$  = Growth rate from time  $t = 0$  to time  $t = \text{infinity}$

Now that we got the math stuff out of the way, let's restate what we just did in English. The equation for the single period benefit stream capitalization method is as follows:

$$\text{Value} = \text{Benefit stream} \div \text{Capitalization rate}$$

If you think about what we just did, you will realize that we took the growth out of the numerator (we assumed it to be constant), and we removed the growth from the discount rate ( $k - g$ ). Because this capitalization model assumes a continued benefit stream into perpetuity, the growth that is removed from the discount rate must be the long-term sustainable growth. We will cover this in more detail in chapter 13. The mathematics, however, can be demonstrated with a simple example. Let's assume that the following information is available to you:

This year's cash flow	\$ 909
Next year's forecast cash flow	1,000
Forecast growth	10%
Required rate of return	35%

Forecasting the future cash flows and discounting them back to present value would result in the following calculation:

Forecast	Present value	Forecast	Present value
\$1,000	\$741	5,560	19
1,100	604	6,116	15
1,210	492	6,727	12
1,331	401	7,400	10
1,464	327	8,140	8
1,611	266	8,954	7
1,772	217	9,850	5
1,949	177	10,835	4
2,144	144	11,918	4
2,358	117	13,110	3
2,594	96	14,421	2
2,853	78	15,863	2
3,138	63	17,449	2
3,452	52	19,194	1
3,797	42	21,114	1
4,177	34	23,225	1
4,595	28	25,548	1
5,054	23	Total	<u>\$4,000 (Rounded)</u>



Instead of forecasting constant growth in each period and discounting it for the 35 periods in the preceding table, the mathematics of removing growth from the numerator and the denominator of the equation allows us to capitalize a single stream as follows:

$$\$1,000 \div (.35 - .10) = \$4,000$$

Much easier, isn't it? What this example actually proves is that the single-period capitalization model should derive the same answer as the multiperiod discounting model if you have constant growth. I will explain this further in a little while, but the reason for using one model as opposed to the other has to do with the stability of the income stream that is being forecast.

To apply the single-period capitalization of benefits model correctly, the benefit stream to be capitalized must be from stabilized operating conditions. Combining this with anticipated growth, the stabilized benefit stream should reflect the future expectations of the business or of the investment. Each benefit stream calls for a different capitalization rate. The risk associated with a particular benefit stream will cause the difference in the rates. This point is illustrated in exhibit 12.2.

### EXHIBIT 12.2 Matching the Benefit Stream With Capitalization Rates: An Example

Let's assume that Doodles, Inc. was valued as having an equity value of \$1 million. Based on Doodles's income statement used for the valuation, the following capitalization rates would apply:

	Benefit Stream		Cap. Rate		Value (\$)
Revenues	\$10,000,000	÷	1,000%	=	1,000,000
Cost of sales	9,000,000				
Gross profit	\$ 1,000,000	÷	100%	=	1,000,000
Operating expenses	600,000				
EBIT	\$ 400,000	÷	40%	=	1,000,000
Interest expense	50,000				
Pretax income	\$ 350,000	÷	35%	=	1,000,000
Taxes	100,000				
Net income	\$ 250,000	÷	25%	=	1,000,000

For right now, don't worry about how I calculated the capitalization rates. Obviously, a capitalization rate of 1,000 percent does not make sense. However, the point of this example is that regardless of the benefit stream that is capitalized, the answer should be the same. This does not mean that the valuation analyst can come up with the answer using one benefit stream and force all the other elements to fit. That would be cheating!

The benefit stream will be capitalized by a rate that reflects the risk of the benefit stream being capitalized. The valuation analyst should apply a sensitivity analysis to the capitalization process because relatively minor variations in either the benefit stream or the capitalization rate being considered can result in significant differences in the end result. This can be illustrated as follows:

Benefits Stream (\$)	Cap. Rate (%)	Value (\$)
100,000	20	500,000
100,000	25	400,000
100,000	30	333,333
100,000	35	285,714
100,000	40	250,000

Alternatively, this can be shown as follows:

Benefits Stream (\$)	Cap. Rate (%)	Value (\$)
100,000	25	400,000
120,000	25	480,000
140,000	25	560,000
160,000	25	640,000
180,000	25	720,000
200,000	25	800,000

Now, if the benefit stream is wrong and the capitalization rate is wrong but the valuation analyst got the right answer, he or she should count his or her blessings. Also, the analyst should pay his or her malpractice premiums because he or she may not be that lucky the next time.

The objective in a single-period capitalization method is to determine through analysis—and, if necessary, adjustments—the level of benefits that are reflective of a *sustainable* level for the valuation subject. As discussed previously, the purpose and function of the valuation influence the nature of the benefit stream to be capitalized.

In valuing a minority interest in a closely held business, the valuation analyst generally does not make discretionary adjustments to the benefit stream. Nonrecurring items and generally accepted accounting principles adjustments might be made when these items are considered to affect the benefit stream available to the minority interest in the future. Because the minority interest does not have the ability to effectuate change in the discretionary items, it is generally considered to be inappropriate to modify the benefit stream for items that cannot be changed by the minority.

In certain instances, adjustments to the benefit stream may be required, even in a minority situation. Adjustments may be appropriate when there are nonrecurring items or when the controlling party is abusing control to the detriment of the minority owner (in this instance, an oppressed shareholder action may be lurking in the wings). Another situation in which the valuation analyst may need to make certain adjustments is when he or she is valuing a family business, particularly for estate and gift tax purposes. Although the standard is the *hypothetical willing buyer and willing seller*, a reality check needs to be made when the parent is taking an above-market salary or perquisites in comparison to the minority interest being valued. The valuation analyst should use discretion and do the right thing. If the business is expected to be sold, pro forma earnings or cash flow will be more important to the willing buyer. Appropriate adjustments should be made to accommodate this situation.

Service businesses with few fixed assets are generally valued based on net income (pretax or after tax) or sometimes on a multiple of revenues. The multiple is another form of capitalization rate. Mathematically, a capitalization rate is the inverse of a multiple (a multiple of 5 equals a capitalization rate of 1/5, or 20 percent).

If a business tends to be cyclical in nature, an average of historical data is sometimes used to approximate the stable earnings base that can be capitalized. Once again, as a reminder, any time that historical data is used, it should represent probable future earnings. The valuation analyst should not rely purely on historical data! Willing buyers do not buy history!

When a business is growing, a multiperiod method (soon to be discussed) should be considered because the benefit stream is not expected to be stable. A weighted average of historical data—or, more preferably, forecasted data—should be used as a basis for discounting. When a business' operations have changed, the valuation analyst should ignore the historical data that is no longer representative of the current business. This means that even though the revenue rulings suggest that a period of five or more years be used as the basis of the valuation, it is perfectly acceptable to ignore the historical information if the future is expected to be different. (Don't worry about not following the revenue rulings. The analyst will still be in compliance with the intent of these rulings.)

Adjustments made to the benefit stream to be capitalized are generally made only when a majority (controlling) interest in the business is being valued. In the real world, just before the closing, willing sellers and willing buyers will adjust the sales or purchase price for certain items that may be known. Additional adjustments that can be made to the sale or purchase price are included in box 12.3.

On occasion, but not always, an adjustment will affect both the balance sheet and the income statement. For example, a balance sheet adjustment from LIFO to FIFO inventory does not necessarily require a corresponding adjustment to the cost of goods sold because a better matching has been accomplished in the income statement.

On the other hand, an adjustment to the value of the fixed assets on the balance sheet may require a corresponding adjustment to the depreciation expense on the income statement. This is the part that drives many accountants nuts! The debits do not equal the credits.

### BOX 12.3 Additional Items That May Require an Adjustment

- **An excess or deficiency of net working capital.** An abundance of working capital may be considered to be a non-operating asset and may be added to the ending value determined for the operations. In addition, if a willing buyer is aware that he or she will have to infuse additional capital into the business immediately, a reduction in the sales price is likely to occur. For example, assume that a willing buyer knows that the widget machine must immediately be replaced upon purchase to keep the business running. What is the likelihood that the price will not be adjusted if the cash flow used to calculate value did not have the replacement of this asset in it?
- **The existence of non-operating assets.** The value of these assets, net of non-operating liabilities, will be added to the operating value of the enterprise.
- **Evidence of underutilized capacity.** Underutilized capacity has value if the buyer has the ability to use it properly. For this reason, the business may be worth more in someone else's hands than in the hands of the current owner. Although a willing buyer will not want to pay for what he or she will bring to the company after the acquisition, the willing seller will want compensation for the ability to increase capacity. Negotiations will probably result in a compromise value. This is frequently a very tough adjustment to make because it requires the valuation of the company to be made based on a different set of assumptions than the business actually operates under. If the calculations are performed as if in the hands of a particular buyer, the result may be investment value and not fair market value. However, if all willing buyers would most likely make the same changes, it may be fair market value after all.
- **The need to invest in additional productive capacity to meet future operational demands.** This should be considered in the cash flow requirements of the business.
- **Insufficient management or employee skills or capacity.** Poor management increases the risk of the business and, therefore, decreases its value. More often, this is reflected in poor earnings capacity or a higher discount or capitalization rate due to the increased risk of having a buffoon run the company. Just don't double-count and put it in both places.

Revenue Ruling 59-60 states that “determination of the proper capitalization rate presents one of the most difficult problems in valuation.” No kidding! Capitalization of the total benefit stream results in an indication of value for the entire operating enterprise (shareholder’s equity or invested capital); partial benefit streams can also be capitalized to estimate the value of portions of the enterprise (excess earnings can be used to estimate the value of the intangibles).

The mechanics of the capitalization of benefits method without valuation discounts or premiums are shown in exhibit 12.3.

### EXHIBIT 12.3 Example Of Single-Period Capitalization Method

Adjusted net income	\$1,000,000
Forecasted growth	X 1.05
Estimated future income	\$1,050,000
Capitalization rate	÷ 25%
Indicated value from operations	\$4,200,000
Add: Net non-operating assets	350,000
Total enterprise value	\$4,550,000

In this example, you will notice that the estimated future income is being capitalized. Discount rates and capitalization rates that are determined from the market are considered to be prospective in nature. To match the income stream and the capitalization rate appropriately, both must be on a prospective basis. Historical income and rates could have been used as well, but it is not preferable. If historical data were used, the results would look like this:

Adjusted net income	\$1,000,000
Capitalization rate (25.0 ÷ 1.05 = 23.81)	÷ 23.81%
Indicated value from operations (rounded)	\$4,200,000
Add: Net non-operating assets	350,000
Total enterprise value	\$4,550,000

In this instance, the capitalization rate has been adjusted by the anticipated growth into the next year (5 percent). By removing the growth, a historical capitalization rate can be applied to the adjusted historical net income. Note that the answer is the same in both examples.

### Discounted Future Benefits Method

Founded on the principle of future benefits, the value of a business is the present value of all the benefits it can reasonably be expected to generate in the future. These benefits are generally considered to be the future cash flows available to the owners from the business or investment (dividends and ultimate sale). In theory, if the holding period is expected to continue into perpetuity, the future dividend stream discounted to the valuation date at an appropriate discount rate should represent the value of the investment. Because investments

rarely go to perpetuity, a long time horizon is generally substituted as the holding period for most investments in closely held businesses.

Although distributions to the owners are the main consideration, the application of this method can also be applied to earnings, cash flow (gross or net), and other benefit streams. Regardless of the benefit stream being discounted, the basic concept is the same. This methodology generally involves two steps. First, calculate the sum of the present values of the benefit stream for each of a number of periods (normally, years) in the future. Second, add the present value of TV to that amount.

The TV is generally calculated under a benefit stream residual method or an asset residual method (soon to be discussed). The benefit stream residual method assumes that the benefit stream being discounted will eventually stabilize; then, the stabilized benefit stream can be capitalized into perpetuity and discounted back to the valuation date. In some situations, an exit multiple is applied, instead, under the assumption that the business is being valued based on the multiple that it might sell for at that point in the future. The asset residual method assumes that the benefit stream being discounted will stop at some point in the future as a result of the business coming to an end and being disposed of either through a sale or a liquidation. This method tends to be popular if the business is expected to have a limited life.

What did I just say? The TV assumes that the benefit stream of the business will eventually stabilize. This is similar to the assumption about single-period capitalization models. Don't panic; later, I hope to clear this up with some examples.

Because we had so much fun with the last mathematical equations, I thought that we should do it again. The mathematical equation for multiperiod discounting is derived as follows:

$$\sum_{n=1}^{n=\infty} \frac{E_n}{(1+k)^n}$$

$E$  = Benefit stream  
 $k$  = Discount rate  
 $n$  = Time period 1 to infinity

The preceding equation can be changed. If we use a definite period of time instead of infinity, we can add another component to the equation that would represent the terminal value. Let's change "n" to a finite period of time ending with period "t." Let's also allow for the inclusion of all future value beyond the end of period "t" as a TV. The equation then appears as follows:

$$\sum_{n=1}^{n=t} \frac{E_n}{(1+k)^n} = \frac{FV_{t+1}}{(1+k)^n}$$

$E$  = Benefit stream  
 $k$  = Discount rate  
 $n$  = Time period 1 through time period  $t$   
 $FV$  = Future value or terminal period benefits stream

In simple language, value is estimated as the sum of the present values of the benefit stream for the forecast period plus the present value of the TV. The TV will be the present value of the stabilized benefit stream capitalized into the future. The TV may also be the present value of the sale or liquidation proceeds of the company. Use one or the other, but not both!

The mechanics of the discounted future benefits method are illustrated in table 12.1. In the example in table 12.1, it is assumed that the first five years of the forecast are unstable and that stability takes place at the end of year five. Two calculations require an explanation. The first is the calculation of the TV of \$350,000. This is achieved by starting with the year five forecasted net cash flow of \$70,000 and growing it by the next year's rate of growth that will result in the stable net cash flow stream of the company into the future (in this case, we assumed 5 percent). This means that the next year's (year six) net cash flow is assumed to be \$73,500 ( $\$70,000 \times 1.05$ ).

Year	Forecast Cash Flow	26% Present Value Factors	Present Value Cash Flows
2017	\$ 40,000	.79365	\$ 31,746
2018	49,000	.62988	30,864
2019	57,500	.49991	28,745
2020	64,300	.39675	25,511
2021	70,000	.31488	22,042
TV	350,000	.31488*	110,208
		Total	<u>\$249,116</u>

\* The terminal value is discounted at the same rate as in the final year of the projection.

The next step is to capitalize the stable benefit stream by using a capitalization rate equal to the discount rate used in the present value computations and subtracting the assumed long-term growth rate (in this case, 5 percent). Therefore, the capitalization rate in this example would be 21 percent (26 percent minus 5 percent). (**Note:** Don't worry yet about where these rates come from because we will spend more time on this subject in chapter 13.)

The TV is, therefore, calculated as follows:

$$\$73,500 \div 0.21 = \$350,000$$

The second item needing an explanation is the fact that the discount factor used to discount the TV is the same factor that was applied to the year five forecasted net cash flow. Because stability is reached at the end of year five, we are capitalizing the future cash flow (year five plus growth), but it is being done at the end of year five. Because year five is used for both the forecasted cash flow for that year and the TV, both years should be discounted by the same present value factor. This assumes that the cash flow stream is being received on the last day of the year during the forecast period, say December 31. Then, the terminal period begins on the first day of the next year, January 1. This is the reason why we use the same present value factor.

As previously stated, this example assumes that discounting is being performed at the end of each year because the net cash flow stream is received at the end of the year. If a mid-year convention is assumed (because the benefit stream is generated throughout the year), the present value factor that would be used for the TV would still be the same as the factor used for year five. There used to be a debate in the valuation profession on whether the year five factor should be used in a mid-year model. I believe that this debate has been decided by most valuation analysts. A mid-year convention would change the basic formula to the following:

$$V = \frac{E_1}{(1+k)^{0.5}} + \frac{E_2}{(1+k)^{1.5}} + \frac{E_3}{(1+k)^{2.5}} + \frac{E_4}{(1+k)^{3.5}} + \frac{E_5}{(1+k)^{4.5}} + \frac{E_5^*(1+g) \div (k-g)}{(1+k)^{4.5}}$$

$E$  = Benefit stream  
 $TV$  = Terminal value  
 $k$  = Discount rate  
 $g$  = Rate of growth

The difference between these 2 formulas is the period used to discount the benefit stream, including the TV, back to present value. The vast majority of valuation analysts agree that the same factor should be used for the final forecast period and the terminal period. The minority opinion says that because the terminal period is intended to begin on the first day after the forecast period, the factor should be as of the first day of that terminal period or, conversely, the last day of the forecast period. Using 4.5 instead of 5 in the preceding formula moves the income stream up 6 months. This results in a higher value. The income stream is considered to be a continuous stream, therefore, there really is no gap at the end of a forecast period and the beginning of the terminal period.

There may not be one correct answer for which model the valuation analyst should use, but the model chosen should be properly explained. Keep in mind that a mid-month convention could be used if you really want that income stream to be more representative of how the income stream is received throughout the year. This would close the gap to only one-half of one month.

Some additional considerations about the TV are worth pointing out. If no growth is anticipated after the projection period, the capitalization rate used will be the same as the discount rate. Many finance textbooks estimate that long-term growth for most businesses tends to be somewhat modest, generally in the 3 percent to 5 percent range (inflation plus population growth). Because capitalization into perpetuity is a long time into the future, sustainable growth may not reflect too much more than the rate of inflation. However, the facts of each valuation may warrant different growth rates to be used. If a company has a greater rate of growth in the near term, the present value of the future growth can easily exceed the 3 percent to 5 percent range. Just be careful because a higher growth rate into perpetuity can cause the business to grow beyond reality.

## Calculating the TV

In the discounted future benefits method, the TV can represent a significant portion of the overall value of the business; therefore, care must be exercised in its derivation. The TV should represent the value at the point in time in which the business is in a stabilized and sustainable condition. It is frequently calculated using a single-period capitalization methodology. The benefit stream capitalized is the projected stream for the year after stabilization (time period  $t + 1$ ). The capitalization rate used to convert the benefit stream into an indication of the value of the business at that point is calculated by subtracting the long-term sustainable growth rate from the discount rate used to discount the annual forecasts.

Other acceptable methods to determine a capitalization rate may also be used for the derivation of the TV, but there should be some correlation between the discount rate used and the capitalization rate applied to the terminal benefit stream. After the terminal benefit stream is capitalized, it must then be discounted to its present value (at the valuation date). The basic mechanics of this methodology are demonstrated in exhibit 12.4, which contains a portion of an actual valuation using this methodology. In this valuation, the subject company manufactured a product that started being marketed by two very large public companies that virtually took away that component of the subject company's sales. After our analysis of the historical financial information, we requested that management provide us with a forecast for the business. We actually received a pretty reasonable forecast. The exhibit illustrates what we did with it.

### EXHIBIT 12.4 Discounted Future Benefits Method—Report Excerpt

The next step in this analysis is to determine how the historic performance of the company will compare with what is expected in the future. At the request of the valuation analyst, management has provided an estimate of what it expects future sales to be. This forecast appears in the following table.

#### Management's Forecast (\$000)

	Historic		Forecast		
	2014	2015	2016	2017	2018
<b>Total company</b>					
Sales	\$2,498	\$1,614)	\$910	\$700	\$800
Cost of sales	1,174	697	320	196	224
Gross profit	\$1,324	\$ 917)	\$590	\$504	\$576
Expenses	1,206	934	500	500	500
Operating profit	\$ 118	\$ (17)	\$ 90	\$ 4	\$ 76
Normalized profit	\$ 767	\$ 341	\$ 90	\$ 4	\$ 76
<b>Product A</b>					
Sales	\$2,054	\$1,149	\$310	\$ 0	\$ 0
Cost of sales	1,050	567	152	0	0
Gross profit	\$1,004	\$ 582	\$158	\$ 0	\$ 0
<b>Other products</b>					
Sales	\$ 444	\$ 465	\$600	\$700	\$800
Cost of sales	124	130	168	196	224
Gross profit	\$ 320	\$ 335	\$432	\$504	\$576

The information in the table reflects the decreased sales in the product A business, whereas the sales of other products increase. Management recognizes the fact that it must make a concerted effort to increase the sales of the other products of the company to compensate for the loss of the product A business. Based on our discussions with management, this forecast appears reasonable. Although we cannot guarantee that the actual results will be achieved, the underlying assumptions are consistent and are well thought out. Projected income is significantly reduced from the 2014 and 2015 banner years. Even when allowing for a compound growth rate of about 20 percent in the continuing segment of the business, profits in 2016–2018 are projected to average \$57,000 per year. This forecast also includes a reduction in expenses, which appears to bring the company's historic expenses in line with those on a normalized basis.

A willing buyer will clearly be much more concerned with the expectation of future profitability than with historic results. Historic results are generally used as a basis of forecasting the future, but reliance purely on history will often result in an incorrect conclusion of value. Revenue Ruling 59-60 discusses the future in at least 15 different instances, and it is clear from the guidance provided in this treatise that the future is of greater importance than the past. This will be discussed further in the following section.



**EXHIBIT 12.4 Discounted Future Benefits Method—Report Excerpt****VALUATION CALCULATIONS—DISCOUNTED FUTURE EARNINGS METHOD**

The discounted future earnings method is one of the most theoretically correct methods of valuation. It is premised on the concept that value is based on the present value of all future benefits that flow to an owner of a property. These future benefits can consist of current income distributions, appreciation in the property, or a combination of the two. The formula for the discounted future earnings method is as follows:

$$\sum_{n=0}^{n=t} \frac{E_n}{(1+k)^n} = \frac{TV_{t+1}}{(1+k)^t}$$

$E$  = Forecasted benefit stream

$n$  = Year in which the benefit stream is achieved

$k$  = Required rate of return

$TV$  = Terminal value, which is the estimated benefit stream during a stabilized period

$t$  = Year of stabilization

The formula appears much more complicated than it is. In essence, this valuation method requires a forecast to be made of future earnings, going out far enough into the future until an assumed stabilization occurs for the property being appraised. In this instance, XYZ Company, Inc. is expected to incur a substantial fluctuation in its earnings over the short term due to the change in the company's product mix.

The previously discussed data shows an operating profit for this business estimated at \$90,000 in 2016, \$4,000 in 2017, and \$76,000 in 2018. When a fluctuation of this type takes place, a multiperiod model, such as this one, is generally deemed appropriate for valuing the entity. A single-period capitalization method would be appropriate only if projected earnings are relatively stable and predictable into the future.

The company should experience modest growth, but over the long term, the company is not expected to grow at much more than the rate of inflation. Factoring in the maturity of the company and the shifting of the product mix, the high end of inflation, or 6 percent, will be used for the calculation of the terminal value.

The earnings stream being discounted in this model represents the return on investment to the stockholders. In this instance, there are employment contracts with two nonowner employees that require the company to pay them each 2 percent of all dividends that are paid to the company's shareholders. In this valuation, we have assumed that the company will not be paying dividends; therefore, no reduction will be made to the earnings stream reflected in the table.

Once the earnings stream has been forecasted, the selection of a proper discount rate becomes necessary. Because the income being estimated will not occur until sometime in the future, the future income must be discounted to its present value. In this instance, a discount rate of 32 percent has been deemed applicable. This results in the value estimate of XYZ Company, Inc. being calculated as follows:

$$PV = \frac{90,000}{(1 + .32)^1} + \frac{4,000}{(1 + .32)^2} + \frac{76,000}{(1 + .32)^3} + \frac{TV}{(1 + .32)^3}$$

In this instance, the terminal value is determined by growing the last year's forecast income by a stabilized growth rate. The result is then capitalized and discounted to its present value. Once again, this appears to be much more complicated than necessary, but it is consistent with the Gordon Growth Model used in the securities market.

(continued)

**EXHIBIT 12.4 Discounted Future Benefits Method—Report Excerpt** *(continued)*

Although long-term growth is forecast to be no greater than the long-term rate of inflation, the growth from 2016–2018 is still expected to be a bit higher than that rate in the short term. Therefore, a 6 percent growth rate has been used to determine the stabilized income after 2018. The capitalization rate applied in this instance is based on the selected discount rate less long-term growth, as opposed to next year's growth. Therefore, the terminal value is calculated as follows:

$$TV = \frac{76,000 \times 1.06}{.32 - .06} = \frac{80,560}{.32 - .06}$$

$$TV = \$309,846$$

The insertion of the terminal value into the equation indicated results in the present value of the future earnings of XYZ Company, Inc. to be determined as follows:

$$PV = \frac{90,000}{(1 + .32)^1} + \frac{4,000}{(1 + .32)^2} + \frac{76,000}{(1 + .32)^3} + \frac{309,846}{(1 + .32)^3}$$

$$PV = 68,132 + 2,299 + 134,714$$

$$PV = \$238,238$$

The present value of the future benefits of XYZ Company, Inc. results in an estimate of value of \$238,238, or \$238,000 rounded.

## The Excess Earnings (Formula) Method

An argument can easily be made that the excess earnings method is more of an asset-based approach than it is an income approach. Actually, it is a hybrid of both approaches. The excess earnings method, which is also known as the *formula approach*, is probably the most widely used method of valuation, particularly for small businesses and professional practices. This hybrid of the asset-based approach and the income approach is based on Revenue Ruling 68-609, which provides a method for valuing intangible assets. Note that I said “valuing intangible assets” and not valuing entire companies.

A variation of this method has become popular among valuation analysts who perform allocations of purchase price for financial reporting. For many years, when I taught this method in courses, individuals from the large accounting firms used to wonder what this was and why was I teaching it. Today, they all are familiar with it and use it regularly. Boy, how times have changed!

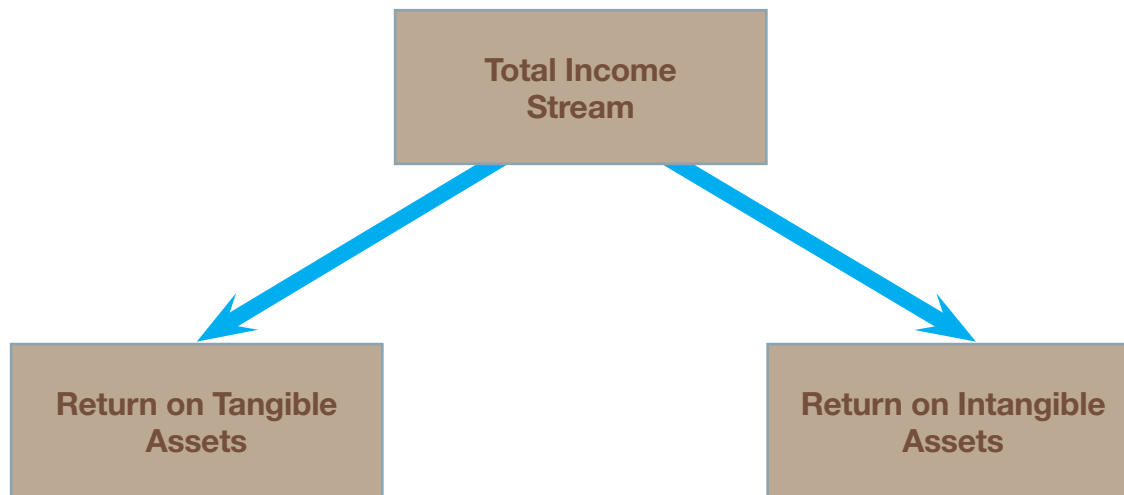
The excess earnings method involves valuing the subject company's tangible assets and liabilities at fair market value using the adjusted book value method, which was discussed in chapter 11. The capitalization of excess earnings is used to value the intangibles. This is a single-period capitalization model that is similar to what was discussed at the beginning of this chapter.

Excess earnings—rather than net income, cash flow, EBIT, or EBITDA—becomes the numerator in the capitalization model. These excess earnings are derived by forecasting the normalized annual net income (after tax or pretax) for the entity in the same manner as in the other income approach methods. Then, a reasonable return on the net tangible assets is subtracted from the normalized net income to determine the excess earnings. These excess earnings are then capitalized to arrive at the intangible value of the enterprise.

The underlying theory behind this method is logical but is often misapplied. The theory is that a company's earnings stream results from the company's investment in both tangible and intangible assets. All of those machines that make widgets allow the company to have products to sell. Combined with the other operating

assets and liabilities, a return on investment is produced that is attributable to those net tangible assets. If you subtract this return on the net assets from the total earnings stream produced by the company, the balance would be attributable to the intangible assets of the company. Logical, isn't it? This concept is graphically depicted in figure 12.4.

**Figure 12.4 Excess Earnings Method Model**



The valuation analyst needs to understand the theoretical basis of this method to avoid many of the common errors that are made in practice. The following are important guidelines for using this method:

- Because valuation is a “prophecy of the future,” the valuation analyst should estimate the normalized future annual income. A common error is to calculate a weighted average net income for the five prior years or some measure of historical data. The revenue rulings emphasize that using a weighted average of history is incorrect unless it reasonably reflects *probable future earnings*.
- The reasonable return on the net tangible assets should be based on the level of risk associated with these assets, as well as on the returns available in the market. The theory behind this assumption is that if a business owner invested in an investment other than the business assets, a return would be received. Therefore, the investment in assets should also generate a return on investment that is unrelated to the intangible value of the enterprise.
- The return on the net tangible assets should be based on the market value of the net assets and not the book value. Frequently, I see valuation analysts use book value in the calculation. That is just plain wrong!
- The return on investment can be determined by reviewing what other investments are paying. For example, if an investor can buy government securities and receive a 4 percent return, the return on, for example, accounts receivable or fixed assets, should be higher to reflect the amount of risk related to an investment in these assets. Obviously, a balance sheet with all cash would be considerably less risky than a balance sheet that contains only highly technical specialty machinery.
- A common error is to consider the return of 8 percent to 10 percent given as an example in Revenue Ruling 68-609 as gospel. The rate must reflect risk and will generally differ from the rate in the revenue ruling, which was promulgated in 1968. Even the revenue ruling states that “the above rates are used as examples and are not appropriate in all cases. In applying the ‘formula’ approach, the average earnings period and the capitalization rates are dependent upon the facts pertinent thereto in each case.”
- The capitalization rate chosen must reflect the appropriate amount of risk relating to intangible assets. The example of 15 percent to 20 percent in Revenue Ruling 68-609 will, in most cases, be far too low for the average business’s unidentifiable intangible assets (for example, goodwill).

Recognizing the riskiness of the intangible assets will be one of the most difficult jobs for the valuation analyst. The capitalization rate chosen will depend on how much of the earnings stream is attributable to the tangibles versus the intangibles. This will be explained further in chapter 13.

- The excess earnings method should be used only if no better method is available to determine the value of the intangibles. The enterprise can frequently be valued using other methodologies. This is not just my opinion. Reread the revenue ruling!

The basic calculations of the excess earnings method are shown in exhibit 12.5. The mechanics are simple, which is probably why judges like this method so much. Unfortunately, this method is frequently applied incorrectly, and the result is a poor valuation.

### EXHIBIT 12.5 Capitalization of Excess Earnings

Estimated future income (normalized)	\$1,000,000
Less: Return on net tangible assets (\$800,000 × 15%)	(120,000)
Excess earnings	\$ 880,000
Capitalization rate	÷ 40%
Intangible value	\$2,200,000
Plus: Adjusted book value	800,000
Total entity value	<u>\$3,000,000</u>

Non-operating assets are usually excluded from this calculation so that the total entity value reflects the value of the operations of the subject company. Any net non-operating assets are added to the end result to value the total equity of the subject.

In using the excess earnings method, rules similar to those discussed in the single-period capitalization model apply. Because a single income stream is being used, that income stream should reflect stability. If the forecasted earnings are not expected to be relatively stable, a different method should be used. Furthermore, because the assets and liabilities are adjusted to their fair market values, this method implies a control valuation. This method may not be appropriate for minority interests because they cannot liquidate the assets. Of course, you can always subtract a discount for lack of control (discussed in chapter 14) from the control value to get to a minority value. Quite frankly, I would rather have a root canal, or at a minimum, use a different method.

There are frequently better methods to use in valuing businesses, therefore, the excess earnings method is not always appropriate. Still, it continues to be used by many valuation analysts. As mentioned previously, the excess earnings method is commonly applied in the valuation of professional practices and small, owner-operated businesses. In essence, the valuation of these entities is an asset-based approach, with the goodwill (unidentifiable intangibles) being valued this way and added to the adjusted book value of the net tangible assets.

To use the excess earnings method for intangibles, all the operating assets and liabilities of the business must first be appraised. There are many valuation analysts who believe that because small companies and professional practices are usually sold as asset sales as opposed to stock sales, a more appropriate way to apply this method is on an invested capital basis. This would change the rates of return used in the method from equity rates to weighted average costs of capital or invested capital rates (this will make more sense after you read the next chapter). Personally, I like to apply this method the old-fashioned way, which is based on equity. If the valuation analyst does it correctly, he or she should get similar answers (particularly if he or she is lucky!).

The next step is to calculate the normalized sustainable (stable) earnings of the business. Be careful to remove any non-operating income or expenses during the normalization process. Also, remove any items on the balance sheet that may be attributable to non-operating assets or liabilities. The valuation analyst must then determine the appropriate rates of return on the net operating tangible assets owned by the company.

## Required Rate of Return on Net Tangible Assets

There are several acceptable ways to determine the required rate of return on the net tangible assets of the business. There are no hard and fast rules, but there is no substitute for common sense in choosing appropriate rates. One method of determining the rate of return on the net tangible assets is to review the assets and liabilities that make up the balance sheet to assess the amount of risk attributable to these assets. I said it before, and I will say it again: A balance sheet with all cash will be considerably less risky than a balance sheet that is heavy in special technology equipment. The difference in the rates in this instance would be the difference between what a certificate of deposit pays, as opposed to the cost of leasing the equipment. The principle of substitution should be considered in weighing alternative returns.

Another method used to determine the rate of return on the net tangible assets is to calculate a weighted average rate based on the borrowing power of the company. This calculation appears in table 12.2. The idea behind this calculation is that the return should be based, in one part, as a return on the equity investment and, in another part, as a return on the borrowed funds. The return on the debt portion will generally be lower than the return on equity because the latter is considered riskier.

Another source of rates of return on net tangible assets is the market itself. The valuation analyst cannot necessarily use public companies because the returns measured also include intangible assets, but sources such as trade associations, Microbilt's *Integra Business Profiler*, and Risk Management Association's *Annual Statement Studies* may help provide information about returns on tangible net worth. The problem with using this data is that the returns

presented are based on book values and not fair market values. Regardless of which method is used to determine the reasonable return on the net tangible assets, it is generally accepted in the valuation community that this rate should not be below the subject company's cost of borrowing money.

The return on the net assets is then subtracted from the normalized earnings, resulting in excess earnings subject to capitalization. The capitalization rate applied to the excess earnings must be sufficiently high because the excess earnings represent the return from intangibles, which are considered riskier. Logically, if the rate of return on tangible assets is 15 percent, and the required rate of return on the company's earnings (which includes a return on the net tangible and intangible assets) was determined to be 33 percent, then the rate of return for only the intangibles has to be higher than 33 percent, so that on a weighted basis, the 15 percent plus the intangibles return equals 33 percent. This concept is illustrated in exhibit 12.6.

**TABLE 12.2 Return on Net Tangible Assets**

Tangible Assets	FMV	Loan %	Loan Amount
Accounts Receivable	\$150,000	× 80%	= \$120,000
Inventory	80,000	× 60%	= 48,000
Fixed assets	200,000	× 50%	= 100,000
Borrowing capacity	\$430,000	62.3%	\$268,000
Existing debt			100,000
Remaining capacity	\$430,000	39.0%	\$168,000
Market borrowing rate	10%		
1—Effective tax rate	65%		
After-tax borrowng rate	× 6.5%	39%	2.54%
Required equity rate of return on tangible assets	28%*	61%	17.08%
Required rate of return on net tangible assets			19.62%

\*Net earnings discount rate.

### EXHIBIT 12.6 Excess Earnings Method—Rates of Return Proof

Assume that the following calculation was deemed appropriate by the valuation analyst.

Estimated future income (normalized)	\$1,000,000
Less: Return on net tangible assets (\$800,000 × 15%)	120,000
Excess earnings	\$ 880,000
Capitalization rate	÷ 40%
Intangible value	\$2,200,000
Plus: Adjusted book value	800,000
Total entity value	\$3,000,000

The capitalization of benefits method applied to the estimated future income, instead of the excess earnings, would necessitate a capitalization rate as follows:

$$\$1,000,000 \text{ income} \div \$3,000,000 \text{ value} = 33.33\% \text{ capitalization rate}$$

This means that the valuation analyst would have had to determine a capitalization rate of 33.33 percent for a single-period model to be consistent with the results of the excess earnings method. The mathematical proof is the weighted average return on the tangible and intangible components of the value as follows:

Tangible component	$\$800,000/\$3,000,000 \times 15\% = 4.00\%$
Intangible component	$\$2,200,000/\$3,000,000 \times 40\% = 29.33\%$
Weighted average capitalization rate	<u>33.33%</u>

The example in exhibit 12.6 demonstrates that on a weighted average basis, the returns on the tangible and intangible portions of the income stream must result in the return for the entire income stream. This makes sense if you think about it. However, the proof requires circular logic because you need to know the value of the enterprise in order to perform the mathematical calculation. If we know the value, why would we go any further? This is an excellent sanity check on the soundness of the rates of return used in the various methods.

## Background and Drawbacks

If used correctly, the excess earnings method can be a good method to use. However, the answer is only as good as the information that the valuation analyst uses to calculate it. There are many negatives with regard to the excess earnings method. The discussion that follows is intended to provide more background about this method, as well as illustrate the problems that can result by using it incorrectly.

The excess earnings method was promulgated in Appellate Review Memorandum (ARM) 34 in 1920. The purpose of ARM 34 was to provide a formula to be used in determining the proper amount of compensation for the owners of breweries and distilleries for the loss of goodwill that resulted from prohibition. To assist in this task, ARM 34 included rates of return on the investment in assets employed in these types of businesses. This was supposed to allow a separation of the tangible and intangible portion of the taxpayer's income stream to be used in the formula. As the formula method became more popular and started being used for other types of businesses, it became apparent that the rates included in the memorandum may not have been appropriate in every situation or appropriate over time.

Revenue Ruling 68-609 was issued to correct the misinterpretations regarding the use of the excess earnings method in the valuation of goodwill. This revenue ruling suggested higher rates of return but also led valuation analysts to the belief that this methodology is appropriate for all types of businesses. As time went by, the IRS began to recognize that the excess earnings approach was being misapplied in practice. It was being used to value entire businesses when it was intended to value only the intangible assets.

In Revenue Ruling 68-609, the IRS has gone on record to state, "The (excess earnings) approach may be used only if there is no better basis available for estimating the value of intangible assets." There are frequently better methods to use in valuing businesses, therefore, the excess earnings method is not always appropriate. Still, it continues to be used by many valuation analysts.

The basic formula in applying this methodology is to restate the balance sheet at fair market value. The next step is to calculate the probable future earnings of the business. A reasonable return on the net tangible assets is subtracted from the probable future earnings, resulting in the excess earnings that are attributable to the intangible value of the entity. The excess earnings are then capitalized to determine the value of the intangibles. This is sometimes referred to as the *big pot theory*, when all intangible value is calculated as a single figure. I will discuss a multiperiod excess earnings model in chapter 20 in which the intangible value is also segregated into identifiable and unidentifiable intangible assets.

The problems with this methodology are plentiful. The most basic problem is the false assumption that the earnings of a business can easily be divided between the amounts attributable to the tangibles and intangibles. The valuation analyst must determine the appropriate rates of return on the net tangible assets and intangible assets (other than goodwill) owned by the company. There is no empirical data to support these rates of return.

Errors are also frequently committed because of a lack of understanding of the theoretical background and application of the method. Therefore, because this method is so easily misapplied, it is not widely favored by experienced valuation analysts.

In *Business Valuation News*, Shannon Pratt stated

The excess earnings method of valuation actually is another version of a capitalized earnings approach. It is the most widely used and misused of all methods for valuing small businesses and professional practices. It is widely written about, and more than half the business and professional practice brokers that I know use some version of it. It is widely used in divorce proceedings by courts for determining the value of goodwill in professional practices. Yet the Internal Revenue Service, who spawned the method back in 1920, now roundly denounces it.<sup>2</sup>

Discussing the methodology further, Pratt quoted *How to Buy or Sell a Business*:

Small Business Reporter Series, in which it is stated that because each business and sales transaction is different, the formula should be used only to indicate some of the major considerations in pricing a business.<sup>3</sup>

In an article titled "Closely Held Business Valuations: The Uninformed Use of the 'Excess Earnings/Formula' Method," Jeffrey Fox, ASA, indicated that "to mechanically cite the excess earnings/formula method as the authority for a closely held business valuation will leave an appraiser very vulnerable to criticism."<sup>4</sup>

2 Shannon Pratt, "The Excess Earnings Method," *Business Valuation News* (September 1985), 4-12 (now known as *Business Valuation Review*, published by the Business Valuation Committee of the American Society of Appraisers).

3 *Ibid.* (quoting Bank of America, *How to Buy or Sell a Small Business: Small Business Reporter Series* [San Francisco, CA: Bank of America, 1982], 8-9).

4 *Business Valuation News* (September 1984).

Fox indicated that this method should be used only as a last resort. All the difficulties in the application of this method are discussed in the article, but the author summed up the use of this method when he stated, “the utility of the excess earnings/formula method is definitely in doubt when the creator of the method has its own questions concerning its validity.” Despite the overall dislike of the excess earnings method, it has its use in business valuation. For professional practices and small, owner-operated businesses, information is difficult, if not impossible, to obtain, and the valuation analyst has no other choice of method. Care must be exercised in its application, however, because the end result does not always make sense. A blind application of this method without sanity checks and tests for reasonableness will frequently result in a serious misstatement of the value of the subject business.

Although there is wide acceptance of the excess earnings methodology, the mechanics of the method make it a method of last resort. First and foremost, among its many deficiencies is that unless the valuation analyst is extremely lucky, the excess earnings method will rarely reflect the market. In a fair market value valuation, there is nothing more important than the market.

Another problem with the excess earnings method is having to determine two rates of return (return on net tangibles and capitalization rate for excess earnings) instead of one. We have enough trouble supporting our capitalization rates for small businesses because of the lack of empirical data, and now, proponents of the excess earnings method have to determine a capitalization rate for excess earnings for which there is absolutely no empirical data.

As we will discuss in chapter 13, as valuation analysts we are taught to build up a capitalization rate by starting with a discount rate developed for cash flow. We add a subjective element called the specific company risk premium to reflect the added element of risk that is associated with the valuation subject as compared to other companies or with industry data that we obtain. Now we are being asked to add an additional subjective element for only the unidentifiable intangibles portion of the income stream. Where is this supposed to come from? Is this one of those “leaps of faith” that experienced valuation analysts refer to as a *common error* in many valuation reports?

Another reason to avoid the excess earnings method is that it violates the spirit of Revenue Ruling 59-60, in which the IRS has stated

In general, the appraiser will accord primary consideration to earnings when valuing stocks of companies which sell products or services to the public; conversely, in the investment or holding type of company, the appraiser may accord the greatest weight to the assets underlying the security to be valued.

It is commonly accepted in the valuation community that a business valued as a going concern will generally be appraised based on the earnings or cash flow capacity of the business. Only in limited circumstances would primary weight be afforded to an asset-based approach. The excess earnings method places a great emphasis on net asset values to determine the value of the intangibles. This is contradictory.

If a company had to be valued by separately stating the tangible and intangible assets, the excess earnings method could possibly be used in limited situations. However, the subtraction method can also be used to determine the value of the intangibles. Using this method, the company is valued in its entirety, and then the valuation analyst subtracts the value of the net tangibles to determine the value of the remainder, the intangibles.

The discussion about the capitalization method of valuing intangibles states the following:

The capitalization method supposes that the value of the business is based on its ability to generate profits.



This method is computed as follows:

1. Determine net value of tangible assets.
2. Determine a capitalization period and whether to use a straight line or weighted average.
3. Determine a capitalization rate and apply it to the average determined above.
4. If the earnings, once capitalized, are greater than the net tangible assets, the difference represents goodwill.

Because goodwill has generally been described in terms of earning capacity, one method to calculate its existence is based upon a capitalization of earnings method. One of the early attempts to arrive at the value of goodwill by capitalizing earnings was set forth by the IRS in ARM 34.

An example of the form of the computation prescribed by ARM 34 is as follows:

### Example

Welch Company, a low risk company, had net tangible assets as of the appraisal date of \$100,000. In addition, its earnings record was as follows:

Preceding Years Earnings	
1st yr. earnings	\$ 20,000
2nd yr. earnings	30,000
3rd yr. earnings	15,000
4th yr. earnings	40,000
5th yr. earnings	25,000
<b>Total</b>	<b>\$130,000</b>

Average annual earnings for 5 preceding years:

$$\frac{130,000}{5 \text{ years}} = \$26,000$$

ARM 34 uses a rate of return for low risk companies of 8 percent. In this case, the earnings attributable to tangible assets are 8 percent of the net tangible asset value:

$$\$100,000 \times .08 = \$8,000$$

The balance of earnings attributable to intangible assets is as follows:

Average earnings	\$26,000
Less earnings attributable to tangible assets	8,000
<b>Earnings attributable to intangible assets</b>	<b>\$18,000</b>

ARM 34 then recommends, for low risk companies, a capitalization rate of 15 percent. The value of the intangible assets is as follows:

Earnings attributable to intangible assets	\$ 18,000
Divided by capitalization rate	÷ .15
Equals value of intangible assets	<u>\$120,000</u>

Initially, this formula was interpreted as providing set rates of return on tangible and intangible assets. This resulted in many improper valuations because the use of arbitrary capitalization rates has no relationship to the financial marketplace at the time of valuation. *The IRS has clarified its position by stating that the appropriate average earnings period and capitalization rates are dependent upon pertinent facts of each case.*

In making the calculation, the following factors should be considered:

1. The period of past earnings should fairly represent probable future earnings. Ordinarily, this will not be less than five years.
2. Abnormal years, whether above or below average, should be eliminated.

Factors that influence the capitalization rate include the following:

- nature of the business
- risk involved
- stability or irregularity of earnings

*The formula approach may be used for determining the fair market value of intangible assets of a business only if there is not better basis [sic] available [emphasis added].* A recent Tax Court decision used the formula approach to calculate going concern value in a situation where it was determined that no goodwill existed.

The valuation guide indicates that even though the excess earnings method is discussed in Revenue Ruling 68-609

- the IRS has stated that a taxpayer may use the capitalization of excess earnings method only if there is no better basis for determining the value of intangibles;
- the Tax Court has, on occasion, rejected the taxpayer's use of the capitalization of excess earnings method for valuing intangible assets (for example, core deposit intangible in *Banc One*, 84 T.C. 506);
- The Court, in *Banc One*, criticized the basic assumptions made in the capitalization of excess earnings method, noting that the "[d]etermination of the 'normal' earnings of business, the 'average' return on the tangible assets, and the 'appropriate' capitalization rate is a highly subjective task."
- The Court even rejected the theory supporting the capitalization of excess earnings method, finding that "there is no goodwill unless there is also an expectancy of continuing excess earnings capacity," and noted also that goodwill may be present in the absence of excess earnings capacity.

To make a long story short, the promulgator of the methodology is not too thrilled with its own invention. Clearly, fair market value is supposed to come from the market. It is not to be conceived from formula methodologies that often fail to reflect the market value of a business. Because good valuation practice dictates that the valuation analyst should use multiple methods of valuation in any assignment, and there are other methods of valuation that can be used in any given assignment, we should learn from the IRS when they tell us, "The formula approach may be used for determining the fair market value of intangible assets of a business only if there is not a better basis available." Any experienced valuation analyst should understand that there is always a better basis for valuing an entire enterprise and almost always a better method for valuing only the intangibles.

By now it is probably understood that the foregoing discussion was extremely critical of the excess earnings method. I would have liked to highlight a positive side of this method, but I could not think of one. The excess earnings method should be used only if all else fails. The valuation analyst can use this method when he or she knows that he or she is going in front of a judge who will throw the report out of court if he or she does not use it. Whatever the valuation analyst does, it is not wise to use only this method. Use other methods that

may be applicable to the assignment at hand, so that a feeling of comfort can be had about the estimate of value that is determined.

Finally, with all of that being said, if you really think about this method for small closely held businesses, it may make sense. These small businesses probably do not have a lot of intangible value, which would necessitate or justify the use of an asset-based method to estimate the value. Therefore, the adjusted book value portion of the method might get close to the value of the overall enterprise. The excess earnings calculation may result in a small bump in the value for the little bit of intangible value that may exist. Therefore, in certain circumstances, this method can work. How is that for going full circle?

## Conclusion

I hope that you now understand the income approach. You should have learned various methodologies, the advantages and disadvantages of each method, various pretax or after-tax considerations, and the derivation of net cash flow from the valuation point of view. Be honest: You didn't really expect me to make it that easy for you, did you? If you thought this stuff was fun, let's go to the next chapter and discuss discount and capitalization rates. Before you do that, take your heart medication!



## Chapter 13

# Discount and Capitalization Rates

### Learning Objectives

In this chapter, I will attempt to explain the following:

- Discount and capitalization rates in general
- The use of pretax or after-tax rates
- Discount rates
- The factors that affect the selection of a discount rate
- The components of a discount rate
- The build-up method
- The capital asset pricing model (CAPM) (in English, no subtitles)
- Alternatives to the build-up method and CAPM
- Capitalization rates
- The factors that affect the selection of a capitalization rate
- The data sources for discount and capitalization rates

Pretty optimistic, huh?

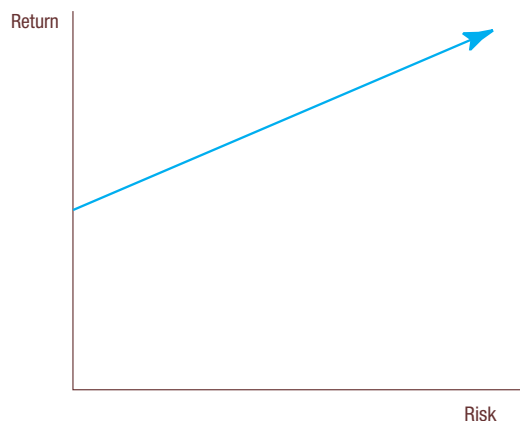
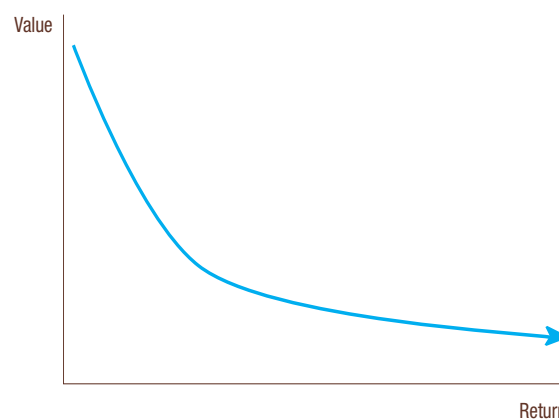
### Introduction

Here comes the good stuff! This is the chapter that you have been waiting for. If you are dangling on the edge, this is the chapter that is sure to push you over. Hold on tight because here we go! One of the most difficult tasks that the valuation analyst faces is selecting an appropriate discount or capitalization rate. For many years, I went to seminars waiting for some business valuation guru to give me the formula for developing the “right” discount rate. When I realized that no one could do it, I started teaching and writing about this stuff myself. The theory behind discount rates is quite simple. The amount of risk that is perceived by the market must generally be balanced by the rate of return that is offered for the investment in order to entice investors to take the risk of making the investment. Stated differently, if a willing buyer wants to make an investment in a closely held company, the rate of return being offered, based on the price to be paid for the investment, must be high enough to justify taking the risk. This can be illustrated by figure 13.1, “The Rate of Return Department Store.”

As one goes from the ground floor to the roof of the rate of return department store, the risk of the investment increases. When you examine the rates of return in the market, you will find that the rates of return increase in the same direction. This shows the correlation between risk and reward. There is a positive relationship between these two items. This relationship is shown in figure 13.2 on the following page. It even looks like something that you would see in a finance textbook.

**Figure 13.1 The Rate of Return Department Store**

<b>Venture Capital</b>
<b>Junk Bonds</b>
<b>Small Cap Stocks</b>
<b>Large Cap Stocks</b>
<b>AAA Corporate Bonds</b>
<b>Certificates of Deposit</b>
<b>Treasury Bonds</b>
<b>Treasury Bills</b>

**Figure 13.2 Relationship of Risk and Return****Figure 13.3 Relationship of Return and Value**

The opposite relationship exists between returns and value. These are negatively related. Greater risk means lower value. This is illustrated in figure 13.3. If practicing in the field of business valuation, always remember that what the valuation analyst is really trying to do is figure out which floor in the rate of return department store he or she needs to get off on based on the risk of the benefit stream that is going to be discounted. The valuation analyst may even choose to get off between floors. What the valuation analyst is ultimately trying to do is use the principle of substitution that was mentioned in chapter 4. No reasonable investor would accept a lower rate of return, given the risk of the investment, than they could get in another investment in the market.

As long as we are still in the introduction section, let's get another goody out of the way. Discount and capitalization rates are not the same. A discount rate is a required rate of return—a yield rate used to convert expected future receipts into present value. The rate of return represents the total rate of return expected by the market—the rate necessary to attract capital to the subject investment.

A capitalization rate is not a rate of return; it is a divisor used to convert a future return into an indication of value. The capitalization rate plus the long-term sustainable rate of growth of the selected return combine to provide the rate of return. The rate of return is market-driven. It is the rate determined to be available on alternative investments of comparable risk and with similar characteristics—an opportunity cost. And, of course, risk represents uncertainty. If there is no uncertainty, there is no risk. Therefore, risk is the degree of uncertainty associated with a given investment.

The discount and capitalization rates used will depend on what is being discounted or capitalized. Some possibilities include the following:

- Net income (after tax)
- Net income (pretax)
- Gross cash flow
- Net cash flow
- Excess earnings
- Dividends or dividend paying capacity, or both
- Earnings before income and taxes (EBIT)
- Earnings before income, taxes, depreciation, and amortization (EBITDA)

The determination of which benefit stream will be discounted or capitalized will depend on various factors, including the availability and reliability of data. This data can relate either to market information about discount or capitalization rates or to the subject company's information. The valuation analyst may have better information to work with in certain assignments and may not feel comfortable with financial information in others (cash businesses). The amount of risk associated with the valuation subject's benefit stream should be a major consideration in determining an appropriate rate. The valuation analyst also considers alternative rates of return on comparable investments available to the willing buyer. This is the principle of substitution at work.

## Discount Rates

If this were a finance book, I would probably include a rather complex explanation of discount rates. Be grateful for little things because it's not one! In simple terms, a discount rate is the required rate of return that an investor would demand—based on the risks associated with the benefit stream under consideration—to induce him or her to make the investment. What do I mean by risk? Risk is uncertainty: the greater the amount of uncertainty, the greater the amount of risk. The greater the risk, the less someone is willing to pay for something. The lower purchase price is used to provide a greater potential return to the buyer. For example, assume that ABC Company has an expected income of \$100,000 that is sustainable into the future. To keep the example simple, let's assume there is no growth anticipated. This would make the discount rate and the capitalization rate equal to each other. If the required rate of return was 20 percent, the value of ABC would be calculated as follows:

$$\$100,000 \div 20\% = \$500,000$$

If the buyer's perceived risk was greater, the buyer might offer only \$400,000 for ABC. This would provide a 25 percent rate of return to the buyer, calculated as follows:

$$\$100,000 \div \$400,000 = 25\%$$

Lowering the price provides a greater return for the buyer. However, if the risk related to an investment in ABC is not really lower, the seller would insist on a greater price for the business. A \$600,000 price would provide the buyer with a lower rate of return. In the real world, a negotiation will go forward between the buyer and the seller based on the perceived risk of the investment. The buyer will think it is very risky, and the seller will tell the buyer that there is no risk. Who would ever figure this could happen?

The discount rate represents the rate of return that an investor requires to justify his or her investment in an asset, depending on the amount of risk associated with the investment. For example, an investor may expect a 2 percent return on a certificate of deposit from a bank, a 5 percent return on a corporate bond, and a 15 percent return on junk bonds. Usually, the higher the risk, the higher the required rate of return. That is the exact nature of the rate of return department store example provided in figure 13.1. The discount rate is the basis for present value factors, which are used to discount a stream of future benefits to their present value.

On occasion, valuation analysts use other terms of art (such as *opportunity cost of capital*, *alternative cost of capital*, or *weighted average cost of capital* [WACC]) instead of the term discount rate. Regardless of what term is used, discount rates are supposed to reflect the required rate of return related to the benefit stream being discounted, given the risks associated with the benefit stream. One such risk element is the investor's ability to receive the benefit stream that is being forecast as part of the valuation. A company with a steady track record of earnings and distributions will generally be considered less risky than a company that has had a volatile past.

Discount rates are determined by the market. They will vary with time, even for the same investment. This is easily illustrated through an explanation of why the interest rates paid on 30-year Treasury bonds vary. Discount rates take into consideration the inflationary expectations of the future benefit stream being used. If constant dollar projections are made, the discount rate should not include an inflationary element. The valuation analyst must be consistent!

Discount rates take into consideration the risks in the marketplace and must also include an element that is specific to the valuation subject. These rates are based on the yields available for alternative investments. If an investor can get a 16 percent rate of return on a type of investment that is less risky than the valuation subject, why would he or she accept less than 16 percent? Logically, the investor would not. The discount rate will also depend on the nature of the future benefit stream being reduced to the present value.

## Factors That Affect the Selection of a Discount Rate

Factors that affect the selection of a discount rate are considered to be external (noncontrollable) and internal (controllable) to the valuation subject. The external factors are those over which the owners or managers of the business have no control. For example, general economic conditions and the economic outlook at the valuation date are considered to be external factors that affect the selection of the appropriate rate. The nature and economic condition of the industry within which the business operates, as well as the market served by the enterprise, are also considered to be external factors.

Market perceptions regarding similar investment opportunities is another example of an external factor that is beyond the control of the owners. The sources and availability of capital to finance operations is yet another example. These items are important to the willing buyer and should be considered by the valuation analyst.

Internal factors are those that the owner or owners of the business have some control over. The financial condition of the valuation subject is one example. The earning capacity of the company is another. This includes the level and quality of the earnings or cash flow of the company. The ability of the company to obtain the goods and services it needs to produce its products is also considered an internal factor; this is clearly within management's control. The ability to bring the products to an available market is also a burden that rests with management. The quality of the management team running the company is another factor that the valuation analyst should consider.

Another internal factor is the quality of the available data. High quality data is usually the result of a good accounting system with proper controls. The ability of management to meet its budgets, forecasts, and projections reflects on the quality of management.

Regardless of the internal or external factors, discount rates are driven by risk. In the discussion that is about to take place, I will be telling you more about discount rates. Keep one important point in mind—discount rates are derived from the market based on the risk associated with comparable types of investments. Apply all the fancy formulas or methodologies that I will discuss, and even others, but the bottom line is that the result has to make sense. If the analyst is a finance nerd, he or she may choose to use some extravagant formulas from a finance textbook to properly calculate the discount rate but end up with the wrong answer. The valuation analyst should not try to impress the client, the attorney, or the judge with his or her ability to develop discount rates. It's the value that counts!

## Components of a Discount Rate

There are many different ways to derive a discount rate. In this book, I will attempt to address several of them, but you must recognize that these are not all inclusive. The most common methods used to develop discount rates include the following basic components: (1) the risk-free rate of return, (2) the equity risk premium (ERP), (3) the size premium, and (4) the company-specific risk premium. Sometimes, the size premium is considered to be part of the company-specific risk premium. Another component that is sometime shown separately is an industry risk premium (IRP). The use of a premium is often seen when a build-up method (soon to be discussed) is used. An example of the components of a discount rate is provided in table 13.1.

**TABLE 13.1 Components of a Discount Rate**

Risk-free rate	5.0%
ERP	7.0%
Size premium	6.0%
Company-specific risk premium	3.0%
<b>Discount rate</b>	<b>21.0%</b>

Each of these components will be discussed. It is important to recognize the concepts that are being discussed and not get caught up on plugging numbers into a formula. Each of the following components will be used to build up to the required rate of return that is applicable for the benefit stream that is going to be discounted to present value.



## Risk-Free Rate of Return

The risk-free rate of return is sometimes known as the *safe rate* or the *cost of money*. In theory, this is the minimum return that an investor would accept for an investment that is virtually risk free. It is the pure cost of money plus the rate of inflation anticipated by those who deal in these types of transactions. What this really represents is the minimum rate of return that an investor should accept because he or she can earn this amount with reasonable safety instead of risking an investment in a closely held company.

The risk-free rate and the ERP are interrelated concepts. All ERP estimates are, by definition, developed in relation to the risk-free rate. The first step in developing a discount rate is to estimate a benchmark rate of return on equity capital; that is, a risk-free rate plus ERP. The practice developed to separate the expected return on equity capital into two inputs because data was typically used from prior periods to estimate the ERP. That data was derived from observed returns on stocks during differing periods of inflation. The practice developed to subtract the then current risk-free rate from the observed returns on stocks to adjust for the different inflationary environments over time. This historic ERP data became the basis for estimating a current discount rate by adding the current risk-free rate. The risk-free rate plus ERP estimate, in theory, serves as the basis for a benchmark rate of return on equity capital, given the current inflation environment embedded in the risk-free rate. Thus, the ERP is the extra return investors expect as compensation for assuming the additional risk associated with an investment in a diversified portfolio of common stocks, compared to the return they would expect from an investment in risk-free securities as of the valuation date where the risk-free securities serve as the mechanism to adjust for the current inflation expectations.

Sources of risk free rates of return include U.S. Treasury securities. The theory is that U.S. Treasury securities are about as close as we can get to an investment that is risk free. Obviously, there is no such thing as a risk-free security, but the chance of a default by the U.S. government has historically been pretty slim. If our government defaults, we are in more trouble than just understanding business valuation theory!

The alternatives available in Treasury securities are short-term, intermediate term, and long-term securities. The longer term bonds are considered to have an inflationary risk built into them, which explains why long-term bonds pay a higher rate of interest than short-term investments. So, in a perfect world, we might want to use short-term Treasury bills for a risk-free security. However, as I have stated numerous times throughout this book already, this is not a perfect world. The problem with using short-term Treasury bills is that over the long term, the rate of return that an investor would get is unknown because of the constantly changing interest rates. Therefore, we tend not to use short-term bills as the proxy for the risk-free rate in a business valuation assignment.

More often than not, long-term rates are used to simulate the long-term holding period of a closely held business. The 20-year bond (actually, it is a composite rate for bonds that have 20 years until maturity) is frequently used, although the 30-year bond has been used as well. Although the difference between the 20- and 30-year bond yields has been pretty small, the 20-year bond yield is most often used. The 20-year bond has become popular among valuation analysts because of the fact that many valuation analysts have used the ERP data published by Duff & Phelps (D&P) (published by Morningstar/Ibbotson Associates before 2014), and these are based on 20-year bonds. I will explain more about this in a little while.

Other sources of risk-free rates can be used as well, although few can give the true feeling of being risk free. Assuming that our government is risk free is as much of a leap of faith as I am generally willing to take. Some valuation analysts believe that they can use high quality corporate bonds as a risk-free rate, but they are usually not considered to be as good as Treasury bonds.

Intermediate term rates (from 1–10 years) are sometimes used when the expected holding period of the investment is short. Treasury notes can be used in this instance. Others prefer short-term rates (1 year or less), such as those on U.S. Treasury bills. These are considered to be the safest of the investments because the nature of a short-term vehicle is that it is less affected by inflationary expectations and the risk associated with the investment. However, short-term rates tend to have a greater degree of volatility than long-term investments. If more of an explanation is required about this stuff, read a finance textbook. It is guaranteed to put

anyone to sleep at night (unless, of course, one has a finance background)! Another application in which the valuation analyst may determine a discount rate using an intermediate term rate is when calculating the present value of lost profits in an economic damage analysis. This will be discussed more in chapter 26.

The selection of a long-term, intermediate term, or short-term rate will depend on the investment horizon implicit in the asset being valued. Closely held businesses are generally purchased with the intent of a longer holding period and should involve longer term rates in deriving the discount rate. On the other hand, a contract right with a life of three years must be properly matched with the proper risk-free rate.

Fluctuations in U.S. treasury rates have caused valuation analysts to rethink the manner in which risk-free rates should be assessed in recent years. The general thought process is that the recent lower rates are an aberration; therefore, the valuation analyst should deviate from the conventional theory and use something other than the yield on Treasury securities. Since the financial crisis of 2008, the market saw a broad movement of capital from riskier equity and debt investments to higher quality U.S. Treasury securities. The so-called “Great Recession” and subsequent period of weak recovery were marked with high volatility in the stock market, a very high level of uncertainty regarding future economic growth, and a low interest rate environment. As investors flocked to U.S. Treasury securities, yields on these securities declined significantly. A decline in Treasury yields would result in a lower discount rate, right? Wrong. A lower discount rate equates to a lower level of perceived risk associated with an investment and, thus, a higher value. Intuitively, given the high risk associated with equity investments at the time, discount rates should have increased!

Many valuation analysts argue that the risk-free rate should be adjusted to a more “normal” yield, whereas others argue that the proper adjustment for increased risk outside of each component of the build up is in the company-specific risk premium. Just remember that by building up to an equity discount rate, we are not attempting to measure each separate component on a stand-alone basis. Ultimately, it is the aggregate cost of equity capital that needs to be right and make sense.

With that being said, there are certain individuals who believe that the adjustment for the increased risk during periods of abnormal risk-free rates should be an adjustment to the ERP, not the company-specific risk premium.

The feeling is that this risk affects all stocks. The valuation analyst must decide how he or she wants to deal with this issue. There is no single way that the valuation profession deals with it.

Personally, because I perform most of my valuation work in a litigation context, I am a fan of using the rates that are published by credible sources that use the more traditional methodologies, rather than changing the rates to an unsupported rate that could have my opinion challenged in court. However, the much lower rates require me to make an adjustment somewhere in my rate.

## Equity Risk Premium

The equity risk premium (ERP) is the rate of return investors receive as compensation for the risk of common stocks *in excess of* the rate of return received on the risk-free security. The general formula for the ERP is as follows:

$$ERP = E(R_m) - R_f$$

Where

$$\begin{aligned} R_m &= \text{Return on the stock market} \\ E(R_m) &= \text{Expected return on the stock market} \\ R_f &= \text{Risk-free rate of return} \end{aligned}$$

The ERP is supposed to be forward-looking. However, the most commonly used methods to determine the ERP rely on historical data. Using historical data, as compared to forecasted data, has certain advantages and disadvantages. This is also true about forecasted data. Some of the more obvious advantages and disadvantages of each are included in box 13.1.

**BOX 13.1****Advantages and Disadvantages of Historical and Forecasted Data****Historical Data:**

- *Advantage:* The data is objective and easy to find.
- *Disadvantage:* The past may not reflect the future. Different measurement periods produce significantly different results. Research suggests that what actually happened in the past differed from the expectations at the starting point.

**Forecasted Data:**

- *Advantage:* Theoretically, this is closer to what we are actually trying to determine, investment expectations as of a particular point in time.
- *Disadvantage:* Forecasts are clearly more subjective. Different forecasters and different models produce a wide range for the ERP.

The ERP takes into consideration market perceptions and the expectations of a broad measure of the market. For example, if the valuation subject's industry is returning 17 percent on equity, an investor in the subject company would expect to receive the same 17 percent, all other factors being equal. After all, why would someone be willing to accept less than what they could get from an equally desirable substitute? We have already discussed this point, so let's keep going.

Valuation analysts have been attempting to develop alternative ways to determine the ERP. Some methods look at the entire market, but others look at only segments of the market. Standard & Poor's (S&P's) industry studies include indexes that show how different industries have performed. These and other studies are being used to differentiate between returns on equity, which are calculated based on the book value of companies (primarily tangible assets), and hypothetical returns, as if the intangible values of the companies were included in the calculation. Direct market comparison methods are used to suggest that other investments in the marketplace may provide an indication of the risk associated with a closely held business. Some valuation analysts believe that comparing low quality bonds with stocks may better equate to the risk of a closely held stock.

The ERP for corporate equity securities can be obtained from various sources. D&P publishes several estimates of ERP in the annual *Valuation Handbook—U.S. Guide to Cost of Capital*.<sup>1</sup> Before 2014, a commonly referenced source was the *Stock, Bonds, Bills and Inflation (SBBI®) Annual Yearbook, Valuation Edition* (Morningstar/Ibbotson). The *Valuation Handbook—U.S. Guide to Cost of Capital* continues and expands on the data series formerly published in the *SBBI® Valuation Edition*, replicating that methodology. D&P will continue providing ERP data in 2018 and in future years.

The *Valuation Handbook* includes two sets of data: the data previously published in SBBI, which consists of investment returns for several types of financial assets since 1926, as well as the data formerly available in the *D&P Risk Premium Report*. To try to make this less confusing, I will primarily be discussing the *Valuation Handbook* and not SBBI. Keep in mind that the *Valuation Handbook* is a continuation of SBBI, with some differences that I will address. The *Valuation Handbook* also incorporates the *Risk Premium Report*, and I will discuss this further, as well. If you feel the need to learn about SBBI, read an older edition of my book. Business valuation analysts are generally interested in the information relating to risk-free returns, market equity returns, small company stock premiums, and the calculated differentials among them. The *Valuation Handbook* provides this data for the valuation profession.

It is worth noting that Morningstar continues to publish its *Ibbotson SBBI Classic Yearbook* (SBBI Classic), which contains much of the same rate-of-return data that the valuation edition provided. However, SBBI Classic is geared towards a much broader range of professionals, including institutional investors, financial planners, portfolio managers, economists, and corporate executives. It provides an in-depth analysis of how Morningstar calculates the ERP and provides some good insight into economic and market trends that have

<sup>1</sup> Duff & Phelps, *Valuation Handbook—U.S. Guide to Cost of Capital*. As we were going to press with this edition of the textbook, I was informed that this publication and a computerized calculator, soon to be discussed, will be changing the manner in which this data will be delivered beginning in 2018.

affected market rates of return over time. Although I will focus primarily on the *Valuation Handbook* in this chapter, SBBI Classic is certainly worth reading.

The *Valuation Handbook* contains a comprehensive compilation of data relating to the ERP. The historical, or unconditional, ERP is measured as the arithmetic mean of the total historical return on stocks less the arithmetic mean of the income only return on long-term government bonds. So, what does this mean? One of the differences between the *Valuation Handbook* and SBBI is that the *Valuation Handbook* presents this data from 1926, as SBBI did, as well as from 1963. For example, the 2016 edition of the *Valuation Handbook* measures the returns through the end of 2015. So, in this case, the average returns will be calculated for a 90-year and a 53-year period, respectively.

The *Valuation Handbook* uses the S&P 500 as a basis for the return on the entire market. The general feeling is that these large cap stocks make up the bulk of the market and serve as a good proxy for the overall market. Historically, these returns have been about 11.5 percent. However, the S&P 500 is not the only basis for this return. Morningstar provides alternative measures of the ERP in SBBI Classic using the Total Value Weighted NYSE and the NYSE Deciles 1-2 as alternatives for the S&P 500. To put this into perspective, the 2014 edition of SBBI Classic reflects long horizon ERPs of approximately 7.0 percent, 6.8 percent, and 6.2 percent, depending on which index is used. The S&P 500 provides the highest. The income returns from long-term Treasury bonds for the same 88-year period have been about 5.1 percent. Therefore, the calculation of the ERP would be  $12.1\% - 5.1\% = 7.0\%$ . This is another reason for possibly purchasing the SBBI Classic in addition to the *Valuation Handbook*.

Although the historical data was once considered to be the greatest source of information on the ERP, it has also been the target of criticism. First, the ERP has come under attack as being too high. I do not plan to go into the various articles that have been written on this subject, but the valuation analyst needs to be aware of the controversy. Even Roger Ibbotson, the founder of Ibbotson Associates (past publisher of SBBI) has written articles stating that the historical ERP data is overstated. Imagine that, Ibbotson criticizing Ibbotson data! Ibbotson wrote an article<sup>2</sup> with Peng Chen in which the authors applied a new methodology that divided the returns into various economic components, including inflation, earnings, dividends, price-to-earnings ratios, dividend pay-out rates, book value, return on equity, and per capita gross domestic product. What they determined is that a portion of the historical returns on the stocks was attributable to price-to-earnings ratios, which was unlikely to recur in the future. This is referred to as the *supply side ERP*. To make a long story short, the most recent calculation of the supply side ERP is 6.03 percent, compared to 6.90 percent, based on the historical ERP. These rates cover the period 1926–2015.<sup>3</sup>

Okay, so what does this mean to us? Not much! So, let's get this stuff straight. Ibbotson woke up one morning, coauthored an article, and decided that the ERP was overstated. Therefore, the discount rate would be lower because the valuation analyst lowered one of the component parts of it. As a result, the value of businesses just went up. I don't think so. With all of the academics dancing around the issue that the ERP is overstated on a historical basis, the rates of return in the market for a particular investment have not changed. Earlier, I told you to stay focused on what we are really trying to achieve. The principle of substitution and alternative rates of return for similar types of investments are what we are trying to get to. Did that hardware store's value change because the academics have decided that the ERP should be lower? No. Something else would have had to go up to offset this component of the discount rate.

In addition to the supply side ERP reflecting a lower ERP, other controversies have also arisen about this component of the discount rate. Several individuals have questioned whether the use of a geometric mean instead of the arithmetic mean would be more appropriate in determining the ERP. The arithmetic mean tends to be higher than the geometric mean. The *Valuation Handbook* uses the arithmetic mean for calculating the unconditional ERP. Some folks think that this is significant, but I keep going back to the question of what the required rate of return is, given alternatives in the market. Again, who cares?

2 "Long Run Stock Returns, Participating in the Real Economy," *Financial Analysts Journal* (January/February 2003): 88–98.

3 *Valuation Handbook—U.S. Guide to Cost of Capital*, Chicago, 2016.

Another debate is which time period should be used to best measure the ERP. Following the SBBI calculation, the *Valuation Handbook* data begins at 1926, and every year the average returns have been recalculated by adding another year of data. So, the 2016 *Valuation Handbook* contains returns from 1926–2015. Ironically, using shorter or longer time periods results in lower ERPs than the current premium based on 90 years. The range is about 5 percent to 6 percent, rather than approximately 7 percent. Numerous articles support this range. Therefore, many analysts are using the lower range in their valuations. The *Valuation Handbook* uses the 90-year range because the highest quality data is available from the Center of Research in Security Prices (CRSP) at the University of Chicago beginning in 1926.

D&P points out another consideration with respect to the historical time period. Interest rates in the 1940s and the years following World War II may have been abnormally high due to manipulation by the Federal Reserve. From 1942–1951, the U.S. Treasury decreased interest rates to reduce the government's borrowing rates. As expected, the decreased interest rates inflated the realized ERPs during this time period. D&P calculates the average long-term ERP from 1926–2015 (excluding the impact of the ERP from 1942–1951) to be 5.84 percent, rather than 6.96 percent for all years. D&P recommends considering the impact of these years on the ERP.

As if all of this wasn't enough to think about, D&P also provides what they call a "conditional" ERP, which takes into consideration current market conditions and is intended to be a forward-looking rate of return on equity. The *Valuation Handbook* describes these conditions as follows:

[...] both the risk of investments as viewed through the collective eyes of the marginal investors (those investors moving money into and out of investments at a particular date; i.e., those investors setting prices) and the collective risk aversion as viewed through those same marginal investors. For example, the ERP should be greater when uncertainty is greater and smaller when uncertainty is smaller.<sup>4</sup>

Without going into specifics, D&P starts with the historical ERP and adjusts for current economic and market conditions, among other quantitative indicators to estimate the conditional ERP. Because a forward-looking ERP is based on subjective assumptions and adjustments, additional models are considered to corroborate D&P's conclusions. As of the writing of this book, D&P recommended a conditional ERP of 5.5 percent. If you want to read more about how the conditional ERP is estimated, you can refer to the 5th edition of *Cost of Capital* written by Shannon Pratt and Roger Grabowski.

Whatever the valuation analyst ultimately chooses as the ERP in his or her valuations, it needs to make sense. Remember that valuation is a forward-looking process and that this concept does not exclude the cost of capital. The use of historical rates of return essentially assumes that history will repeat itself in the future. Clearly, this is not always the case, so it is helpful to consider more than one approach to determining the cost of capital.

One more very important point should be added here. The ERP does not represent a minority or control position. I continue to see valuation reports that state because the rates of return come from the public market, the results are on a minority basis. This has been a consistent error by those uninitiated in the field of business valuation. If you think back to chapter 9, I said that the market multiples used in the guideline public company method do not determine if the solution is control or minority. Rather, it is the normalized benefit stream that determines if the result is control or minority. The same market is being used for multiples and discount rates. Therefore, if the multiples do not represent minority positions, how can the discount rates? According to D&P:

Some valuation analysts argue that the income approach always produces a publicly-traded minority basis of value because the capital asset pricing model (CAPM) and the build up method develop discount and capitalization rates from minority transaction data in the public markets. This is not correct. The discount and capitalization rates as developed in this book do not include an

.....  
<sup>4</sup> *Ibid*, 3-33.

implied “minority interest” discount in them. There is little or no difference in the rate of return that most investors require for investing in a public, freely tradable minority interest versus a controlling interest.

The Delaware Court of Chancery recognizes that discount rates derived from public company data should not be adjusted for an implied minority discount. The Court of Chancery first rejected this adjustment in 1991 and, except for one anomalous exception, it has continued to reject adding a control premium to valuations where the valuation experts used the discounted cash flow method, a form of the income approach.

Before we go too much farther, you may also be interested in reading the court decision in *Global GT LP and Global GT LTD v. Golden Telecom, Inc.* (Del. Court of Chancery, April 23, 2010). In this dissenting shareholder litigation, Golden’s expert selected 7.1 percent, the long-term historical ERP from Morningstar’s 2008 edition of SBBI, which was based on the historical difference between the average annual return of the S&P 500 index (stocks) and the average annual income return of long-term U.S. government bonds (the risk-free rate) over the selected time period (in this case 1926–2007). The petitioners’ expert, on the other hand, selected an ERP of 6.0 percent “... based on his teaching experience, the relevant academic and empirical literature, and the ‘supply side’ ERP reported in the 2008 Ibbotson Yearbook.” Although this case discussed the use of SBBI, the same issues exist when using the *Valuation Handbook*.

The Court rejected the use of the historical ERP of 7.1 percent and, instead, chose the lower estimate of 6 percent. It cited the “... wealth of recent academic and professional writings that supports a lower ERP estimate...” that were put forth in the hearing. The Court went on to say that the “...relevant professional community has mined additional data and pondered the reliability of past practice and come, by a healthy weight of reasoned opinion, to believe that a different practice should become the norm...”

The Court continued:

... to cling to the Ibbotson Historic ERP blindly gives undue weight to Ibbotson’s use of a single data set. 1926 might have been a special year because, for example, that was the year when Marilyn Monroe was born, but it has no magic as a starting point for estimating long-term equity returns....

So, we now know that the ERP and, therefore, the discount rates, are neutral with respect to minority or control. Okay, enough of this techno-premium babble. It is killing me. The value of the local hardware store has still not changed because of the ERP, so let’s move on to other exciting stuff.

## Size Premium

In addition to the overall ERP, a type of premium that is generally considered by the valuation analyst is the size premium (also sometimes referred to as the small company risk premium). This is frequently considered to be part of company-specific risk but is very often separately stated. The *Valuation Handbook* provides information about returns for small company stocks and provides two methods to determine the size premium. First, it replicates the method formerly published in SBBI based on the market capitalization of the equity of public companies using the CRSP data. The second method is based on D&P’s *Risk Premium Report* (formerly a separate publication), which considers the market values of equity and invested capital, book value of assets and equity, number of employees, sales, net income, and EBITDA. We will address the *Risk Premium Report* in a little while.

The *Valuation Handbook* indicates that the returns for smaller companies have been greater than those of the larger companies. This means that an investor who makes an investment in a smaller company should look for a higher return based on this market data. Size may have something to do with it. Obviously, there are many other factors that cause smaller companies to be at greater risk than larger companies.

The *Valuation Handbook* breaks up the reported data into 10 deciles based on the market value of equity. The 9th and 10th deciles are used to measure the small companies in the market. The total market capitalization of public companies in these deciles through December 31, 2015, was \$256,235,720,000. With 1,290 companies included in this group, the average company market capitalization is \$198,632,342. Clearly, these companies are still much larger than many of the companies that we value on a routine basis.

In 2001, SBBI divided the 10th decile into a 10a and 10b category. Some valuation analysts prefer to use the 10th decile, whereas others have tried to use the 10b portion. In many informal polls (in which people such as Jim Hitchner or myself were giving speeches and asked a question of the audience—very informal and, as you should now know, not statistically valid), the vast majority of practitioners seem to agree that using the 10b data is not very good. These companies seem to be very volatile, and the returns may reflect many things besides size. The data does not exclude rate-of-return data for companies that are speculative or distressed.<sup>5</sup> These types of companies would certainly reflect premiums as part of their returns to account for risks other than size.

In the 2010 edition of SBBI, the 10a category was further subdivided into 10w and 10x and the 10b category into 10y and 10z. This is starting to become alphabet soup! According to SBBI, 10w, 10x, 10y, and 10z exhibit the same trends that the deciles 1–10 and 10a and 10b categories show: that size premiums increase as companies become smaller. However, the same issue that arises with the 10b size grouping also applies to the 10y and 10z categories. The *Valuation Handbook* identifies several of these issues:

- The betas used for calculating the size premium for subdecile 10y and subdecile 10z generally *understate* the beta and, therefore, *overstate* the size premium.
- Subdeciles 10y and 10z are populated by many large (measured by total assets) but highly leveraged companies with small market capitalizations that probably do not match the characteristics of financially healthy but small companies.
- There are companies with no sales included in the data (for example, speculative startups).
- Stocks of troubled companies included in the data (companies with negative returns on the latest fiscal-year book value) probably are trading like call options (unlimited upside, limited downside).<sup>6</sup>

Clearly, there are issues that exist with the 10b, 10y, and 10z size categories. When you consider the fact that many analysts do not rely on the 10b size premium, the valuation analyst should be extremely cautious about using the 10y and 10z data. D&P recommends that analysts ensure that the companies within the subdeciles are comparable to the subject company. D&P explains that the size premium measures *systematic* risk priced by the market. By developing a discount rate using the size premium, we assume that the subject company has the same systematic risk as the broad portfolio of small companies in the public market. (I have not explained systematic risk yet, so let's keep it simple at this point and say that it is the volatility of the company's stock in relationship to movements in the stock market overall.) This is highly unlikely because a particular company's industry alone may make that company more or less risky than the broad composite of small companies.

Another factor that could cause the return data for the small public companies to be skewed is a low trading volume. Remember a long time ago when you read Revenue Ruling 59-60 and the eighth factor had to do with using the market price of stocks that were actively traded? Thinly traded stocks may not provide good data for measuring stock market returns either.

One word of caution: If the valuation analyst uses the various deciles for calculating a size premium, he or she must make sure to read the materials in the book. The valuation analyst needs to make sure that he or she understands what data should be used. The *Valuation Handbook* provides size premiums that are beta-adjusted. D&P describes this as follows:

A “beta-adjusted” size premia has been adjusted to remove the portion of excess return that is attributable to beta, leaving only the size effect's contribution to excess return. The size premia in both studies are calculated in essentially the same way – as the difference in historical portfolio excess returns (i.e., what actually happened), and the excess returns that CAPM would have predicted. Excess returns are defined here as portfolio returns over and above the risk-free asset's returns.<sup>7</sup>

<sup>5</sup> Pratt and Grabowski, *Cost of Capital*, 5th Ed., Wiley, 2014: 337.

<sup>6</sup> *Valuation Handbook—U.S. Guide to Cost of Capital*, 2016: 44–15.

<sup>7</sup> *Ibid.*, 7–8.

This means that D&P has made an adjustment to the size premium to isolate the premium associated with size. The *Valuation Handbook* uses three beta-adjustments: ordinary least squares (OLS) regression, sum, and annual beta. The results are different depending on which data are used. D&P states the following:

First, we calculated sum betas. Smaller companies generally trade more infrequently and exhibit more of a lagged price reaction (relative to the market) than do larger companies. One of the ways of capturing this lag movement is called “sum” beta. Sum betas are designed to compensate for the more infrequent trading of smaller company stocks.

Second, we calculated betas based on annual return data (rather than monthly data).

Both of these methods appear to correct for the low beta estimates of smaller companies. The sum beta estimates are greater for smaller companies than OLS betas, which are derived using non-lagged market benchmark data. The annual betas are also greater for smaller companies than the betas derived using monthly return data. The net result of the *greater* sum betas (or greater annual betas) is *smaller* size premia.<sup>8</sup>

So, what does all this mean? I wish I knew! This is much more complicated than when I wrote the first edition of this book. In short, it means that the type of beta used to derive the size premium needs to be appropriate for the subject company and the methodology used by the valuation analyst. Whichever is chosen, the beta used with CAPM needs to be consistent with the size premium used in the build-up method. Be patient, and we will discuss CAPM and the build-up methods shortly. Hopefully, it will start to make a little more sense then.

You should also be aware that the selection of the size premium has been criticized in the courts. In *Re Sunbelt Beverage Corp.* (shareholder litigation decided in the Court of Chancery of the State of Delaware) in January 2010, two experts utilized the SBBI data to develop discount rates. The plaintiff’s expert elected to use the micro-cap (combined 9th and 10th deciles) category size premium, whereas the defendant’s expert used the 10th decile data. In this case, the selection of the size premiums resulted in differing values that placed Sunbelt Beverage Corporation within either the micro-cap grouping or the 10th decile. The court identified this circularity with the following statement:

...a discounted cash flow analysis both *values* the size of a company (and thus points to the appropriate Ibbotson premium to use) and *relies* on the appropriate Ibbotson premium to determine the value of the company. This process is circular; which should come first, the valuation of the company or the selection of the Ibbotson risk premium?<sup>9</sup>

The court continued

There must be some independent basis of value used for determining the propriety of applying a risk premium from the Ibbotson table, particularly when, as appears to be the situation here, the company’s valuation may actually place the company close to the line between deciles.<sup>10</sup>

This judge really got it. This was the first time that I saw a judge recognize the circular logic behind what we do. Although the defendant’s expert’s use of the 10th decile was selected through an independent determination of value (a transaction-based approach), the court had “several concerns about the methodology and factual information underlying the comparables analysis” and determined that the micro-cap grouping was more appropriate. The micro-cap grouping accounts for the fact that the company’s determined market value may place it within the 9th or 10th decile.

What does this tell us? Well, it tells us that when we select a size premium, we need to be able to support our conclusions. If the valuation analyst is able to determine market value through a market-based approach and have good guideline companies or transactions, he or she can likely use that value to assist in the selection of a size premium. However, the valuation analyst always needs to be prepared to defend the methods used.

8 *Ibid.*, 4–9.

9 Del. Ch. Consol C.A. No. 16089-CC, January 5, 2010: 29.

10 *Ibid.*, 30.



**Author's Note**

Although this case discussed SBBI, the concept applies to the deciles and portfolio groupings (in the *Risk Premium Report*) provided in the *Valuation Handbook*. Pay attention to the fact that the selection of the size premium may be circular because it could have a material impact on the valuation conclusions.

With all the discussion about the individual components of the discount rate, don't lose sight of what we are trying to accomplish. We are trying to determine the overall discount rate applicable to the subject company, not the individual components of a discount rate. The valuation analyst should not spend an exorbitant amount of time making sure that the components of a discount rate are defensible just to discover that the overall discount rate does not make sense. When we develop discount rates, we try to use as many alternate methodologies as possible to confirm that the overall discount rate is reasonable (we will discuss other methods to determine a discount rate in this chapter). At the end of the day, if the discount rate makes sense and the assumptions behind each

component tie together, the valuation analyst is probably on the right track. However, if the components are wrong but the discount rate is correct, the analyst got lucky.

## D&P Risk Premium Calculator—CRSP Deciles Data

**Author's Note**

Although I have referred to this tool as the D&P Risk Premium Calculator, the name of this product has actually changed to the Risk Premium Toolkit. However, this may be confusing if you already subscribe to the current Toolkit. Be aware that the name of the Risk Premium Calculator is now the Risk Premium Toolkit.

In 2014, D&P created a new Internet-based risk premium calculator that uses the CRSP decile data contained within the *Valuation Handbook*<sup>11</sup> and previously used by SBBI. This tool is available through Business Valuation Resources (surprise, surprise!) and essentially fills in the data needed for a traditional build-up method. It is simple to use and can be accessed at [www.bvmarketdata.com/DP.RPC.CRSP/](http://www.bvmarketdata.com/DP.RPC.CRSP/) by subscription. Let's walk through this calculator. The initial input screen is shown in figure 13.4.

**Figure 13.4**

**DUFF & PHELPS** | **Risk Premium Calculator**

For more information, please review the [Duff & Phelps CRSP Deciles Size Premia Study Calculator™ User Guide](#).

Subject Company:

Valuation Date:

Choose the Study year you would like to use for your calculations.


CRSP Decile Size Study:

(Source: Duff & Phelps Risk Premium Calculator.)

This screen is simple because all that is needed is the company name and valuation date. If a valuation date earlier than January 1, 2014, is entered, the calculator will not function. Instead, the appropriate edition of SBBI should be used. We filled in our information and pressed “next” to arrive at the screen shown in figure 13.5.

<sup>11</sup> Duff & Phelps has been providing U.S. cost of capital data through the data exhibits published in the *Valuation Handbook—U.S. Guide to Cost of Capital* and through the Risk Premium Toolkit (formerly the Risk Premium Calculator) since 2014 (data through year-end 2013). Duff & Phelps is planning on changing the way it distributes data beginning in 2018.

Figure 13.5



## Risk Premium Calculator

---

Subject Company: Nursing Home  
Valuation Date: 1/1/2014

Type of Equity Risk Premium: ERP (RP<sub>M</sub>):

Long-term Historical ERP 6.96%

Risk Free Rate (R<sub>f</sub>):

Beta (β):

Industry SIC Code:

Full-Information Beta:

Industry Risk Premia (RP<sub>I</sub>):

Select the appropriate Decile for the Size Premium:

CRSP Decile	Market Capitalization of Smallest Company (in \$millions)	Market Capitalization of Largest Company (in \$millions)	Size Premium (RP <sub>S</sub> )
<input type="checkbox"/> Mid-Cap (Decile 3-5)	2,432.888	9,196.480	1.11%
<input type="checkbox"/> Low-Cap (Decile 6-8)	636.747	2,431.229	1.98%
<input type="checkbox"/> Micro-Cap (Decile 9-10)	2.395	632.770	3.87%
<b>Breakdown of CRSP Decile 1 - 10</b>			
<input type="checkbox"/> Decile 1-Largest	21,753.411	428,699.798	-0.37%
<input type="checkbox"/> Decile 2	9,196.656	21,739.006	0.75%
<input type="checkbox"/> Decile 3	5,572.648	9,196.480	0.86%
<input type="checkbox"/> Decile 4	3,581.547	5,569.840	1.16%
<input type="checkbox"/> Decile 5	2,432.888	3,573.079	1.75%
<input type="checkbox"/> Decile 6	1,626.386	2,431.229	1.86%
<input type="checkbox"/> Decile 7	1,056.204	1,621.792	1.94%
<input type="checkbox"/> Decile 8	636.747	1,055.320	2.36%
<input type="checkbox"/> Decile 9	339.987	632.770	2.81%
<input checked="" type="checkbox"/> Decile 10-Smallest	2.395	338.829	5.99%

(Source: Duff & Phelps Risk Premium Calculator.)

Near the top, we can select the type of ERP. Although we have selected the long-term historical ERP for this example, you can also choose from the supply-side ERP, D&P's recommended ERP, or input your own. Next, input the risk-free rate, beta (if you have one), and select the pertinent industry. The IRP will automatically be pulled into the calculator from the *Valuation Handbook* and calculated. We will discuss industry risk as a separate section in this chapter. The second portion of the screen involves selecting the appropriate size decile based on the market value of equity. In this case, the subject company is very small, so we selected the 10th decile. We click "next" and see a confirmation screen. At this point, the valuation analyst should check his or her inputs and make any necessary changes. Then, click "next" and the calculator will provide you with the results, as shown in figure 13.6.

Figure 13.6

**DUFF & PHELPS** | Risk Premium Calculator

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**Cost of Equity Capital Estimates – Summary of Results**

General Inputs: Values as of the January 1, 2014 valuation date.

Subject Company:	Valuation Date:	Equity Risk Premium (Rpm):	Risk-free Rate (RF):	Beta <sup>1</sup> (β):	Source of risk premia information in this report: <sup>2</sup>
Nursing Home	January 1, 2014	6.96%	4.00%	NA	2014 Valuation Handbook - Guide to Cost of Capital

Industry Risk Premium (RPI) Calculations:<sup>3</sup>

Selected SIC Code:	SIC Short Name:	Full Information Beta (FIB):	Industry Risk Premium (RPI):	RPI Calibration RPI = (FIB x Rpm) - Rpm
8051	Skilled Nursing Care Facilities	1.87	6.06%	6.06% = (1.87 x 6.96%) - 6.96%

Size Premium (RPs):

Selected CRSP Decile:	Market Capitalization of Smallest Company (in millions)	Market Capitalization of Largest Company (in millions)	Size Premium (RPs):
Decile 10-Smallest	\$2.395	\$338.829	5.99%

Summary of Cost of Equity (COE) Estimates:

COE subject company	Buildup COE Estimate	CAPM COE Estimate
Nursing Home	23.0%	Not Calculated

<sup>1</sup> NA = Value not entered by USER.  
<sup>2</sup> If Beta not entered, COE estimates using CAPM, which uses a Beta as an input, cannot be calculated.  
<sup>3</sup> If SIC Code not entered, COE estimates using Buildup, which uses an industry risk premium as an input, cannot be calculated.

(Source: Duff &amp; Phelps Risk Premium Calculator.)

The calculator provides the option to download the results into a Microsoft Excel or Word document or receive the results in an email.

In this instance, the CRSP calculator estimated the cost of equity at 23.0 percent. Notice in figure 13.6 that the IRP is calculated based on the ERP that was selected.

### D&P Risk Premium Report

As was previously mentioned, the *Valuation Handbook* contains another study: the *D&P Risk Premium Report*, which was previously a separate publication issued by D&P and has gained in popularity. This study has also been called the Grabowski- King Study (named after the original authors), the Pricewaterhouse Coopers (PWC) Study (because Grabowski and King worked for PWC), and the S&P Study. The *D&P Risk Premium Report* expands the ERP analysis into more subsets of the market.

This study has been a terrific addition to the cost of capital data used by valuation analysts. A comparison between the *Valuation Handbook* and the *Risk Premium Report* is contained in box 13.2.

**BOX 13.2****Comparison of the Valuation Handbook and *Risk Premium Report*****Valuation Handbook**

Addresses returns on investments in publicly traded securities based on size.

Segments NYSE securities<sup>1</sup> into deciles based on equity capitalization.

Analyzes arithmetic returns, betas, and real returns in excess of risk-free rate.

**Risk Premium Report**

Addresses returns on investments in publicly traded securities based on size.

25 size groups.

D&P utilizes NYSE, AMEX, and NASDAQ data<sup>2</sup> starting in 1963.

“High financial risk” securities analyzed in a separate portfolio.

Seven size metrics in addition to equity capitalization.

1 NYSE Companies back to 1926 excluding closed-end mutual funds, American Depository Notes, unit investment trusts, and Americus Trusts.

2 Excludes American Depository Notes and non-operating holding companies.

According to the *Risk Premium Report*, *high financial risk* has been defined as companies that

- are in bankruptcy or liquidation,
- have five-year average net income of less than zero,
- have five-year average operating income of less than zero,
- have negative book value of equity, or
- have debt to total capital greater than 80 percent.

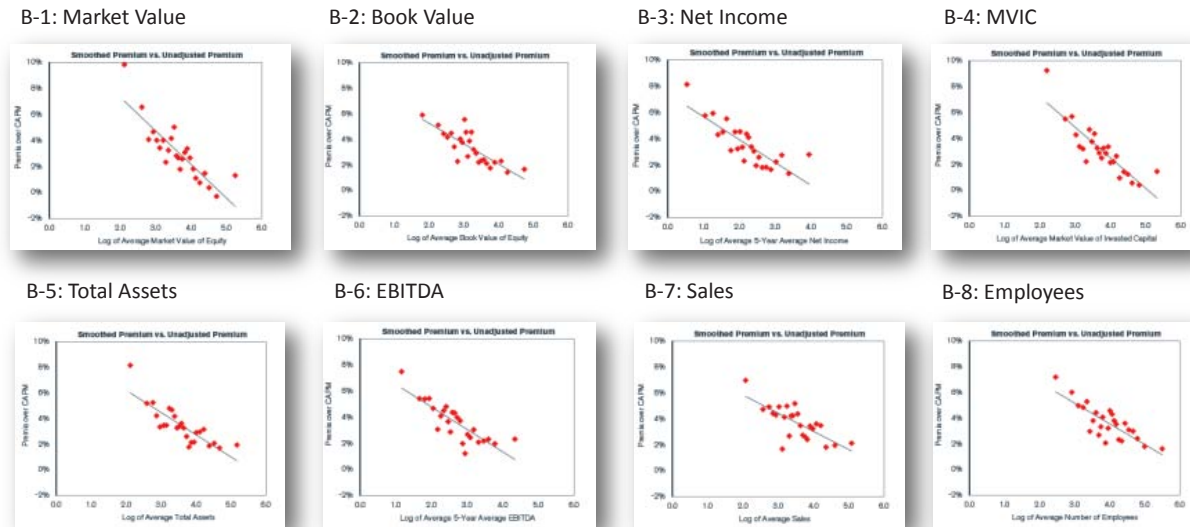
D&P segregates the returns from this group of companies in an attempt to better reflect the market.

Rather than solely relying on market capitalization, D&P breaks down its analysis by the following metrics:

- Market value of equity
- Book value of equity
- Five-year average net income
- Market value of invested capital
- Total assets
- Five-year average EBITDA
- Sales
- Number of employees

The trend line of the *Valuation Handbook* and *Risk Premium Report* ERPs look fairly similar. They clearly move in the same direction, indicating that smaller companies have larger premiums. Even if all the other metrics in the *Risk Premium Report* are graphed, the trend is in the same direction. This is shown on the following page.

The *Risk Premium Report* contains a variety of tables with data that can be used by the analyst in the application of the build-up method or the CAPM (both methods will be discussed in this chapter).



Back in the days when we didn't have access to an online calculator from D&P and Business Valuation Resources (to be discussed shortly), the risk premium had to be calculated in a spreadsheet program. Because it is important to understand the mechanics of the calculator, I will provide a brief background on how to use the *Risk Premium Report*. The authors of the *Risk Premium Report* recommend using the smoothed average ERP. The smoothing process uses the arithmetic ERP and, through mathematical regression, "takes the noise out." Using 25 data points in the smoothing process provides more statistically reliable results. With these results, we are able to run a regression analysis for companies smaller than the ones presented in the data. The tables included in exhibit A of this study allow us to calculate a size-adjusted ERP specifically for a subject company. With that being said, I want to make sure that the terminology does not get too confusing. Some readers may be confused by what is called the *risk premia over the risk-free rate* found in exhibit A (and used in the build-up method) and what I refer to as the

*Size-adjusted ERP* for possibly two reasons. First, when some folks hear something described as "XX-adjusted," they think that the effect of XX has been controlled (in other words, removed). The risk premia over the risk-free rate in exhibit A are designed to reflect size and market risk; size is included. Also, *ERP* is used to mean the traditional *equity risk premium* as discussed in other parts of the chapter.

The *Risk Premium Report* can be used in two ways. First, we can determine which of the 25 size portfolios for each size metric the subject company belongs in. We can also obtain the smoothed average ERP for as many of the metrics as possible and simply average them to determine the results. Recognizing that even those companies that are in the lowest 25th percentile of the market are still larger than the subject company in many instances, we are able to use this data and build on it to make it relevant to the subject of a particular valuation assignment. That brings us to the second method, which is to use the regression equation shown in the panel on the right side of the tables included in the *Risk Premium Report*. Each size metric provides a regression equation, which will calculate a size-adjusted ERP that is based on the size metric of the subject company. In other words, it is generally considered to get the valuation analyst closer to the size-adjusted ERP appropriate for the subject company.

The beauty of using the regression equations is that there will be no need to include an additional size adjustment in the company specific risk premium. The CSRPs are the one part of a discount rate that truly is challenged more than any other part, and I will discuss this in greater detail soon. For now, consider the fact that the *Risk Premium Report* allows us to derive a smaller company specific risk premium. That is an excellent thing!


Another part of the *Risk Premium Report* that I really like is the separation of the ERPs for high risk companies. This data can be used for valuations of troubled companies or companies that have filed for bankruptcy protection. The ERP ends up being about twice the range of the *Valuation Handbook* data for the overall market.

The *Risk Premium Report* exhibit A tables are applicable to the build-up method. The exhibit B tables are applicable to developing a size premium when using the CAPM. In the CAPM, the size premium is completely separated from the ERP. I will explain more about this when I discuss CAPM. Note, however, that in the build-up method a size-adjusted ERP is actually being calculated. In CAPM, the ERP and the size premium are separate and must remain that way.

A word of caution is needed before using the *Risk Premium Report* data. The *Risk Premium Report* uses historical risk premiums in its analysis. When using the exhibit A tables, an adjustment needs to be made to convert the determined ERP from a historical to a forward-looking basis. D&P suggests that this adjustment be completed using the following formula:

$$\text{ERP Adjustment} = \text{Expected ERP} - \text{Historical ERP}$$

D&P has recommended various levels of ERP over time. Estimated ERP for U.S. investors with returns in U.S. dollars are as follows:



November 15, 2016

For additional information, please visit [www.duffandphelps.com/CostofCapital](http://www.duffandphelps.com/CostofCapital)

**Table: Equity Risk Premium & Risk-free Rates**

**Duff & Phelps Recommended U.S. Equity Risk Premium (ERP) and Corresponding Risk-free Rates ( $R_f$ ); January 2008–Present**

Date	Risk-free Rate ( $R_f$ )	$R_f$ (%)	Duff & Phelps Recommended ERP (%)	What Changed
<b>Current Guidance: November 15, 2016 – UNTIL FURTHER NOTICE</b>	<b>Normalized 20-year U.S. Treasury yield</b>	<b>3.50</b>	<b>5.50</b>	$R_f$
January 31, 2016 – November 14, 2016	Normalized 20-year U.S. Treasury yield	4.00	5.50	ERP
<a href="#">December 31, 2015</a>	<a href="#">Normalized 20-year U.S. Treasury yield</a>	4.00	5.00	
<a href="#">December 31, 2014</a>	<a href="#">Normalized 20-year U.S. Treasury yield</a>	4.00	5.00	
<a href="#">December 31, 2013</a>	<a href="#">Normalized 20-year U.S. Treasury yield</a>	4.00	5.00	
February 28, 2013 – January 30, 2016	Normalized 20-year U.S. Treasury yield	4.00	5.00	ERP
<a href="#">December 31, 2012</a>	<a href="#">Normalized 20-year U.S. Treasury yield</a>	4.00	5.50	
January 15, 2012 – February 27, 2013	Normalized 20-year U.S. Treasury yield	4.00	5.50	ERP
<a href="#">December 31, 2011</a>	<a href="#">Normalized 20-year U.S. Treasury yield</a>	4.00	6.00	
September 30, 2011 – January 14, 2012	Normalized 20-year U.S. Treasury yield	4.00	6.00	ERP
July 1 2011 – September 29, 2011	Normalized 20-year U.S. Treasury yield	4.00	5.50	$R_f$
June 1, 2011 – June 30, 2011	Spot 20-year U.S. Treasury yield	Spot	5.50	$R_f$
May 1, 2011 – May 31, 2011	Normalized 20-year U.S. Treasury yield	4.00	5.50	$R_f$
<a href="#">December 31, 2010</a>	<a href="#">Spot 20-year U.S. Treasury yield</a>	Spot	5.50	
December 1, 2010 – April 30, 2011	Spot 20-year U.S. Treasury yield	Spot	5.50	$R_f$
June 1, 2010 – November 30, 2010	Normalized 20-year U.S. Treasury yield	4.00	5.50	$R_f$
<a href="#">December 31, 2009</a>	<a href="#">Spot 20-year U.S. Treasury yield</a>	Spot	5.50	
December 1, 2009 – May 31, 2010	Spot 20-year U.S. Treasury yield	Spot	5.50	ERP
June 1, 2009 – November 30, 2009	Spot 20-year U.S. Treasury yield	Spot	6.00	$R_f$
<a href="#">December 31, 2008</a>	<a href="#">Normalized 20-year U.S. Treasury yield</a>	4.50	6.00	
November 1, 2008 – May 31, 2009	Normalized 20-year U.S. Treasury yield	4.50	6.00	$R_f$
October 27, 2008 – October 31, 2008	Spot 20-year U.S. Treasury yield	Spot	6.00	ERP
January 1, 2008 – October 26, 2008	Spot 20-year U.S. Treasury yield	Spot	5.00	Initialized

"Normalized" in this context means that in months where the risk-free rate is deemed to be abnormally low, a proxy for a longer-term sustainable risk-free rate is used.

To learn more about cost of capital issues, and to ensure that you are using the most recent Duff & Phelps Recommended ERP, visit [www.duffandphelps.com/CostofCapital](http://www.duffandphelps.com/CostofCapital).

To learn more about/purchase Duff & Phelps valuation data resources published by John Wiley & Sons, visit: [www.wiley.com/go/ValuationHandbooks](http://www.wiley.com/go/ValuationHandbooks).

(Source: Duff &amp; Phelps.)

In the preceding data, D&P recommends a 3.5 percent ERP from November 15, 2016, until further notice. It is important to note that this decision was made with data available as of that date.

However, the expected ERP can be substituted with the analyst's own forward-looking ERP. If the valuation analyst uses his or her own expected ERP, the analyst must make sure to be consistent in applying that ERP throughout the discount rate (in other words, IRP adjustment). This adjustment is recommended by D&P every time the exhibit A tables are used but should not be applied when using the exhibit B tables.

It is also important to note that the *Risk Premium Report* excludes financial services companies due to comparability issues between industrial companies and the financial sector. For example, banks traditionally derive a significant amount of “sales” from interest income (earned from loans to consumers), whereas in the case of industrial and other sectors, interest income is typically categorized as an “other income” item. In addition, companies within the financial sector often hold higher levels of debt compared to other industries. Finally, the study notes that early data on the financial sector from one of its primary data sources (Compustat) was of poor quality. Thus, D&P does not recommend using its study for financial services companies.

### D&P Risk Premium Report Online Calculator

In 2011, Roger Grabowski and James Harrington developed an Internet-based risk premium calculator (made available exclusively through Business Valuation Resources) that allows users to enter 1–18 total qualitative and quantitative inputs for a subject company. The calculator provides four estimates of the cost of equity considering industry-specific risk if input by the user. The calculator also calculates risk premiums for high financial risk companies (again, depending on inputs by the user). The data and analysis provided in the *Risk Premium Report* is used in the calculator. Thus, the derivation of a discount rate using the tables in the study and a discount rate generated by the calculator should be the same. The calculator is simple to use. Let’s walk through the use of this product. The calculator can be accessed at [www.bvmarketdata.com/DP.RPC/](http://www.bvmarketdata.com/DP.RPC/) (subscription is required). Figure 13.7 shows the initial input screen.

**Figure 13.7**

**DUFF & PHELPS** | Risk Premium Calculator

For more information, please review the [Duff & Phelps Risk Premium Calculator™ User Guide](#).

Subject Company:

Valuation Date:

Choose the Report year you would like to use for your calculations.

Duff & Phelps Risk Premium Report:

Is the Subject Company a financial services company (SIC Code 6)?

Financial service companies are excluded from the analysis used to develop the premiums used in the Duff & Phelps Risk Premium Online Calculator, and therefore using the results in the Duff & Phelps Risk Premium Online Calculator (or the accompanying Duff & Phelps Risk Premium Report) to estimate the cost of capital for a financial services company is not recommended.

I understand and wish to override the financial services restriction.

Please note that overriding the financial services restriction is not recommended.

(Source: Duff & Phelps Risk Premium Calculator.)

This screen requires the user to acknowledge if the subject company is a financial services company. As noted, the *Risk Premium Report* excludes all financial services companies from its analysis and is not recommended for use in valuing such entities. If you override the financial services restriction, be very careful in the application of the resulting rate of return. Because our subject company is not a financial services company, we leave the drop-down menu at “no” and click “next” to arrive at the screen shown in figure 13.8.



**Figure 13.8**

**DUFF & PHELPS**
Risk Premium Calculator

---

Subject Company: Nursing Home  
 Valuation Date: 1/1/2014

Is Subject Company high financial risk (i.e. "distressed")? No

**High Financial Risk**

Is the Subject Company in bankruptcy or in liquidation? I don't know

Is the company's 5-year-average net income available to Common Equity for the previous five years less than zero? I don't know

Is the company's 5-year-average Operating Income for the previous five years less than zero? I don't know

Has the company had a negative Book Value of Equity at any of the previous five fiscal year-ends? I don't know

Is the company's Debt-To-Total Capital ratio greater than 80%? I don't know

**Altman z-Score**

Subject Company type Manufacturing

Working Capital

Total assets

Retained earnings

Earnings before interest and income taxes (EBIT)

Market value of common equity

Book value of total liabilities

Sales

(Source: Duff & Phelps Risk Premium Calculator.)

If the subject company is distressed or suffers from extraordinarily high financial risk, the valuation analyst should indicate so on this page. High financial risk companies are excluded from the *Risk Premium Report* and analyzed separately. Our subject company, in this case, is not of high financial risk; therefore, we leave this option at "no" and click "next" to see the screen shown in figure 13.9.

**Figure 13.9**

**DUFF & PHELPS**
Risk Premium Calculator

---

Subject Company: Nursing Home  
 Valuation Date: 1/1/2014

**General Inputs**

Equity Risk Premium 5.00%

Beta

Industry Risk Premium 6.05%

8051 - Skilled Nursing Care Facilities

Risk Free Rate 3.72%

**Size Study Inputs** (in \$millions except number of employees)

Market Value of Common Equity	<input style="width: 100%;" type="text"/>	Total Assets	<span style="border: 1px solid #ccc; padding: 2px;">\$4.79</span>
Book Value of Equity	<span style="border: 1px solid #ccc; padding: 2px;">\$1.26</span>	5-Year Average EBITDA	<span style="border: 1px solid #ccc; padding: 2px;">\$0.68</span>
5-Year Average Net Income	<span style="border: 1px solid #ccc; padding: 2px;">\$0.35</span>	Net Sales	<span style="border: 1px solid #ccc; padding: 2px;">\$20.22</span>
Market Value of Invested Capital	<input style="width: 100%;" type="text"/>	Number of Employees	<span style="border: 1px solid #ccc; padding: 2px;">230</span>

**Risk Study Inputs** (in \$millions)

Most recent fiscal year relative to the valuation date	2013	2012	2011	2010	2009
Net Sales	<span style="border: 1px solid #ccc; padding: 2px;">\$20.22</span>	<span style="border: 1px solid #ccc; padding: 2px;">\$18.73</span>	<span style="border: 1px solid #ccc; padding: 2px;">\$16.47</span>	<span style="border: 1px solid #ccc; padding: 2px;">\$16.78</span>	<span style="border: 1px solid #ccc; padding: 2px;">\$17.98</span>
Operating Income	<span style="border: 1px solid #ccc; padding: 2px;">\$1.72</span>	<span style="border: 1px solid #ccc; padding: 2px;">\$0.93</span>	<span style="border: 1px solid #ccc; padding: 2px;">-\$0.42</span>	<span style="border: 1px solid #ccc; padding: 2px;">-\$0.04</span>	<span style="border: 1px solid #ccc; padding: 2px;">\$0.74</span>
Book Value of Equity	<span style="border: 1px solid #ccc; padding: 2px;">\$1.26</span>	<span style="border: 1px solid #ccc; padding: 2px;">\$0.22</span>	<span style="border: 1px solid #ccc; padding: 2px;">-\$0.39</span>	<span style="border: 1px solid #ccc; padding: 2px;">\$0.22</span>	<span style="border: 1px solid #ccc; padding: 2px;">\$1.16</span>
Net Income Before Extraordinary Items	<span style="border: 1px solid #ccc; padding: 2px;">\$1.04</span>	<span style="border: 1px solid #ccc; padding: 2px;">\$0.56</span>	<span style="border: 1px solid #ccc; padding: 2px;">-\$0.27</span>	<span style="border: 1px solid #ccc; padding: 2px;">-\$0.04</span>	<span style="border: 1px solid #ccc; padding: 2px;">\$0.44</span>

(Source: Duff & Phelps Risk Premium Calculator.)

In figure 13.9, we have input all the information we have. Under general inputs, the ERP can be left blank. The calculator will automatically fill in the appropriate ERP based on which study you selected in figure 13.7. We did not input a beta in this case because the four publicly traded nursing homes had widely varying betas in the 12 months ended December 31, 2013, and we thought that a resulting CAPM-based discount rate would not be meaningful. The IRP was populated by the calculator by selecting the appropriate SIC code, and we input the D&P normalized risk-free rate (20-year Treasury yield). The inputs for size and risk are actual figures from the subject company on an adjusted basis. These items should exclude any non-operating and nonrecurring items affecting the income statement and balance sheet. D&P recommends inputting as much information as possible. Because no market approach was applied in this particular valuation, we did not have a market value of equity or invested capital to input.

Clicking “next” will result in a confirmation screen. Check the inputs, make any necessary changes, and then click “next.” You should arrive at a screen similar to that shown in figure 13.10.

**Figure 13.10**

DUFF & PHELPS		Risk Premium Calculator			
<b>Cost of Equity Capital Estimates – Summary of all Size Study models</b>					
<b>Models: Buildup 1, Buildup 2, CAPM, and Unlevered COE Estimates</b>					
Subject Company: Nursing Home			A beta was not entered by the USER. A CAPM-based cost of equity estimate, which uses a beta as an input, can not be calculated.		
Valuation Date: 1/1/2014			NA		
Source of risk premia information:		ERP adjustment: an ERP adjustment of 0.1% is added to Buildup 1, Risk Study (Buildup 3), and Unlevered Risk premia to adjust for the difference in the historical ERP (1963–2013) and the ERP entered by the USER, as calculated below:		Adjusted Industry Risk Premium (IRP): an adjusted IRP of 4.4% is used in the 'Buildup 2' cost of equity estimate. The adjusted IRP is calculated by: (IRP entered by the USER) × (the ERP entered by the USER) / (historical ERP (1926–2013)), as shown below:	
Equity Risk Premium (ERP) entered by USER and used in all calculations:	Historical Equity Risk Premium (ERP) 1963–2013:	Long-term risk free rate as of January 1, 2014 (used in all calculations):	5.0%	4.9%	5.0% – 4.9% = 0.1%
			3.7%		6.1% × (5.0% / 7.0%) = 4.4%
Summary of Cost of Equity (COE) Estimates					
<b>Buildup 1 COE Estimates</b>			<b>CAPM COE Estimates</b>		
	$COE = (Risk\ Free\ Rate) + (Smoothed\ Risk\ Premium\ Over\ Risk\ Free\ Rate) + (Equity\ Risk\ Premium\ Adjustment)$			$COE = (Risk\ Free\ Rate) + (Beta \times Equity\ Risk\ Premium) + (Smoothed\ Risk\ Premium\ Over\ CAPM)$	
	Mean	Median		Mean	Median
Guideline Portfolio Method	16.9%	16.8%	Guideline Portfolio Method	No Beta	No Beta
Regression Equation Method	19.8%	20.9%	Regression Equation Method	No Beta	No Beta
<b>Buildup 2 COE Estimates</b>			<b>Unlevered COE Estimates</b>		
	$COE = (Risk\ Free\ Rate) + (Equity\ Risk\ Premium) + (Smoothed\ Risk\ Premium\ Over\ CAPM) + (Adjusted\ Industry\ Risk\ Premium)$			$Unlevered\ COE = (Risk\ Free\ Rate) + (Smoothed\ Unlevered\ Risk\ Premium\ Over\ Risk\ Free\ Rate) + (Equity\ Risk\ Premium\ Adjustment)$	
	Mean	Median		Mean	Median
Guideline Portfolio Method	19.5%	19.5%	Guideline Portfolio Method	15.4%	15.4%
Regression Equation Method	21.5%	22.1%	Regression Equation Method	18.3%	19.1%

(Source: Duff & Phelps Risk Premium Calculator.)

At the top of figure 13.10, the valuation analyst is given the option to download the results into a Microsoft Excel spreadsheet or a Word document or receive the results in an email.

In the middle of the page, a summary of the general inputs shown in figure 13.9 is provided. Note that the IRP was adjusted by the calculator for use with the D&P ERP. We will talk about the adjustment to the IRP later in this chapter.

At the bottom of figure 13.10, the calculator provides average and median costs of equity capital generated by four separate methodologies: build-up 1, build-up 2, CAPM, and the unlevered risk premium. Two different

types of measurement for the cost of equity are provided. The guideline company method ranks the subject company within 1 of the 25 size categories based on each of the 8 size measurements. The regression equation method forecasts the ERP based on a statistical regression of the 25 size categories. This is the same methodology described for the *Risk Premium Report* earlier in this chapter. Thus, the resulting cost of equity under the build-up 1 regression equation method should match the “manual” build up using the *Risk Premium Report’s* exhibit A tables. Build-up 2 incorporates the IRP (adjusted for use with the D&P ERP). The CAPM method, which was not used in our example, uses a beta-adjusted ERP and the exhibit B tables. Don’t worry, I will explain what this means in a little while. Finally, the unlevered risk premium uses the exhibit C tables of the *Risk Premium Report*. The *Risk Premium Report* reflects the existing capital structures of the companies within its data source. The unlevered risk premium assumes a capital structure of 100 percent equity and zero percent debt for all companies. This unlevering reduces risk to the equity holders and, thus, reduces the ERP. Effectively, this puts all the companies on the same playing field by eliminating the difference in debt that could affect risk.

If you recall, the D&P Risk Premium Calculator based on the CRSP deciles generated a discount rate of 23 percent. This compares to the 19 percent to 22 percent output by the calculator using the *Risk Premium Report* data. Why is this different? When considering the inputs, it is evident where the problem is: Our ERP input for the calculator using the CRSP decile data was 6.96 percent, or about 200 basis points higher than the 5 percent used in the *Risk Premium Report* calculator. We ran the calculator using the CRSP decile data again with a 5 percent ERP and ended up with a cost of equity of 19.3, which is within the range of the *Risk Premium Report* calculator. I purposefully input different ERPs into the two calculators to show what happens when the valuation analyst is inconsistent with his or her assumptions. The results did not make sense. Remember that the *Risk Premium Report’s* regression equation method provides us with a size-adjusted ERP that is “custom made” to the subject company’s size inputs. The size premium for decile 10 based on the CRSP data (in 2013) includes companies with market capitalizations up to \$338.8 million. Intuitively, the calculator using the *Risk Premium Report* data should derive a higher cost of equity because it better adjusts for the small size of the subject company.

Consistency is also important if the valuation analyst is completing two valuations as of two separate dates. The valuation analyst needs to understand the differences between the two data sets contained within the *Valuation Handbook* and their differences with previous publications of SBBI and the *Risk Premium Report*. Imagine using the historical ERP from SBBI for one date and then the recommended ERP per the *Valuation Handbook* at another date. “I don’t know” may not be the best answer when a cross-examining attorney is questioning the analyst on the witness stand about the differences in his or her results.

It is also important that the valuation analyst reads the *Risk Premium Report* in its entirety so that he or she understands how the calculator works. None of the four methodologies account for all the risk factors that need to be considered in developing a discount rate. Whatever the analyst does, he or she should not just buy a subscription and blindly plug numbers into the calculator to instantly calculate an ERP without making sure that he or she understands what it is doing. I could open up someone’s head and perform brain surgery, but I don’t think that person would want me to do that without knowing what I am doing.

## Does the Size Risk Premium Still Exist?

Now that I have just explained all there is to know about the size premium (well, maybe not all there is to know, but certainly enough for you to either understand it, be bored with it, or maybe both), let me throw in a new wrinkle to this topic. As with most other topics within the valuation profession, there has been some new research regarding the existence of the size risk premium. Michael Crain CPA/ABV, ASA, CFA, DBA, has suggested that there is no empirical evidence that size is the cause of higher returns. Crain’s research was performed as part of his doctorate program and involved an examination of a number of studies regarding size risk premiums conducted over the last 20 years. However, despite Crain’s research, Grabowski has argued against this. Who said this stuff was going to be easy?

The concept of a size risk premium integrated in discount rates was first introduced in 1981 by R.W. Banz. Banz’s study observed higher returns among smaller companies traded on the New York Stock Exchange between 1926 and 1975. However, subsequent studies have shown that premium returns generated by smaller

companies have either diminished or disappeared entirely. This trend is explained by various changes in the financial markets. First, investors now aware of the size risk premium have bid up the prices of small company stocks and have effectively reduced or negated the premium. Second, the popularity of passive investing in large cap mutual funds reduced capital available to smaller firms prior to 1981, which is no longer the case. Crain believes that these changes have affected the fundamental structure of the financial markets, so pre-1981 data is essentially unusable for justifying size risk premiums.

Some research into the size risk premium has indicated that any premiums related to size are concentrated in the stocks of the smallest companies and have minimal effect on larger firms. Because many small publicly traded companies are often somewhat illiquid, some have suggested that the “size effect” is actually related to illiquidity. Although Crain acknowledges that additional research must be completed in order to fully understand the impact of illiquidity on equity returns, his research raises interesting questions that an analyst should be thinking about when developing discount rates. Stay tuned, and I am sure it will get more confusing.

## Company-Specific Risk Premium

This component of the discount rate provides for the specific risk characteristics of the valuation subject that are not covered by the ERP. The company-specific risk premium can increase considerably depending on the risk associated with the valuation subject. The company-specific risk premium can also be negative. This occurs if the valuation subject is considered to be less risky than its peer group.

This is another part of this book that makes auditors cringe. There is no objective source of data to properly quantify the company-specific risk premium. It is a matter of judgment and experience. There are no mystical tables that a valuation analyst can turn to, nor can the valuation analyst be totally comfortable with this portion of the assignment.

Many of the risk factors that are considered in determining an appropriate discount rate are the same factors that a valuation analyst uses to adjust multiples from guideline companies under the market approach. Although they are a little different, a review is worthwhile. Once valuation multiples are determined for the guideline companies, it becomes necessary for the valuation analyst to adjust these multiples for the qualitative differences between the guideline companies and the valuation subject. These qualitative differences will most likely relate to factors such as expected growth and risks attributable to the valuation subject as compared with the guideline companies. Remember this stuff from a few chapters ago?

To briefly review, the different risk factors considered by the valuation analyst will generally include, but will not be limited to, the following:

- Economic risk
- Business risk
- Operating risk
- Financial risk
- Asset risk
- Product risk
- Market risk
- Technological risk
- Regulatory risk
- Legal risk

There are many other risk factors to be considered as well, but these are some of the more important items that a valuation analyst must think about in the application not only of the market approach but of the income approach. In the market approach, each of these risk factors should be analyzed from the point of view of how the valuation subject differs from the guideline companies. In the income approach, these factors are considered in relationship to the source of the market-derived rates. For example, because guideline companies tend to be in the same industry as the valuation subject, an economic risk, such as rising interest rates, will probably have the same impact on the valuation subject as the guideline companies. But if the valuation subject operates in a smaller geographic area, the risk could be different if that part of the country is doing better or worse than the rest of the country because a larger, more diversified company could reduce its risk by not being concentrated in one area.

## Comparing the Subject Company

Being a valuation analyst is similar to being a risk assessor. Because business valuation theory is so closely related to risk-reward theory, an analyst must spend a considerable amount of time analyzing the subject company to determine how much risk the income stream is subject to. Whether a single period capitalization model or a multi-period discounting model is going to be used in the valuation assignment, the valuation analyst must determine the degree of risk for the earnings, cash flow, or other income stream being analyzed.

How does the valuation analyst do this? The answer is simple. He or she compares the subject company to either guideline companies or, in their absence, other forms of industry or investment information. For example, trade association data or industry composite data, such as information available in MicroBilt Corporation's *Integra Financial Benchmarking Data* product, can be used for this comparison. Information in this type of product allows the analyst to perform a financial analysis of the subject company and compare the results against industry information. This comparison allows the analyst to determine whether the subject company is stronger or weaker than the industry group.

The financial analysis is probably the easier part of the analysis. Frequently, the nonfinancial analysis is the more difficult part of the assignment. Basic contributing factors to this difficulty are listed in box 13.3 and discussed further in the following paragraphs.

Most of these factors should not come as any great surprise. There must be a reason why every valuation textbook and educational course suggests that a valuation analyst look into these items. Revenue Ruling 59-60 addresses many of these items. If the analyst completed a Porter's Five Forces and SWOT analyses, most (if not all) of these factors and their impact on the subject company should already be known.

### BOX 13.3

#### Common Nonfinancial Factor Considerations for Analysis

The following are nonfinancial factor considerations common in risk analysis:

- Economic conditions
- Industry conditions
- Location of business
- Competition
- Depth of management
- Quality of management
- Barriers to entry into market
- Avoid Double Counting

## Economic Conditions

I previously discussed economic risk, so there is little reason to repeat the discussion. However, Revenue Ruling 59-60 emphasizes the economic conditions by discussing the risk associated with "boom" economies. The outlook for the economy should be considered because it will affect most businesses in one way or another.

## Industry Conditions

Industry conditions are also important because the subject company will probably be affected by changes in its industry. In some instances in which the subject company's customers are in another industry, they may be affected by the other industry, as well. We valued a printing company that specialized in the pharmaceutical industry. The printing industry was doing great at that time, but the pharmaceutical industry became our main focus because there was a reliance on this industry for business.

## Location of Business

In real estate appraisal, the value of property is greatly affected by the three Ls: location, location, location. Certain businesses are highly dependent on their location, whereas others are not. Imagine valuing a retail business that is located on a road about to undergo major construction and this construction is expected to last several years. Because of the construction, traffic flow will be diverted away from that road. How does the location of the business affect its value?

## Competition

At a management interview, valuation analysts always ask for information about the company's competitors. The reason for this is obvious. If a business suffers from the risk of competition, value is affected. If the valuation analyst was valuing a local hardware store and found out that The Home Depot was about to move in

less than a mile down the road, wouldn't this suggest that the valuation subject has a great risk of business loss?

## Depth of Management

Certainly, most smaller businesses have no depth in management. In fact, they are usually highly dependent on one key person. Revenue Ruling 59-60 discusses the possible loss of a key person as being a risk element. Several questions need to be considered by the valuation analyst. What is the likelihood of the loss of the key person?

Sometimes, the key person may not be the owner of the business. It may be a key salesperson. If the key person is lost, can a replacement be found? How long would it take to replace this person? At what cost? For many small businesses, the business may die with the owner. Frequently, we see businesses in which the owner is also the highly technical person whose knowledge is in his or her head.

## Quality of Management

Along with the depth in management, the analyst must consider the quality of management. Does the business have adequate management to properly achieve the business' goals, or does management have no control over its own destiny? What if the business is being run by a good technical person, but that individual cannot manage people? Or what if management cannot see what the future has in store for the company?

## Barriers to Entry Into Market

Another risk element is the difficulty that others may encounter in entering into the market. If the barriers to entry are nonexistent, competition may become fierce, creating serious risk. If it is difficult to enter the market, the company may be in a better position. This can hold true in situations in which the company holds patents, copyrights, and other types of intangibles.

## Avoid Double-Counting

In selecting the company-specific risk premium, it is important to consider that some risk factors may have already been accounted for with the selection of other premium data. For example, if the valuation analyst includes an IRP (discussed soon) as a separate risk element, he or she does not want to also include industry risk in the company-specific risk premium. Consider a company with limited management, debt, limited access to capital, high customer concentration, and little product and geographic diversification. These are factors that could increase the company-specific risk premium. However, these are all qualities of a small company. In considering all the qualitative factors that affect a company's risk, be mindful that the valuation analyst does not add premiums to the discount rate for factors that have already been considered in other components of the rate.

A certain amount of company-specific risk might also be accounted for in the forecast of future cash flows. Some company-specific factors have an impact on growth and profitability, which would be factored into a forecast or income normalization. For example, a company that lacks the ability to take advantage of certain opportunities available to the industry as a whole will likely experience lower growth relative to larger competitors. In selecting a company-specific risk premium, limited access to capital would only increase risk outside of its impact on the aforementioned growth.

The most important thing that the valuation analyst must remember is that when he or she is developing a discount rate, the following question is really being asked: What is the likelihood that the investor would receive the cash flows that are being forecast? That is what the valuation analyst is discounting. I often use our firm as an example. We are a small firm with very steady and predictable cash flows. Because the cash flow is relatively stable, this lowers the required rate of return for an investor. Do not penalize a company just because it is small. I have seen too many novice valuation analysts use an extraordinarily high discount rate because the company is small. If this rate is supposed to represent the risk of not receiving the cash flows, how risky is the cash flow if your forecast is only \$100 annually? How far off can you be? If the valuation analyst has a very conservative forecast, the risk will be much lower than if he or she has an aggressive forecast.

## The Bottom Line

The bottom line in the determination of the company-specific risk premium is to consider what the total rate of return would have to be, given the risk of the benefit stream being discounted. Though we use various methods to help quantify a discount rate, these are only tools in our toolbox; these methods do not help us quantify these rates. If nothing else, the final answer has to make sense. Remember, an analyst's responsibility is to determine an estimate of value that makes sense. It is not to develop rates of return.

A valuation analyst can look to market evidence to support the company-specific risk premium, but the process becomes somewhat circular in logic. For example, a number of years ago, we valued a business and determined that the discount rate should be 80 percent. Everyone involved in the litigation thought exactly what you are now thinking: We must be crazy. I began to testify at the trial and started describing all the factors that we have been discussing in this book. Obviously, I could not quantify every one of these factors, but I explained that the risk was substantial, and I felt that a rate higher than venture capital returns was appropriate. If venture capital was on the top floor of the rate of return department store, then my client was on the roof!

Over lunch, the client, the attorney, and I were discussing the testimony and preparing me to go back on the witness stand after lunch. The conversation led to the client telling me that business was really pretty tough. In fact, the only thing that was keeping him alive was the fact that his major supplier was financing his payables for 90 days at 19 percent interest. In fact, I think he called the guy a "shylock" (some of the other words could not be printed in this book). Because 19 percent for 90 days adds up to approximately 76 percent for the year, I went back to the courtroom feeling pretty good about my 80 percent rate. In this instance, the proof of the rate of return for an unsecured creditor justified the rate used in the valuation assignment. Thereafter, we regularly ask the business owner if there is any kind of financing other than the conventional type.

Logically, if we can determine a rate of return using outside empirical evidence, why would we need to determine a company-specific rate? Any time the analyst can avoid having to quantify the unquantifiable, I would suggest that he or she do so.

In an earlier edition of *Valuing a Business*, when discussing company-specific risk (*unsystematic risk*), Pratt, Reilly, and Schweih's stated the following:

The estimation of the effect of investment-specific (unsystematic) risk is often a matter for the analyst's professional judgment. These risk factors will be developed as part of the quantitative and qualitative analyses discussed in Part II of this book, and the significant positive and negative factors related to these analyses should be noted in the valuation report. These analyses will reveal many things that will affect the economic income projections, as well as the risk of achieving those projections. The analyst should be careful to distinguish between those factors that influence the *magnitude* of the projection (the numerator in the model) and those factors that affect the *degree of uncertainty* of achieving the mathematical expectation projection (that is, the *risk*, which determines the discount rate, the denominator in the model).

There is no specific model or formula for quantifying the exact effect of all the investment-specific risk factors on the discount rate. This is ultimately based on the analyst's experience and judgment.<sup>12</sup>

And, Jim Hitchner adds:

The final component of the discount rate is the risk specific to the company being valued and/or the industry in which it operates. This is one of the most subjective areas of business valuation.<sup>13</sup>

12 Shannon P. Pratt, Robert F. Reilly, and Robert P. Schweih's, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 4th ed. (New York: McGraw-Hill), 181.

13 James R. Hitchner, *Financial Valuation: Applications and Models*, 3rd ed. (New Jersey: John Wiley & Sons), 206.

Despite the agreement among these experts about the subjective nature of company-specific risk, several authors have discussed methods to quantify this aspect of the discount rate.

In the September 1999 issue of *Business Valuation Review*, Frank C. Evans wrote an article titled “How Do You Handle It?” In this article, Evans discusses assigning values to various risk factors, adding them up, and using the calculated number as an indication of the company-specific risk. A recreation of his company risk evaluation example in a chart format is illustrated in figure 13.11.

**Figure 13.11 Sample Risk Factor Value Chart to Indicate Company Specific Risk**

<b>Incremental Risk (Ex. Only)</b>		
<b>Company Specific Risk Factors for XYZ Corporation</b>		
1.	Operating history, volatility of revenues and earnings	3.5
2.	Lack of management depth	1.0
3.	Lack of access to capital resources	0.5
4.	Over reliance on key persons	1.0
5.	Lack of size and geographic diversification	0.5
6.	Lack of customer diversification	0.0
7.	Lack of marketing resources in light of competition	0.5
8.	Lack of purchasing power and other economies of scale	0.0
9.	Lack of product and market development resources	0.5
10.	Over reliance on vendors or suppliers	0.0
11.	Limitations on distribution systems	0.0
12.	Limitations on financial reporting and controls	0.5
<b>Positive Attributes</b>		
1.	Long term contracts with customers or unique product or market niche	0.0
2.	Patents, copyrights, franchise rights, proprietary products	-1.0
<b>Net increase to discount rate</b>		<b>7.0</b>

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Although intuitively this process looks quantifiable and supportable, it is still highly subjective. First of all, anyone looking at figure 13.11 can probably think of at least another 6 items that could be added to it. In addition, there is no empirical support for any given number shown in the preceding chart. In a litigation environment, a good cross-examining attorney could spend hours leading the expert through an analysis of these factors. Before the expert was finished testifying, he or she would have explained the difference in value that would



be derived from a .25 or .50 point difference, either positive or negative, of any one of these factors, and what the addition of another 6 factors would have on the discount rate. Other writings on the subject of company-specific risk discuss the factors to be considered but do not assign a specific weight to them. Some authors discuss using a system of +, -, or neutral or high, low, neutral for each factor. In the working papers, there would be a list of factors that affect the discount rate. For each of these factors, the analyst would determine whether the factor would increase or decrease the discount rate, or whether it would have no effect, and how important the factor is. After going through all of these factors, though, it still takes professional judgment to convert these factors into a risk premium. No one has written anything that empirically describes the amount of additional risk (or the deduction from risk) that any factor should have in numeric terms.

One last comment about company-specific risk. Judges hate it. In a litigation setting, although it really does exist, judges do not like to see a valuation analyst add this risk premium into the derivation of a discount rate. The reason for this is because it is subjective, and many valuation analysts are doing a poor job in supporting it. I had a case in which I added a 2 percent company-specific risk premium in the build up of my discount rate. The judge was not happy with it until I was able to show him the specific industry rate of return from a reliable source of about 14 percent, and my overall discount rate for the riskier subject company ended up being about 16 percent. Once the valuation analyst determines the discount rate, it is a good idea to support the conclusion by finding other data to use as a sanity check that supports the overall rate. As I said before, don't worry as much about the components of the rate as the overall rate.

## Duff & Phelps Risk Study Revisited

We previously discussed the use of the *Risk Premium Report* to derive a forward-looking size-adjusted ERP. The *Risk Premium Report* also includes a risk study, which can be used to derive an overall cost of equity capital (inclusive of some company-specific risk). The risk study is based on three fundamental risk measures: five-year average operating margin, the coefficient of variation in operating income margin, and the coefficient of variation in return on book equity.<sup>14</sup> Based on research conducted by D&P, there is a strong correlation between returns and profitability and volatility of profitability and return on equity. In other words, as operating income margins decline and as volatility in profitability and return on equity increases, perceived risk (as measured by annual returns) increases. D&P calculates risk premiums in excess of the risk-free rate based on these three measures of risk and organizes the data into 25 portfolio rankings. This risk premium data can be found in the D exhibits of the *Risk Premium Report*.

We can use this data in much the same way we calculate a size-adjusted ERP. Either using the regression equations for each factor or ranking the subject company within the 25 portfolio groupings and applying the published risk premiums will provide an analyst with the ability to derive a risk premium applicable to the subject company.

There are some things to keep in mind if you use the *Risk Premium Report* for this purpose. First, this risk premium is based on historical data and will need to be converted to a forward-looking figure. You can use the formula provided previously in our discussion of the *Risk Premium Report*. Next, the risk premium derived from the risk study will not fully account for size or all company-specific risks. Remember that this calculation only takes into consideration profitability, the volatility of profitability, and return on equity. Finally, risk premiums based on the risk study do not take into consideration any industry specific risks.

One aspect of the *Risk Premium Report* that is useful is that it allows the valuation analyst to compare the three risk measures of the subject company to those of the companies that make up the 25th portfolio that are used to calculate the size risk premium. This is important because "smaller" does not necessarily mean "riskier." If the subject company is more profitable and has a more stable and predictable earnings stream than the companies that are included in the 25th portfolio, then an additional adjustment for company-specific risk may not be appropriate. In one instance, my firm valued a small managed services provider that generated approximately \$2.5 million in sales. Although the company was small, approximately 75 percent of the company's revenues were generated from 3- to 5-year contracts with customers. As a result, the company had a

14 The coefficients of variation of profitability and return on equity are measures of volatility in each financial metric.

predictable, recurring revenue stream. Therefore, in our cost of capital analysis, we utilized the *Risk Premium Report* as part of our determination of the amount of company-specific risk that was necessary for this company. The results appear in figure 13.12

**Figure 13.12 Duff & Phelps Risk Study Analysis**

Company-Specific Risk: Indication of Direction						
Relationship Between Fundamental Accounting Measures and Cost of Equity Capital						
Subject Company	Valuation date			ERP adjustment: an ERP adjustment of 0.6% is added to Buildup 1 Risk Study (Buildup 3), and Unlevered Risk premia to adjust for the difference in the historical ERP (1983-2015) and the ERP entered by the USER, as calculated below:	Long-term risk free rate as of June 30, 2016 (used in all calculations):	Source of risk premia information in this report
Advanced Networking Services, Inc.	June 30, 2016			5.5% - 4.3% + 0.6%	4.0%	2016 Duff & Phelps Risk Premium Report
Size Study: Exhibits C-1 through C-8						
Risk Premia Over Risk Free Rate (RP <sub>...</sub> ) for each of three risk measures	Size Measure	Subject Company Value (\$Millions)	Indicated Guideline Portfolio	Average Operating Margin (of Companies in Indicated Guideline Portfolio)	Average Coefficient of Variation: Operating Margin (of Companies in Indicated Guideline Portfolio)	Average Coefficient of Variation: ROE (of Companies in Indicated Guideline Portfolio)
Exhibit C-1	Market Value of Equity	\$4.00	25	6.2%	44.0%	64.0%
Exhibit C-2	Book Value of Equity	\$0.15	25	7.2%	40.2%	57.8%
Exhibit C-3	5-Year Average Net Income	\$0.34	25	6.0%	49.8%	78.4%
Exhibit C-4	MVIC	\$4.00	25	6.4%	43.7%	60.4%
Exhibit C-5	Total Assets	\$0.27	25	7.3%	40.2%	54.5%
Exhibit C-6	5-Year Average EBITDA	\$0.46	25	6.7%	44.3%	60.3%
Exhibit C-7	Sales	\$2.43	25	8.5%	41.7%	55.9%
Exhibit C-8	Number of Employees	18	25	9.1%	41.8%	56.0%
				Average operating margin of companies across Indicated Guideline Size Portfolios	Average coefficient of variation of operating margin of all companies in Indicated Size	Average coefficient of variation of ROE of all companies in Indicated Size Portfolios
				7.2%	43.2%	60.9%
				Operating margin of Subject Company	Coefficient of variation of operating margin of Subject Company	Average coefficient of variation of ROE of Subject Company
				18.4%	12.8%	25.2%
				Analysis	Analysis	Analysis
The operating margin of Advanced Networking Services, Inc. (18.4%) is HIGHER than the average operating margin of portfolios comprised of similarly-sized companies (7.2%), as reported in the Size Study of the 2016 Duff & Phelps Risk Premium Report. This suggests that Advanced Networking Services, Inc. is LESS RISKY than other companies of similar size, and that a DOWNWARD adjustment for company-specific risk may be indicated.				The coefficient of variation of operating margin of Advanced Networking Services, Inc. (12.8%) is LOWER than the average coefficient of variation of operating margin of portfolios comprised of similarly-sized companies (43.2%), as reported in the Size Study of the 2016 Duff & Phelps Risk Premium Report. This suggests that Advanced Networking Services, Inc. is LESS RISKY than other companies of similar size, and that a DOWNWARD adjustment for company-specific risk may be indicated.	The average coefficient of variation of return on equity (ROE) for Advanced Networking Services, Inc. (25.2%) is LOWER than the average coefficient of variation of return on equity (ROE) of portfolios comprised of similarly-sized companies (60.9%), as reported in the Size Study of the 2016 Duff & Phelps Risk Premium Report. This suggests that Advanced Networking Services, Inc. is LESS RISKY than other companies of similar size, and that a DOWNWARD adjustment for company-specific risk may be indicated.	

(Source: Duff & Phelps.)

In this instance, the subject company was small in size and ranked in the 25th portfolio in all 8 categories. However, the valuation subject's operating margin of 18.4 percent was more than double that of the companies in the 25th portfolio (7.2 percent). Furthermore, the coefficient of variation of the company's operating margin was only 12.8 percent compared to 43.2 percent for the companies in the 25th portfolio. In addition, the companies average coefficient of variation of return on equity was 25.2 percent compared to the 60.9 percent average for the guideline companies. Therefore, in this valuation, the subject company was considerably more profitable and had earnings streams and returns that were less volatile than the companies that were being used to calculate the size premium. Given this information, the analysis indicates that the subject company is less risky than the other companies of similar size and that a downward adjustment for company-specific risk may be warranted. This is an example of how "smaller" does not necessarily mean "riskier."

Therefore, for reasons listed in the preceding paragraphs, utilizing the *Risk Premium Report* data is not recommended without considering other methodologies. However, because the *Risk Premium Report* provides some additional insight into risks associated with profitability and returns on equity, it deserves some discussion and can be utilized as part of the analysis of company-specific risk. One can never have too many tools.

### Market-Derived Cost of Equity Models

Over the past several years, several new cost-of-capital models have emerged that attempt to use guideline public companies to derive rates of return for closely held businesses. The advantage of using guideline public companies to calculate rates of return is that investors' risk and return expectations are built into public company stock prices and, as a result, using this data can give a good indication of how the market is pricing risk

for companies that are comparable to the valuation subject. Assuming that the valuation analyst has a good group of guideline publicly traded companies, these models can serve as a secondary method to calculate the cost of equity. However, considering that many of these models are under an increased amount of scrutiny and still in the process of being peer reviewed, relying on them as a primary method to derive a discount rate is not recommended. Two models that will be discussed in this book include the Butler-Pinkerton Calculator and the Implied Cost of Capital model.

## Butler-Pinkerton Calculator

In the 2006–2007 time period, Peter Butler, ASA, CFA, and Keith Pinkerton, ASA, CFA, published two articles regarding the quantification of company specific risk.<sup>15, 16</sup> The abstract of the *Business Valuation Review* article read as follows:

Even though, according to traditional financial theory, public markets do not price company-specific risk, it does not mean that it does not exist or is not quantifiable for public comparables. In all instances, the company-specific risk premium for publicly traded companies is greater than 0%—yet appraisers start their benchmark analysis at 0% to determine an appropriate company-specific risk premium for privately held companies. Is this a flaw in our collective thinking?

In the article in *Business Valuation Update*, the editor states

In this article, the authors have refined their earlier work by providing a detailed example of how to select a company-specific risk premium (CSRP) for a privately held company using benchmark CSRPs derived from publicly traded companies.

The concept behind the analysis performed by Butler and Pinkerton is that although the marketplace does not price company-specific risk into its rates of return, every company has company-specific risk that can be quantified through the use of total beta. Total beta, which is a concept derived by Aswath Damadoran, PhD, measures a stock's riskiness relative to the market, which has a total beta of 1.0. It captures total risk, including systematic risk as well as size and company specific risk.

The two articles go on to discuss the quantification of company specific risk for a privately held company. The authors use publicly traded guideline companies and calculate their total betas in order to calculate the guideline companies' company-specific risk premium. This is followed by a comparison of the subject company to the guideline companies to determine the appropriate starting point for the company-specific risk premium. Once the analyst has determined the strengths and weaknesses of the analysis, he or she determines the starting point for the quantification of the company-specific risk for the subject company.

However, this appears to be similar to the use of the IRP (to be discussed) from the *Valuation Handbook*. It provides the analyst with a starting point for the company-specific risk premium but does not necessarily quantify all the company-specific risk. Therefore, some of the quantification will remain subjective. In support of this method, the authors state the following:

Moreover, if you do not consider any companies as appropriate guidelines, you must still perform some analysis (whether using this technique or the more subjective analyses) in quantifying company-specific risk. At least this method permits an appraiser to retrieve a Form 10-K from companies in the pertinent industry and analyze them for company-specific risk, since by definition, the risk is just that: company-specific and not incorporated in Beta (systematic risk) or the size premium. With this technique, we have created an empirical approach to benchmark company-specific risk.

15 Peter Butler and Keith Pinkerton, "Company-Specific Risk—A Different Paradigm: A New Benchmark," *Business Valuation Review* (Spring 2006): 22–28.

16 Peter Butler and Keith Pinkerton, "Quantifying Company-Specific Risk: A New, Empirical Framework With Practical Applications," *Business Valuation Update* (February 2007): 1.

Some of Butler and Pinkerton's conclusions from their analysis are as follows:

1. All companies have specific company risk (including large publicly traded companies, such as General Electric, that has a specific company risk premium in the range of 3 percent to 4 percent). Therefore, starting at a specific company risk premium of 0 percent underestimates a company's cost of capital. Due to their research indicating that companies such as Exxon Mobil and General Electric have specific company risk greater than 0 percent, Butler and Pinkerton believe that most valuation analysts have probably underestimated the discount rate and, therefore, overvalued the companies they have valued.
2. The methodology derived does not work for all industries or all companies.

It took me seeing this presentation a number of times before I finally figured out what Butler and Pinkerton were doing. They did a terrible job of explaining it. The Butler-Pinkerton Calculator, which is available from, who else, Business Valuation Resources, is not actually quantifying the company-specific risk but, rather, it is allowing the analyst to determine the rate of return that is applicable to companies in the public market as a starting benchmark for the determination of the discount rate. This calculator will allow us to determine the total cost of equity (TCOE) for our guideline companies. Similar to the application of the guideline company method, the analyst can then adjust the cost of equity for the differences between the subject company and the guideline companies. This is clearly a great addition to what we have done in the past.

It is important to know that there have been a number of criticisms about the Butler-Pinkerton Calculator. The primary criticism) is the calculator's subjective nature. An analyst must select guideline companies, choose a time period over which beta will be measured, and make adjustments to the TCOE figures that are calculated for risks specific to the subject company. There has also been criticism regarding the validity of the theoretical underpinnings of the Butler-Pinkerton Calculator, specifically total beta. Before the valuation analyst uses the Butler-Pinkerton Calculator, I highly encourage the analyst to read these criticisms and the responses from Butler and Pinkerton and other experts. Many of these articles can be accessed for free on the Business Valuation Resources website.

## Implied Cost of Equity Capital

In the summer 2016 edition of *Business Valuation Review*, Bradford Cornell, PhD and Rajiv Gokhale, MBA, published an article that discussed a valuation model based on the implied cost of capital (ICC).<sup>17</sup> The ICC model takes into account the analyst earnings forecasts of the guideline publicly traded companies. Because the market capitalization of the publicly traded companies is already known, the valuation analyst can perform a discounted cash flow calculation using analyst's forecasts to calculate the rate of return that equates the projected future cash flows to the market capitalization of the firm. A significant barrier to this methodology is the lack of data because certain publicly traded companies have little analyst coverage and may not have earnings forecasts available. Furthermore, the model is only as good as the publicly traded companies that are being used to value the subject under a market approach.

Ultimately, it is important to understand that these models are just tools that are available to estimate the cost of equity for a privately held company. These models do not provide analysts with a number that can be used in the income approach without further analysis or adjustment. Regardless of whether comparable guideline public companies exist, deriving the discount rate for a privately held company remains a very subjective procedure; analyst judgment and intuition still play primary roles. Thus, although the valuation analyst does not have to (and probably should not) rely on these models (or any model) as a stand-alone, it is always helpful to have access to another perspective with regard to something as subjective as a private company discount rate.

17 Bradford Cornell, PhD and Rajiv Gokhale, MBA, "An 'Enhanced Multiple' Corporate Valuation Model: Theory and Empirical Tests," *Business Valuation Review* (Summer 2016): 52–61.

## Industry Risk—A Component of Company-Specific Risk in a Build-Up Method

Starting in 2000, SBBI started to include data on IRPs in its valuation edition and included them through its discontinuation in 2013. Starting in 2014, the *Valuation Handbook* began publishing this data for over 250 industries. Some are positive, and others are negative. In a build-up methodology, the industry risk is generally captured as part of the company-specific risk premium, whereas in the CAPM, the industry risk is captured in the beta (take my word for it until we discuss betas).

The manner in which the *Valuation Handbook* calculates the IRP transforms the build-up method into a modified CAPM. D&P uses the following formula to calculate the IRP:

$$IRP = (FIB \times ERP) - ERP$$

$IRP$  = Industry risk premium  
 $FIB$  = Full-information beta for the industry  
 $ERP$  = Equity risk premium

Many valuation analysts do not use this as a separate component because many industries have little data. In order to perform these calculations, D&P requires that (1) there be at least 10 companies in the industry with an aggregate beta between zero and 5 and full-information beta between zero and 3; (2) each company must have at least 36 months of contiguous return data; (3) sales for the company must be greater than \$100,000 in the most recent fiscal year; and (4) the market capitalization must be no less than \$10,000 in the most recent month. Some of these requirements differ from what Morningstar used in SBBI. Therefore, comparison between these two publications may be poor.

In order to calculate the IRP, D&P uses a full-information beta. Full-information beta is explained in the *Valuation Handbook* as follows:

The full-information beta methodology is based on the premise that a business can be thought of as a portfolio of assets. The full-information methodology is designed to capture the impact that the individual segments have upon the overall business beta. After identifying all companies having segment sales in an industry, the analyst calculates a beta estimate of those companies. The analyst then runs a multiple regression with betas as the dependent variables (applying a weight to each beta based on its relative market capitalization to the industry market capitalization) and sales of the segments of each of the companies in the industry as the independent variable. That is, one is measuring the relative impact on the betas of companies in an industry based on the relative contribution (as measured typically by sales) each company has within the industry<sup>18</sup>

The full-information beta methodology utilized in the *Valuation Handbook* is nearly identical with how it was calculated by Morningstar. The same database and data are used. D&P also attempted to improve the overall quality of the IRPs. Morningstar had previously required 36 months of return data in the previous 60 months and only 5 participants to publish an IRP for an industry. D&P's restrictions remove some of the "spotty" data for industries with few participants or high volatility, or both, from period to period.

D&P also provides IRPs using three different ERPs: long-term historical ERP (as was previously published in SBBI), long-term supply-side ERP (also published by Morningstar), and the D&P-recommended ERP. When using the IRP, you must be consistent with other assumptions made in the discount rate. For example, if you are using a build up using the historical ERP data, make sure you are using the IRP that uses the long-term historical ERP. The *Valuation Handbook* makes this easy for you because it provides you with multiple IRPs. Also, recall that the D&P calculators automatically adjust the IRP depending on the input ERP.

<sup>18</sup> *Valuation Handbook*, 5-11 and 5-12.

If you are performing a retrospective valuation and need to use SBBI to obtain the IRP, you may need to make this adjustment manually if you want to apply it to the *Risk Premium Report* data. The IRPs published in SBBI were based on the historical ERP, which differs from the forward-looking ERP estimated by D&P. Thus, we must adjust the IRP to use the ERP determined via the *Risk Premium Report* by applying the following equation:

$$\text{IRP}_{\text{Adjusted}} = \text{IRP}_{\text{SBBI}} * (\text{ERP}_{\text{D\&P}} / \text{ERP}_{\text{SBBI}})$$

As with everything else, the valuation analyst needs to make certain that he or she understands what he or she is using. There is a lot of data out there to be used in our profession. However, it is not always consistent and sometimes may overlap. Always be mindful to understand what the valuation analyst is working with.

Why is the IRP important? This separately calculated risk component addresses the risks associated with companies in a particular industry. It can be extracted from the company-specific risk premium as a separate element, which is always a good thing. As an example, my staff critiqued another analyst's report in which the analyst did not include an IRP and had a company-specific risk premium of only 0.5 percent. When we looked up the IRP in SBBI, it was 4.9 percent. This means that if we pulled the industry risk out of the company-specific risk premium, the analyst had a company risk of negative 4.4 percent. This was a company that was highly dependent on a key person, had significant customer concentration, had borrowings coming due shortly, had supplier issues, and had a host of other risk factors that made this company's cash flow pretty risky in the future. There was no way that the company-specific risk should have been negative. This is just one more example of using the information that we have available to us to test the reasonableness of a discount rate.

## Application of the Discount Rate

The rates of return appearing in the *Valuation Handbook* are after tax with respect to corporate entities but pretax to the investor. I am not sure why, but this seems to confuse a lot of people. Because public companies report their results on an after-tax basis, the *Valuation Handbook* data is logically after tax to the corporations. However, what should we consider the Treasury bonds to be? These returns are actually pretax to the government or after tax when you consider that the government does not pay taxes. A source of confusion is that the rates of return are pretax to the investor. Because we are normally being asked to value the business enterprise, personal taxes have no relevance. Total stock returns, as used in the *Valuation Handbook*, are defined as dividends plus unrecognized capital gains. The unrecognized capital gains are measured from the beginning of the year to the end of the year. Therefore, the returns reflected by these studies are considered to be cash returns, and the data used in determining discount rates from these studies should be applied to net cash flow and not earnings. An adjustment would be required to derive the appropriate discount rate to use for earnings. The reason for this adjustment is that earnings are considered riskier than cash flow because other factors (capital expenditures, working capital needs, and net borrowings) are not taken into consideration.

## When All Else Fails, Go Back to the Theory

When the valuation analyst gets to the point where he or she cannot get as lucky as I was when I found out that there was another way to determine a rate of return for the subject company, he or she needs to go back to good old valuation theory. Let's spend some time discussing some of the more popular methods for calculating discount rates. This discussion will include the following:

- The build-up method
- CAPM
- Price-to-earnings reciprocal plus growth
- Factor rating method
- WACC (a method of calculating a discount rate for invested capital, which may include the other methods in this list)

## The Build-Up Method

Many valuation analysts, especially those who work with smaller closely held companies, use the build-up method for developing a discount rate. The build-up method embodies all the elements of the discount rate previously described, including (1) a risk-free rate, (2) an ERP, and (3) a company-specific risk premium, which would also include a size premium, an industry premium, and anything else that will cause a premium, whether positive or negative. A demonstration of the build-up method is shown in table 13.2.

**TABLE 13.2 The Build-Up Method**

“Safe” rate	5.00%
ERP	7.20%
Size premium	4.20%
Company-specific risk premium	3.00%
Discount rate	19.40%

The *Risk Premium Report* contains several variations of the build-up method, which are discussed in the text that follows.

### Build-Up 1 Method

The build up 1 method consists of (1) a risk-free rate, (2) a size-adjusted ERP, and (3) an ERP adjustment. The difference between the build-up 1 method and the traditional build-Up method that appears in table 13.2 is the manner in which the ERP and the size premium are calculated. Instead of accounting for these two components of the discount rate individually, the build-up 1 method calculates a size-adjusted ERP that includes both the ERP and the size premium. The size-adjusted ERP is calculated as the average risk premium over the risk-free rate over the period 1963–2015 for each of the 25 size-ranked portfolios.

Also included in the build-up 1 method is an ERP adjustment. The ERP is necessary to reconcile the historical ERP that is calculated by D&P and the ERP that the valuation analyst utilizes in the valuation. For example, suppose the valuation analyst determines that a 5.5 percent ERP is appropriate. In this instance, the ERP adjustment would be 0.6 percent, which is calculated as the valuation analyst’s ERP of 5.5 percent minus the D&P historic ERP of 4.9 percent.

One drawback of the build-up 1 method is that it cannot be used in conjunction with an IRP or a beta to capture the risk associated with the industry in which the valuation subject operates. Because the risk premium is measuring the total risk premium over the risk-free rate, it captures the combined effect of both market (beta) risk and size risk. Therefore, utilizing an IRP or beta in addition to the size-adjusted risk premium would result in double-counting. When utilizing the build-up 1 method, the valuation analyst will have to perform a thorough qualitative analysis to incorporate industry risk and company-specific risk into the discount rate.

### Build-Up 2 Method

The build-up 2 method allows the valuation analyst to use the *Risk Premium Report* data in conjunction with the IRP. In this method, the components of the discount rate include (1) a risk-free rate, (2) an ERP, (3) a size premium, and (4) an adjusted IRP. The build-up 2 method closely resembles the modified CAPM model. The only difference is that an IRP is used as opposed to a beta. When utilizing the build-up 2 method, the valuation analyst must be prepared to explain why the guideline public companies might be good enough to be used as a measure of industry risk but were possibly not comparable enough to use in the market approach. We often see valuation analysts apply an IRP without knowing which companies are included in the composite data.

### Unlevered Model

The unlevered model allows the valuation analyst to estimate the cost of equity under the assumption that a company is financed with 100 percent equity and 0 percent debt. The components of the discount rate include (1) a risk-free rate, (2) an unlevered size-adjusted ERP over the risk-free rate, and (3) an ERP adjustment. The model is almost identical to the build-up 1 method. The only difference is that an unlevered size-adjusted ERP is being used as opposed to the levered size-adjusted ERP that is being used in the build-up 1 method. As is the case with the build-up 1 method, this method captures both market risk and size risk and, as a result, cannot be used in conjunction with an IRP or a beta.

## Modified CAPM

The *Risk Premium Report* also gives the valuation analyst the option to develop a discount rate using a modified CAPM model based on the *Risk Premium Report* rate-of-return data. A more detailed discussion of the CAPM model is contained in the next section.

## Capital Asset Pricing Model

The CAPM model was originally developed by William F. Sharpe. He published his theory in an article titled “Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk.”<sup>19</sup> You are probably thinking that this is a real sleeper, but this guy won a Nobel Prize in Economics—now, have I gotten your attention? The model was originally developed in the context of portfolio theory as a way to measure the risk an individual stock contributes to a well-diversified portfolio. By now, I assume that everyone who has read this book is familiar with the efficient market hypothesis stuff from school? That is what this relates to. It actually suggests that the price of securities in the public markets will not depart from their true values for any real length of time (based on the economics).

So, why is this in a business valuation book? CAPM has been modified to be used as a method of determining a discount rate, commonly used in the valuation of larger companies. It has little, if any, applicability to small- and medium-sized businesses, but no discussion about discount rates would be complete without mentioning its existence. If the valuation analyst uses the CAPM to develop a discount rate to be used in the valuation of a smaller business, the valuation analyst has probably lost his or her mind. This last sentence is probably one of the most quoted sections of this book!

A valuation analyst should be familiar with all the tools available in the profession because there is a good possibility that CAPM will be seen in another analyst’s report at some point in the future. That’s how I found out about it! The discussion that follows is not intended to be a highly technical discussion about CAPM but, rather, it is intended to explain, in English, what this model is all about. Finance textbooks can be consulted if you want to learn more about this subject or doze off while reading.

The theoretical basis for the CAPM comes from the application of the *efficient market theory*. In short, this states that the expected returns on investment portfolios are related to the expected risk of the investments included in the portfolios. The relationship between risk and reward becomes apparent in its truest form under the efficient market theory. Because investors are said to be risk averse, portfolios are structured to diversify away the risk. Right away, you should realize the limited applicability of this method for smaller companies because the owners of these businesses do not have diversified portfolios and do not have the ability to diversify away the risk associated with owning the closely held business.

The theory behind the CAPM is that we assume there are a fixed number of securities in which we can invest in the marketplace. Each of the securities has its own expected return (based on its level of risk) and standard deviation. The investor will select the security that offers the highest return and the lowest standard deviation. What does this mean? Investors don’t like to take chances if they can avoid them! They look to minimize their risk and, at the same time, maximize the return available to them.

I hate to do this to you, but the mathematical equation for the CAPM is as follows:

$$k_e = R_f + \beta * (R_m - R_f)$$

$k_e$  = Expected return (also known as the discount rate for equity)  
 $R_f$  = Risk-free rate  
 $\beta$  = Systematic risk (volatility explained in the following section)  
 $R_m - R_f$  = Long-term average risk premium of the market as a whole  
 minus the long-term average risk-free rate (also known as the ERP)

19 William F. Sharpe, “Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk,” *Journal of Finance* 19(3): 425–442.



The CAPM provides a discount rate that is applicable to the equity of the company (not invested capital). The formula looks a lot worse than it really is because the CAPM is similar to the build-up method, which is more commonly used by valuation analysts of smaller businesses. Always keep in mind that the three main components of a discount rate include a risk-free rate, an ERP, and a company-specific risk premium. If you notice, there is no company-specific risk in the formula. Therefore, it needs to be adapted for use in the valuation of a closely held company. In the discussion that follows, I will demonstrate that the CAPM has similarities with the much simpler build-up method.

## Components of the CAPM

There are two different methods that are commonly used to determine the risk-free rate. Long-term U.S. Treasury bond rates are generally used, as discussed previously in this chapter. The other method is more technically consistent with the CAPM assumption. In this approach, the risk-free rate is determined by taking the long-term Treasury bond rate minus Morningstar's horizon premium as defined and provided in *SBBi Classic*. The horizon premium represents maturity risk. This compensates for the fact that longer term Treasury securities are considered to be riskier because of their long-term nature.

Capital market theory segregates risk into two types: systematic and unsystematic. Systematic risk represents the uncertainty of future returns because of the sensitivity of the subject security to changes in the market as a whole. Unsystematic risk is a function of everything else. According to *Valuing a Business*, "The fundamental assumption of the capital asset pricing model is that the risk premium portion of the expected return of a security is a function of that security's systematic risk." In essence, because an underlying assumption of this model is that investors hold large, diversified portfolios, they are able to eliminate the unsystematic risk. Therefore, the CAPM only addresses systematic risk.

The systematic risk, beta, is the measure of the volatility of the stock market as a whole. It is a measurement that predicts how a stock will react to the movement of the stock market. The purpose of using a beta is to measure the expected return of the market based on the volatility that takes place when one uses guideline companies as a surrogate for the valuation subject. Because this is the expected return for a diversified portfolio, it is assumed that there is no specific risk relative to the company being valued. What this means is that a company's beta will predict what will happen to the price of the stock as the stock market goes up and down. A beta of 1.0 indicates that a company will move with the market (market up 10 percent, company up 10 percent). The use of public guideline data allows the valuation analyst to compare the median beta of these similar companies in order to predict the volatility of the valuation subject as if it were a public company.

Various sources can be used to determine betas. First of all, a beta can be calculated by the analyst (this procedure will not be discussed in this book, but more information can be found in Pratt's *Valuing a Business* or D&P's *Valuation Handbook*). The most common sources for finding betas are S&P's tear sheets, Value Line ([www.valueline.com](http://www.valueline.com)), and Wilshire Associates ([www.wilshire.com](http://www.wilshire.com)).

Because betas are calculated with respect to the entire market, the ERP ( $R_m - R_f$ ) should be calculated using an  $R_m$  that is representative of the return from the entire market. Some valuation analysts mistakenly use only the bottom part of the market to compensate for the size of the valuation subject. The fundamental assumption in the CAPM is that the risk premium portion of the expected return of a security is a function of that security's systematic risk. Capital market theory assumes that investors hold, or can hold, common stocks in large, well-diversified portfolios. Therefore, unsystematic risk is eliminated because of the diversification in the portfolio. (Can you believe this stuff?) *SBBi* was, and the *Valuation Handbook* (likely) is, the most commonly used sources for  $R_m$ . It is incorrect to include the return on small stocks in the  $R_m$  term in the CAPM equation. Because betas are calculated with regard to the entire market,  $R_m$  must be the return on the entire market, not just that portion in the bottom of the market. When beta equals 1.0 in the CAPM equation, the indicated return is the return on the market as a whole.



### Author's Note

Different sources of betas vary in the manner in which they are calculated. It is important that you be consistent when you use published betas. It is preferable to get them all from the same source or calculate your own.

It should also be noted that the  $R_f$  at the beginning of the equation is the risk-free rate at the valuation date, whereas the  $R_f$  in parentheses is a long-term average  $R_f$ . Although  $R_f$  is assumed to be the rate of return on a long-term U.S. Treasury bond, the rate on a short-term Treasury note might make more sense in certain instances. This may be the case when a shorter holding period (such as a self-liquidating investment of 10 years) is expected.

The ERP can be determined as discussed previously. However, you cannot use the *Risk Premium Report* to calculate a size-adjusted ERP for all the same reasons that I have been discussing. The entire market must be used. That does not mean, however, that a size premium from the *Risk Premium Report* cannot be used. In fact, it is a great resource. I will discuss this more shortly.

Another source is the *Valuation Handbook*, which contains some really good stuff. This publication provides industry-adjusted cost of capital using CAPM, the CRSP decile, and *Risk Premium Report* data included in the *Valuation Handbook, Valuation Edition*, as well as a plethora of other information by industry. This publication includes betas, financial ratios, historic return data, valuation multiples, and cost of capital estimates for numerous SIC codes. Within each industry, ICC calculates the median cost of capital for the companies included in a particular SIC code and also includes a SIC composite (which is weighted by the market capitalization of all the firms in the industry), large composite, small composite, and a high financial risk category. This allows the valuation analyst to compare the subject company to firms in the same industry that are of similar size. ICC calculates the cost of equity using various methodologies, including a CAPM plus-size premium and the build-up method based on data from either CRSP or the *Risk Premium Report*. This data is another useful tool for valuation analysts to incorporate into a discount and capitalization rate analysis.

There have been several articles written about the merits of using forward-looking ERPs over a reliance on the historical ERP. It seems logical to use forward-looking data because valuation is a prospective process. The real question to ask yourself over and over again is: How will this get us a more accurate valuation conclusion? If the valuation analyst believes that the forward-looking ERPs will allow him or her to do a better job, then he or she should use them. I have found that the small businesses that we value are relatively unaffected by all of this stuff. Rarely, if ever, will the CAPM be applicable to small companies. (Can you imagine trying to explain this stuff to a jury?) In reality, betas cannot be calculated for the small closely held company for which guideline company information is unavailable. The CAPM assumes that the market is efficient. (Talk about big assumptions!) An inefficient market will create distortions in the model. Computerized trading and insider information (among other factors) can cause the market to be less efficient than it could be. I have included an annotated list of underlying assumptions (box 13.4) that the model is largely based upon (my comments are in parentheses).

**BOX 13.4****CAPM Underlying Assumptions**

CAPM assumes the following:

- Investors are risk adverse. (No kidding!)
- Rational investors seek to hold efficient portfolios, that is, portfolios that are well diversified. (That's great, but how many of our clients have enough money to fully diversify? So, while they may want to diversify, they cannot.)
- All investors have identical investment time horizons, that is, expected holding periods. (All investors expect to hold their investments for the same time period. This means that there is no distinction among investors between day traders, short-term investors, or long-term investors.)
- All investors have identical expectations about such variables as expected rates of return and how capitalization factors are generated. (Every investor expects the same rate of return—give me a break!)
- There are no investment-related taxes or transaction costs. (Come on—Uncle Sam is not going to tax us, and Merrill Lynch is not going to charge for the transactions. Are you kidding?)
- Relative price volatility (beta) is a modifier of equity market risk and required return. (And this means what?)
- The rate received from lending money is the same as the cost of borrowing money. (Tell that to Big Tony on the Sopranos, or even more ridiculous, tell it to Chase Manhattan Bank!)
- The market has perfect divisibility and liquidity. (And I believe in the Tooth Fairy and Santa Claus.)

Obviously, the underlying assumptions that enter into CAPM can be considered somewhat silly. In a litigation situation, the valuation analyst can have his or her client's attorney cross examine the opposing expert about these assumptions. The judge or jury can always use a good laugh (assuming that they have any idea about what this stuff means).

The CAPM is used to derive an equity discount rate that is applicable to net cash flow. It is not intended to be applied to invested capital (debt and equity), nor is it intended to be applied to earnings. Because future returns and betas cannot be measured, historical data must be used as a surrogate.

To add a little bit more uncertainty to your life, betas can be unlevered and re-levered. Because public companies may have different capital structures than the private company being valued, better comparability can be achieved by jumping through hoops. This is done for reasons similar to why we value invested capital, rather than equity. In case withdrawal is setting in, here's a formula fix: A beta can be unlevered using several different methodologies. In this book, I am only going to provide two of them: the *Hamada formula* and the *Harris-Pringle formula*. The Hamada formula is probably the most widely known and frequently used for the purposes of levering and unlevering betas. The Harris-Pringle formula is an alternative to the Hamada formula and is used in the *Risk Premium Report* to unlever risk premiums. I will discuss both of these methods in the following paragraphs.

### The Hamada Formula

The Hamada formula is presented as follows:

$$\text{Unlevered Beta} = \frac{\text{Levered Beta}}{1 + [(\text{Debt/Equity}) * (1 - \text{Tax Rate})]}$$

The levered beta is the beta that the valuation analyst would look up. This means that it is based on the public company's actual capital structure, which includes both debt and equity. After the analyst unlevers the beta, he or she then gets to re-lever it using a different capital structure. The formula to re-lever the beta is as follows:

$$\text{Levered Beta} = \text{Unlevered Beta} * (1 + [\text{Debt/Equity}] * [1 - \text{Tax Rate}])$$

As with any theory, even the Hamada formula has come under scrutiny during the last bunch of years. According to Roger Grabowski and Shannon Pratt

The Hamada formulas are consistent with theory that:

- The discount rate used in calculating the tax shield equals the cost of debt capital (that is the tax shield has same risk as debt).
- The formulas imply that tax deductions on the interest expense will be realized in the periods in which the interest is paid.
- Value of the tax shield is proportionate to the value of the market value of debt capital (that is, value of tax shield =  $t \times W_d$ ).
- The amount of debt capital is fixed as of the valuation date and remains constant.<sup>20</sup>

This is starting to get too complicated. I suggest buying the 5th edition of *Cost of Capital: Applications and Examples* to read more about this topic.

Before we write off this method, it should be noted that many valuation analysts still use it in practice. Therefore, because little of this stuff makes sense without an example, let's do one.

<sup>20</sup> Shannon Pratt and Roger Grabowski. *Cost of Capital: Estimation and Applications*, 5th edition (New York: Wiley, 2014): 247.

XYZ Corp. has interest-bearing debt that represents 25 percent of its total capital structure (the market value of invested capital for the company). The primary competition in the public world has levered betas that average 1.2. Their average debt-to-equity relationship (considered optimal) is 0.6. The unlevered beta can be calculated as follows:

$$\begin{aligned}\beta_U &= \beta_L / (1 + ((\text{Debt/Equity}) * [1 - \text{Tax Rate}])) \\ \beta_U &= 1.2 / (1 + [0.6] * [1 - .40]) \\ \beta_U &= 0.88\end{aligned}$$

Now that we have unlevered the beta, the next step is to relevel the beta. Why do we do this? We relevel the beta to capture the debt-to-equity relationship of the subject company. This allows a better calculation of the volatility risk (beta) taken from the public guideline companies by incorporating the closely held company's capital structure into the determination of the discount rate. Re-levering the beta for the subject company is done as follows:

$$\begin{aligned}\beta_L &= \beta_U * (1 + [\text{Debt/Equity}] * [1 - \text{Tax Rate}]) \\ \beta_L &= 0.88 * (1 + [.25/.75] * [1 - 0.40]) \\ \beta_L &= 1.06\end{aligned}$$

### The Harris-Pringle Formula

For those of us who go to the grocery store, Pringles is a potato chip. I get hungry every time I think about this stuff. Anyway, the Harris-Pringle formula is as follows:

$$\text{Unlevered Beta} = \frac{\text{Levered Beta} + \text{Beta of Debt} * (\text{Debt/Equity})}{1 + (\text{Debt/Equity})}$$

Re-levering the beta is completed by using the following formula:

$$\text{Levered Beta} = \text{Unlevered Beta} + (\text{Unlevered Beta} - \text{Beta of Debt}) * (\text{Debt/Equity})$$

According to Grabowski and Pratt:

The Harris-Pringle formulas are consistent with the theory that:

- The discount rate used to calculate the tax shield equals the cost of equity calculated using the asset beta of the firm (i.e., the risk of the tax shield is comparable to the risk of the operating cash flows). That is, the risk of realizing the tax deductions is greater than assumed in the Hamada and Miles-Ezzell formulas.
- Debt capital bears the risk of variability of operating net cash flow in that interest payments and principal repayments may not be made when owed, which implies that tax deductions on the interest expense may not be realized in the period in which the interest is paid (i.e., beta of debt capital may be greater than zero).
- The market value of debt capital remains at a constant percentage of equity capital, which is equivalent to saying that debt increases in proportion to the net cash flow of the firm (net cash flow to invested capital) in every period.<sup>21</sup>

Again, reading Grabowski and Pratt's book will explain this method in more detail, as well as provide alternative methods to unlevering and levering betas. If the Harris-Pringle and Hamada formulas are compared, it appears that the key differences are the incorporation of a debt beta and tax rates. The Harris-Pringle formula accounts for a debt beta but assumes that the tax rates of the subject company are the same as those for publicly traded competitors.

<sup>21</sup> *Ibid.*, 252.

Before we move on, let's do an example. We will apply the same assumptions used in the discussion on the Hamada formula, as well as a debt beta of 0.3. Unlevering the guideline company beta is shown as follows:

$$\begin{aligned}\beta_U &= (\beta_L + \beta_D * [(Debt/Equity)]) / (1 + (Debt/Equity)) \\ \beta_U &= (1.2 + 0.3 * 0.6) / (1 + 0.6) \\ \beta_U &= 0.86\end{aligned}$$

Next, we will relever the beta using the subject company's debt-to-equity ratio:

$$\begin{aligned}\beta_L &= \beta_U + (\beta_U - \beta_D) * (Debt/Equity) \\ \beta_L &= 0.86 + (0.86 - 0.3) * (.25 - .75) \\ \beta_L &= 1.05\end{aligned}$$

Now, hold that thought because we will use this stuff some more when we talk about the WACC.

## Adapting CAPM for the Closely Held Business

Getting back to the real-world requires a valuation analyst to modify the CAPM if it is to be used for the valuation of a closely held company. Remember that this model was developed for use in portfolio analysis and not business valuation. The assumption of a well-diversified portfolio that eliminates unsystematic risk is a poor assumption when trying to address the value of a closely held business. The owner of a closely held company can rarely diversify away the risk element of the closely held business being the major investment in his or her portfolio. Therefore, the CAPM formula is generally modified for the valuation of closely held companies as follows:

$$\begin{aligned}k_e &= R_f + \beta (R_m - R_f) + \alpha \\ \alpha &= \text{Alpha, unsystematic risk (company specific)}\end{aligned}$$

The alpha may be a company-specific risk adjustment or an adjustment for size, or both. Because the CAPM assumes a diversified portfolio, an additional factor that is specific to the investor in a closely held company should be considered. For that investor, the closely held company may be the largest investment of his or her lifetime, and there may not be any diversification. Therefore, unsystematic risk, which was assumed to be diversified away in the original CAPM equation, may be a factor in the discount rates of closely held companies. The size premium should vary depending on the size of the valuation subject. The discount rates for small companies are generally higher than those for large ones, despite the fact that the betas of smaller companies are often lower than those of larger companies. Smaller companies tend to trade less often, which ultimately leads to lower betas. However, many smaller companies can have tremendous illiquidity premiums.

Before we go any farther, let's spend some time on the *Risk Premium Report*, particularly applying it to the size premium for use in CAPM.

The data included in the *Risk Premium Report* covers all 8 metrics and is broken down into 25 percentiles. The data provided includes average market value, sumBeta, arithmetic returns, arithmetic equity risk premiums, indicated CAPM premium, premium over CAPM, and smoothed premium over CAPM for each percentile. CAPM is used to help determine the size premium for each of the percentiles. This means that the size premium, as determined in this report, is the excess over the CAPM. D&P also provides data from Morningstar's *S&P 500 Classic* on these tables in the *Valuation Handbook* so that you can use them in applying CAPM. Let's do an example and try to make sense out of this stuff.

Let's assume the following:

$$\begin{aligned} R_f &= 5.00\% \text{ at valuation date} \\ \beta &= 0.90 \text{ (median of guideline companies)} \\ \text{ERP} &= 4.81\% \text{ (12.01\% - 7.20\% from D\&P table)} \\ \alpha &= 2.00\% \end{aligned}$$

Further, assume that the smoothed premium over CAPM for the 25th percentile for each of the 8 metrics results in an average of 7.30 percent. Calculate the cost of equity using CAPM:

$$\begin{aligned} k_e &= R_f + \beta (R_m - R_f) + \alpha \\ k_e &= 5.00\% + [0.90 * 4.81\%] + 7.30\% + 2.00\% \\ k_e &= 18.63\% \end{aligned}$$

What did we just do? We multiplied the ERP (calculated as the difference between the large company stocks and the income returns from long-term Treasury bonds) by the median beta (determined from guideline companies). We added the risk-free rate at the valuation date to that, the average size premium from the *Risk Premium Report*, and the company-specific risk premium. If the subject company is smaller than the 25th percentile, you can apply the same type of analysis as presented earlier in this chapter to get a more applicable size premium. Notice, however, that this is only applicable to size in this instance because the ERP is handled separately.

The company-specific adjustment is based on the valuation analyst's judgment. The factors used to make this adjustment are similar to those that are used for selecting market multiples. The difficulty with this adjustment is determining how much weight to put on the risk of achieving the forecasted growth. In the market approach, you can at least look at the guideline companies' earnings estimates to get an idea of short-term growth rates. In the derivation of a discount rate, particularly from the overall market, it is considerably more difficult.

## Other Methods for Estimating a Discount Rate

There are several alternatives to the build-up and CAPM methods. I like the dart board approach: Throw a dart and pick a discount rate. Although this book cannot possibly cover every alternative, I want to discuss some of the more common methods of deriving a discount rate. More often than not, the same methods are used to develop capitalization rates, which I will discuss. Remember that the difference between discount rates and capitalization rates is long-term sustainable growth. Some of the alternatives include the following:

- Price-to-earnings reciprocal plus growth
- Factor rating method
- WACC
- The private cost of capital (PCOC) model
- *International Valuation Handbook—Guide to Cost of Capital*

## Price-to-Earnings Reciprocal Plus Growth

One of the methods used to calculate a discount rate is to take the reciprocal of an industry-specific price-to-earnings multiple from the market (this provides a capitalization rate) and add the expected growth rate of the returns attributable to the guideline companies. This is said to be a market-derived rate because the price-to-earnings multiples will be determined from guideline companies. Because an earnings-to-price ratio is the same as a capitalization rate, long-term sustainable growth must be added to the result to convert from a capitalization rate to a discount rate.

Mathematically, the formula would look like this:

$$k - g = c$$

$$\begin{aligned} k &= \text{Discount rate} \\ g &= \text{Growth (long-term sustainable)} \\ c &= \text{Capitalization rate} \end{aligned}$$

Therefore, moving around the components of this formula results in the following:

$$c + g = k$$

If the valuation analyst uses this method, please remember that the result is a discount rate that is applicable to net income and not cash flow. Because the price-to-earnings multiple uses earnings and not cash flow, the result will be an earnings-based capitalization rate that is then converted to an earnings-based discount rate. Be careful to remain consistent (apples to apples, not apples to bananas—we do not want a fruit salad).

The difficulty in applying this method is figuring out what the market's expectations are for long-term sustainable growth. This growth is reflected in the market price of the stocks, but it is not published anywhere. Some valuation analysts will turn to industry data to come up with this expected growth rate. In practice, I have found that the rates published for industries are short term (maybe a few years), not long term. This makes this method difficult to use.

Let me give you an example. Let's assume you find public companies that are in the industry of the subject company. The average or median (for those who want to be more statistically correct) price-to-earnings multiple of these companies is 25 to 1. This means that these public companies are currently trading at 25 times earnings. The mathematical inverse, or capitalization rate, implied by the market can be stated as follows:

$$1/25 = .04 \text{ or } 4\%$$

If you refer to the *Valuation Handbook*, you can find out what they have reported as the median discount rate for the specific two- or three-digit SIC code based on the different methods they use to calculate it. More often than not, the discount rate for equity will fall in the range of +/- 15 percent. If this were the case, the implied growth rate, which would be the difference between the discount rate and the capitalization rate, would be about 11 percent. The problem with this picture is a simple one. A company's earnings cannot possibly grow at an 11 percent rate into perpetuity or it will eventually exceed the gross domestic product of the world. Long-term sustainable growth cannot exceed the rate of inflation and population growth. Even if short-term growth is high, the present value of this growth into perpetuity cannot be that high.

## Factor Rating Method

Another way of determining a discount rate is known as the *factor rating method*. This is very similar to what was described in the Frank Evans article. This method tends to be more popular among business brokers than among valuation analysts. However, this method is not much different from the build-up method. In the factor rating method, the company-specific risk premium is broken down into numerous factors. Each factor is given a weighting. These weightings will vary depending upon the valuation analyst, but they generally range from zero to three. The factors may include the location of the business, financial performance, management, liquidity, and so forth. In case these factors aren't apparent, they are all the items that the valuation analyst should be considering in the risk analysis of the company. Frequently, the use of this method is for the determination of a capitalization rate (not a discount rate) to be applied against seller's discretionary cash flow.

There is nothing empirical about the zero to three range for the factors. It is judgment. That's right, judgment. As a matter of fact, it is subjective judgment. As valuation analysts, it is our job to be objectively subjective. Be very careful if planning to use this method. I personally do not think that it is very good to use for anything more than factors to consider in determining company-specific risk.

## Weighted Average Cost of Capital

The next method for determining a discount rate is known as the WACC. (I used to think that this business was wacky! I don't think that anymore. Now I know it! But before you quote me out of context, this is a generally accepted methodology for determining a discount rate to be applied to invested capital net cash flow). The WACC is a combination of (1) the required rate of return on the equity of the company and (2) the required

rate of return on the debt of the company. The WACC is used when the valuation analyst values the invested capital of the valuation subject (invested capital = debt + equity).

The theory behind a WACC is simple. Because a company is financed partly with debt and partly with equity, the return on investment should consider the risk of each element. Because the business owner is not directly responsible for the debt (assume no personal guarantee), the bank, not the business owner, is the one that is at risk for that portion of the invested capital. Therefore, if the benefit stream comprises both debt and equity, it would seem logical that the risk is reduced on the overall capital for the investors.

However, the business owner is completely at risk for the money that he or she invests in the business. This money should command a higher return because of the increased risk associated with that portion of the invested capital. So, what does this all mean?

The WACC is determined using the following formula:

$$(k_e \times W_e) + (k_d [1 - t] \times W_d)$$

$k_e$  = Required rate of return for the company's equity capital (discount rate)  
 $k_d$  = Company's cost of debt capital (borrowing)  
 $W_e$  = Percentage of equity capital in the company's capital structure  
 $W_d$  = Percentage of debt capital in the company's capital structure  
 $t$  = Company's effective income tax rate

Pretty ugly, isn't it? Once again, this looks more complicated than it really is. A demonstration of the calculations is shown in exhibit 13.1.

### EXHIBIT 13.1 Application of the WACC

Assume that after the valuation analyst analyzes the company, its industry, and other pertinent factors, it is determined that the company's required rate of return on equity is 20 percent. The company is borrowing money from its bank at 9 percent. The company's effective tax rate is 40 percent. The company's condensed balance sheet looks like this:

Assets		Liabilities and Equity	
Current assets	\$ 500,000	Current liabilities	\$ 200,000
Fixed assets (net)	725,000	Long-term debt*	300,000
Other assets	175,000	Equity	900,000
<b>Total</b>	<b>\$1,400,000</b>	<b>Total</b>	<b>\$1,400,000</b>

\* Long-term debt contains all the debt on the balance sheet. The short-term portion of the long-term debt would also be included in the calculation below.

Based on these facts, the WACC would be calculated as follows:

$$\begin{aligned}
 &(k_e \times W_e) + (k_d [1 - t] \times W_d) \\
 &(.20 \times .75) + (.09 [1 - .40] \times .25) \\
 &.15 + .01 = .16
 \end{aligned}$$

Capital structure:

$$\text{Debt: } \$300,000 + \text{Equity: } \$900,000 = \text{Total: } \$1,200,000$$



Note that there is a technical error in exhibit 13.1. The WACC calculation is supposed to be based on the market value of the debt and equity. For closely held companies, we are generally valuing the equity. Therefore, this contains circular logic. We need to know the answer to get the answer! For the WACC to truly work, the theory indicates that we should allocate the cost of capital for the invested capital based on the market value of the debt and equity. If we knew the market value of the equity, why would we need to do any other calculations? We would already have the value of the subject company. For guideline companies, this works. For closely held companies, we make assumptions.

If the company has preferred stock, as well as common, the formula would be modified to include the preferred stock as part of the capital structure, and the formula would look like this:

$$(k_e \times W_e) + (k_p \times W_p) + (k_d [1 - t] \times W_d)$$

$k_p$  = Cost of capital for the preferred stock  
 $W_p$  = Weight of the preferred stock in the capital structure

Now imagine if you have class A common and class B common, among others. You can have one heck of an equation if you choose to!

Regardless of the number of classes and types of stock in the capital structure, the same question arises time and time again: What capital structure should be used in the WACC equation? Should it be the actual capital structure of the subject company, or should it be the normal capital structure of the industry? There are valid arguments for both alternatives if the interest being valued is a controlling interest. However, a minority interest cannot change the capital structure of the business, whereas the controlling interest can. This means that consideration should be given to the ability of the willing buyer to change things.

In a smaller business, it is not unusual to see much more debt as a percentage of the capital structure. This is usually because the small company is undercapitalized and depends on debt to make up the difference. However, the small business owner frequently guarantees this debt and uses his or her residence or other belongings as additional security for the lender. In this instance, the debt starts to take on the attributes of equity because of the risk of personal loss to the owner. This could be justification for using a discount rate that is higher than the WACC, but lower than the discount rate for pure equity. Once again, common sense and good judgment must be applied on a case-by-case basis.

Because I promised that we would use the levering and unlevering example again, let's do it. Note that depending on what data is used to derive the cost of equity, you should be consistent in applying either the Hamada or Harris-Pringle formula. If risk premiums from exhibit B of the *Risk Premium Report* are being used, then the Harris-Pringle formula should be used. We will apply the Hamada formula in our example.

Assume that the controlling stockholder of XYZ Corporation is planning to gift a minority interest to his child. Let's calculate a WACC using CAPM with the information from the previous example along with the following: 20-year risk-free rate = 6%; ERP = 7%; size premium = 5%; tax rate = 40%; borrowing rate = 10%; company-specific risk = 4%.

$$(k_e \times W_e) + (k_d [1 - t] \times W_d)$$

Let's calculate the discount rate:  $(k_e) = 6\% + (7\% \times 1.06) + 5\% + 4\% = 22.42\%$ . The 1.06 is the re-levered beta from the previous example. A minority interest cannot change the capital structure, so this beta is used along with the actual capital structure for XYZ Corporation, which provides a WACC as follows:

$$(22.42 \times 75\%) + (10.00 [1 - .40] \times 25\%)$$

$$16.82 + 1.5 = 18.32\%$$

The weights of 75 percent and 25 percent were based on the company's actual capital structure, which was given as 25 percent interest-bearing debt. If a control buyer came along, the WACC would be calculated as follows:

$$(22.42 \times 40\%) + (10.00 [1 - .40] \times 60\%) \\ 8.97 + 3.60 = 12.57\%$$

The weights given to the debt and equity are now based on the optimal capital structure that was given previously based on the guideline companies. The assumption for a control owner is that the capital structure will most likely resemble that of the industry (guideline companies) and will be aimed at lowering the cost of capital to the invested capital. Lowering the cost of capital will help maximize the value of the company.

### The Private Cost of Capital Model

All the methodologies to derive discount rates discussed thus far have relied on historical data available in the public market. However, the ultimate goal behind developing a discount rate is to reflect the rate of return expected by an investor in a particular company. The problem with using data from the public market is that it reflects the rates of return for companies in the public markets, rather than the private markets. Furthermore, this data is based on historical returns, rather than expected or required rates of return. In using this data, we make adjustments to the discount rate (often subjective; think company-specific risk premium) and through other analyses (for example, S corporation premium calculations) to account for company-specific risks that do not exist in the public market. Some differences between the public and private markets are shown in figure 13.13.<sup>22</sup>

**Figure 13.13**

<b>Public Markets (Wall St.)</b>	<b>Private Markets (Main St.)</b>
<b>Use of C corporation</b>	<b>Can be any type entity (S, LLC, etc)</b>
<b>Value is established by a market</b>	<b>Value is established at a point in time</b>
<b>Ready access to public capital markets</b>	<b>No access to public capital markets</b>
<b>Owners have limited liability</b>	<b>Owners may have unlimited liability</b>
<b>Owners are well diversified</b>	<b>Owners have one primary asset</b>
<b>Professional management</b>	<b>Owner management</b>
<b>Company has infinite life</b>	<b>Typical company life of one generation</b>
<b>Liquid securities efficiently traded</b>	<b>Illiquid securities inefficiently traded</b>
<b>Profit maximization as goal</b>	<b>Personal wealth creation as goal</b>

A newer model, developed by John Paglia of Pepperdine University and Robert Slee of the investment banking firm Robertson & Foley, surfaced within the last decade. In order to avoid making some of the subjective adjustments that compensate for the differences between public and private companies, Paglia and Slee developed the PCOC model. This model is based on the Pepperdine PCOC survey project, which was launched

<sup>22</sup> Slee, Robert T., *Private Capital Markets: Valuation, Capitalization, and Transfer of Private Business Interests* (Hoboken, NJ: Wiley, 2004).

in 2007 by Paglia. The PCOC surveys collect return expectations from various segments of the private capital markets, including various sources of debt financing and equity investors who provide detail regarding the various criteria that prospects must meet in order to qualify for an investment. The survey is administered online on an annual basis to financial professionals. Pepperdine University provides the results of the PCOC study for free at <http://bschool.pepperdine.edu/appliedresearch/research/pcmsurvey/reports.htm>.

Paglia and Slee collected 627 responses in the first survey (published in August 2009) and over 1,500 responses in the 2014 survey (taken in October 2013). The results of the 2014 PCOC study are shown in figure 13.14.<sup>23</sup>

**Figure 13.14 Private Capital Market Required Rates of Return**

	1st quartile	Median	3rd quartile
Bank (\$1M CF loan)	5.0%	5.5%	6.1%
Bank (\$5M CF loan)	5.0%	5.0%	5.8%
Bank (\$10M CF loan)	3.4%	4.3%	5.1%
Bank (\$25M CF loan)	3.5%	4.0%	4.5%
Bank (\$50M CF loan)	3.5%	3.5%	3.5%
ABL (\$1M loan)	7.3%	8.3%	9.8%
ABL (\$5M loan)	5.6%	8.2%	11.5%
ABL (\$10M loan)	3.0%	6.9%	16.2%
ABL (\$25M loan)	3.8%	6.9%	12.0%
ABL (\$50M loan)	4.3%	6.1%	6.1%
Mezz (\$1M loan)	19.0%	21.0%	23.0%
Mezz (\$5M loan)	16.0%	16.8%	18.1%
Mezz (\$10M loan)	12.3%	14.2%	15.2%
Mezz (\$25M loan)	10.5%	11.2%	11.6%
Mezz (\$50M loan)	9.0%	9.4%	9.2%
Mezz (\$100M loan)	8.0%	8.5%	8.8%
PEG (\$1M EBITDA)	24.2%	28.3%	32.7%
PEG (\$5M EBITDA)	20.8%	22.8%	27.1%
PEG (\$10M EBITDA)	22.7%	24.4%	26.9%
PEG (\$25M EBITDA)	18.7%	23.3%	24.0%
PEG (\$50M EBITDA)	18.2%	19.7%	21.4%
PEG (\$100M EBITDA)	19.1%	19.2%	19.3%
VC (Seed)	22.5%	27.5%	45.0%
VC (Startup)	23.0%	28.0%	37.5%
VC (Early Stage)	22.5%	27.5%	40.0%
VC (Expansion)	20.0%	27.5%	33.8%
VC (Later Stage)	15.6%	22.5%	32.5%
Angel (Seed)	15.0%	30.0%	35.0%
Angel (Startup)	17.5%	25.0%	25.0%
Angel (Early Stage)	21.3%	25.0%	35.0%
Angel (Expansion)	21.0%	25.0%	35.0%
Angel (Later Stage)	17.5%	25.0%	30.0%

<sup>23</sup> Pepperdine Private Capital Markets Project, 2014 Capital Markets Report.

Each source of financing has its own rules regarding capital access and expected returns. Thus, in order to understand the PCOC data, I will briefly define each form of financing (see figure 13.15).

When considering the risks associated with each form of financing, it will be apparent that the PCOC study organizes its survey data to reflect the lowest risk financing at the top of figure 13.14 and the highest risk financing towards the bottom. Does this format look familiar? If you recall The Rate of Return Department Store at the beginning of the chapter, the presentation of this data should make even more sense.

Looking at figure 13.14, also notice that the PCOC study provides the median expected returns for each type of financing, as well as the first and third quartiles of those returns. The PCOC study provides users with information regarding the level of importance of pertinent financial ratios for each source of financing. Further, it provides access to actual financial ratios for borrowers (as reported by survey respondents), organized into median, first quartile, and third quartile. In some cases, this data is even broken down by industry. With this data, you can benchmark the subject company against other recipients of certain types of financing to determine whether the median, first quartile, or third quartile expected returns should be used in developing a cost of capital. This comparative quantitative analysis should be coupled with a qualitative analysis (like SWOT or Porter).

**Figure 13.15**

<b>Source of Financing</b>	<b>Type of Financing (Debt or Equity)</b>	<b>Definition</b>
<b>Bank (Cash Flow Loan)</b>	<b>Debt</b>	<b>Senior cash flow lenders limit financing to businesses based on a function of a multiple on earnings before interest, taxes, depreciation, and amortization (EBITDA). Cash flow lenders typically hold senior positions in a debtor's capital structure. Lenders of this type of debt will require debtors to maintain certain debt coverage ratios and cash flow-to-debt ratios.</b>
<b>Asset-Based Lenders (ABL)</b>	<b>Debt</b>	<b>This class of debt includes asset-based lenders, which require collateral on certain assets held by the debtor. Businesses choose this financing when they cannot obtain a cash flow loan, the company's asset-backed borrowing capacity exceeds its cash-flow-based borrowing capacity, or if the cost of asset-based financing is cheaper than cash-flow-based debt. Since ABLs have collateral in debtors' assets, these lenders are somewhat less concerned than cash flow lenders about debt covenants.</b>

**Figure 13.15**

Source of Financing	Type of Financing (Debt or Equity)	Definition
Mezzanine Funds (Mezz)	Debt	Mezzanine funds provide financing to companies generating at least \$1 million in cash flow. Much mezzanine financing is placed in manufacturing, services, and health care businesses. The amount of mezzanine financing available to a business is typically based on a multiple of EBITDA and the debtor's senior debt-borrowing capacity. Debtors are required to maintain certain debt coverage ratios.
Private Equity Group (EG)	Equity	Private equity groups typically provide financing to companies that are generating at least \$1 million in EBITDA. Much of private equity funding is provided to manufacturing, service, and health care businesses. Private equity funds often consider the quality of management, customer concentration, historical operating performance, and future prospects as important investment factors.
Venture Capital (VC)	Equity	Venture capital firms invest in companies within a wide range of development stages. Venture capital is invested in companies with high growth prospects, quality management teams, and viable business plans and models.
Angel	Equity	Angel investors provide financing to high-growth companies primarily in their seed, start-up, and early stages. Companies that receive angel financing typically have quality management, high growth prospects, and viable business plans and models.

Special thanks to John P aglia for allowing me to use this material.

The overall point of the PCOC model is to select expected rates of return corresponding with the subject company's capital structure and adjusting from the median based on a comparative analysis. This is the same basic concept used in everything we do. Just as you would adjust multiples derived from publicly traded guideline companies up or down depending on the investment characteristics of the subject company, the PCOC data must be analyzed and adjusted to arrive at an appropriate discount rate for the subject company. The strength of this model lies in the fact that the valuation analyst does not need to make adjustments to account for the differences between larger publicly traded companies and the much smaller privately held firms that we value. The measurement applies directly to privately held businesses.

However, before the valuation analyst relies on this study for the basis of his or her discount rate, he or she should be aware of the issues surrounding the PCOC model. Kevin Yeanoplos CPA/ABV, ASA of Brueggeman and Johnson Yeanoplos, P.C. identifies that the primary weakness in the PCOC study is that it is based on a survey of expected rates of return. The problem with expected rates of return is that they are not always right! The expectations compiled by the PCOC survey are simply opinions. In the best of times, expectations may not be on point with actual results. In times of great uncertainty, as has been the case since 2008, expectations may be completely off track. On top of this, by nature, the accuracy of surveys can be reduced by lack of honesty and potential professional motivations of respondents to drive results in a certain direction. Furthermore, the latest survey received over 1,500 total responses, but individual types of financing, in some cases, received fewer than 100 responses. With this sample size, the results can easily be skewed by inaccurate responses.

As with every business valuation model and concept, there are strengths and weaknesses, and both should be considered before using the PCOC model. If the valuation analyst plans to use the PCOC model, he or she needs to understand the study, the model, and the issues surrounding both. Without a doubt, even with its weaknesses, this model is a great addition to the valuation toolbox and should not be ignored.

## Blended Methods

Another method of determining a discount rate is to create a blending of the rates of return that would be required on the various assets employed in the business (cash, accounts receivable, inventory, plant property and equipment, and intangible assets, among others). Liabilities would have to be considered in this analysis, as well. The concept is similar to the WACC.

Investment return requirements can also be used but generally by inference only. An example of this would be what a venture capitalist may require in a given situation. Venture capitalists base their rates on the risk associated with the venture capital, but they generally also consider an exit strategy in a reasonable number of years. This exit strategy may include a public offering or a management buyout.

Other methods that result in a discount rate for net cash flow include the arbitrage pricing model and the dividend yield plus growth model. Because neither of these models will be used in the valuation of small- and medium-sized businesses, this discussion ends here.

Regardless of the rate of return selected, it must be correlated with the risk inherent in the subject and, most important, produce a result that makes sense.

## *International Valuation Handbook—Guide to Cost of Capital*

In this global economy, valuation analysts will occasionally have to value a company based outside of the United States. One of the primary issues surrounding these types of engagements is how to measure the additional risk associated with a company operating in a foreign country (as opposed to the United States). For example, a company operating an oil pipeline in a country riddled with constant political turmoil and frequent civil war will be much riskier than a company operating a pipeline in the United States. D&P has a publication that can help with those types of assignments. *The International Valuation Handbook—Guide to Cost of Capital (International Valuation Handbook)*, published annually starting in 2014, provides country-level cost of capital analyses that were previously published in Morningstar's Ibbotson international cost of capital reports, which are now discontinued. The *International Valuation Handbook* expands on the former Morningstar data in a number of ways to enhance its usability. While I won't go into great depth on this publication, the *International Valuation Handbook* provides four indications of country risk:

1. Historical ERPs adjusted for country risk for 18 countries. These ERPs are derived using the MSCI Total Returns Indices, similar to how D&P calculates the historical ERP in the *Valuation Handbook*.
2. Country risk premia based on the spread between foreign country government bond yields and U.S. Treasury bond yields of the same maturity. This data is available for 188 countries.
3. Volatility-based adjustment to a beta-adjusted ERP for the United States or Germany. This data is available for 69 countries.
4. Country risk premia based on credit ratings for each country. This model is based on a survey of 55 investor perspectives and provides indications for 179 countries.

Before the valuation analyst uses this data, he or she really needs to read the entire publication (maybe twice) so he or she understands how the data is derived and how it should be applied. D&P acknowledges that no one model is perfect and that valuation analysts should consider all four methods contained in the *International Valuation Handbook*, if possible, and make a decision about whether the proper rate of return should be in the lower, middle, or upper end of the range (another example of how this stuff isn't an exact science).

## Capitalization Rates

A *capitalization rate* is the rate used to convert a benefit stream for a single period into an indication of the fair market value of the property that is its source. This rate is the required rate of return for an income-generating asset from which anticipated growth has been subtracted. As discussed previously, a capitalization rate is a discount rate minus growth. This is expressed as follows:

$$c = k - g$$

In this equation,  $g$  represents long-term sustainable growth (not next year's growth). This, by the way, is the growth of the benefit stream and not revenues. Capitalization rates, similar to discount rates, are determined by the market based on the duration and risk of the investment. They vary with time, even for the same investment, and are sensitive to, and incorporate, long-term inflationary expectations.

Capitalization rates consider the risk that generally resides in the market, and they must be adjusted for the risk that is specific to the valuation subject. Capitalization rates are founded on the principle of substitution because they are based on the yields available on alternative investments. They will also depend on the nature of the benefit stream being capitalized (operating income, income before taxes, net income after taxes, dividends, or cash flow).

A capitalization rate is frequently derived from the valuation subject's discount rate. It is used primarily as a divisor to determine value. The basis of the relationship between the discount rate and the capitalization rate is the assumption that the business has a perpetual life and its annual growth will be constant. The relationship is expressed as follows:

$$\text{Discount rate} - \text{Growth rate} = \text{Capitalization rate}$$

Mathematically, the discount and capitalization rates used in the multiperiod and single period models discussed in chapter 12 will result in the same conclusion. What is effectively being done in these models is the removal of growth from the numerator (top) and denominator (bottom) of the equations. I discussed this math stuff in the last chapter.

A simple mathematical proof follows. Assume that during a valuation, the forecast benefit stream for next year was \$110 and was expected to grow each year by 10 percent. Assume a 25 percent discount rate. A multiperiod model would result in the present value being calculated for the earlier years as follows:

$$\begin{aligned} PV &= \frac{110}{(1 + .25)^1} + \frac{[110 \times 1.10]}{(1 + .25)^1} \\ PV &= 88 + 645 \\ PV &= 733 \end{aligned}$$

As a reminder, the terminal value grows the last year of the forecast period to the following year ( $110 \times 1.10$ ). This result is then capitalized by the discount rate minus long-term sustainable growth ( $.25 - .10$ ). That result is then discounted to present value using the same present value factor as the last year of the forecast period  $(1 + .25)^1$  (assume end-of-year convention).

If the 10 percent sustainable growth was taken out of the numerator and the denominator, we would have a single period capitalization model, as follows:

$$PV = \frac{110}{.15}$$

$$PV = 733$$

Capitalization rates can also be directly derived from the market without calculating a discount rate. Methods of calculating this rate will be discussed in this chapter. For the time being, let's concentrate on the basic formula. The valuation analyst must use informed judgment in selecting the appropriate growth rate. The company's historical growth, the projected growth of the industry, and many other factors (including, but not limited to, management goals, the ability to achieve desired growth, and borrowing power) should be considered in the determination of the growth rate. The rate should reflect long-term sustainable growth, rather than what is projected for the short term.

An exceptionally high growth rate may not be achievable over the long run. Experts in finance generally expect the long-term growth of a company to average from 3 percent to 5 percent, generally not much more than the rate of inflation. A company can only grow so much. However, the long-term growth rate should reflect the present value of the growth. This means that if short-term growth is expected to be higher, the long-term growth rate's present value may be greater than the 3 percent to 5 percent mentioned in the books.

The selection of growth rates is a part of the valuation that requires the valuation analyst to tie several other parts of the valuation assignment together. The valuation analyst should consider the economic environment and industry outlook in determining the impact of the macroenvironment of the company on future growth in addition to historic growth and management's expectations of future growth. Finally, do not forget that a company can only grow so much before competitive forces enter to take advantage of the future growth.

### Factors Affecting the Selection of the Capitalization Rate

The factors considered for the determination of capitalization rates should be similar to those considered for the determination of discount rates. These include the external factors (those that management has no control over) and the internal factors (those that management has the ability to control). There is little need to go over these factors again. However, do not minimize their importance.

Because capitalization rates are used in a single period model, the rate of growth assumed must be one that could reasonably be expected to be sustained indefinitely. The investment horizon for a closely held business is generally presumed to be long term in nature, therefore, the assumption to be made is that the single benefit stream being capitalized will continue forever. What is the likelihood of a business growing at 25 percent per year indefinitely? Pretty slim! A small business would become a large business in no time at all if that were the case.

With such rapid growth, the local hardware store would become The Home Depot. I don't think so! All businesses are subject to cycles, as is life (rapid growth, slow growth, stagnation, and death). Therefore, the growth rate assumed in any valuation must take into consideration the existing state of maturity of the subject company.



## Sources of Data on Capitalization Rates

The ideal source of data for capitalization rates is the public (or private) market for corporate securities. However, if the valuation analyst is able to locate transactions that can be used in the determination of capitalization rates, the market approach (not the income approach) would be used. For example, assume that the following transactions were located from the public market:

Sales price	\$10,000,000	\$ 5,000,000	\$20,000,000
Net income	2,500,000	750,000	4,000,000
Cash flow (net)	2,000,000	500,000	3,000,000
Revenues	20,000,000	15,000,000	48,000,000

This information could be used to calculate the implied capitalization rates that were the results of actual transactions. This makes merger and acquisition data useful. The implied capitalization rates are as follows:

Net income	25%	15%	20%
Cash flow (net)	20%	10%	15%
Revenues	200%	300%	240%

In chapter 10, I discussed the calculation of pricing multiples using this data, which can also be used in the determination of capitalization rates for the income approach. However, merger and acquisition transaction data must be carefully scrutinized because it may embody elements of control as a result of the acquisition. The prices paid for the acquisition may also include a premium based on the expected synergies for the acquirer.

The transaction data derived from the public market is generally an indication of the value of stockholders' equity. This means that capitalization rates for use with invested capital benefit streams must incorporate assumptions regarding typical capital structures (debt and equity), not necessarily the actual structure of the subject company, because the public companies are more likely to have a better debt-to-equity relationship than the smaller, closely held company. This could require the valuation analyst to make certain adjustments to compensate for the different risk of the valuation subject because of its particular capital structure. This problem is reduced if the merger and acquisition data come from private company transactions of similarly sized companies.

On occasion, the valuation analyst will locate transactions in an industry that has a considerable amount of merger and acquisition activity. When transactions occur in an industry that is "hot," the capitalization rates reflected in the prices paid may have limited applicability. There may be so much anticipated growth in this industry that the capitalization rates may not make any sense. For example, if high price-to-earnings multiples are being paid for companies (say, 105 times the earnings), the implied capitalization rate would be less than 1 percent. We could rarely, if ever, use this type of information for a closely held company.

The opinions of authors, experts, and others with special insight into the market may be used to develop capitalization rates. This is a dangerous practice, however, because the rates referred to in the writings are usually based on the individuals' own experiences. Without knowing the facts and circumstances of the particular situations, it is impossible to rely on someone else's experience.

The valuation analyst should also be aware of current and evolving case law, particularly if the valuation will be used in a litigation. However, it is a common error to try to apply an old case to a current situation (sort of like putting a square peg in a round hole) because the times and facts are different.

The information maintained in the market data file of The Institute of Business Appraisers, BizComps, Pratt's Stats, Done Deals, and even possibly Thomson Financial M&A are other sources for determining capitalization rates. This information can allow the valuation analyst to determine the capitalization rates for various levels of benefit streams based on the information available in the databases. The same caution must be applied as was discussed in chapter 10, but this information is considerably better than trying to create your own capitalization rate from scratch.

Other, less sophisticated methods for determining capitalization rates include variations on the build-up method. These methods assign a factor to various risk elements in order to derive a capitalization rate. This is similar to the factor rating method discussed previously.

The capitalization rate must be derived by a method that matches it to the benefit stream being used. Depending upon the method used to derive the capitalization rate, the result will be applicable to a particular benefit stream. For example, if the CAPM is used, the discount rate is applicable to net cash flow. Subtracting long-term sustainable growth would result in a capitalization rate that is applicable to net cash flow.

The build-up method will result in either a discount rate or a capitalization rate for numerous benefit streams, depending upon the source of the information used to perform the build up. Other benefit streams (such as net income) may be used, but the discount rate must be adjusted from what was derived by the cash flow methods. This is accomplished by adding a premium (not to be confused with a control premium) to the rate derived for cash flow in order to compensate for the additional risk related to the other benefit stream. A capitalization rate for earnings does not equal a capitalization rate for net cash flow because earnings do not generally equal net cash flow.

The relationship of the discount rate derived for different benefit streams is based on the amount of risk that is implied in the benefit stream being used by the valuation analyst. In theory, net cash flow is the cash available to the stockholders; therefore, the analyst has taken into consideration items such as working capital needs, fixed asset requirements, and long-term debt repayments and borrowings. The more confidence the valuation analyst has after considering all of these factors, the lower the discount rate.

Many experienced valuation analysts have written that the range most often seen in practice between the rate used for net cash flow and net earnings is approximately 3 percent to 6 percent. This does not mean, however, that this range is an absolute and should always be used. In a master's thesis titled "Empirical Research Study of Rates of Return on Earnings and Cash Flow,"<sup>24</sup> Joseph A. Agiato, CPA, CBA, ASA, indicates that his study confirms the 3 percent to 6 percent rule of thumb.

In general, the higher the net cash flow discount rate, the higher the net income discount rate premium, assuming all other factors are the same. A high-cash-flow discount rate indicates that there is a degree of risk driving the rate up. Because earnings consider fewer factors than cash flow does, there is a normal tendency to believe that the rate for earnings should be higher. The higher the forecast growth rate, the higher the net income discount rate premium, assuming all other factors are the same.

High growth reflects its own element of risk in the subject company's ability to remain profitable as it incurs new levels of fixed and variable costs that are attributable to growth. If the valuation analyst has derived a high net cash flow discount rate at the same time that there is expected high growth, then the net income discount rate premium would be pushed higher than the 3 percent to 6 percent range mentioned previously (sometimes much higher). Low growth would keep the net income discount rate premium above zero but at the lower end of the 3 percent to 6 percent range.

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24 This thesis is on file at Lindenwood College, St. Charles, MO.

## Deriving Discount and Capitalization Rates Applicable to Net Income Directly From the Market

The inverse of the price-to-earnings ratio is the earnings-to-price ratio, which is a capitalization rate applicable to net income (in which *earnings* are defined as net income). To get a discount rate, the valuation analyst must approximate growth and add that growth to the earnings-to-price ratio. The difficult part is establishing the proper amount of growth based on the market price-to-earnings multiples. Rarely in the financial information about the guideline companies selected do we find growth rates other than those being forecast by the analysts. We would need the actual growth implicit in the price of the stock in order to be more accurate. If we could figure out the long-term growth that is implied in the price-to-earnings multiples of the guideline companies, discount rates would be easier to calculate.

The earnings-to-price ratio is directly observable in the market, which provides the valuation analyst with solid empirical evidence about the capitalization rate, but we must still estimate the growth rates to achieve a discount rate for those same earnings. Expected growth rates for specific public companies appear in *Value Line Investment Survey* (available at [www.valueline.com](http://www.valueline.com)), but they are short-term growth rates. We need a long-term sustainable growth rate, which means that the Value Line growth rates will probably be of limited help.

A possible alternative to derive growth for the public companies requires us to assume that over the long term, the dividend payout equals the total cash return on an equity investment. This means that dividends would be growing at the same rate as earnings, indicating a constant payout ratio. In this instance, the capitalization rate for net cash flow would be equal to the dividend yield. If this were the case, the discount rate for net cash flow minus growth would equal dividend yield. Therefore, the discount rate for net cash flow based on the dividend yield would be available in newspapers.

## Back to the Real World

In case a touch of reality is necessary, capitalization rates, like discount rates, are market driven. However, there is very little information available to help valuation analysts determine the correct rate to use when valuing smaller companies. Let's keep in mind that our role as valuation analysts is not to determine discount and capitalization rates but, rather, to provide a conclusion about the value of the valuation subject. Regardless of the method used to derive these rates, the answer has to make sense. The principle of substitution alerts valuation analysts to the fact that the rates should be relevant to other rates in the marketplace, given the risk of the valuation subject. But there are no tables, charts, or gurus to help ensure a correct rate.

What we do know is that the discount or capitalization rate selected by the valuation analyst should match the benefit stream being discounted or capitalized. It is theoretically incorrect to use the same rate for different streams because each stream will have a different degree of risk. We also know that the rate will be risk driven. This means that a small closely held company with no depth in management, in poor financial condition, with no borrowing capacity, and with a high degree of dependence on a single customer has enough risk that the appropriate rate should be way up there.

Because I have examined transactions for smaller closely held companies, the general range of multiples that I have seen in the majority of cases is from one to three times owner's discretionary cash flow. Discretionary cash flow is the amount of money that the owner of the business has available for him or her before a deduction is made for owner's compensation. This equates to a capitalization rate ranging from 33⅓ percent to 100 percent for this income stream. Therefore, if this is the market, shouldn't we, as valuation analysts, use this information? Subtracting a reasonable level of owner's compensation (and possibly either depreciation or a reserve for the replacement of assets) would result in a pretax income stream. This pretax stream would be capitalized at a rate that is less than the rate used for owner's discretionary cash flow because the risk of the amount being capitalized is reduced by subtracting one or two additional items in deriving the pretax income. This is similar to the net cash flow model discussed in chapter 12. This concept is illustrated in exhibit 13.2.

A few observations can be made about the example in exhibit 13.2. The first observation is that there is supposed to be a relationship between the rates used for the benefit streams capitalized or discounted. In this example, the discount rate for net cash flow was used as a basis to calculate the discount rate for net income.

The mathematical relationship between these two elements was used to adjust the original rate that was determined. Wouldn't it be just grand if the world were this simple? Unfortunately, it is not.

The mathematical relationship does not always work in practice. If a multiperiod model is going to be used by the valuation analyst, each year's net income and cash flow would have to be used to calculate a different discount rate for each year. Imagine making a discounting model more complicated than it already is! This example also does not work for the calculation of a capitalization rate for excess earnings. I know this because I have tried to use it!

The second observation is that the capitalization rate for net income was calculated by multiplying the mathematical factor against the capitalization rate for net cash flow. Those who really read this book are probably wondering why I did not just subtract the 5 percent long-term growth from the discount rate for earnings (30 percent), resulting in a capitalization rate of 25 percent. This is because the long-term growth rate must also change based on which benefit stream is being used. The 5 percent growth rate is applied to net cash flow, not net income. This is why the capitalization rate for net income was 23.75 percent instead of 25 percent.

### EXHIBIT 13.2 Discount and Capitalization Rates

Assume that ABC Corporation has the following forecast net cash flow:

Normalized net income	\$150,000
Plus: Non-cash charges	+ 25,000
Minus: Fixed asset additions	– 65,000
Minus: Working capital additions	– 10,000
Plus: Change in debt	+ 20,000
Net cash flow	<u>\$120,000</u>

Now, assume that the discount rate for the equity of ABC Corporation was determined to be 24 percent using the build-up method, based on the *Valuation Handbook*. Also, assume that the long-term sustainable growth rate is assumed to be 5 percent. What is the discount rate for net cash flow? What is the capitalization rate for net cash flow? What about for net income?

Discount rate for net cash flow	24%*
Less: Long-term growth	5%
Capitalization rate for net cash flow	<u>19%</u>

To convert the discount and capitalization rates for use with earnings instead of cash flow, the following mathematical calculations can be performed:

$$\begin{aligned} \text{Normalized net income} \div \text{Net cash flow} & (150,000 \div 120,000) = 1.25 \\ \text{Discount rate for earnings} & (24\% \times 1.25 = 30\%) \\ \text{Capitalization rate for earnings} & (19\% \times 1.25 = 23.75\%) \end{aligned}$$

\* Using the *Valuation Handbook* results in a discount rate for net cash flow because the total return (dividends and capital appreciation) is measured in the ERP.

Once again, what I am saying is that the process is not perfect. There are only two factors that you can use to determine the appropriate rates in any valuation: common sense and good judgment.

## Using Pretax or After-Tax Rates

Although the issue of whether to use pretax or after-tax income streams and capitalization rates is one of the points that creates much confusion among lawyers and judges, the resulting value for the valuation subject should be the same regardless of whether pretax or after-tax income is used in the valuation. The capitalization rate will be adjusted depending on which income stream is used. An example that illustrates this point is contained in exhibit 13.3.

The example in exhibit 13.3 should clarify the fact that it does not matter if pretax or after-tax income is used as long as the capitalization rate correlates to the type of income being capitalized. This same premise holds true for cash flow, EBIT, EBITDA, or any other stream being capitalized or discounted. The capitalization rate or discount rate must correlate to the stream of income that is being capitalized or discounted.

### EXHIBIT 13.3 Pretax or After Tax?

Assume that the value of Smith Corporation is being determined using a capitalization of income method. Smith has a forecast pretax income of \$100,000 and an after-tax income of \$65,000 (assumes a 35 percent tax rate). If the valuation analyst has determined that the appropriate capitalization rate based on pretax information in the market was 20 percent, the valuation calculation would be as follows:

	Pretax	After Tax
Forecast income	\$100,000	\$ 65,000
Capitalization rate	÷ 20%	÷ 13%
Estimated value	\$500,000	\$500,000

If the value of the business was estimated to be \$500,000 using a 20 percent capitalization rate derived from the market on a pretax basis, then the value on an after-tax basis should be the same. If the numerator is changed from \$100,000 (pretax) to \$65,000 (after tax), the denominator (capitalization rate) must be changed by the same methodology. Mathematically, this can be explained by the following formula:

$$C_p \times (1 - t) = C_a$$

where

$C_p$  = Pretax capitalization rate

$t$  = Effective tax rate

$C_a$  = After-tax capitalization rate

This results in the following:

$$20\% \times (1 - 35\%) = 13\%$$

There will be times when the valuation analyst will capitalize a benefit stream other than cash flow or earnings. In fact, there are times when the analyst will use an income approach for a real estate holding company that makes distributions. The same may hold true when the analyst values family limited partnerships that own securities or real estate, or both. On occasion, he or she may even choose to capitalize dividends for a minority interest in an operating company when there is a record of payments being made.

## Discount Rates for Economic Damages

What I have provided thus far is the fundamental theory and methodology behind developing discount and capitalization rates. You can use all of this in pretty much every engagement you will ever see. Some

discussion is necessary, however, with regard to deriving discount rates for economic damage calculations. Although we haven't talked about economic damage calculations yet, I think this is the best place to start the discussion because discount and capitalization rates are probably top of mind at this point. We will talk about economic damage calculations in chapter 26.

In economic damage assignments, two rates of return are important to understand: interest rates and discount rates. You are likely familiar with both (if I have explained them well enough in this chapter). *Interest*, by definition, is the "amount of money that one party will pay for the temporary use of another's money."<sup>25</sup> As we have discussed thoroughly in this chapter, a discount rate reflects the rate of return to an investor for making an investment. Depending on the jurisdiction, the rate at which economic damages would be discounted can be very different. Based on legal precedent, this rate can be based on the rate of return on a safe investment, the injured party's rate of return expected from an investment, or the rate of return associated with the lost profit benefit stream given its risks.

The valuation analyst should always ask his or her client's attorney for the applicable case law or statutes when performing this type of work. The rates of return that the valuation analyst may use will vary by type of damages as well as by jurisdiction. For example, damages related to lost wages will most likely be based on some form of a safe rate. The question is which rate to use: short term, intermediate, or long term? However, there are few jurisdictions in which economic damages to a company are discounted using a rate of return on a safe investment. One such precedent was set by the Supreme Court of Pennsylvania in *Kaczkowski v. Bolubasz*<sup>26</sup> in 1980. A more recent case, *Helpin v. Trustees of University of Pennsylvania*<sup>27</sup> from 2010, described the use of a risk-free return in the context of a lost profits analysis for a dental practice:

To compensate for the competing effects of interest and inflation on a lump-sum damages award for lost future earnings, we adopted the "total offset" approach, which is based on the following assumption:

Under the total offset method, a court does not discount the award to its present value but assumes that the effect of the future inflation rate will completely offset the interest rate, thereby eliminating any need to discount the award to its present value.<sup>28</sup>

Essentially, this statement is saying that an investor in the dental practice would require compensation for interest returns and inflation, which doesn't make sense. We know from our discussion earlier in this chapter that there are many risks above and beyond inflation that apply to investments in privately held businesses. As noted, the application of a risk-free rate of return as the discount rate is typically seen in personal injury claims. However, because *Kaczkowski* set a precedent for the State of Pennsylvania, any economic damages cases in that state have to take this into consideration. But speak to the attorney before you apply the decision from this case!

The rate of return received from an investment in an economic damages assignment can be different depending on the circumstances of the case. If the injured firm would reinvest a court award back into its business, then the rate of return would likely be based on the injured firm's capital structure and return on capital. If a court award cannot be invested back into the firm because it ceased operations, then a rate of return for companies similar to the destroyed business may be applicable.

A discount rate based on the return associated with receiving lost profits must take into consideration the risk of not collecting. One way to think about this is a discount rate that has been further adjusted for collection risk. If there is risk in collecting future cash flows then, according to basic financial theory, the rate of return required from that cash flow should be higher to compensate for the additional risk. The risk adjustment is subjective and, just like everything else, must be well supported.

25 Crain, Michael, "Discounting Lost Profits in Damage Measurements," *The Comprehensive Guide to Lost Profits Damages for Experts and Attorneys*, Nancy J. Fannon, 2011 Edition (Portland, Oregon: Business Valuation Resources, 2010): 466.

26 *Kaczkowski v. Bolubasz*, 421 A.2d 1027 (Pa. 1980).

27 *Helpin v. Trustees of University of Pennsylvania*, 10 A.3d 267 (2010).

28 *Helpin v. Trustees of University of Pennsylvania*, 10 A.3d 267 (2010).

One other fact needs to be remembered by any valuation analyst who performs lost profits analyses. Lost profits only continue for a finite period of time and, therefore, are less risky than income streams that you may capitalize into perpetuity. Therefore, it is rare that an equity discount rate should be the starting point for a lost profits calculation that is discounted to present value. Five years of lost income is very different than a stream of income over the next 20 or 30 years. The longer time frame alone adds risk.

Much of the literature recommends keeping the selection of a discount rate simple. Remember who your audience is: jurors and a judge. An interest rate or rate of return on investment is likely easier to explain than a risk-adjusted discount rate applicable to a stream of lost profits.

## Conclusion

Wow. This chapter is finally done. If I didn't do a very good job, you are probably lost. If I did an okay job, you are still fumbling with your GPS system. I'm sorry. I never promised you a rose garden. In fact, this is a thorny topic. Okay, so I won't give up my day job anytime soon! I hope that despite the uncertainty, you now have more of an idea about discount and capitalization rates. What you have really learned is that these rates come from the market. If you stayed focused, as I suggested at the start of the chapter, you should have realized that no matter what method you use to develop these rates, and regardless of the components that make up that method, you have to measure the risk of what is being discounted or capitalized. Getting lucky is fine too, but don't solely rely on the luck factor. That can get you in trouble!





## Chapter 14

# Premiums and Discounts (Valuation Adjustments)— Part I

### Learning Objectives

In this chapter, I will attempt to explain the following:

- Valuation premiums and discounts, in general
- Control premiums
- Lack of control (minority) discounts
- Discounts from net asset value
- Discounts for embedded capital gains
- Nonvoting stock discount

### Introduction

The final value reached in the valuation of a closely held business may be more or less than the value that was calculated using the methods previously discussed in this book. Valuation discounts, premiums, or both, may or may not be appropriate in every business valuation. The type and size of the discount(s) or premium(s) will vary depending on the starting point. The starting point will depend on which methods of valuation were used during the valuation as well as other factors, such as the standard of value, normalization adjustments applied, and the sources of information used to derive multiples or discount rates.

The following are some of the common valuation adjustments that we see in business valuations:

- Control premium
- Lack of control (minority) discount
- Discount for lack of marketability (illiquidity)
- Private company discount
- Discount from net asset value
- Key person discount
- Embedded capital gains discount
- Blockage discount
- Non-homogenous assets (portfolio) discount
- Nonvoting stock discount

For a very long time, valuation premiums and discounts were called *premiums and discounts*. Recently, the terminology has begun to change. These items are now referred to as *valuation adjustments* by many valuation analysts. I am going to use these terms interchangeably, so do not get confused. Think about it this way—after the valuation analyst reaches a valuation indication, he or she then applies a valuation adjustment to reach the conclusion of value.

The type of value derived from the various methods discussed throughout this book are shown in table 14.1. The valuation analyst needs to understand the type of value estimate that each of these methods yields in order to know what type of valuation adjustments may be appropriate in any given situation. For example, if the guideline company method is used to value a controlling interest in a closely held company, and the benefit stream used is a minority benefit stream, the valuation analyst would consider the result from this method to be a minority, marketable interest. This means that a control premium may be added to convert the

minority value to a control value. Then, the valuation analyst might take a discount for lack of marketability to convert the value from a control, marketable value to a control nonmarketable value. It's not as bad as it seems! However, although the conventional wisdom has changed in recent times, as discussed in chapter 9, if you believe that the guideline company method results in a control value, adding a control premium would result in double counting. As explained in chapter 9, more and more valuation analysts now believe that the issue of control versus minority depends on the benefit stream being used. Just because the multiples come from the public market does not mean that the result is minority. This is the same principle as the one that discusses why discount rates that also come from the same public market do not result in a control or minority value. I discussed this point in chapter 13.

**TABLE 14.1 Types of Value**

Method	Control/Minority	Marketable/Nonmarketable
<i>Market approach</i>		
Guideline public company method	Control or minority*	Marketable
Acquisition method—public companies	Control	Marketable
Acquisition method—private companies	Control	Nonmarketable
<i>Asset-based approach</i>		
Adjusted book value method	Control	Marketable
Liquidation method	Control	Marketable
Cost to create method	Control	Marketable
<i>Income approach</i>		
Capitalization of benefits method	Control or minority*	Marketable or nonmarketable
Discounted future benefits method	Control or minority*	Marketable or nonmarketable
Excess earnings method	Control	Marketable or nonmarketable

\* Today's theory has changed from the past. Most of the current valuation literature indicates that the outcome of these methods depends on the normalization adjustments that are made to the benefit stream being used in the application of the method. If control adjustments are made, the resulting indication of value is considered to be on a control basis. If no control adjustments are made (and there could be), the indication of value is considered to be on a minority basis.

In addition to understanding the results from applying different valuation methodologies, there are other considerations that the valuation analyst must be aware of. For example, depending on the standard of value, as well as the jurisdiction that the business valuation will be used in, statutes or case law may dictate whether or not a business valuation should include valuation adjustments. For example, in a fair market value assignment, a discount for lack of control may be applicable for a minority interest. However, in a fair value assignment for an oppressed stockholder legal action, such a discount may not be appropriate. Guidance should be obtained from the client's attorney.

Many valuation analysts look to court decisions to support the premiums or discounts that are used in their valuations. These are not a form of market evidence. Court decisions are generally subjective decisions of a particular court in a particular case based on a particular set of facts. Valuation analysts must apply correct methodology, regardless of whether it is supported by court decisions. The benefit of looking at court decisions is to learn when the valuation analyst will have more of a burden of proof because the position being taken is outside the range of prior court decisions. Judge David Laro of the U.S. Tax Court has suggested to participants at various business valuation conferences that they read his opinions before coming into his court, so that they will understand what he expects from the valuation analyst. Court decisions generally

follow the conclusions that valuation analysts reach from their own valuation research, but often with time delay. Therefore, by using court decisions, we are generally following decisions that were made in the past. So, let's be clear about this. It is okay to know about the court decisions, but the valuation analyst does not want to quote opinions and use them to support his or her position. Quoting court cases in the valuation report can also result in the valuation analyst's opinion being rejected because he or she, in essence, was making a legal argument that the valuation expert is generally not qualified to do.

Court decisions are very useful in understanding how the courts have dealt with certain issues. If the valuation analyst plans to deviate from a position taken by The Court, I strongly suggest that he or she do the following:

- Acknowledge in the report (and testimony) the decision of The Court.
- Explain why the valuation analyst believes The Court's position is not applicable to the case at hand. Do not say that The Court made a mistake!
- Provide strong support for the valuation analyst's position in order to demonstrate why his or her position is more theoretically correct than The Court precedent.
- Make sure that the client's attorney is aware (and blesses) of the fact that the valuation analyst is deviating from the case law.
- Make certain that the client understands that the valuation analyst is taking a contrary position to the position in the case law and that he or she has the attorney's approval.
- Pray a lot. This could be a great time to find religion!

With this in mind, what if the case law does not establish precedent? For example, Tax Court Memorandums (that is, the *Mandelbaum* case, which will be discussed in chapter 15) does not establish precedent. Many valuation analysts do not understand this, or they choose to ignore it. This is an important reason to make certain that an attorney is consulted before a valuation analyst blindly starts citing case law in his or her report.

Don't get me wrong. I am not suggesting that the valuation analyst cannot deviate from case law. I am saying that the analyst needs a strong argument that is well supported because if a judge is going to go against legal precedent, the case may be appealed to a higher court. The higher court will need strong evidence (usually testimony because most reports are not admitted as evidence) on which to base its opinion.

It is a mistake to put court case references in a valuation report because the analyst is writing a valuation report and not a legal brief. There are some valuation analysts who start citing court cases, and I am willing to bet that they never read the case that they are citing. Either they paid someone to perform research for them, they have boilerplate from a computer software program, or they lifted the citations from a sample report included in a business valuation textbook. Don't do that. If the valuation analyst is questioned about the relevancy of the case, he or she better be able to answer the questions.

## Types of Discounts

Before I start to explain about the specific valuation adjustments, I want to take a short detour to discuss discounts, in general. There are two types of discounts that we see in business valuation. They are either at the entity level or the owner level.

*Entity-level* discounts are those taken at the control or "entity" level because they apply to any investor in the business, whether it is a control or minority position. Types of entity-level discounts include embedded capital gains, key person discounts, and discounts for environmental or legal issues. Sometimes, a discount for lack of marketability is also considered at the entity level (this will be discussed in the next chapter). Sometimes, these discounts are addressed by using a higher discount rate. However, this is not the recommended technique because a discount rate is different and serves a different purpose than a valuation adjustment. If the valuation analyst decides to do this anyway, and I am sure that someone reading this book will do it despite my saying not to, just be careful not to double-count by increasing the discount rate and then making a valuation adjustment, as well.

*Owner-level* discounts are those that are relevant only to one class of investors, usually at the minority level. Types of owner-level discounts include discounts for lack of control (DLOC), discounts for lack of marketability

(DLOM), discounts for nonvoting status, and blockage discounts. Once again, different types of owners have different sets of rights, and it is for this reason that the valuation analyst must get the attorney involved in this process. A minority shareholder may have very different rights than a minority partner or a minority member based on the state law.

## Levels of Value

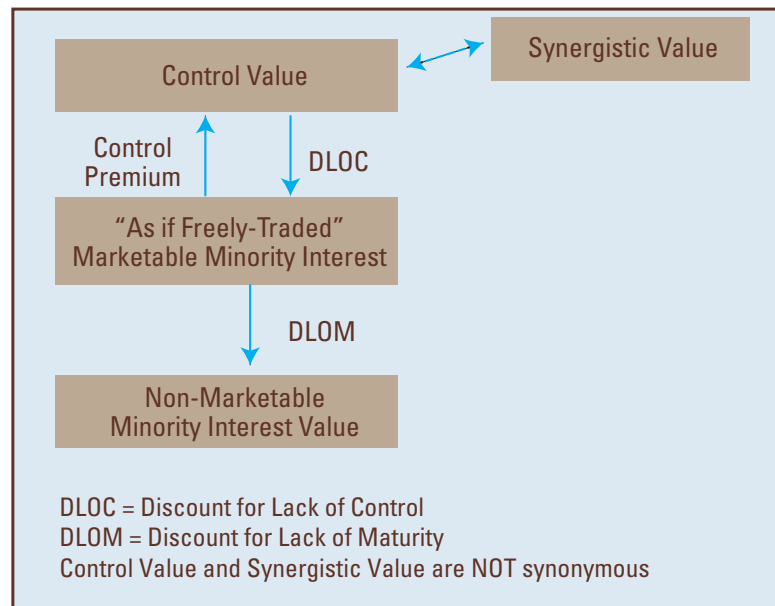
Depending on which valuation treatise you are reading, there are generally three or four levels of value relevant to the valuation of closely held businesses. The three main levels that are discussed include the following:

1. *Control*. The power to direct the management and policies of a business enterprise.
2. *Minority, marketable*. A minority interest in an enterprise that does not suffer from illiquidity—usually relevant to per share interests in publicly held equities that trade freely on an open market.
3. *Minority*. An ownership interest that is less than 50 percent of the voting interest in a business enterprise.

This level is sometimes called *minority, nonmarketable* to reflect the fact that it relates to a closely held interest and does not have the same level of liquidity or marketability as shares in a public company.

The fourth level of value that we frequently see is synergistic value. These levels of value are depicted in figure 14.1.

**Figure 14.1 Levels of Value Chart**



Synergistic value is sometimes also referred to as *investment value*, which is defined as the value to a particular investor based on individual investment requirements and expectations. It is not the equivalent of control value in the levels of value chart. Synergistic value is usually assumed to be a value higher than control value because it encompasses both the power to direct management and policies of a company, as well as the synergies that would be gained by combining two or more specific companies.

Unlike fair market value, synergistic value is not a hypothetical concept, therefore, its definition is different than that of fair market value. However, there may be times that an industry is in consolidation, and as a result, the willing buyers in the marketplace are all synergistic buyers. In this instance, fair market value, on a control basis, may reflect all the synergies, which results in fair market value being equivalent to synergistic value.

## Valuation Adjustment—Control Premium

The pro rata value of a controlling interest in a closely held company is said to be worth more than the value of a minority interest because of the prerogatives of control that generally follow the controlling shares. An investor will generally pay more (a premium) for the rights that are considered to be part of the controlling interest. These rights must be considered in assessing the size of the control premium, including the list of rights found in box 14.1.

A control premium is the opposite of the discount for lack of control (minority discount). The control premium is used to determine the control value of a closely held business when its freely traded minority value has been determined.

### BOX 14.1

#### Prerogatives of Control

- Appoint or change operational management
- Appoint or change members of the board of directors
- Determine management compensation and perquisites
- Set operational and strategic policy and change the course of the business
- Acquire, lease, or liquidate business assets, including plant, property, and equipment
- Select suppliers, vendors, and subcontractors to do business with and award contracts to
- Negotiate and consummate mergers and acquisitions
- Liquidate, dissolve, sell out, or recapitalize the company
- Sell or acquire treasury shares
- Register the company's equity securities for an initial or secondary public offering
- Register the company's debt securities for an initial or secondary public offering
- Declare and pay cash or stock dividends, or both
- Change the articles of incorporation or bylaws
- Set one's own compensation (and perquisites) and the compensation (and perquisites) of related party employees
- Select joint ventures and enter into joint venture and partnership agreements
- Decide what products or services, or both, to offer and how to price those products and services
- Decide what markets and locations to serve, to enter into, and to discontinue serving
- Decide which customer categories to market to and which not to market to
- Enter into inbound and outbound license or sharing agreements regarding intellectual properties
- Block any or all of the above actions\*

\* Shannon P. Pratt and Alina V. Niculita, *Valuing a Business*, 5th ed. (New York: McGraw-Hill, 2008): 385.

In most jurisdictions, majority control is not absolute. A majority owner may have certain duties to other owners, including a fiduciary responsibility to manage the company in a way that provides for the benefit of all owners. Officers and directors may have a duty of loyalty and, therefore, a duty not to deprive the business enterprise of favorable business opportunities. States also vary in the way they define control. In some supermajority states, certain decisions may require an ownership vote of more than 51 percent, greater than two-thirds, or even in some instances, 80 percent may be required to accomplish certain business actions. In California, 33⅓ percent may give a shareholder the right to some actions. In New York, it is only 20 percent.

## Protecting the Minority Owner With Rights and Restrictions Through Agreements

There are various ways to protect a minority owner from the risk of being in a minority position, thereby reducing the amount of the discount for lack of control. Protecting a minority owner can be accomplished through several avenues. Some of them include the following:

- Articles of incorporation (formation documents)
- Cumulative voting
- Preemptive rights
- Supermajority
- Ownership agreements
- Employment agreements
- Right of first refusal
- Other agreements<sup>1</sup>

### Articles of Incorporation

The articles of incorporation or other formation documents may include provisions that allocate certain rights, such as the creation of multiple classes of stock, with each class entitled to elect certain directors. Also, in certain transactions such as the sale of substantially all of the company's assets, a majority of each class of stock may be required to approve corporate actions. This is one of the reasons that we ask for this information in our basic information request. The valuation analyst needs to be aware of these provisions in order to do his or her job.

### Cumulative Voting

Bylaws may provide for cumulative voting that may allow minority shareholders to elect some of the board of directors. According to the SEC website:

Cumulative voting is a type of voting process that helps strengthen the ability of minority shareholders to elect a director. This method allows shareholders to cast all of their votes for a single nominee for the board of directors when the company has multiple openings on its board. In contrast, in "regular" or "statutory" voting, shareholders may not give more than one vote per share to any single nominee. For example, if the election is for four directors and you hold 500 shares (with one vote per share), under the regular method you could vote a maximum of 500 shares for any one candidate (giving you 2,000 votes total 500 votes per each of the four candidates). With cumulative voting, you could choose to vote all 2,000 votes for one candidate, 1,000 each to two candidates, or otherwise divide your votes whichever way you wanted.

### Preemptive Rights

Preemptive rights in the bylaws would allow all shareholders the opportunity to keep their pro rata share of the ownership upon the issuance of additional stock in the company, as opposed to having their interest diluted by the controlling shareholder(s) who may issue additional shares to himself or herself at a favorable price.

### Supermajority

There could be requirements for a supermajority for certain corporate actions. For example, instead of requiring a 51 percent approval to issue new shares in the company, an 80 percent approval might be required, thereby giving a 25 percent shareholder effective veto power in that situation. Some states have supermajority voting requirements for certain major corporate actions, such as mergers and liquidations.

### Ownership Agreements

Ownership agreements can set forth the rights and responsibilities of each of the owners under various circumstances. For example, a buy-sell agreement could require either the controlling owner or the business enterprise to buy back the minority owner's interest at a set price or set formula upon some triggering event,

<sup>1</sup> During this discussion, I refer to shareholders and various corporate situations, but many of these can also apply to partners, members of LLCs, and other types of ventures based on the state statutes. The valuation analyst should request the pertinent statutes so that the rights of the owners can be properly analyzed.

such as death or retirement of the owner. Another real example of this is when we merged with a friend of ours a number of years ago, and he was concerned that he would be outvoted “two to one” if we wanted to take a corporate action that he did not agree with. He did not think about the fact that my partner (my wife) would probably have voted with him more than me, so he really had little to worry about anyway. However, in order to protect him, we agreed that my wife and I would have one-half of a vote each and he would be entitled to a full vote on actions requiring a vote. This way he could block actions that he did not agree with.

## Employment Agreements

Employment agreements may give further protection to a minority owner who also works for the business to ensure that he or she will not be discharged and, therefore, lose the expectation of continued employment. Ironically, more often than not, an employee/owner who gets fired from a closely held business ends up with grounds for oppression (in many states). If it turns out that The Court finds that the owner was oppressed by being fired, the usual remedy is to have that owner bought out at fair value, which is often equal to a pro rata share of the control value.

## Right of First Refusal

If the controlling owner has a right of first refusal, minority owners are free to sell their interests to anyone they choose at any price they choose, but the controlling owner would have the right to match the price and buy the interests before the interests are sold to a third party. Be aware that sometimes the right of first refusal gives the existing owners the right to buy the offered interests at the offer price, but at special terms which are different than the original offer terms. However, a buy-sell agreement and right of first refusal also can give the minority owner an opportunity to buy out the controlling owner upon certain events, such as death or disability.

## Other Agreements

Other agreements can restrict or combine voting rights. For example, a group of shareholders, typically minority shareholders, may form a voting trust, agreeing to vote their stock as a block and thereby achieve a controlling position.

## Legal Remedies

There are certain legal remedies that are afforded to the minority owners of a closely held business. Although this is certainly not a legal treatise, valuation analysts sometimes have to consult with attorneys about the rights associated with the interest being valued. These should be taken into consideration by the analyst. This is discussed further in chapter 24.

## More Control Premium Issues

A control premium may be appropriate for an interest that is less than 100 percent. In this instance, the size of the premium will depend on various factors relating to the amount of control available to the controlling interest. Some of these factors include the following:

- Cumulative versus noncumulative voting rights
- Contractual restrictions (ownership agreements)
- The financial condition of the business
- State statutes
- The distribution of ownership

Let me give you an illustration of how less than a 50 percent interest could have a control premium associated with it. Although the dates in this real example are older, I really liked this assignment, and because this type of situation does not arise regularly in our practice, I am still going to use the dated example. The concepts are much more important than the dates. Part of this assignment required us to value a 47.3 percent block of a public company. We determined that this block should have a premium attached to it. A portion of our report is included in exhibit 14.1.

**EXHIBIT 14.1 Selected Portion of Control Premium Discussion***(Footnotes Omitted From Exhibit)*

The valuation of John Q. Smith & Company, an investment holding company, is based on the value of the underlying assets held in the investment portfolio. The methodology employed will be similar to that used by Adam's Trust Company, as outlined in a memo dated January 14, 1993, from Chuck Jackson to Rebecca Harding. This memo outlined the procedure as follows:

To establish the fair market value of Smith & Company's stock holdings, we generally utilized the average price of the individual securities on December 16, 1992 (as determined by referencing *The Wall Street Journal*). An exception to this is the value established for the company's equity position in the Public Corporation.

According to the Jackson memo, the condensed balance sheet of John Q. Smith & Company as of November 30, 1992, was as follows:

John Q. Smith & Co. Condensed Balance Sheet as of November 30, 1992		
Assets		
Current assets		
Cash & equivalents	\$ 271,583	
Short-term investments	2,387,627	
Receivables	3,838	
Total current assets		\$2,663,048
Investments in capital stock		
Public corp.	\$ 876,726	
Others	2,157,886	
Total stock		3,034,612
Investments in oil & gas interests (net)		18,061
Total assets		\$5,715,721
Liabilities	\$ 218,266	
Stockholders' equity	5,497,455	
Total liabilities & stockholders' equity		\$5,715,721

According to the Jackson memo, the adjusted net asset value of John Q. Smith & Company as of December 16, 1992, was \$202,983,073. The other party to the litigation accepted the methodology used to value most of the underlying assets and, therefore, we will also accept the asset values that were agreed to by the parties as the starting point in our valuation. The major point of contention between the parties is the value of the interest in Public Corporation. We will value this asset separately. Accordingly, subtracting the value of this stock from the total results in the following:

Net asset value	\$202,983,073
Public corporation stock	160,721,253
All other assets & liabilities	\$ 42,261,820



**EXHIBIT 14.1 Selected Portion of Control Premium Discussion**

*(Footnotes Omitted From Exhibit)*

On December 16, 1992, John Q. Smith & Company owned 5,337,360 shares of Public Corporation common stock. This represents approximately 47 percent of the outstanding shares of Public Corp. The underlying asset values did not present a problem for the valuation of the Public stock because the high and low valuation as of the valuation date is proper. However, consideration must be given to the fact that a 47 percent block of stock of a publicly traded corporation frequently constitutes a control position in the stock.

In our opinion, a 35 percent premium is appropriate in determining the value of the public holdings of John Q. Smith & Company. The pro rata value of a controlling interest in a company is said to be worth more than the value of a minority interest, due to the prerogatives of control that generally follow the controlling shares. An investor will generally pay more (a premium) for the rights that are considered to be part of the controlling interest. Valuation professionals recognize these prerogatives of control and consider them in the assessment of control premiums. Some of the prerogatives include the following:

- Elect the board of directors
- Appoint the management team
- Determine compensation and perquisites
- Set business policy
- Acquire or liquidate assets
- Make acquisitions or divestitures
- Sell or acquire treasury stock
- Declare dividends
- Change the articles of incorporation or bylaws of the corporation

Control is demonstrated in the public market as publicly traded companies are purchased at prices above the value at which the shares are trading in the open market. Empirical data is available about these transactions, and measuring the control premium allows the valuation analyst to use this data as a benchmark in the valuation of other companies.

Generally, the issue that the valuation analyst faces is the valuation of a closely held company. In this instance, the valuation subject is a controlling interest in a publicly traded company, Public Corp. Control premium data is tracked by several sources. The most widely used source is *Mergerstat Review*, which was published annually by Merrill Lynch Business Brokerage and Valuation, Schaumburg, IL (today, it is published by Factset, LLC). Another widely used source is the *Control Premium Study*, published by Houlihan, Lokey, Howard, and Zukin.



**Author's Note**

This is now known as the *Mergerstat Control Premium Study*.

A summary of the *Mergerstat Review* data appears in table 1 on the following page.

**TABLE 1 Percent Premium Paid Over Market Price**

Year of Buyout	Number of Transactions	Average Premium Paid Over Market (%)	Median Premium Paid (%)
1980	169	49.9	44.6
1981	166	48.0	41.9
1982	176	47.4	43.5
1983	168	37.7	34.0
1984	199	37.9	34.4
1985	331	37.1	27.7

*(table continued)*

**EXHIBIT 14.1 Selected Portion of Control Premium Discussion***(Footnotes Omitted From Exhibit) (continued)***TABLE 1 Percent Premium Paid Over Market Price** *(continued)*

Year of Buyout	Number of Transactions	Average Premium Paid Over Market (%)	Median Premium Paid (%)
1986	333	38.2	29.9
1987	237	38.3	30.8
1988	410	41.9	30.9
1989	303	41.0	29.0
1990	175	42.0	32.0
1991	137	35.1	29.4
1992	142	41.0	34.7
Mean		41.2	34.1
Median		41.0	32.0

The mean and median premiums since 1980 have varied with the economy and stock market activity. In the early 1980s, interest rates were at an all-time high, possibly pushing the control premiums paid for companies even higher. As rates came down in the mid-1980s, the premiums followed. By 1992, the year of the valuation, the average and median control premiums were 41.0 percent and 34.7 percent, respectively, for the entire market.

In order to more closely assess the applicability of this data to the control premium that is warranted for the public holdings, we further analyzed the *Mergerstat Review* data. Information summarized from this publication appears below.

<b>Average premium offered</b>	<b>41.00%</b>
Controlling interest	41.30%
Minority interest	38.30%
Industry classification of seller	
Chemicals, paints, & coatings	34.00%
<b>Median premium offered</b>	<b>34.70%</b>
Purchase price \$100 million or more	39.00%
Method of payment	
Cash	29.60%
Stock	36.80%
Combination	41.90%
Seller's market price five days before announcement	
Over \$25.00 through \$50.00	25.80%
Seller's P/E ratio five days before announcement	
Over 15.0	34.00%

**EXHIBIT 14.1 Selected Portion of Control Premium Discussion**

*(Footnotes Omitted From Exhibit)*

Dissecting the information included in *Mergerstat Review* illustrates that while the average control premium offered in 1992 was 41.0 percent, the average for controlling interests was slightly higher, at 41.3 percent. However, even minority interests were being bought at a premium of about 38.3 percent. Attempting to get more industry-specific, we reviewed the data for transactions in the chemicals, paints, and coatings category. The average control premium in this industry was 34.0 percent.

In addition to the averages, the median premiums paid were also reviewed. The median tends to provide a better indication than the average because the average can be skewed by extremely high or low data. The median is the central point when ranked by size.

The median premium offered was 34.7 percent during 1992. When the purchase price was \$100 million or more, the premium jumped to 39.0 percent. This is consistent with current studies that indicate larger companies frequently sell for higher multiples. Combination deals involving stock and cash resulted in a premium of 41.9 percent, but even when the deal was all cash, the premium was still 29.6 percent.

Reviewing this data based on the per share price of the public stock indicates that companies whose shares were trading between \$25 and \$50 sold at the lowest control premium of only 25.8 percent. Finally, companies whose price-to-earnings multiples were over 15 reflected premiums of 34.0 percent.

Additional analysis was performed of the data appearing in the Control Premium Study. The major difference in this study from *Mergerstat Review* is that the premiums are measured differently. Furthermore, this study only includes cash transactions. Data observed from this study includes the following:

By industry (SIC) (trailing 12 months)	
SIC 28 (Chemicals and Allied Products) (2 transactions)	
Median	70.50%
Mean	70.50%
SIC 38 (Controlling Instruments; etc.) (3 transactions)	
Median	27.00%
Mean	45.50%
Domestic transactions—4th quarter (18 total transactions)	
Median	44.50%
Mean	47.40%
12-month figures (1/1/92–12/31/92) (94 total transactions)	
Median	42.40%
Mean	50.40%
3-month median premium	
First quarter	34.60%
Second quarter	42.40%
Third quarter	49.20%
Fourth quarter	33.50%
12-month median premium	
First quarter	45.30%
Second quarter	45.10%
Third quarter	44.30%
Fourth quarter	42.40%

*(continued)*

**EXHIBIT 14.1 Selected Portion of Control Premium Discussion***(Footnotes Omitted From Exhibit) (continued)*

The preceding data divides the control premiums differently than the data presented from *Mergerstat Review*. This information reflects that the control premiums paid within standard industrial classification (SIC) category 28 were 70.5 percent, whereas the mean and median premiums for SIC category 38 were 45.5 percent and 27.00 percent, respectively.

However, this data reflects considerably greater premiums for the transactions that are tracked. The specific data for the industry includes only two transactions; therefore, it is considered to be of little significance. These two transactions reflect control premiums of 12.9 percent and 128.1 percent, too large a spread to be meaningful.

A review of the additional control premium data broken down by domestic transactions and by time periods tends to provide premium data in the range of the mid-40s. During 1992, the median of the 94 transactions tracked by this study was 42.4 percent. Although slightly higher than the Mergerstat data, a conclusion can be reached that the median premium during 1992 was approximately 35 percent to 40 percent.

The question to be addressed by the valuation analyst concerns the appropriate level of premium to be applied to the public holdings. The economic and industry mood should also be considered when looking at this issue.

In the early 1990s, the U.S. economy was in the midst of a recession. The Persian Gulf War added to the problems, followed by the election of President Clinton. It was during this period that unemployment levels began to rise, consumer spending declined, and consumer confidence drifted downward. During 1992, the state of the economy in the nation began to show some signs of improvement, as the real Gross Domestic Product grew by 2.9 percent. However, the unemployment rate increased from 6.8 percent in 1991 to 7.5 percent in 1992. The sluggishness of the economy at the conclusion of the Bush administration's term was expected to improve in the year ahead with the election of a Democratic president. The feeling in the nation at the end of 1992 was that

1993, it seemed, could not come fast enough. Wall Street investors know the feeling well. For much of 1992, their sights have been fixed firmly on what the next 12 months may bring. There is, of course, nothing unusual about stock markets anticipating the future. But the presidential election, dominated by its cries of change and transition, and the turning point reached in the domestic economic cycle, have given investors a fixation with tomorrow's joys, obscuring the drearier realities of today.

America had been through tough economic times during the early stages of the decade, resulting in mixed feelings for the nation's consumers, employees, and investors. Optimism about the economy began to lift toward the end of 1992, with the consumer confidence index gaining 12.7 points in December, as reported by the New York-based Conference Board. The real estate market in the United States also began to show some signs of improvement, which indicated a positive attitude about the economy. However, fears of interest rate hikes were also apparent.

Investors, on the other hand, had mixed feelings about the future of the nation's economy.

This spate of encouraging economic data failed to translate into a traditional year-end rally on Wall Street, largely because investors were also trying to anticipate the tax changes which may take effect in 1993. The Clinton administration, which runs the thinking, will almost certainly increase the income tax burden on high-earning individuals. Accordingly, such investors had every incentive to lock into stock market profits before 1992 ended. Tax-centered concerns have already led to the early payments of bonuses by some Wall Street investment firms. Last week, these told on share prices, as dealers reported confusing "crosscurrents" in trading activity. Some investment clients, they suggested, were still buying on the economic news, but others were busily selling on tax fears.

Furthermore, the nation's unsettled economy had an effect on the mood of investors. *Chemical Week's* monthly stock report made the following statement regarding investors:

Investor confidence was also hurt by disappointing economic data, leading analysts to trim earnings projections for the second half of this year, and for 1993. Although selling pressure centered on industrial cyclical groups like autos, airlines, and steels, none of the S&P 500 composite's 88 industry groups eked out a gain. The S&P 500 fell 2.4% in August, giving back more than half its July rise, while the more cyclically oriented DJIA sank 4%.

Aside from reporting on the overall stock market, *Chemical Week* also reports on the performance of chemical stocks. During the third quarter of 1992, major chemical firms' earnings declined, while the outlook for specialty chemicals looked bright. Unlike the major chemical firms, specialty chemical companies do not depend on commodity chemicals because they generally produce "smaller batches of a wider variety of chemicals that command premium prices. These companies as a group are likely to see year-over-year quarterly earnings increases of about 10% to 15%," claims Jeffrey Cianci, a securities analyst with Bear, Stearns & Co.

**EXHIBIT 14.1 Selected Portion of Control Premium Discussion***(Footnotes Omitted From Exhibit)*

Although there are some reports of a positive outlook for the specialty chemical industry, a market report of the specialties segment by *Chemical Week* magazine paints a contrasting picture.

In the specialties sector, losers outpaced winners by a three-to-one margin. Only the Dexter Corp. touched a new 12-month high. Seven issues advanced, with thinly traded LeaRonal, up 9%, posting the biggest rise. Among the biggest losers were Public, 210%; M.A. Hanna, 29%; and Ferro, 29%.

Overall, however, the specialty segment performed better than the large chemical companies. "The S&P chemicals and diversified chemicals indexes fell 6% and 5.8%, respectively, while the specialty chemicals index dropped only 1%." During the third quarter of 1992, specialty chemical makers saw higher returns, despite the weak U.S. economy.

Looking at the performance of specialty chemical firms during 1992, the industry displayed mixed results. During the first half of 1992, major chemical company stock prices increased 11 percent, whereas specialty chemical company prices fell 1 percent. Despite the differences in the performance of the two chemical sectors, specialty chemical stocks appear to be attractive investments.

The major, or commodity, chemical companies are highly sensitive to the economic cycle. To judge by the strong performance of these and other cyclical stocks, investors are expecting a sharp recovery. They are likely to be disappointed. Restructuring in the service sector, restrained fiscal policy, high real long-term interest rates, and the slowdown in Japan and Europe are all working against a strong recovery. Real growth of 5% to 6% has been typical of recoveries in the postwar period. The current cycle is more likely to show growth of 2.5% to 3%.

In this sluggish environment, specialty chemical companies look particularly attractive. They have some cyclical exposure but are not dependent on a strong recovery. In the best of times, the major chemical companies price their products on a cost-plus basis, expecting, or rather hoping, to cover production costs, with a little profit left over. These are highly competitive businesses in which price is virtually all that distinguishes one company's product from another's. Profit growth is dependent on sales increases and high capacity utilization rates.

The dynamics of the markets for specialty chemicals are quite different. Prices are driven by the added value each product brings to its customer. A significant amount of research goes into each product, and companies expend considerable resources on marketing.

Not surprisingly, specialty chemical firms tend to be smaller than commodity chemical companies. They typically dominate the markets in which they operate, and they enjoy wider profit margins, stronger growth, and higher returns on equity.

There are at least 70 good size, publicly traded specialty chemical companies. Broadly speaking, these firms produce chemical solutions to a host of different problems.

Public's primary business operations are in the specialty chemicals industry. The three major product groupings within this segment include oil field chemicals, industrial chemicals, and industrial polymers and waxes.

The chemical industry in the United States is highly competitive. During the early 1990s, the industry experienced market erosion.

Merger and acquisition activity has also become increasingly important in the oil field chemical industry in recent years due mainly to the declining U.S. market. Consolidation has continued to be a way that companies survive in the increasingly competitive industry. Baker Hughes became the leading U.S. producer and a major worldwide producer of oil field chemicals by making several important acquisitions in the early 1990s. These purchases, which also made Baker Hughes a more balanced chemical supplier, included ChemLink Incorporated (specialty production chemicals); BP's OFRIC business (UK oil field chemicals); the oil field chemical operations of CEDA Reactor in Canada, and the environmental chemical operations of Wen-Don Incorporated.

During the early 1990s, specialty chemical companies took steps toward increasing their market share. "For example, Public Corporation, a leading producer of specialty production chemicals, is working to increase the company's market share by emphasizing technology and value-added services." While Public was taking measures toward improving their market share and future position in the market during the early 1990s, the oil field chemical industry had been experiencing declining sales during the previous two years. "Due to industry consolidation there are also fewer customers for these products."

"Within the oil field chemical industry are numerous product segments. Public is concentrated in the area of production chemicals. There are five companies within this segment, which accounted for over 75 percent of the market share. The five companies are Public, Baker Performance Chemicals, Nalco, Exxon, and Champion Technologies."

*(continued)*

**EXHIBIT 14.1 Selected Portion of Control Premium Discussion***(Footnotes Omitted From Exhibit) (continued)*

Aside from the increase in competition, environmental concerns throughout the global economy placed even more pressure on the \$200 billion-per-year industry, which has “matured considerably during the past 10 years.” The increased awareness of the protection of the environment has resulted in increased costs of operations for specialty chemical producers. Due to the rising costs of operations, many of the industry’s small players have been acquired by larger companies. While environmental pressures have had an effect on the cost of doing business, some industry participants view the pressures as an opportunity to capitalize on a new environmentally conscious market.

The industry has seen many changes during the late 1980s and early 1990s, due in part to environmental pressures. The financial aspect of the industry has also changed. Chem Listner, senior V.P. at Kline, stated, “What has been described as a frenzy of purchases in the 1980s has settled down to a period of extreme caution. Deals are made strictly on the basis of strategic synergies with existing business units.” It is the consolidation that occurred during the 1980s that has increased competition so dramatically.

Toward the close of 1992 and looking forward to 1993, productivity appears to be the focus of chemical firms.

The economic chorus praises the U.S. chemical industry as well positioned for a productivity-driven future. The restructuring charges for layoffs and plant closures in the U.S. were taken in 1992, and the benefits will be seen on bottom lines in 1993, although some further charges are likely in Europe and will affect the profits of U.S. based multinationals in 1993. “The restructuring is over,” says Amoco’s Eck. “Everyone has done a tremendous job of cutting costs. We’re ready to grow, and grow profitably.” “The chemical industry has a very high value added,” Professor Smith concurs. “If the whole country were in the shape the chemical industry is in,” he says, “George Bush would be the one being inaugurated on Jan. 20.”

According to Form 10-K, filed with the SEC for the year ended October 31, 1992, Public was about to acquire Target, Inc., a subsidiary of AAA Chemical Company. This is a positive sign for the company. Making acquisitions of this type is one of the prerogatives of control discussed previously.

Public is a leader in their niche of the market. This factor, along with a favorable outlook for the specialty chemical industry, makes the company more likely to be acquired at a higher premium. In fact, because of the consolidation occurring in the industry, Public could be postured for a sale to an attractive suitor.

Considering the size of the premiums being paid in the marketplace, the industry outlook for Public, and the niche position that Public has filled in the industry, we believe that a control premium of 35 percent is appropriate.

By the way, the public company was acquired. It is definitely better to be lucky than good. In preparing to further explain why a control premium was applicable, we performed a simple analysis. Only 300,000 shares of stock were required for ownership greater than 50 percent. If management bought these shares at a reasonable premium, control of the entire company would have provided them with an asset that was worth much more money. Also, when a 47 percent shareholder shows up at the annual shareholder meeting, does anyone believe that he or she would not control the vote? What is the likelihood of all the other stockholders of this public company showing up at the annual meeting to vote? Not likely—the remaining shares were very small blocks in the hands of a lot of other shareholders.

Because I may not have made this statement enough already, be careful to avoid double-counting! Certain valuation methods result in a control value for the company. Adding a control premium in that situation would result in double-counting and should be avoided. For example, using merger and acquisition data would result in a control value because the merger and acquisition data generally comes from the sale of entire companies. The excess earnings method is also considered to be a control valuation method because the valuation analyst is required to adjust the balance sheet items to fair market value. Minority interests could not benefit from this because they cannot sell off these assets.

Control premium studies, such as the ones discussed in exhibit 14.1, are regularly used to assist the valuation analyst in determining the premium that is paid in the marketplace for control. I will discuss these studies in more detail shortly. However, are companies on Wall Street really buying control? Part of what they are buying is control, but there are many motivational factors that extend far beyond the control issue and cause acquirers to pay considerably more for a company. Let’s discuss a little history. When IBM purchased Lotus

Development Corp. for about \$66 per share, Lotus' shares were trading at \$33. This would be a 100 percent premium! What about when MFS Communications bought UU Net? The acquired company had \$94.5 million in revenues, a \$63 million net loss, and negative \$21 million in cash flow, but it sold for \$2 billion (that's right, billion—with a "b"). UU Net was one of the first companies that created an Internet platform at a time before everyone was spending their lives on the Internet (for students reading this book—believe it or not, there was a time when we did not text, tweet, Instagram, Facebook, or Google. We actually did a thing called "speaking with each other," and we shopped in those things called "stores").

Large companies purchase other companies for a variety of reasons besides control. Some of these reasons may include the synergies between the two companies, the ability of the acquirer to enter a new market without starting from scratch, or the ability of the acquirer to enter a completely new line of business that it had not been in before and that complements its existing business. Sometimes, it may just be to eliminate a competitor. In fact, if you examine many of the Wall Street megadeals, the acquirer frequently begins selling off parts of the target company immediately to help pay for the acquisition. How does this factor into the control premium studies? It doesn't! One more reason why the world is not perfect.

Assume that a company reports a deal for \$57 per share. However, after the acquisition is completed, certain subsidiaries are sold, and the acquirer gets back the equivalent of \$2 per share. The control premium studies would measure the premium as \$57 over the trading price. Wouldn't it be more accurate to reflect \$55 because that is the net number? Unfortunately, this is the best that we have to work with. It also explains why the courts are not willing to accept a blind application of these studies. The valuation analyst must think through and support the conclusions reached.

## Lack of Control (Minority) Discounts

There is little argument in the valuation profession that minority interests in a privately held company are worth less on a per share basis than controlling interests. A minority owner is usually unable to effectively influence the operations or results of the business. A lack of control discount is a reduction in the control value of the valuation subject that is intended to reflect the fact that a minority owner cannot control the daily activities or policy decisions of an enterprise, leading to a reduction in value. The size of the discount will depend on the size of the interest being valued, the amount of control, the owner's ability to liquidate the company, and other factors.

The benefits bestowed by control depend on the degree of control in the ownership interest. The degree of control is determined by various factors, including the relevant state law, corporate or operating agreements, and others that were discussed previously. But let's also not forget about the distribution of the ownership interests. Different ownership blocks can influence the degree of control. Let's use a 2 percent shareholder interest as an example. Do you think that it might matter if you are valuing a 2 percent interest and there are 49 other 2 percent interests as compared with there being two 49 percent interests that do not get along? The 2 percent interest, with 49 other similar interests, is probably not worth much. However, the 2 percent interest with the fighting 49 percent interests could be worth considerably more due to its swing vote, assuming a simple majority requirement.

Now, with the previous example being provided, let me save you from making a very common error that I see over and over again. Many new valuation analysts would see the 2 percent owner having significant value with the dueling 49 percent owners. Keep in mind that the 2 percent interest cannot be worth more than the amount that results from valuing the entire enterprise on a control basis after subtracting the value of the two 49 percent interests from it. I have seen analysts add a premium to the value of the 2 percent interest, resulting in the value of the entire company being greater than the whole. The sum of the parts can be less than the whole, but never more.

In many states, a decedent cannot cut a spouse out of a will. In fact, some states require the surviving spouse to get at least one-third of the estate. My firm was involved in a litigation where the surviving spouse (estranged at the time of death) sued the estate claiming she did not get her one-third of the entire estate. The

decedent had bequeathed 33 percent of the corporate stock to each, his service manager and bookkeeper, with the remaining 34 percent going to the estranged wife. The wife hired a valuation analyst who took the position that since 34 percent represented a minority interest, after discounts, the value was less than the one-third share required by state law (pretty creative, huh?). It turned out that the highest and best use of the company was as if in liquidation, entitling each interest to a pro rata share of the liquidation value; therefore, she got her one-third! It took the state appeals court to agree with me, but there were no discounts because the value was in liquidation. Each shareholder was entitled to the pro rata share of the whole under state law.

The degree of control will influence the magnitude of the discount for lack of control. While there is some empirical guidance available about discounts for lack of control, adjustments to reflect different degrees of control are made analytically on a case-by-case basis. A lack of control discount is basically the opposite of a premium for control. This type of valuation adjustment is used to obtain the value of a noncontrolling interest in the valuation subject when a control value is the starting point. Conversely, a control premium is used to determine the control value when the freely traded minority value is the starting point. Lack of control discounts can be mathematically determined using control premiums that are measured in the public market. The formula to determine the minority interest is as follows:

$$1 - \left( \frac{1}{1 + \text{Control Premium}} \right)$$

This concept is illustrated in box 14.2.

If you have ever done this stuff before, you probably know that a valuation analyst is supposed to be able to support the size of the discount taken. If you have never done this before, you now know. A discount does not get plucked from the air (or maybe I should say that the discount should not be plucked from the air). In addition to supporting discount rates, capitalization rates, and forecasts, the greatest problem that a valuation analyst faces is supporting the size of the valuation adjustments, whether they are discounts or premiums. I used to think that it was pretty humorous to see a valuation analyst write a 100-page valuation report in which he or she spends all of one paragraph to “whack” the value by 35 percent for various discounts. Now, it not only constitutes a violation of valuation standards, but it also makes for a really bad report. So, where does one go to look for support for the discount for lack of control?

Before we discuss specific sources that are used as a starting point in the process, let’s discuss what a discount for lack of control really is. This might best be shown with an example. This is also a good time to illustrate the concept of using the normalization adjustments to assist the valuation analyst in determining control or minority values. Let’s assume that ABC Company has a reported net income of \$100,000. Let’s also assume that the only normalization adjustment for control is excess rent paid to the stockholder, requiring a \$50,000 adjustment. To keep things simple, let’s ignore taxes. Assuming a capitalization rate of 20 percent, value can be estimated as follows:

#### BOX 14.2 Calculating the Lack of Control Discount

If the control value equals \$120 per share and the control premium equals 20 percent, the minority value would be calculated as follows:

$$1 - [1 \div (1 + 0.2)] = 16.67\% \text{ lack of control discount}$$

The 16.67 percent lack of control discount would be subtracted from the control value to derive the freely traded minority value. This is calculated as follows:

$$\begin{aligned} \$120 \times 16.67\% &= \$20 \text{ discount} \\ \$120 - \$20 &= \$100 \text{ freely traded minority value} \end{aligned}$$



The difference in value of \$250,000 is effectively the lack of control discount. By having control, an owner could create an additional \$250,000 of value by adjusting the excess rent to market levels. Conversely, the minority owner loses this value by not being able to change this.

The implied lack of control discount in this example is 33⅓ percent (\$250,000 ÷ \$750,000). The nice part about valuing the minority interest in this fashion is that the valuation analyst does not have to support a lack of control discount, which is difficult to do.

	Control	Minority
Reported net income	\$100,000	\$100,000
Normalization:		
Excess rent	50,000	—
Adjusted net income	\$150,000	\$100,000
Capitalization rate	÷ 20%	÷ 20%
Estimated value	\$750,000	\$500,000

There is a problem, however, in relying solely on the normalization adjustments to represent the difference in value between control and minority. There are certain attributes of control that may add value but may not affect measurable cash flow or earnings. For example, having the ability to sell the company is an attribute of control that adds value. However, just having a right, which intuitively should add value, may not be measurable. What about the well-run company with no normalization adjustments? Clearly, I would rather have control, even if the cash flow is the same. The question is how much is that right worth? Accordingly, in the preceding example, there may be an additional diminution in value to reflect the lack of other control rights not available to the minority shareholder. The problem is how do we quantify what they are worth?

The more common sources of information used to measure the lack of control discount include *Mergerstat*<sup>®</sup> *Review* and the *FactSetMergerstat*<sup>®</sup>/*BVR*<sup>™</sup> *Control Premium Study*, which is available from Business Valuation Resources, LLC (BV Resources).

These sources are referenced in chapter 5 and measure control premiums. Because control premiums are used to calculate the lack of control discount, these sources are the most widely used. Unfortunately, there are no sources that measure lack of control discounts directly. One of the problems that the valuation analyst faces is that these studies measure the control premiums differently; therefore, the implied lack of control discount may be different depending on the source used to calculate the discount. The other major problem is that it may be very difficult to use these references and associate them with a minority interest in a closely held business.

*Mergerstat*<sup>®</sup> *Review* is an annual publication that presents compiled statistics relating to mergers and acquisitions. Data on merger and acquisition announcements and purchase prices are presented annually and quarterly, for the current period and historically. Current transactions that are either completed or pending are also shown, as well as the prices offered and equity interest sought for companies that are in the \$100 million category.

The 100 largest announcements in history are featured, as are the largest by industry. The publication also has announcements on mergers and acquisitions for specific industries, including a ranking of the dollar value offered and the number of transactions in each industry. International transactions, divestitures, a transaction and cancellation roster by industry, and acquisitions of privately owned companies are other areas featured in the book. The information provided in *Mergerstat Review* can be used to identify industry guideline companies that were involved in actual transactions.

The *FactSet Mergerstat*<sup>®</sup>/*BVR Control Premium Study*<sup>™</sup> data contains more than 10,490 transactions in more than 700 standard industrial classification (SIC) codes. This database contains 19 years of data. Most transactions are mergers and acquisitions with 100 percent of the shares acquired and include controlling takeovers and buyouts. There are about 57 data points provided for each transaction. Control premiums are calculated as follows:

$$\text{(purchase price – “affected stock price”)} \div \text{“unaffected stock price”}$$

The “unaffected stock price” is determined by Mergerstat as the seller’s closing stock price five business days before the initial announcement of the transaction is made. The purpose of this is to arrive at a price for the target company before volatility due to acquisition or merger rumors.

The database is searchable by the following:

- Target company size (assets, revenues, and deal size)
- SIC code
- Profitability
- Trading market (New York Stock Exchange, NASDAQ, and so on)
- Transaction date
- Whether the deal is a tender offer or leveraged buyout

In addition to the preceding, the current database uses many of the same calculations that used to be available in another control premium study that is no longer published. Instead of calculating the unaffected price based on five business days before the initial announcement, as done in *Mergerstat Review*, this database provides the premium based on the following:

- One day before the transaction
- One week before the transaction
- One month before the transaction
- Two months before the transaction

In many instances, the further you get from the transaction, the higher the premium. This shows that once the news of the transaction leaks to the public, the market starts to bid up the price of the stock. By the time the valuation analyst gets close enough to the transaction, the premium is actually lower due to the price run up. (And you thought the public market was efficient!)

Many transactions are synergistic in nature. Thus, the premium paid probably measures the difference between minority, marketable level and investment value, not the control level. To address this, the database lists the transactions with the following codes:

- Horizontal integration
- Vertical integration
- Conglomerate
- Financial

Financial buyers would include private equity firms, which would not stand to gain from operational synergies. However, the premiums paid still may not directly measure the difference between private minority and control level value. *Mergerstat® Review* also defines *premium offered* as “calculated by dividing the offer price per share by the seller’s closing market price five business days prior to the announcement of the transaction. May include foreign sellers, publicly traded sellers, and divestitures. Excludes privately owned sellers.”<sup>2</sup> The benefit of this method is that it is a consistent and objective way of measuring the premium. The drawback of this method is that the public price may have already started to climb based on rumors of a deal, which may understate the premium. You also have to be careful if you use composite data because of the influence of foreign sellers.

Another problem that exists in using the control premium data is that we cannot determine if there is a true premium being paid for control or if the acquiring company is paying for synergies that cannot be separately measured. We also do not know how many of the Wall Street megadeals resulted in spin-offs after the acquisition. If a company makes an acquisition for \$100 million but intends to sell a subsidiary as soon after the acquisition as possible—for, let’s say, \$10 million—isn’t this really a \$90 million net acquisition? However, the control premium data used by the studies would be based on the \$100 million. Unfortunately, it is the best data that we have to work with. I discussed this before, so let’s not belabor this point here. In case this isn’t nerve-racking yet, one of the difficulties in properly measuring the control premium that was paid is that it must be in a cash equivalent price to help the valuation analyst determine the fair market value of the valuation subject. Business transactions are frequently consummated using various payment options, including all cash, cash and noncash, or all noncash considerations. Many times, these transactions also include some form of an earnout.

It is essential to know the value of the noncash consideration or the earnout, or both, in relation to the face amount of the consideration. Most control premium studies that include purchases using noncash consideration report only the price calculated using the face value of the noncash consideration, not its cash

.....  
 2 *Mergerstat® Review* (Norwalk, CT: FactSet Mergerstat, LLC, 2011): 322.

equivalent. Earnouts are calculated inconsistently between different sources, as witnessed in our review of the different transaction databases. I never said this stuff would be easy. I said understandable, but not easy!

Part of a typical table that appears in many valuation textbooks is illustrated in table 14.2. It demonstrates how the control premium data can be used in the calculation of the lack of control discount.

Year of Buyout	Number of Transactions	Average Premium Paid Over Market (%)	Median Premium Paid (%)	Implied Minority Interest Discount*
2009	239	58.7	39.8	28.5
2010	348	51.5	34.6	25.7
2011	321	54.1	37.8	27.4
2012	323	46.2	37.1	27.1
2013	257	44.0	29.7	22.9
2014	328	42.1	28.7	22.3
2015	362	48.1	29.6	22.8

\* Discount calculated by the author.

(Source: Financial data and analytics provider FactSet. Copyright 2017 FactSet. All rights reserved. Used with permission.)

Although many of us have seen this data over and over, what many of us ignore is the fact that the *Mergerstat* data includes only premiums. However, companies are not only purchased at a premium. Sometimes companies are purchased at a discount from the market price.

According to the *Control Premium Study*, during the fourth quarter of 2015, the difference in the data, with and without negative premiums, was as follows:

	Including Negative Premiums		Excluding Negative Premiums	
	No. of Deals	Premium	No. of Deals	Premium
Domestic average	61	52.4%	57	57.5%
Domestic median	61	37.6%	57	38.8%
International average	85	23.8%	65	42.4%
International median	85	19.6%	65	30.6%
Overall average	146	35.7%	122	49.4%
Overall median	146	30.4%	122	36.6%

Using the preceding data to calculate the discount for lack of control for the domestic average group, the discount would be 52.4 percent, including the negative premiums, and 57.5 percent, excluding the negative premiums. By overstating the control premiums, the discount for lack of control is also overstated. Putting this data into perspective, if a valuation analyst was to base the control premium or discount for lack of control merely on the data included in the table that we are used to seeing, the premium or discount, or both, could be significantly overstated. This means that the control premium that might be added to the minority value

could be too high. Conversely, if a discount for lack of control was calculated from the normally used data, the discount could be overstated, and the minority interest would be undervalued. Now, with that being said, those companies that sold at a negative premium may have issues associated with them that we may not see when valuing the subject company of our valuation. So, what does all of this mean? It means that we have to be aware of the data that we use and its impact on our conclusions. Merely accepting data without understanding what is included in it is a bad practice.

## Discount From Net Asset Value

A discount from net asset value is commonly applied in the valuation of holding companies, whether they own real estate, securities, oil and gas interests, or other types of investments. This discount is generally appropriate for the valuation of asset-intensive companies and is used to derive a freely traded value. In essence, this discount is similar to a discount for lack of control.

In many asset-holding companies, a discount from the net asset value is commonly applied to take into consideration the fact that a minority investor does not have the ability to get to the underlying value of the assets until such time that the investments are liquidated and distributed to the owners.

Obviously, another reason to take a discount from net asset value is if you are performing a liquidation value, in which case, it is more likely the investor will not receive the full book value for inventory or accounts receivable, for example. However, the reduction in value is better off being taken, as I demonstrated in chapter 11, as a reduction in the balance sheet, rather than as a valuation adjustment. This way, the reader of the report will not think that the analyst is taking a discount for lack of control in a liquidation scenario.

The sources used to support a discount from net asset value are generally different from the sources that were discussed earlier in this chapter. An example of an actual report that explained this discount is included in the sample Family Limited Partnership Report that is included as a downloadable file included with this book. We address the discount from net asset value in that report as the equivalent of a discount for lack of control.

## Discount for Embedded Capital Gains

A long time ago, way back in chapter 11, when discussing the asset-based approach, I discussed the concept of tax affecting the appreciation in the write up of assets on the balance sheet. Although some valuation analysts add a tax liability to the adjusted balance sheet, many address the embedded capital gains tax that would result from a sale of the assets as a discount. Because it is a form of discount from net asset value, and this is my book, I decided to address this subject here.

What seems like ages ago, the 1986 Tax Reform Act repealed the General Utilities Doctrine with the result that C corporation shareholders could be taxed at both the corporate level and shareholder level upon liquidation. This created an inequity between C corporations and pass-through entities (for example, S corporations) in terms of taxation. Valuation analysts had to find a way to address this issue because the tax that would be paid, in some cases, was pretty substantial.

For example, assume that an investor purchased the stock of a corporation that owns only one asset, real estate, for \$5 million in 2015. The real estate had been purchased by the corporation in 2010 for \$2 million. The investor sells the corporation for \$10 million in 2017. The following analysis compares the tax implications of the sale based on the corporation being a C corporation versus an S corporation.

<b>Tax Implications of Sale in a C Corporation</b>		
1 Sales price of C corporation	\$10,000,000	
2 Shareholder basis	5,000,000	
3 FMV of real estate in C corp	10,000,000	
4 Inside tax basis of real estate	2,000,000	
5 Capital gain in C corp (line 3 – 4)	8,000,000	
6 Capital gain tax in C corp (40% × line 5)		\$3,200,000
7 Distribution to shareholders before personal tax (line 1 – 6)	6,800,000	
8 Capital gain to shareholders (line 7 – 2)	1,800,000	
9 Personal tax to shareholders (20% × line 8)		360,000
10 Net distribution to C corp shareholders (line 7 – 9)	6,530,000	
11 Total corporate and personal tax paid		\$3,560,000
<b>Tax Implications of Sale in a Pass-Through Entity</b>		
1 Sales price of C corporation	\$10,000,000	
2 Shareholder basis	5,000,000	
3 FMV of real estate in S corp	10,000,000	
4 Inside tax basis of real estate	2,000,000	
5 Capital gain in S corp	N/A	
6 Capital gain tax in S corp		N/A
7 Distribution to shareholders before tax (line 3 – 4)	8,000,000	
8 Personal tax to shareholders (20% × line 7)		\$1,600,000
9 Total corporate and personal tax paid		\$1,600,000

As can be seen from the data in the preceding table, the investor pays much more tax if the appreciated real estate is owned by a C corporation. Therefore, why would any prudent buyer pay as much for the stock of the C corporation if there is an embedded capital gains tax lurking in the future? Logic says “he or she wouldn’t.” Be careful though; personally, logic has gotten me in trouble in the past. So, let’s talk about the problem.

### The Embedded Capital Gain Problem

Since 1986, valuation analysts, other than those who work for the IRS, argued that embedded capital gain tax liabilities in both C and S corporations deserve a discount separate from minority or marketability discounts.<sup>3</sup> The IRS argued that such a discount is invalid for at least the following 2 reasons. First, in the case of a C corporation, the entity can change to an S corporation and, if sold after 10 years, avoid the double tax. The second reason was that liquidation of both types of corporations in the context of an estate or gift tax

<sup>3</sup> S corporation tax affecting is discussed in chapter 18.

assessment is not imminent. Therefore, it would be inappropriate to discount the value by a capital gains tax liability that may not be paid for years, if ever.

Some analysts addressed the IRS's second argument by projecting a holding period for the stock and calculating a present value of the capital gains from the date of sale back to the valuation date. However, this approach proved to be a problem for several reasons. First, the analysis usually did not also address a change in value of the investment between the valuation date and the assumed sale date. It was one thing to state that the investment would be sold 6.338 years from now, but the analyst often forgot that there might be appreciation in the value of the investment during the holding period. Even when the analyst did not forget this, it appeared to be highly speculative and, therefore, not readily accepted by anyone other than the analyst who thinks his or her opinion is the only opinion.

M. Mark Lee and Gilbert Matthews presented research that showed that the present value calculation must consider several factors:<sup>4</sup>

1. The dividend paying capacity and tax basis of the entity.
2. The relationship between the assumed growth rate of the assets and the required rate of return. If the assets are growing in value but the entity does not pay dividends, an increasing amount of the growth will be consumed by taxes.
3. If the company pays dividends, the present value of capital gains tax may be less than a dollar-for-dollar calculation due to the tax rules for excluded corporate dividends from companies owned less than 20 percent.

Nobody said that this would be easy! One thing that I can absolutely tell you about this matter is that the treatment has been consistently inconsistent. Let's look at what the courts have done with it.

## Court Case Precedents on Embedded Capital Gains Tax With C Corporations

In the *Estate of Davis v. Commissioner*,<sup>5</sup> the Tax Court allowed a combined discount of 50 percent in the valuation of this C corporation, implicitly including a discount for capital gains, which equaled approximately one-third of the actual dollar-for-dollar capital gains tax liability. Although The Court offered no reasoning, this was the first Tax Court case in which the embedded capital gains tax issue was accepted as a separate element of marketability.

Having friends in this business provides me with some great insight about what happens sometimes when stuff is not published. In this case, a very reputable valuation firm was working for the IRS. In their opinion, a discount was warranted because of very highly appreciated property being owned by the C corporation. So, they calculated a discount and built it into their report. Here is the real kicker—the attorneys for the IRS were asleep and did not realize what they had done until it was too late. This discount got past them and precedent was born!

In *Eisenberg v. Commissioner*,<sup>6</sup> the company in question was a personal holding company set up as a C corporation. The Tax Court agreed with the IRS and rejected a discount for embedded capital gains, but this decision was overturned by the U.S. Court of Appeals, 2nd Circuit. Although both *Eisenberg* and *Davis* accepted at least partial discounts for capital gains, neither court provided reasoning for how they measured the amount.

Then came the case of *Estate of Dunn v. Commissioner*,<sup>7</sup> where the U.S. Appeals Court overturned the Tax Court's decision and, for the first time, determined that a dollar-for-dollar discount for capital gains tax liability was appropriate for a C corporation. The Court concluded that an asset approach is the same as a liquidation approach therefore, under this theory, The Court explicitly rejected the IRS position that the discount was

4 M. Mark Lee and Gilbert Matthews, "How Should Trapped-in Capital Gains Taxes be Valued?," *Business Valuation Update* 10, No. 8 (August 2004).

5 *Estate of Davis v. Commissioner*, 110 T.C. 530 (1998).

6 *Eisenberg v. Commissioner*, No. 97-4331 U.S. Appeals (2nd Circuit, Aug. 18, 1998).

7 *Estate of Dunn v. Commissioner*, No. 00-60614, U.S. Appeals (5th Circuit, August 1, 2002).

inappropriate because an actual liquidation was imminent (in reality, the subject company never liquidated and never intended to). The Court stated that because fair market value assumed a hypothetical transaction, the discount had to be considered.

Probably one of the more controversial opinions of recent years came in the *Estate of Frazier Jelke v. Commissioner*.<sup>8</sup> Of course, this is in the Federal District where our main office is located. The estate's expert took a dollar-for-dollar discount for capital gains in a closely held C corporation. The IRS's expert projected a liquidation date in the future and discounted the capital gains tax liability to present value. The Tax Court sided with the IRS. The fact is that the IRS's expert did a pretty good job in this case (and no, it was not our firm).

The Court of Appeals rejected the Tax Court's findings using the reasoning from *Dunn* that the fair market value standard requires that a transaction be assumed on the valuation date and accepted the dollar-for-dollar discount. The Appeals Court decision came on November 15, 2007. The IRS appealed the case to the Supreme Court, which denied the *writ of certiorari* on October 6, 2008, meaning the high court would not hear the case. I cannot understand why the Supreme Court does not want to get involved in tax disputes! This could have been the perfect case to take on in which the different circuit courts had varying opinions on the same subject.

In the *Estate of Marie J. Jensen v. Commissioner*,<sup>9</sup> the estate's expert took a dollar-for-dollar discount for capital gains in a closely held C Corporation. The IRS's expert analyzed closed-end funds to determine the discount. The Tax Court rejected the IRS expert's analysis indicating that closed-end funds were not relevant to this analysis under the circumstances of the case. Instead, the Tax Court followed a methodology that was reasonably similar to what the IRS expert did in *Jelke* (which was rejected in that circuit). If this case had been appealed, it would have been to the 2nd Circuit, not the 11th.

The *Davis*, *Eisenberg*, *Dunn*, *Jelke*, and *Jensen* cases all deal with C corporations; the decisions do not apply to pass-through entities (S corporations, partnerships, limited liability corporations, and limited liability partnerships). The dollar-for-dollar discounts for capital gains have only been accepted in the 5th and 11th circuits, and given different facts and circumstances, decisions can differ in other cases and circuits. Not only do you have to understand the rules, but they vary depending upon the circuit court in which it will be argued. Don't you just love this stuff? And they want to know why we only get it right sometimes?

## Embedded Capital Gains In Pass-Through Entities

The IRS has successfully argued that pass-through entities can avoid capital gains tax by structuring a transaction to obtain a step up in the basis of the asset. I'm no tax guy anymore, but my understanding is that partnerships can opt for an IRC Section 754 election in which the inside basis of the partnership's asset is raised to match the cost basis of the buyer; the buyer, therefore, will only incur capital gains tax if the asset appreciates after the transaction. The 754 election, though, is not always selected for several reasons:

- A 754 election is only possible with the consent of each of the existing partners.
- The election cannot be revoked without the permission of the IRS.
- The election normally causes additional administrative overhead in the partnership because each partner's basis must be tracked.

The shareholders of an S corporation can opt for an IRC Section 338(h)(10) election. (I just love it when I talk code sections. I feel like an accountant. Oops, I am one!). This election occurs when a stock sale is treated as an asset sale and the depreciated asset is written up to current value. Both, the buyer and the seller must agree to this election. From a buyer's perspective, an asset sale is preferable because the embedded capital gains are avoided in the future and depreciation expense would be higher over the life of the assets, providing a tax shelter. From the seller's perspective, the 338(h)(10) election usually has no effect, although there is a possibility that the deal could be taxed as ordinary income, rather than a capital gain. Most practitioners agree that a seller would not agree to a 338(h)(10) election without negotiating at least some of the cash value of the benefits enjoyed by the buyer. This could affect the price that is paid in the transaction.

<sup>8</sup> *Estate of Frazier Jelke v. Commissioner*, 507 F. 3rd 1317, U.S. App (11th Circuit, 2007).

<sup>9</sup> *Estate of Marie J. Jensen v. Commissioner*, T.C. Memo, 2010-182 (filed August 10, 2010).

## Court Decisions on Embedded Capital Gains in Pass-Through Entities

We have seen court cases regarding pass-through entities as well as for C corporations. In the *Estate of Jones v. Commissioner*,<sup>10</sup> two family limited partnerships (FLPs) were formed. FLP-A transferred an 83.03 percent limited partner (LP) interest to the decedent's son, who was the FLP's general partner (GP). The assets in the partnership had a basis of \$500,000 and a fair market value of \$11.6 million. FLP-B transferred four, 16.915 percent LP interests to each of decedent's four daughters. The assets had a basis of \$1.8 million and a fair market value of \$7.7 million. (I want to be adopted by these folks.)

The Court disallowed discounts for embedded capital gains for a few different reasons. The interest transferred in FLP-A constituted a controlling interest and a controlling interest could force a 754 election. Although the interests transferred in FLP-B were minority, The Court decided the partnership and its assets were small enough that a 754 election would not be a detriment to the remaining partners. The Court implicitly weighted the potential of a 754 burden on the existing partners but provided no detail on what constitutes a burden. Also, The Court assumed that the existing partners would vote for a 754 election without negotiating any return for themselves. Chances are, if we had done that, The Court would have said that it was too speculative.

In the *Estate of Dailey v. Commissioner*,<sup>11</sup> the decedent made two gifts of LP interests in an FLP that held appreciated securities. The taxpayer's expert took a 40 percent discount, whereas the IRS took discounts of 14 percent and 16 percent on the two partnerships. At trial, the IRS expert admitted that he never read the FLP partnership agreements, nor did he consider embedded gains, though he indicated they were a factor. The Court accepted the 40 percent discount, without explicit reasoning about whether it accepted the discount for capital gains taxes or if they were just rejecting the IRS's expert due to his testimony. This is a classic case of what not to do as an expert.

## Nonvoting Stock Discount

Lots of analysts make the mistake of thinking that there is a big difference between the value of voting and nonvoting stock. At a control level, I can understand there being a difference in value. However, at the minority level, the difference is really small. Studies have been done comparing different classes of stock in public companies, and the discounts were low. Exhibit 14.2 includes a section of a report that we issued a while ago. This just does not come up that often.

### EXHIBIT 14.2 Voting vs. Nonvoting Section From Report

The Class B common shares have no voting rights. However, based on the certificate of incorporation, if less than 1,875 shares of the Class A common shares are not held by the original shareholders, the Class B shares obtain voting rights.

However, due to its current lack of voting rights, an additional discount must be considered because an asset with voting rights is more valuable than one without voting rights, thus, providing a theoretical basis for such a discount. However, the various studies measure the premium for voting rights over nonvoting rights, so that is how the data is applied.

A study performed by Vijay M. Joy and Allan L. Riding shows that nonvoting shares in public companies tend to trade at approximately a 7 percent discount to voting shares in the same company.<sup>1</sup>

<sup>1</sup> Joy, Vijay M. and Allan L. Riding, "Price Effects of Dual Class Shares," *Financial Analysts Journal*, (1986): 58–67.

<sup>10</sup> *Estate of Jones v. Commissioner*, 116 T.C. No. 11 (March 6, 2001).

<sup>11</sup> *Estate of Dailey v. Commissioner*, TCM 2001-263 (October 3, 2001).



**EXHIBIT 14.2 Voting vs. Nonvoting Section From Report**

According to Shannon Pratt,

Where differentials in favor of voting stock exist, they generally have been under 5 percent, and no study has indicated a differential of over 10 percent. Again, the distribution of the stock can have a bearing. If one stockholder has total control anyway and there is no cumulative voting, the question of whether the minority shares are voting or nonvoting is academic unless a split of the control block is foreseeable.<sup>2</sup>

A more recent study has been conducted annually by The Financial Valuation Group in Tampa, Florida.<sup>3</sup> According to James Hitchner:

Yearly research by The Financial Valuation Group in Tampa identified nonfinancial and nonutility companies whose stock trades in two classes on listed exchanges. The research focused on operational companies and, thus, excluded the highly regulated financial and utility companies, except where financial or utility data was required as a proxy to fill certain gaps in data. In each case, both the voting and nonvoting stock were offered, side by side, in their various markets. This list was ultimately reduced to the stock of companies where the only difference between the shares was the voting rights. The dividends were the same, and the shares were equal in all respects, with the exception of voting rights, where the Class A shares generally were granted four to ten times as much voting power per share. This research seems to indicate that where the shares traded represented only a minority interest, a small added value was placed on the voting shares by the marketplace.<sup>4</sup>

A summary of the results reveals the following:<sup>5</sup>

Voting Premiums				
	Year End		Average Hi-Low	
	Median	Mean	Median	Mean
1992	3.54%	6.65%	4.51%	7.68%
1993	1.48%	2.17%	4.14%	4.81%
1994	0.82%	5.50%	2.29%	5.35%
1996	2.86%	3.50%	1.57%	3.29%
1998	0.00%	0.57%	1.42%	2.19%
1999	2.14%	5.91%	7.77%	5.91%
2000	2.01%	9.08%	1.02%	8.67%
2001	1.56%	9.05%	2.22%	1.63%
2002	1.89%	6.52%	1.68%	7.22%
2003	0.39%	6.43%	1.29%	6.51%
2004	0.00%	5.35%	0.47%	6.52%
2005	0.00%	0.44%	0.24%	1.82%

<sup>2</sup> Pratt, Shannon P., Robert F. Reilly, and Robert P. Schweihs, *Valuing a Business*, 3rd edition. (Chicago: Irwin Professional Publishing), 1996: 323.  
<sup>3</sup> James A. Hitchner, *Financial Valuation: Applications and Models*, 2nd edition (New Jersey: John Wiley & Sons, Inc.): 432–450.  
<sup>4</sup> *Ibid*, 432.  
<sup>5</sup> *Ibid*, 450.

(continued)

### EXHIBIT 14.2 Voting vs. Nonvoting Section From Report

Statistically, the median is a better indicator of the central point of the data because one outlier can skew a mean. The data in the preceding table indicates that the nonvoting premiums have declined to less than 1 percent in the most recent years. In this case, the Class B shares will obtain voting rights at some point, which also points to a lower differential. Therefore, a premium of 1 percent for the voting shares over the value of the nonvoting shares has been deemed appropriate for the subject company stock.

Although the illustration appears to be old, the data that has been published from various studies has not been updated in the recent past. It seems that there is such a small difference between the voting and nonvoting shares that it is hardly worth the time and cost to perform an updated study. Although the facts and circumstances of a particular valuation assignment may justify performing such an analysis, we find that it cannot be cost-justified most of the time.

### Conclusion

By now the valuation analyst should realize that supporting valuation adjustments relating to control and minority issues is not a piece of cake. In fact, it does not even rise to the level of being a good cookie. The empirical studies have their share of problems, and it seems that so much judgment has to enter into the process of supporting these adjustments that a valuation analyst is probably better off making the necessary changes to the cash flows to allow the benefit stream to be on a control or minority basis. This way, the analyst can value the company or the interest and not rely on these studies. If the analyst does rely on the studies, he or she needs to be able to support what is done with sanity checks to prove that the answer makes sense. If the analyst blindly relies on these studies, he or she will probably be wrong most of the time.

Let's move on to the continuation of valuation adjustments in the next chapter.

## Chapter 15

# Premiums and Discounts (Valuation Adjustments)— Part II

### Learning Objectives

In this chapter, I will attempt to explain the following stuff that never made it into the last chapter, including the following:

- Discounts for lack of marketability
- Private company discounts
- Key person discounts
- Blockage discounts
- Other discounts and premiums
- Application of discounts and premiums

### Introduction

In the last chapter, I discussed valuation adjustments that addressed control or minority issues. In this chapter, I am going to cover everything else that I can think of relating to other types of valuation adjustments.

This could be a good time to take another look at table 14.1 because it shows the type of value derived from the various methods discussed throughout this book. The valuation analyst really does need to understand the type of value estimate that each of these methods yields in order to know what type of discounts and premiums may be appropriate in any given situation.

### Discount for Lack of Marketability (Illiquidity)

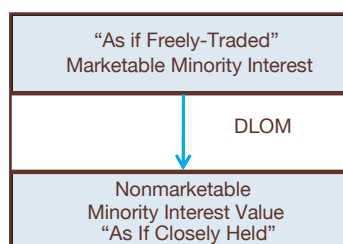
A discount for lack of marketability (DLOM) is used to compensate for the difficulty of selling shares of stock that are not traded on a stock exchange compared with those that can be traded publicly. If an investor owns shares in a public company, he or she can pick up the telephone, call a broker, and generally convert the investment into cash within three days. That is not the case with an investment in a closely held business. Therefore, publicly traded stocks frequently have an element of liquidity that closely held shares do not. This is the reason that a DLOM may be applied. It is intended to reflect the market's perceived reduction in value for not providing liquidity to the shareholder. Also, it is important to understand that liquidity is not an on-off switch where you either have it or you do not. Rather, liquidity is a continuum where there are varying degrees of liquidity in both the public market and for private companies.

A DLOM may also be appropriate when the shares have either legal or contractual restrictions placed upon them. These may be in the form of restricted stock, restrictions resulting from buy-sell agreements, bank loan restrictions, or other types of contracts that restrict the sale of the shares. Even when the valuation subject is a 100 percent interest, a DLOM may be appropriate if the owner cannot change the restrictions on the stock. However, most valuation analysts agree that a DLOM for a controlling interest will be lower than a DLOM for a minority interest.

In order to make this section easier to follow, I am going to divide the discussion about the DLOM between *qualitative* and *quantitative* methods used to support this adjustment. There is a growing belief in the U.S. Tax

Court, the SEC, and many state courts that valuation analysts are not doing a good enough job in quantifying the DLOM. Using all the qualitative techniques and then seeing the valuation analyst pull a number from a hat has not provided users of our reports with a warm, fuzzy feeling. However, we still need the qualitative stuff because the quantitative data can be dangerous if not used properly, or in some cases, by itself. In fact, even if it is used properly, the result does not always make sense.

So, let's make sure we understand where we are going with this discussion. The picture that follows tells the story.



We want to get from the level of value that is freely traded to the level of being a closely held interest. Although the picture only addresses minority values, a DLOM may apply to a control value, as well. So, let's get this out of the way right now.

## DLOM for Control

There is debate that has been going on for a very long time among valuation professionals about whether a DLOM should be deducted for a controlling interest. Those that favor a DLOM for a controlling interest support this notion with the fact that there is an uncertain time horizon to complete a sale. Many business brokers have stated that it is typical for a closely held business to sell in a six- to nine-month time period. Therefore, if a business takes longer to sell, a DLOM may be justified. Economic conditions, the financial status of the subject company, the industry, and other such factors could cause a delay in the time it takes to sell the business. We are assuming that the business is priced correctly and the delay is not being caused by an owner who has visions of grandeur about the value of the company. Those who argue against the DLOM for a controlling interest take the position that although the controlling owner is trying to sell the business, that owner is continuing to receive the cash flow from the business in the form of dividends or distributions, which mitigates the illiquidity of waiting for a sale. But what if the company is not making distributions?

Another justification for a DLOM at the control level is that there is a significant cost to prepare and execute an offering for sale. However, be careful not to confuse this with transaction costs that might be considered a cost of liquidation. Some valuation analysts will use a brokerage cost to support the level of the DLOM. However, this is frequently incorrect. Securities are valued at their market price and not net of brokerage commissions. This is the same manner in which a parcel of real estate is valued. Therefore, the cost to sell an asset is irrelevant.

There are also other risks, such as the eventual sale falling through, and many of the transactions include some form of deferred proceeds. Things like notes and earnouts can reduce liquidity. Another justification for applying a DLOM is that there is an inability to hypothecate (for instance, the inability to borrow against the estimated value of the stock).

However, there are no empirical studies to support discounts for controlling interests. Therefore, some appraisers do not believe that this discount should be taken. Instead, they find other ways to build it into their valuation. Many valuation analysts believe that the illiquidity of owning shares in a closely held business should be built into the discount rate. Frequently, they bury it into a higher discount rate or a lower multiple. But with that being said, the U.S. Tax Court has allowed DLOMs on controlling interests in the range of 3 percent to 33 percent, depending on the facts and circumstances. In the *Estate of Andrews v. Commissioner*, 79 T.C. 938 (U.S. Tax Court, November 29, 1982), the court found the following:

Even controlling shares in a nonpublic corporation suffer from lack of marketability because of the absence of a ready private placement market and the fact that floatation costs would have to be incurred if the corporation were to publicly offer its stock.

Later in this chapter, I will discuss private company discounts, which some analysts consider to be a form of a DLOM. There is some interesting data in that section, but don't jump ahead yet. You will get there soon.

## DLOM—The Qualitative Stuff

In this section, we are going to discuss restricted stock studies, pre-initial public offering (pre-IPO) studies, and other instances that will require you to do more talking than calculating. There is a considerable amount of important information in this section.

### Restricted Stock Studies

The most common sources of data for determining an appropriate level of a DLOM are studies involving restricted stock purchases or IPOs. Revenue Ruling 77-287 refers to the *Institutional Investor Study Report of the Securities and Exchange Commission*, which addresses restricted stock issues.<sup>1</sup> Many studies have updated this one.

*Restricted stock* (or *letter stock*, as it is sometimes called) is stock issued by a corporation that is not registered with the SEC and cannot be readily sold into the public market. The stock is frequently issued when a corporation is first going public, making an acquisition, or raising capital. Corporations issue restricted stock, rather than tradable stock, mainly to avoid (1) downward pressure on their stock price when an excessive number of shares are available for sale at any one time and (2) the costs of registering the securities with the SEC.

The registration exemption on restricted stocks is granted under Section 4(2) of the 1933 Securities Act (Securities Act). The intent of Section 4(2) is to provide “small” corporations with the ability to raise capital without incurring the costs of a public offering. Regulation D, a safe harbor regulation that became effective in 1982, falls under Section 4(2) of the Securities Act and provides uniformity in federal and state securities laws regarding private placements of securities. Securities bought under Regulation D are subject to restrictions, the most important being that the securities cannot be resold without either registration under the act or an exemption.<sup>2</sup> The exemptions for these securities are granted under Rule 144:

Rule 144 (17 C.F.R. 230.144 1980) allows the limited resale of unregistered securities after a minimum holding period of two years. Resale is limited to the higher of 1 percent of outstanding stock or average weekly volume over a 4 week period prior to the sale, during any three month period. There is no quantity limitation after a four year holding period.<sup>3</sup>

Therefore, to sell their stock on the public market, holders of restricted stock must either register their securities with the SEC or qualify for a Rule 144 exemption. A holder of restricted stock can, however, trade the stock in a private transaction. Historically, when traded privately, the restricted stock transaction was usually required to be registered with the SEC. However, in 1990, the SEC adopted Rule 144a, which relaxed the SEC filing restrictions on private transactions. The rule allows qualified institutional investors to trade unregistered securities among themselves without filing registration statements.<sup>4</sup> The primary purpose of Rule 144a was to make it easier for institutions that were prohibited from dealing in illiquid securities to buy and sell debt securities from large publicly traded corporations privately without the need for extensive SEC filings. In 1997, this rule was changed again, shortening the required holding period for these stocks to one year. In 2007, this rule was revised again to be effective in 2008, which further shortened the holding period to six months.

1 “Discounts Involved in Purchases of Common Stock (1966–1969),” *Institutional Investor Study Report of the Securities and Exchange Commission*, H.R. Doc. No. 64, pt. 5, 92d Cong., 1st Sess. 1971, 2444–2456.

2 Kasim L. Alli and Donald J. Thompson, “The Value of the Resale Limitation on Restricted Stock: An Option Theory Approach,” *Valuation* (1991), 22–33.

3 *Ibid*, 23.

4 Richard A. Brealey and Stewart C. Myers, “How Corporations Issue Securities,” in Richard A. Brealey and Stewart C. Myers, eds., *Principles of Corporate Finance*, 4th ed. (New York: McGraw-Hill, 1991), 354–356.

A summary of the changes to Rule 144 is contained in table 15.1.

<b>TABLE 15.1 Summary of the Historical Changes to Rule 144</b>					
	<b>1971-1983</b>	<b>1983-1990</b>	<b>1990-1997</b>	<b>1997-2007</b>	<b>2008-</b>
Announced Date	NA	NA	NA	2/20/97	11/15/07
Effective Date <sup>1</sup>	1/11/72	9/23/83	4/1/90	4/29/97	2/15/08
<u>Affiliates</u>					
Initial Holding Period					
Reporting Issuers	2 Years	2 Years	2 Years	<b>1 Year</b>	<b>6 Months</b>
Non-Reporting Issuers	2 Years	2 Years	2 Years	<b>1 Year</b>	1 Year
Tacking? <sup>2</sup>	No	No	<b>Yes</b>	Yes	Yes
Volume Limitations <sup>3</sup>					
Reporting Issuers	Indefinitely	Indefinitely	Indefinitely	Indefinitely	Indefinitely
Non-Reporting Issuers	Indefinitely	Indefinitely	Indefinitely	Indefinitely	Indefinitely
<u>Non-Affiliates</u>					
Initial Holding Period					
Reporting Issuers	2 Years	2 Years	2 Years	<b>1 Year</b>	<b>6 Months</b>
Non-Reporting Issuers	2 Years	2 Years	2 Years	<b>1 Year</b>	1 Year
Tacking? <sup>2</sup>	No	No	<b>Yes</b>	Yes	Yes
Volume Limitations <sup>3,4</sup>					
Reporting Issuers—Current	Indefinitely	<b>3 Years</b>	3 Years	<b>2 Years</b>	<b>6 Months</b>
Reporting Issuers—Non-Current	Indefinitely	<b>3 Years</b>	3 Years	<b>2 Years</b>	<b>1 Year</b>
Non-Reporting Issuers	Indefinitely	<b>3 Years</b>	3 Years	<b>2 Years</b>	<b>1 Year</b>

(Source: Determining Discounts for Lack of Marketability: A Companion Guide to the Stout [formerly FMV] Restricted Stock Study 2016 Edition. Used with permission.)

**Notes:**

General—Highlighted items signify changes to Rule 144 versus the immediately prior period.

1. Amendments to Rule 144 are applicable to securities acquired before or after the Effective Date.
2. Allows purchases by non-affiliates to tack the prior non-affiliate owner's holding period onto his/her own.
3. For exchange-listed and Nasdaq-quoted securities, up to the greater of (i) 1% of the outstanding shares of the same class being sold, or (2) the average reported weekly trading volume during the four weeks prior to sale. For OTC securities (OTCBB and Pink Sheets), 1% of the outstanding shares of the same class being sold.
4. Time period includes the Initial Holding Period. As an example, between 1997 and 2008, after 1 year non-affiliates may begin to sell shares in accordance with Rule 144's volume limitations. After 1 additional year (2 years total from the date of acquisition of the restricted shares), the shares may be sold freely.

The overall effect of these regulations on restricted stock is that when the stocks are issued, the corporation is not required to disclose a price, and on some occasions, even when they are traded, the value of restricted securities is not required to be a matter of public record.

Various studies have been performed relating to restricted stocks. Each of these studies attempts to quantify the discount taken against the freely traded price of minority shares in the public market. A list of the more frequently cited studies is included in table 15.2.

Too often, valuation analysts use the average discounts that are cited in business valuation publications and textbooks without reading the actual studies. This is both dangerous and negligent. A valuation analyst should understand these studies before using them. Keep in mind that many of these studies are old. Also, if the valuation analyst is going to use these studies, he or she needs to discuss the relevance of them to the valuation subject as of the valuation date.

**TABLE 15.2 Restricted Stock Studies**

Study	Years Covered in Study	Average Discount (%)
SEC Overall Average <sup>a</sup>	1966–1969	25.8
SEC Non-Reporting OTC Companies <sup>a</sup>	1966–1969	32.6
Gelman Study <sup>b</sup>	1968–1970	33.0
Trout Study <sup>c</sup>	1968–1972	33.5 <sup>i</sup>
Moroney Study <sup>d</sup>	<sup>h</sup>	35.6
Maher Study <sup>e</sup>	1969–1973	35.4
Standard Research Consultants <sup>f</sup>	1978–1982	45.0 <sup>i</sup>
Willamette Management Associates <sup>g</sup>	1981–1984	31.2 <sup>i</sup>
Silber Study <sup>j</sup>	1981–1988	33.8
Stout Study (Formerly FMV) <sup>k</sup>	1979–April 1992	23.0
Stout Restricted Stock Study (Formerly FMV) <sup>l</sup>	1980–1997	22.3
Management Planning Study <sup>m</sup>	1980–1995	27.7
Bruce Johnson Study <sup>n</sup>	1991–1995	20.0
Columbia Financial Advisors <sup>o</sup>	1996–February 1997	21.0
Columbia Financial Advisors <sup>o</sup>	May 1997–1998	13.0
MPI Updated Study <sup>p</sup>	2000–2007	14.6
Trugman Valuation Associates <sup>q</sup>	2007–2008	18.1
Trugman Valuation Associates <sup>q</sup>	January–November 2007	17.6
Trugman Valuation Associates <sup>r</sup>	November 2007–2010	15.9
Stout Opinions Updated Study <sup>s</sup>	1980–2014	16.2
Pluris DLOM Database <sup>t</sup>	2001–2012	22.4
SRR Restricted Stock Study <sup>u</sup>	September 2005–May 2010	9.3

*(Table Notes continue on next page)*

**TABLE 15.2 Restricted Stock Studies** *(continued)***Notes:**

- a From "Discounts Involved in Purchases of Common Stock (1966–1969)," *Institutional Investor Study Report of the Securities and Exchange Commission*. H.R. Doc. No. 64, Part 5, 92d Cong., 1st Sess. 1971: 2444–2456.
- b From Milton Gelman, "An Economist-Financial Analyst's Approach to Valuing Stock of a Closely Held Company," *Journal of Taxation*, June 1972: 353–354.
- c From Robert R. Trout, "Estimation of the Discount Associated with the Transfer of Restricted Securities," *Taxes*, June 1977: 381–385.
- d From Robert E. Moroney, "Most Courts Overvalue Closely Held Stock," *Taxes*, March 1973: 144–154.
- e From J. Michael Maher, "Discounts for Lack of Marketability for Closely-Held Business Interests," *Taxes*, September 1976: 562–571.
- f From "Revenue Ruling 77-287 Revisited," *SRC Quarterly Reports*, Spring 1983: 1–3.
- g From Willamette Management Associates study (unpublished).
- h Although the years covered in this study are likely to be 1969–1972, no specific years were given in the published account.
- i Median discounts.
- j From William L. Silber, "Discounts on Restricted Stock: The Impact of Illiquidity on Stock Prices," *Financial Analysts Journal*, July-August 1991: 60–64.
- k Lance S. Hall and Timothy C. Polacek, "Strategies for Obtaining the Largest Discount," *Estate Planning*, January/February 1994: 38–44. In spite of the long time period covered, this study analyzed just over 100 transactions involving companies that were generally not the smallest capitalization companies. It supported the findings of the *SEC Institutional Investor Study* in finding that the discount for lack of marketability was higher for smaller capitalization companies.
- l Espen Robak and Lance S. Hall, "Bringing Sanity to Marketability Discounts: A New Data Source," *Valuation Strategies*, July/August 2001: 6–13, 45–46.
- m Robert P. Oliver and Roy H. Meyers, "Discounts Seen in Private Placements of Restricted Stock: The Management Planning, Inc. Long-Term Study (1980-1995)" published in chapter 5 of Robert F. Reilly and Robert P. Schwehs, eds. *The Handbook of Advanced Business Valuation* (New York: McGraw-Hill, Inc., 2000).
- n Bruce Johnson, "Restricted Stock Discounts, 1991–1995," *Shannon Pratt's Business Valuation Update*, March 1999: 1–3. Also, "Quantitative Support for Discounts for Lack of Marketability," *Business Valuation Review*, December 1999: 152–155.
- o Kathryn Aschwald, "Restricted Stock Discounts Decline as a Result of 1-Year Holding Period," *Shannon Pratt's Business Valuation Update*, May 2000: 1–5. This study focuses on the change in discounts as a result of the holding period reduction from two years to one year.
- p From *MPI Perspectives*, Winter 2009.
- q William Harris, "Trugman Valuation Associates, Inc. (TVA) Restricted Stock Study," *Business Valuation Review*, Fall 2009: 128–139.
- r William Harris, "Trugman Valuation Associates, Inc. (TVA) Restricted Stock Study—An Update," *Business Valuation Review*, Winter 2011: 132–139.
- s "Stout Risius Ross Companion Guide to Stout Restricted Stock Study," 2014 edition.
- t From Espen Robak, "An Updated Approach to Marketability Discounts: Evidence from the Pluris DLOM Database," *Valuation Strategies*, May/June 2010.
- u Aaron M. Stumpf, Robert L. Martinez, and Christopher T. Stallman, "The Stout Risius Ross Restricted Stock Study: A Recent Examination of Private Placement Transactions from September 2005 through May 2010," *Business Valuation Review*, Spring 201: 7–19.

## SEC Institutional Investor Study

As part of a major study of institutional investor actions performed by the SEC, the amount of discount at which transactions in restricted stock take place, compared with the prices of otherwise identical but unrestricted stock on the open market, was addressed. The report introduced the study with the following discussion about restricted stock:

Restricted securities are usually sold at a discount from their coeval market price, if any, primarily because of the restrictions on their resale. With the information supplied by the respondents on the purchase prices of the common stock and the dates of transaction, the Study computed the implied discounts in all cases in which it was able to locate a market price for the respective security on the date of the transaction.<sup>5</sup>

<sup>5</sup> *Institutional Investor Study Report of the Securities and Exchange Commission*, 2444.



A reproduction of table XIV-45 of the SEC *Institutional Investor Study*, which shows the size of the discounts at which restricted stock transactions took place compared with the prices, as of the same date, of the freely traded but otherwise identical stock is shown in table 15.3 (on the following page). The data shows that about half of the transactions (in terms of real dollars) took place at discounts ranging from 20 percent to 40 percent.

The discounts were lowest for those stocks that would be tradable on the New York Stock Exchange (NYSE) when the restrictions expired and were highest for those stocks that could be traded in the over-the-counter market when the restrictions expired. The overall average discount in this study was 25.8 percent. For stocks whose market would be nonreporting, over-the-counter companies when the restrictions expired, the average discount was approximately 32.6 percent. Think about the closely held company whose shares have no prospect of any market, it would make sense that the discount would have to be higher.

The research from the SEC *Institutional Investor Study* was the foundation for SEC Accounting Series Release No. 113 (October 13, 1969) and No. 1-18 (December 23, 1970), which require investment companies registered under the Investment Company Act of 1940 to disclose their policies about the cost and valuation of their restricted securities. As a result of the study, there is now an ongoing body of data about the relationship between restricted stock prices and their freely tradable counterparts. This body of data can provide empirical benchmarks for quantifying marketability discounts.

### Gelman Study

In 1972, Milton Gelman of National Economic Research Associates, Inc., published the results of his study of the prices paid for restricted securities by four closed-end investment companies specializing in restricted securities investments.<sup>6</sup> Gelman used data from 89 transactions between 1968 and 1970 and found that both the average and median discounts were 33 percent, and that almost 60 percent of the purchases were at discounts of 30 percent and higher. This data is consistent with the SEC study.

### Moroney Study

An article by Robert E. Moroney of the investment banking firm Moroney, Beissner & Co. contained the results of a study of the prices paid for restricted securities by 10 registered investment companies.<sup>7</sup> The study included 146 purchases at discounts ranging from 3 percent to 90 percent. The average discount was approximately 35.6 percent. Despite the fairly broad range, the average discount was, once again, in line with the other studies.

In this article, Moroney compared the evidence of actual cash transactions with the lower, average discounts for lack of marketability determined in some previous estate and gift tax cases. He stated that at the times of these other cases, there was no available evidence about the prices of restricted stocks that could have been used as a benchmark to help quantify these discounts. However, he suggested that higher discounts for lack of marketability should be allowed in the future as more relevant data becomes available. He stated

Obviously the courts in the past have overvalued minority interests in closely held companies for federal tax purposes. But most (probably all) of those decisions were handed down without benefit of the facts of life recently made available for all to see. Some appraisers have, for years, had a strong gut feeling that they should use far greater discounts for nonmarketability than the courts had allowed. From now on those appraisers need not stop at 35 percent merely because it's perhaps the largest discount clearly approved in a court decision. Appraisers can now cite a number of known arm's length transactions in which the discount ranged up to 90 percent.<sup>8</sup>

6 Milton Gelman, "An Economist-Financial Analyst's Approach to Valuing Stock of a Closely Held Company," *Journal of Taxation* (1972): 353-354.

7 Robert E. Moroney, "Most Courts Overvalue Closely Held Stocks," *Taxes* (1973): 144-154.

8 *Ibid.*, 154.

TABLE 15.3 SEC Institutional Investor Study

Trading market	Discount															
	-15.0% to 0.0%		0.1% to 10.0%		10.1% to 20.0%		20.1% to 30.0%		30.1% to 40.0%		40.1% to 50.0%		50.1% to 80.0%		Total	
	No. of Transactions	Value of Purchases	No. of Transactions	Value of Purchases	No. of Transactions	Value of Purchases	No. of Transactions	Value of Purchases	No. of Transactions	Value of Purchases	No. of Transactions	Value of Purchases	No. of Transactions	Value of Purchases	No. of Transactions	Value of Purchases
Unknown	1	\$ 1,500,000	2	\$ 2,496,583	1	\$ 205,000	0	\$ 0	26	\$ 34,681,849	67	\$ 52,337,982	78	\$ 102,965,021	77	\$ 110,863,863
New York Stock Exchange	7	3,760,663	13	15,111,798	13	24,503,988	10	17,954,085	5	8,329,369	9	5,265,925	18	25,122,024	17	11,229,155
American Stock Exchange	2	7,263,060	4	15,850,000	11	14,548,750	20	46,200,677	2	7,263,060	4	15,850,000	11	14,548,750	20	46,200,677
Over-the-counter (Reporting companies)	11	13,828,757	39	13,613,676	35	38,585,259	30	35,479,946	11	13,828,757	39	13,613,676	35	38,585,259	30	35,479,946
Over-the-counter (Nonreporting companies)	5	8,329,369	9	5,265,925	18	25,122,024	17	11,229,155	5	8,329,369	9	5,265,925	18	25,122,024	17	11,229,155
<b>TOTAL</b>	<b>26</b>	<b>\$ 34,681,849</b>	<b>67</b>	<b>\$ 52,337,982</b>	<b>78</b>	<b>\$ 102,965,021</b>	<b>77</b>	<b>\$ 110,863,863</b>	<b>30.1% to 40.0%</b>	<b>\$ 34,681,849</b>	<b>67</b>	<b>\$ 52,337,982</b>	<b>50.1% to 80.0%</b>	<b>\$ 102,965,021</b>	<b>77</b>	<b>\$ 110,863,863</b>
Unknown	2	\$ 3,332,000	0	\$ 0	1	\$ 1,259,995	7	\$ 8,793,578	2	\$ 3,332,000	0	\$ 0	1	\$ 1,259,995	7	\$ 8,793,578
New York Stock Exchange	3	11,102,501	1	1,400,000	4	5,005,068	51	78,838,103	3	11,102,501	1	1,400,000	4	5,005,068	51	78,838,103
American Stock Exchange	7	21,074,298	1	44,250	4	4,802,404	49	109,783,439	7	21,074,298	1	44,250	4	4,802,404	49	109,783,439
Over-the-counter (Reporting companies)	30	58,689,328	13	9,284,047	21	8,996,406	179	178,477,419	30	58,689,328	13	9,284,047	21	8,996,406	179	178,477,419
Over-the-counter (Nonreporting Companies)	25	29,423,584	20	11,377,431	18	13,505,545	112	104,253,033	25	29,423,584	20	11,377,431	18	13,505,545	112	104,253,033
<b>TOTAL</b>	<b>67</b>	<b>\$ 123,621,711</b>	<b>35</b>	<b>\$ 22,105,728</b>	<b>48</b>	<b>\$ 33,569,418</b>	<b>398</b>	<b>\$ 480,145,572</b>	<b>30.1% to 40.0%</b>	<b>\$ 123,621,711</b>	<b>35</b>	<b>\$ 22,105,728</b>	<b>48</b>	<b>\$ 33,569,418</b>	<b>398</b>	<b>\$ 480,145,572</b>

(Source: Institutional Investor Study Report of the Securities and Exchange Commission, H.R. Doc. No. 64, Part 5, 92nd Cong., 1st Session 1971, Table XIV-45.)

Approximately four years later, Moroney wrote another article in which he stated that courts had started to recognize higher discounts for lack of marketability:

The thousands and thousands of minority holders in closely held corporations throughout the United States have good reason to rejoice because the courts in recent years have upheld illiquidity discounts in the 50 percent area.<sup>9</sup>

Despite Moroney's writings, the courts have not universally accepted large discounts. We have witnessed some discounts that were larger than the average, but overall, the courts are still somewhat reluctant to recognize the difficulty in obtaining liquidity for an illiquid asset.

### **Maier Study**

J. Michael Maier of Connecticut General Life Insurance Co. conducted another interesting study on lack of marketability discounts for closely held business interests.<sup>10</sup> The results of this well-documented study were published in the September 1976 issue of *Taxes*. Using an approach similar to Moroney's, Maier compared the prices paid for restricted stocks with the market prices of their unrestricted counterparts. The data covered the five-year period from 1969–1973. The study showed that “the mean discount for lack of marketability for the years 1969–1973 amounted to 35.43 percent.”<sup>11</sup> In an attempt to eliminate abnormally high and low discounts, Maier eliminated the top and bottom 10 percent of the purchases. Guess what? The resulting average discount was 34.73 percent, almost the exact same discount that was derived without the top and bottom items removed.

Maier's remarks are a good learning tool because he distinguishes between a discount for lack of marketability and a lack of control discount:

The result I have reached is that most appraisers underestimate the proper discount for lack of marketability. The results seem to indicate that this discount should be about 35 percent. Perhaps this makes sense because by committing funds to restricted common stock, the willing buyer (a) would be denied the opportunity to take advantage of other investments, and (b) would continue to have his investment at the risk of the business until the shares could be offered to the public or another buyer is found.

The 35 percent discount would not contain elements of a discount for a minority interest because it is measured against the current fair market value of securities actively traded (other minority interests). Consequently, appraisers should also consider a discount for a minority interest in those closely held corporations where a discount is applicable.<sup>12</sup>

Now the plot thickens. Not only were larger discounts seen, but now there were opinions (other than mine) that more than one discount could be applicable. This could mean that interests in smaller, closely held companies that are being valued should be discounted quite a bit when they are compared with interests in publicly traded guideline companies.

### **Trout Study**

The next study that we learned about was performed by Robert R. Trout.<sup>13</sup> Trout was with the Graduate School of Administration, University of California—Irvine, and Trout, Shulman & Associates. Trout's study of restricted stocks covered the period 1968–1972 and addressed the purchases of these securities by mutual funds. Trout attempted to construct a financial model that would provide an estimate of the discount appropri-

9 Robert E. Moroney, “Why 25% Discount for Nonmarketability in One Valuation, 100% in Another,” *Taxes* (1977): 316–320. Edwin A. Gallun, 33 T.C.M. 1316 (1974), allowed 55 percent. *Estate of Maurice Gustave Heckscher*, 63 T.C. 485 (1975), allowed 48 percent. Although *Estate of Ernest E. Kirkpatrick*, 34 T.C.M. 1490 (1975), found per share values without mentioning discount, expert witnesses for both sides used 50 percent the first time a government witness recommended 50 percent. A historic event, indeed!

10 J. Michael Maier, “Discounts for Lack of Marketability for Closely Held Business Interests,” *Taxes* (1976): 562–571.

11 *Ibid.*, 571.

12 *Ibid.*

13 Robert R. Trout, “Estimation of the Discount Associated With the Transfer of Restricted Securities,” *Taxes* (1977): 381–385.

ate for a private company's stock. Creating a multiple regression model involving 60 purchases, Trout measured an average discount of 33.45 percent for restricted stock from freely traded stock. I used to think that this was quite a coincidence, or these guys were in cahoots, but the truth is that it is not a coincidence and they are not in cahoots. The reality is that there was a fairly tight range among all the studies when the economic situation, period of restriction, and market conditions were somewhat similar.

### Standard Research Consultants Study

In 1983, Standard Research Consultants analyzed private placements of common stock to test the applicability of the SEC *Institutional Investor Study*.<sup>14</sup> Standard Research studied 28 private placements of restricted common stock from October 1978 to June 1982. The discounts ranged from 7 percent to 91 percent, with a median of 45 percent, a bit higher than the discounts seen in the other studies. During this period, however, the economy experienced extraordinarily high interest rates.

Only 4 of the 28 companies studied had unrestricted common shares traded on either the American Stock Exchange or the NYSE, and their discounts ranged from 25 percent to 58 percent with a median of 47 percent—not significantly different from the 45 percent median of the remaining companies that traded in the over-the-counter market.

### Willamette Management Associates, Inc., Study

Willamette Management Associates analyzed private placements of restricted stocks for the period from January 1, 1981 to May 31, 1984.<sup>15</sup> In discussing this unpublished study, Willamette states that the early part of it overlapped with the last part of the Standard Research Study, but there were very few transactions that took place during the period of overlap. According to the discussion of the study in Pratt's *Valuing a Business*, 5th edition, most of the transactions in the study took place in 1983.

For this time period, Willamette identified 33 transactions that could be classified as arm's length transactions with reasonable confidence and for which the price of the restricted shares could be compared directly with the price of shares in otherwise identical but unrestricted shares of the same company at the same time. The median discount for the 33 restricted stock transactions compared with the prices of their freely tradable counterparts was 31.2 percent, a little bit lower than the other studies but substantially lower than the study by Standard Research.

### Silber Study

In 1991, another study of restricted stock was published, but it included transactions during the period from 1981–1988. This study, by William L. Silber, substantiated the earlier restricted stock studies and found an average price discount of 33.75 percent.<sup>16</sup> Silber identified 69 private placements involving the common stock of publicly traded companies. The restricted stock in this study could be sold under Rule 144 after a two-year holding period. Similar to Trout, Silber tried to develop a statistical model to explain the price differences between securities that differ in resale provisions. Silber concluded that the discount on restricted stock varies directly with the size of the block of restricted stock relative to the amount of publicly traded stock issued by the company. He found that the discounts were larger when the block of restricted stock was large compared with the total number of shares outstanding. Silber also noted that the size of the discount was inversely related to the creditworthiness of the issuing company.

14 "Revenue Ruling 77-287 Revisited," *SRC Quarterly Reports* (1983): 1–3.

15 The Willamette Management Associates study is unpublished but is discussed in Shannon P. Pratt and Alina V. Niculita's *Valuing a Business*, 5th ed., p. 425.

16 William L. Silber, "Discounts on Restricted Stock: The Impact of Illiquidity on Stock Prices," *Financial Analysts Journal* (1991): 60–64.

### Stout Study

Stout Risius Ross conducted a study from 1979 to April 1992.<sup>17</sup> In spite of the long time period covered, this study analyzed about 100 transactions involving companies that were generally not the smallest capitalization companies. It supported the results of the SEC *Institutional Investor Study* in finding that the DLOM was higher for smaller capitalization companies. This study, however, found an average discount of only about 23 percent. Stout Risius Ross has a searchable database available from BV Resources ([www.BVResources.com](http://www.BVResources.com)) that is different than the original study. I will discuss this database shortly.

### Management Planning Study

The last study that covered the period before the Rule 144A change that took place in April 1997 was conducted by Management Planning, Inc. This study is discussed in *Quantifying Marketability Discounts*, by Z. Christopher Mercer, ASA, CFA. The Management Planning study includes restricted stock transactions for the period from 1980–1995.

The primary focus of the Management Planning study was to identify companies that had made private placements of unregistered common shares that would, except for the restrictions on trading, have similar characteristics to that company's publicly traded shares. Companies included in the study had to have in excess of \$3 million in annual sales and be profitable for the year immediately prior to the private placement. It was required that the company be a domestic corporation, not considered to be in a development stage, and the common stock of the issuing company had to sell for at least \$2 per share.

Management Planning analyzed 200 private transactions involving companies with publicly traded shares. Of the 200, 49 met the base criteria described. Of these, the average mean discount was 27.7 percent, whereas the average median discount was 28.8 percent.<sup>18</sup>

A more detailed analysis of the Management Planning Study indicated a large range of discounts relative to the sample companies due to varying degrees of revenues, earnings, market share, price stability, and earnings stability. The average revenues for the companies selected for review were \$47.5 million; however, the median revenue figure was \$29.8 million, indicating that the average sales figure was affected by a few companies that were significantly larger than the others studied. The average discount for companies with revenues under \$10 million was 32.9 percent.

Likewise, the average reported earnings of the study group were skewed by 20 companies in the study whose earnings exceeded \$1 million and that, in fact, had a median earnings figure of \$2.9 million. Twenty-nine of the companies studied earned less than \$1 million, whereas the median earnings of all the companies in the sample was \$0.7 million. The average discount of sample companies in the fourth quartile for the 5 factors considered—revenues, earnings, market price per share, price stability, and earnings stability—was 39.3 percent.

### Bruce Johnson Study

Bruce Johnson studied 72 private placement transactions that occurred from 1991–1995. The range was a 10 percent premium to a 60 percent discount with an average discount for these 72 transactions of 28 percent. This study covered the first half decade after the Rule 144 restrictions were relaxed. The results seem to indicate that discounts are lower when the holding period is shorter.

17 Lance S. Hall and Timothy C. Polacek, "Strategies for Obtaining the Largest Discount," *Estate Planning* (1994): 38–44.

18 Z. Christopher Mercer, *Quantifying Marketability Discounts*, (Memphis: Peabody Publishing L.P., 1997), 345–363.

### Columbia Financial Advisors, Inc. Study

Columbia Financial Advisors, Inc. (CFAI) conducted two studies, the first covering the period from January 1, 1996, to April 30, 1997, and the second covering the period from 1997–1998. The first analysis used 23 private transactions (8 involving restricted securities and 15 involving private placements with no registration rights): The average discount was 21 percent, with a median of 14 percent. The 1990 adoption of Rule 144A seems to have had an effect on these discounts.

CFAI conducted another restricted stock study to assess the effects of another alteration to Rule 144. Mandatory holding periods, as of April 29, 1997, were reduced from two years to one year. CFAI used 15 transactions, each of whose stock was privately placed. The average discount for this group was 13 percent, with a median of 9 percent. In the last edition of this book, I stated “These discounts are clearly impacted by the shorter holding period.” After having some time to reflect on this statement, as well as our firm performing its own restricted stock study, I am no longer sure that the shorter holding period is what actually drove the discounts down in this study. First of all, the sample size was pretty small. Second, the time period that was covered in this study was at the time that the stock market was climbing into “Never-Never Land.” The market started to price many of the smaller companies that were issuers of restricted stock into the stratosphere; therefore, investors had a false euphoria that the illiquidity due to the restrictions was not going to be a problem because the stock prices kept going up. Well, we all know what happened to many of those companies when the bubble burst in 2000!

### Trugman Valuation Associates, Inc. Study

Since the last edition of this book, even our firm jumped on the bandwagon and performed our own restricted stock studies. We published them in *Business Valuation Review*, and because you were nice enough to buy my book, I am going to include a detailed discussion about them.<sup>19</sup>

The first Trugman Valuation Associates (TVA) Restricted Stock Study was a time-focused study that analyzed implied restricted stock discounts covering the period from January 2007 to December 2008. The reason that this period was chosen was that it was before the “Great Recession” and it was at a time that the law reduced the sale restrictions to six months.

The TVA Restricted Study contained a detailed statistical analysis of 80 unregistered stock sales (chosen after reviewing about 6,900 Form 8-K filings) looking at relationships between the implied restricted stock discounts and various company-specific variables. The companies included in our study are listed in table 15.4 (on the following page).

The average and median implied discounts in the TVA study were 18.1 percent and 14.4 percent, respectively, which fall below the average and median discounts of many previously published studies. However, this downward trend in implied restricted stock discounts has little meaning due to the wide dispersion of the implied discounts that ranged from a premium of 1.5 percent to a discount of 73.5 percent. Comparisons between the results of our study and the results of select other studies are included in table 15.5.

The standard deviation of the implied discounts was 15.6 percent, which is very large in relation to the average. The large dispersion indicates that the average and median discounts do not do a very good job of explaining the market’s perception of liquidity risk or how implied restricted stock discounts have changed over time. Therefore, using an average or median discount as a starting point in a benchmarking analysis to calculate a DLOM based on the data in the TVA study, or any other study for that matter, could potentially result in inaccurate DLOM calculations because the average and median are of little value when the dispersion of the discounts is this high. See, I knew that chapter on statistics would come in handy.

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<sup>19</sup> Special thanks goes to my analyst, William Harris, ASA, CFA, who performed the studies. It would not have happened without his hard work.

**TABLE 15.4 Unregistered Stock Sales**

Company	Ticker	Date of Transaction	Exchange	Price per Share (\$)	Shares Placed	Offering Amount (\$)	Discount Announced in Filing	Discount	Avg. Stock Price Transaction Month (\$)	Discount
Atlas Mining Co.	ALMI	1/10/2007	OTC BB	1.35	1,481,482	2,000,001	N	N/A	1.62	16.7%
Singing Machine Co.	SMD	1/16/2007	AMEX	0.83	1,800,024	1,500,000	N	N/A	1.15	27.5%
Avalon Pharmaceuticals	AVRX	1/19/2007	NASDAQ	3.34	3,000,000	10,020,000	N	N/A	3.58	6.7%
Ricks Cabaret International	RICK	2/1/2007	NASDAQ	7.00	425,000	2,975,000	N	N/A	9.72	27.9%
VCG Holding Corp.	VCGH	2/2/2007	NASDAQ	7.10	3,000,000	21,300,000	N	N/A	10.08	29.5%
Black Hills Corp.	BKH	2/14/2007	NYSE	36.00	4,170,891	150,152,076	N	N/A	37.59	4.2%
Triangle Petroleum Corp.	TPLM	2/26/2007	OTC BB	2.00	10,412,000	20,824,000	N	N/A	2.77	27.8%
Granite City Food and Brewery	GCFB	3/8/2007	NASDAQ	5.35	2,617,334	14,002,737	N	N/A	5.99	10.7%
Euronet Worldwide	EEFT	3/8/2007	NASDAQ	25.00	6,374,528	159,363,200	N	N/A	26.59	6.0%
Ethos Environmental	EDEV	3/9/2007	OTC BB	1.00	50,000	50,000	N	N/A	3.78	73.5%
Colombia Goldfields	CGDF	3/21/2007	OTC BB	1.00	9,020,000		N	N/A	1.21	17.0%
Transmeridian Exploration	TMREQ	4/1/2007	OTC BB	2.70	1,655,000	4,468,500	N	N/A	2.93	7.7%
Ricks Cabaret International	RICK	4/2/2007	NASDAQ	9.40	425,000	3,995,000	N	N/A	9.27	-1.5%
AFP Imaging Corp.	AFPC	4/13/2007	OTC BB	1.48	5,500,000	8,140,000	N	N/A	1.90	21.9%
Oilsands Quest	BQI	5/3/2007	AMEX	2.75	13,900,000	38,225,000	N	N/A	3.11	11.6%
BPZ Resources	BPZ	5/8/2007	AMEX	5.25	6,700,000	35,175,000	N	N/A	6.30	16.6%
AtriCure Inc.	ATRC	5/24/2007	NASDAQ	9.15	1,683,060	15,399,999	N	N/A	10.63	13.9%

(continued)

TABLE 15.4 Unregistered Stock Sales (continued)

Company	Ticker	Date of Transaction	Exchange	Price per Share (\$)	Shares Placed	Offering Amount (\$)	Discount Announced in Filing	Discount	Avg. Stock Price Transaction Month (\$)	Discount
Synutra International	SYUT	5/29/2007	NASDAQ	16.50	4,000,000	66,000,000	N	N/A	18.75	12.0%
Neogenomics Inc.	NGNM	6/1/2007	OTC	1.50	2,670,000	4,005,000	N	N/A	1.68	10.7%
3D Systems Corp.	TDSC	6/19/2007	NASDAQ	17.50	1,250,000	21,875,000	N	N/A	22.68	22.8%
Metalico Inc.	MEA	6/21/2007	AMEX	7.00	5,246,000	36,722,000	N	N/A	7.48	6.4%
VIA Pharmaceuticals	VIAP	6/29/2007	NASDAQ	2.43	10,288,065	24,999,998	Y	38.50%		38.5%
Mandalay Media Inc.	MNDL	7/24/2007	OTC BB	0.50	5,000,000	2,500,000	N	N/A	1.09	54.1%
Enova Systems	ENA	7/25/2007	AMEX	5.35	2,218,000	11,866,300	N	N/A	6.25	14.3%
Sport Supply Group	RBI	7/26/2007	NASDAQ	10.00	1,830,000	18,300,000	N	N/A	10.04	0.4%
Progressive Gaming Corp.	PGIC	8/13/2007	NASDAQ	4.50	6,943,333	31,244,999	N	N/A	5.50	18.2%
Transworld Corp.	TWOC	8/22/2007	OTC BB	3.50	1,000,000	3,500,000	N	N/A	4.25	17.6%
Profile Technologies	PRTK	8/24/2007	OTC BB	0.90	436,111	392,500	N	N/A	1.50	40.0%
Meade Instruments	MEAD	8/24/2007	NASDAQ	1.90	3,157,895	6,000,001	N	N/A	2.11	9.7%
Manitex Corporation	MNTX	8/30/2007	NASDAQ	6.00	1,500,000	9,000,000	N	N/A	7.23	17.0%
Asian Dragon Group	AADG	8/31/2007	OTC BB	2.16	600,000	1,294,860	N	N/A	3.85	43.9%
Live Current Media	LIVC	9/25/2007	OTC BB	2.00	2,550,000	5,100,000	N	N/A	2.24	10.5%
Big Cat Energy Corp.	BCTE	10/2/2007	OTC BB	1.00	500,000	500,000	N	N/A	1.42	29.3%
Zhongpin	HOGS	10/9/2007	NASDAQ	8.00	6,250,000	50,000,000	N	N/A	12.05	33.6%
Viper Powersports	VPWS	10/12/2007	OTC BB	0.75	1,338,667	1,004,000	N	N/A	1.00	25.0%



**TABLE 15.4 Unregistered Stock Sales**

Company	Ticker	Date of Transaction	Exchange	Price per Share (\$)	Shares Placed	Offering Amount (\$)	Discount Announced in Filing	Discount	Avg. Stock Price Transaction Month (\$)	Discount
USA Technologies Inc.	USAT	10/17/2007	NASDAQ	7.00	2,142,871	15,000,097	N	N/A	7.80	10.3%
Ivivi Technologies	IWI	10/18/2007	NASDAQ	5.00	1,000,000	5,000,000	N	N/A	5.14	2.6%
Optimer Pharmaceuticals	OPTR	10/23/2007	NASDAQ	7.80	4,600,000	35,880,000	N	N/A	8.11	3.8%
Elixir Gaming Technologies	EGT	10/25/2007	AMEX	3.50	15,000,000	52,500,000	N	N/A	4.55	23.0%
Fushi Copperweld	FSIN	10/26/2007	NASDAQ	14.00	2,786,000	39,004,000	N	N/A	15.85	11.7%
Sequenom Inc.	SQNM	10/26/2007	NASDAQ	9.00	3,383,335	30,450,015	N	N/A	9.32	3.4%
Sten Corp.	STEN	10/30/2007	NASDAQ	2.50	310,000	525,000	N	N/A	2.81	10.9%
Cano Petroleum	CFW	11/2/2007	AMEX	7.15	3,500,000	25,025,000	N	N/A	7.48	4.3%
Kona Grill	KONA	11/6/2007	NASDAQ	16.25	650,000	10,562,500	N	N/A	16.72	2.8%
China Bak Battery	GBAK	11/6/2007	NASDAQ	3.90	3,500,000	13,650,000	N	N/A	4.65	16.0%
EPIX Pharmaceuticals	EPIX	11/9/2007	NASDAQ	3.10	5,245,468	16,260,951	Y	15%		15.0%
Green Plains Renewable Energy	GPRED	11/14/2007	NASDAQ	8.10	1,200,000	9,720,000	N	N/A	9.51	14.8%
Ricks Cabaret International	RICK	11/19/2007	NASDAQ	14.00	1,165,000	16,310,000	N	N/A	16.05	12.7%
General Moly Inc.	GMO	11/20/2007	AMEX	8.50	8,256,699	70,181,942	N	N/A	9.54	10.9%
Pressure Biosciences	PBIO	11/21/2007	OTC BB	5.00	126,750	633,750	N	N/A	6.59	24.1%
Gold Resource Corp.	GORO	12/5/2007	OTC BB	4.00	5,413,500	21,654,000	N	N/A	4.25	5.9%
Wonder Auto Technology	WATG	12/10/2007	NASDAQ	8.65	3,000,000	25,950,000	N	N/A	10.09	14.3%

(continued)

TABLE 15.4 Unregistered Stock Sales (continued)

Company	Ticker	Date of Transaction	Exchange	Price per Share (\$)	Shares Placed	Offering Amount (\$)	Discount Announced in Filing	Discount	Avg. Stock Price Transaction Month (\$)	Discount
Legend International	LGDI	12/12/2007	OTC BB	0.80	18,750,000	15,000,000	N	N/A	1.05	23.8%
Cougar Biotechnology	CGRB	12/14/2007	NASDAQ	29.00	3,000,000	87,000,000	N	N/A	31.25	7.2%
AspenBio	APPY	12/20/2007	NASDAQ	7.25	2,516,310	18,243,250	N	N/A	9.97	27.2%
National Coal Corp.	NCOC	12/27/2007	NASDAQ	3.91	1,000,000	3,910,000	Y	15.0%		15.0%
National Coal Corp.	NCOC	12/27/2007	NASDAQ	4.10	1,000,000	4,100,000	Y	15.0%		15.0%
Tri-Valley Corporation	TIV	Jan-08	AMEX	5.00	210,000	1,050,000	N	N/A	6.30	20.6%
Biospecifics Technology	BSTC	1/14/2008	OTC BB	10.50	200,000	2,100,000	N	N/A	12.25	14.3%
En2go International	ENGO	1/22/2008	OTC BB	1.00	1,350,000	1,350,000	N	N/A	2.10	52.4%
Delta Petroleum Corp.	DPTR	2/20/2008	NASDAQ	19.00	36,000,000	684,000,000	N	N/A	20.83	8.8%
Hoku Scientific	HOKU	2/29/2008	NASDAQ	8.64	2,893,519	25,000,000	N	N/A	9.70	10.9%
RCM Technologies	RCMT	3/19/2008	NASDAQ	4.29	700,000	3,000,000	N	N/A	4.72	9.2%
Enova Systems Inc.	ENA	3/26/2008	AMEX	3.91	2,131,274	8,333,281	N	N/A	3.95	1.0%
Secured Digital Storage Corp.	SDGS	4/22/2008	OTC BB	0.80	2,681,375	2,145,100	N	N/A	2.73	70.6%
Widepoint Corporation	WYY	5/2/2008	AMEX	1.02	2,500,000	2,550,000	N	N/A	1.23	16.7%
National Coal Corp.	NCOC	5/12/2008	NASDAQ	4.65	2,332,000	10,843,800	Y	7.4%		7.4%
Asia Premium Television Group	ATVG	5/22/2008	OTC BB	2.00	385,000	770,000	N	N/A	2.88	30.4%
Oilisands Quest	BQI	5/23/2008	AMEX	4.20	11,904,761	49,999,996	N	N/A	4.47	6.0%
Oilisands Quest	BQI	5/23/2008	AMEX	4.20	12,976,761	54,502,396	N	N/A	4.47	6.0%

**TABLE 15.4 Unregistered Stock Sales**

Company	Ticker	Date of Transaction	Exchange	Price per Share (\$)	Shares Placed	Offering Amount (\$)	Discount Announced in Filing	Discount	Avg. Stock Price Transaction Month (\$)	Discount
Greymark Healthcare	GRMH	6/3/2008	NASDAQ	4.50	3,344,447	15,050,012	N	N/A	7.90	43.0%
ICO Global Communications	ICOG	6/6/2008	NASDAQ	3.61	6,515,697	23,500,000	Y	5%		5.0%
Ricks Cabaret International	RICK	6/12/2008	NASDAQ	20.00	672,000	13,440,000	N	N/A	20.45	2.2%
Harbin Electric	HRBN	6/24/2008	NASDAQ	14.13	3,500,000	49,455,000	N	N/A	16.52	14.4%
Document Security Systems I nc.	DMC	6/25/2008	AMEX	4.00	500,000	2,000,000	N	N/A	5.30	24.5%
Argan, Inc.	AGX	7/2/2008	AMEX	12.00	2,200,000	26,400,000	N	N/A	15.97	24.9%
Tercica Inc.	TRCA	7/11/2008	NASDAQ	6.77	590,580	3,999,998	N	N/A	8.89	23.8%
L-1 Identity Solutions	ID	8/5/2008	NYSE	14.85	8,083,472	120,000,000	N	N/A	14.93	0.5%
Profile Technologies Inc.	PRTK	8/15/2008	OTC BB	0.90	2,550,440	2,295,404	N	N/A	2.40	62.5%
Odyssey Marine Exploration	OMEX	8/19/2008	NASDAQ	4.90	1,970,000	9,653,000	N	N/A	4.85	-1.0%
<b>Average</b>										<b>18.1%</b>
<b>1st Quartile</b>										<b>7.4%</b>
<b>Median</b>										<b>14.4%</b>
<b>3rd Quartile</b>										<b>24.2%</b>
<b>High</b>										<b>73.5%</b>
<b>Low</b>										<b>-1.5%</b>
<b>Standard Deviation</b>										<b>15.6%</b>
<b>Transactions</b>										<b>80</b>

**TABLE 15.5 Restricted Stock Study Comparison**

	TVA	MPI	Stout	Stout	Stout	Finnerty	Bajaj	MPI
Discounts								
Dates Covered	<b>2007–2008</b>	2000–2007	2002–2005	1997–2005	1980–2005	1991–1997	1990–1995	1980–1995
Transactions	<b>80</b>	200	91	237	475	101	88	49
Average	<b>18.1%</b>	18.7%	14.6%	21.6%	22.0%	20.1%	22.2%	27.7%
Standard Deviation	<b>15.6%</b>	N/A	19.9%	22.4%	19.4%	17.9%	N/A	14.1%
1st Quartile	<b>7.35%</b>	N/A	6.8%	9.0%	9.9%	N/A	N/A	16.7%
Median	<b>14.4%</b>	N/A	12.6%	17.8%	19.4%	20.7%	20.7%	28.8%
3rd Quartile	<b>24.2%</b>	N/A	22.7%	33.3%	33.3%	N/A	N/A	37.8%
Volatility								
Dates Covered	<b>2007–2008</b>	2000–2007	2002–2005	1997–2005	1980–2005	1991–1997	1990–1995	1980–1995
Transactions	<b>80</b>	N/A	90	236	467	N/A	88	49
Average	<b>70.4%</b>	N/A	76.5%	110.0%	93.5%	N/A	74.6%	24.8%
Standard Deviation	<b>41.9%</b>	N/A	32.0%	144.7%	111.4%	N/A	N/A	16.5%
1st Quartile	<b>46.2%</b>	N/A	54.8%	68.0%	58.1%	N/A	N/A	13.6%
Median	<b>56.2%</b>	N/A	72.8%	88.4%	77.2%	N/A	N/A	22.1%
3rd Quartile	<b>77.6%</b>	N/A	92.2%	120.2%	105.5%	N/A	N/A	28.6%
Average Market Cap	<b>251.0</b>	N/A	149.3	188.5	162.6	153.7	117.7	80.0
Average Block Size	<b>12.7%</b>	N/A	17.7%	15.3%	13.1%	9.4%	13.0%	19.2%

Due to the lack of confidence in the average and median discounts, we performed a statistical analysis of the 80 transactions to try to identify whether any variables have statistical relationships with the implied restricted stock discounts. The first analysis that was performed was a correlation analysis, which is presented in table 15.6.

<b>TABLE 15.6 Correlation Analysis</b>		
	<b>Correlation</b>	<b>R<sup>2</sup></b>
Volatility	0.78	0.60
Debt Ratio	0.22	0.05
Exchange	0.51	0.26
Volume	(0.25)	0.06
Shares Placed per Average Volume	0.54	0.29
Share Turnover	(0.32)	0.10
Market Cap	(0.30)	0.09
Revenues	(0.23)	0.05
Total Assets	(0.28)	0.08
Book Value	(0.27)	0.07
Positive Net Income	(0.13)	0.02
Positive EBITDA	(0.20)	0.04
Positive Operating Cash Flow	(0.26)	0.07
Days until Registration	0.38	0.15

The purpose of this type of analysis is to examine the strength and direction of the linear relationship between two variables. In this instance, the variables analyzed were the implied discount against variables related to risk, liquidity, size, earning capacity, and contractual rights. The correlation analysis found that only the price volatility of the underlying security had a noteworthy linear relationship with the implied restricted stock discounts. However, caution must be used in analyzing and interpreting the correlation coefficient and the coefficient of determination (also known as the R<sup>2</sup> measure) statistics due to the numerous limitations associated with a correlation analysis.

One of the main problems associated with correlation analysis is the sensitivity of the correlation coefficient and the coefficient of determination to outliers contained in the data set. The removal of certain outliers can cause significant changes in these statistical measures. Therefore, the various correlation coefficients and R<sup>2</sup> measures calculated in the TVA study are likely overstated or understated due to the significant presence of outliers within the sample.

Another problem associated with correlation analysis is that the correlation between two variables is not an indication of causality, meaning that the correlation coefficient does not necessarily imply that one variable causes changes in the other. A correlation between two variables can either be high by coincidence or even by the presence of a third hidden variable that affects changes of the two variables analyzed. For example, in the TVA study, price volatility had a noteworthy linear relationship with the implied restricted stock discounts indicating a correlation coefficient of 0.78 and an R<sup>2</sup> statistic of 0.60. Statistically, this reads as “60 percent of

the variation in restricted stock discounts can be explained by the price volatility of the underlying security.” Although this can mean that price volatility does, in fact, have a direct impact on the size of implied restricted stock discounts, it can also mean that a third factor, such as trading activity, could be the driving force behind the relationship.

To illustrate this further, suppose a very thinly traded company issues restricted stock. The company’s trading history contains a few large price swings, which increases the company’s price volatility. In addition, the company’s stock price might not trade at a fair market price due to its lack of trading activity. As a result, the implied discount on the restricted stock could be larger due to the difference between the “true” fair market price of the stock and the thinly traded price of the stock. Based on these factors, the company will have high volatility and a high implied discount. In this example, price volatility does not have a direct impact on the implied discount, but because of the company’s thin trading activity, it might appear that price volatility, in fact, does have a direct impact on the implied discount. In actuality, trading activity (or the lack thereof) is the driving force behind the large discount and high volatility in this example. Therefore, caution must be used in interpreting correlation and  $R^2$  statistics because they are used to measure possible, not actual, cause and effect relationships.

A third problem associated with correlation analysis is that correlation and  $R^2$  statistics do not always hold over time. Changes in the economy, regulatory environment, and the characteristics of the companies that issue restricted stock all change from year to year. Therefore, the correlation and  $R^2$  statistics must be measured over extended periods of time in order to get a true indication of whether a statistical relationship does or does not exist.

So, with all the shortcomings associated with correlation and  $R^2$  statistics, the question that arises is “what use is the correlation analysis presented in the TVA Restricted Stock Study?” One way that this analysis can be used is by looking at the signs (positive or negative) of the correlation coefficients. A positive (negative) correlation coefficient means that a positive (negative) linear relationship exists between two variables. In the TVA study, volatility, debt ratio, shares placed per average volume, and over the counter stocks all had positive correlation coefficients. This makes sense because one would expect the implied discount to increase with volatility, debt, and the size of the placement in relation to trading volume. Volume, share turnover, and all size and earnings measures had negative correlation coefficients, which also makes sense because one would expect lower discounts for larger companies, companies with positive earnings, and companies with high share turnover. Therefore, when constructing a DLOM for a closely held company, one might make upward or downward qualitative adjustments to the DLOM for the subject company based on these factors.

The correlation analysis also indicates that no one variable or combinations of variables that were analyzed in the study has enough explanatory power to predict an implied restricted stock discount. Therefore, when constructing a DLOM for a closely held company, a qualitative analysis is still of significant importance. Quantitative models, (such as the Black-Scholes Option Pricing Model) which rely heavily on a measure of price volatility, may still require upward or downward qualitative adjustments because only a portion of the implied restricted stock discounts are explained by price volatility based on the analysis that we did.

Because my goal is to present differing opinions about this stuff for you to ponder, Lance Hall, formerly from FMV Opinions, told me (and I do not necessarily disagree):

As you know, I have always had a problem with option models in determining discounts. First, as you know, you can’t buy liquid options on privately held companies. More important, however, since most options are on liquid underlying publicly traded securities, does an option price tell you anything about liquidity? No! It only tells you the cost to “hedge” your investment, not achieve liquidity.

The second part of the TVA study involved dividing the data into quartiles based on different variables and examining the trends in implied discounts across quartiles. The quartile analysis is presented in table 15.7.

**TABLE 15.7 Analysis of Quartiles**

	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
	<b>Discounts</b>			
Volatility	(46% and under)	(47%–56%)	(57%–78%)	(79%+)
Average	10.55%	13.48%	14.95%	33.57%
Median	8.47%	14.16%	11.62%	28.43%
Standard Deviation	9.44%	7.48%	9.94%	20.58%
Debt Ratio	(24% and under)	(25%–49%)	(50%–69%)	(70%+)
Average	19.56%	11.60%	16.30%	25.10%
Median	11.22%	12.21%	15.16%	19.97%
Standard Deviation	18.34%	8.27%	13.18%	18.22%
Volume	(16K and under)	(17K–61K)	(62K–215K)	(216K+)
Average	32.71%	13.84%	14.86%	11.14%
Median	27.72%	11.19%	15.00%	7.55%
Standard Deviation	21.69%	8.68%	9.24%	8.67%
Shares Placed per Average Volume	(11 and under)	(12–28)	(26–126)	(127+)
Average	14.89%	14.36%	13.36%	29.94%
Median	15.00%	9.73%	12.78%	26.40%
Standard Deviation	9.67%	16.25%	7.70%	19.97%
Share Turnover	(0.11% and under)	(0.12%–0.30%)	(0.31%–0.82%)	(0.83%+)
Average	33.33%	12.00%	14.14%	13.08%
Median	29.12%	11.18%	15.00%	10.56%
Standard Deviation	21.35%	7.71%	8.38%	10.01%
Market Cap (000s)	(57,894 and under)	(57,895–118,655)	(118,656–284,142)	(284,143+)
Average	24.50%	15.24%	21.82%	10.99%
Median	23.01%	14.91%	18.34%	9.81%
Standard Deviation	19.63%	11.11%	18.36%	6.88%
Revenues (000s)	(497 and under)	(498–11,989)	(11,990–74,654)	(74,655+)
Average	27.71%	16.36%	16.21%	12.28%
Median	24.40%	12.61%	15.78%	11.18%
Standard Deviation	20.58%	16.02%	11.22%	8.12%

(continued)

**TABLE 15.7 Analysis of Quartiles** *(continued)*

	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
	<b>Discounts</b>			
Total Assets	(14,468 and under)	(14,468–45,608)	(45,609–142,652)	(142,653+)
Average	32.68%	14.53%	13.86%	11.50%
Median	27.16%	14.11%	13.59%	8.23%
Standard Deviation	21.20%	14.11%	9.37%	8.90%
Book Value (000s)	(4,945 and under)	(4,946–18,515)	(18,516–52,331)	(52,331+)
Average	26.68%	22.76%	10.71%	12.40%
Median	20.24%	22.45%	10.89%	10.39%
Standard Deviation	19.32%	17.87%	7.31%	8.61%

This analysis can be useful in quantifying a DLOM for a privately held company as the data consists of various financial statement variables, including revenues, debt ratio, total assets, market cap, and book value, that can serve as benchmarks for a privately held company. For example, suppose the valuation subject has a market value of \$20 million, total assets of \$14 million, and a debt ratio of 60 percent. Based on the quartile analysis, the market value of \$20 million falls in the first quartile, which has an average implied discount of 24.5 percent and a median implied discount of 23.01 percent. A total asset base of \$14 million falls within the first quartile of total assets, which has an average discount of 32.68 percent and a median of 27.16 percent. A total debt ratio of 60 percent falls within the third quartile of debt ratios, which has average and median discounts of 16.3 percent and 15.16 percent, respectively. Based on these factors, a quartile analysis would result in a range of implied discounts from 15.16 percent based on the debt ratio to 32.68 percent based on total assets. However, caution must still be used in applying this approach as the standard deviations in each quartile are significant, and each quartile contains only 20 data points. In addition, the average or median discounts do not smoothly trend upward or downward from the first quartile to the fourth quartile in all cases. This could be the result of a variety of drivers that affect the implied discounts. For example, a large company might have high price volatility and be highly leveraged. Therefore, this type of analysis is most effective when utilized with multiple variables, as in the preceding example, and applied alongside other qualitative and quantitative methodologies. The breakdown of the discount by quartiles is shown in table 15.9 on the following page.

We also included a holding period analysis in the TVA study which was based on the number of days the restricted stock remained unregistered after issuance. The majority of the restricted stock transactions that were analyzed included registration rights, which provided the ability for the securities to be registered prior to the conclusion of the required Rule 144 holding period. This analysis indicates that the average and median discounts increased, along with the number of days that the stock was left unregistered. The analysis of registration rights is included in table 15.8.



**TABLE 15.8 Analysis of Registration Rights**

Quartile	Days Before Registration	Discount		
		Average	Median	Standard Deviation
1	0–31 days	11.6%	10.0%	8.0%
2	32–63 days	14.3%	12.9%	11.3%
3	64–185 days	20.4%	15.9%	18.4%
4	185+days	26.9%	18.8%	18.6%

This analysis can be of good use when performing a valuation in which the holding period for the security is known. A drawback of applying this analysis is that the period in which the restricted stock remains unregistered is not known at issuance. In addition, the upward trend in implied discounts could potentially be caused by some third hidden variable or some individual characteristics within each quartile. In other words, the holding period may not be the only driving force behind the larger discounts across quartiles.

Thus far, we have discussed the different ways in which the TVA study can be utilized and the various considerations that must be taken into account when interpreting the statistical data presented in the study. When using the TVA study, there are other factors that must also be taken into consideration in addition to the interpretation of the statistical data presented. These considerations include the general economic conditions that were present when the restricted stock study was performed, changes in the regulatory environment, and various sample biases.

As previously stated, the TVA study covered the period from January 1, 2007, to December 31, 2008. By the middle of this time period, the United States was in the midst of its largest economic recession since World War II. The economic conditions present during the time period covered by the TVA study are of significant importance as economic downturns lead to increased financial market volatility and deteriorating investor confidence. This can affect restricted stock discounts in a variety of ways.

TABLE 15.9 Breakdown of Quartiles by Discount

	Discount	Sales (000s)	Total Assets (000s)	Book Value (000s)	Volatility	Average Trading Volume (000s)	Debt Ratio	Market Cap (000s)	Number of OTC Stocks
<b>1st Quartile</b>									
Average	3.6%	138,474	436,304	208,663	48.00%	482.87	0.42	447,853	1
Median	4.0%	17,457	79,044	41,242	46.60%	160.00	0.36	215,042	
High	7.2%	917,574	2,472,866	1,127,228	79.57%	2,832.30	1.26	1,420,763	
Low	-1.5%	—	2,958	(159,997)	19.37%	8.80	0.08	36,290	
Standard Deviation	2.6%	260,682	708,490	358,861	15.13%	836.97	0.26	464,487	
<b>2nd Quartile</b>									
Average	11.1%	61,355	148,022	70,546	61.65%	323.18	0.78	269,992	4
Median	10.9%	28,343	50,336	25,999	56.85%	41.85	0.49	114,288	
High	14.3%	219,404	1,105,195	508,405	127.31%	2,074.10	6.34	1,383,384	
Low	7.4%	—	1,261	(6,736)	30.96%	7.20	0.01	5,585	
Standard Deviation	2.1%	72,019	250,467	133,575	22.92%	553.96	1.34	347,931	
<b>3rd Quartile</b>									
Average	18.5%	43,180	85,461	30,705	56.64%	177.28	0.59	182,798	6
Median	17.0%	25,682	78,797	15,833	51.61%	88.70	0.51	110,794	
High	24.1%	145,861	307,229	126,732	85.82%	1,096.40	1.94	608,652	
Low	14.4%	—	3,168	(78,435)	36.83%	4.50	0.10	13,611	
Standard Deviation	3.5%	46,046	75,506	46,505	14.75%	253.61	0.42	159,183	
<b>4th Quartile</b>									
Average	39.3%	31,877	30,950	13,170	115.44%	70.42	1.09	103,272	11
Median	32.0%	793	9,505	5,158	116.91%	6.20	0.58	88,405	
High	73.5%	238,495	176,843	86,620	216.37%	491.00	7.62	279,538	
Low	24.5%	—	262	(8,772)	32.84%	0.10	0.01	9,879	
Standard Deviation	15.6%	67,618	49,967	23,051	58.11%	126.00	1.73	81,207	

One way the discounts can be affected is by increased financial market volatility: When volatility increases, the probability of a stock losing value during the required Rule 144 restriction period increases. Therefore, buyers of such restricted securities could require a steeper discount to compensate for the additional risk of loss. At the same time, however, discounts could decrease during times of economic uncertainty resulting from depressed stock prices in the public marketplace. In both instances, there is no empirical evidence available to support either assumption because too many other company- and transaction-specific factors influence implied restricted stock discounts. In addition, different assumptions and search processes of the various restricted stock studies performed over the years make interpreting long-term trends in the discounts over the years difficult. Nevertheless, the fact that the time period covered in the TVA study was a period of extreme economic turmoil should be taken into consideration when using the data to apply DLOMs to closely held companies. Stout Risius Ross found a satisfactory relationship between the Chicago Board of Options Exchange Volatility Index (VIX) and the magnitude of the discount for private placements with registration rights. This would indicate that market disruptions do affect the magnitude of the discount. If there is a long-term time horizon, an adjustment to the discount may be warranted. Further adjustment may be warranted in the event of a highly volatile stock market.

Another concern that arises during economic downturns is the financial condition of the companies that issue restricted stock. In the TVA study, only 22 of the companies had positive net income; 25 companies had positive earnings before interest, taxes, depreciation, and amortization (EBITDA); and 26 had positive cash flow from operations. One possible explanation for the lack of profitable companies included in the sample set is the economic conditions present during the time frame in which the analysis was performed. Therefore, using this study for supporting a DLOM could potentially require a closer look at the individual companies included in the sample and how their financial condition compares to that of the valuation subject.

Transaction volume is another issue that is affected by economic conditions. The most recent transaction that met our search criteria took place during August 2008. No transactions were located from September 2008 to December 2008. During these three months, financial market turmoil was at its peak with the collapse of investment banking giant Lehman Brothers. Therefore, the average and median implied discounts of 18.1 percent and 14.1 percent, respectively, could possibly be understated because no data was available at the peak of the financial market downturn.

In addition to the general economic environment, changes in the regulatory environment can also have an impact on implied restricted stock discounts. The required holding period under Rule 144 was reduced from 1 year to 6 months effective in February 2008. One would expect that implied restricted stock discounts would decline as the result of the shortened holding period. However, based on the 80 transactions analyzed in the TVA study, this was not the case. In 2007, there were 57 transactions with average and median discounts of 17.3 percent and 14.3 percent, respectively. In 2008, there were 23 transactions analyzed with average and median discounts of 20.2 percent and 19.6 percent, respectively. As a result, it does not appear that the shortening of the holding period has caused the expected decline in implied restricted stock discounts. This could be the result of increased volatility in the financial markets, which could have offset the effects of the reduction in the Rule 144 holding period. However, the more likely reason is the fact that each specific unregistered stock sale transaction has its own unique circumstances and characteristics that drove the discount higher or lower. Implied restricted stock discounts cannot be explained by any one variable. Therefore, it is still quite possible that a reduction in the required Rule 144 holding period caused lower discounts in some cases. However, on average, numerous other transaction-specific factors offset the impact of the reduction in the required holding period. With that being said, Stout Risius Ross found that when the 2-year holding period was changed to a 1-year holding period, this peculiarity was answered when they looked at volatility. The Russian Ruble collapse, the failure of the Long-Term Capital Management hedge fund, the Dot-Com Bubble collapse, and September 11th all caused volatilities to rise dramatically. When you take out the effects of the increased volatilities, discounts actually dropped for 1-year holding period data from 1997–2001. With the increase between 2007 and 2008, again, the reason was a dramatic increase in volatility offsetting the reduced holding period.

Another issue that arises with the reduction of the required Rule 144 holding period is whether or not to apply an average or median restricted stock discount to a valuation subject when the estimated holding period is longer than six months. A discount higher than the average or median restricted stock discount could be warranted. Additional analysis could be required in order to quantify discounts for investments with holding periods that exceed six months.

Finally, sample biases must be taken into account when using the TVA study. As previously discussed, a substantial portion of the companies included in the restricted stock study were unprofitable, non-dividend-paying companies. Although the economic environment could potentially explain this for some of these companies, another explanation is the fact that many of these companies were in the early stages of their operation and issued restricted stock as a way to raise cash to pursue profitable ventures and grow their businesses. Therefore, when using this study, a comparison between the valuation subject and the companies included in the restricted stock study is imperative because it may not make sense to use a discount in the upper range of the study for a mature, profitable, dividend-paying valuation subject.

Since the majority of the companies included in the sample were not profitable, the sample did not contain a sufficient number of dividend-paying companies. Dividends have the effect of mitigating the DLOM because the investor receives a current return on his or her investment, which partially offsets the possible loss in market value during the time it takes to sell. In this instance, the various discounts calculated in the study could be overstated due to the fact that the majority of the companies included in the sample were non-dividend payers. However, the dividend-paying history of the subject is one of many factors that must be considered in quantifying a DLOM. For example, it is quite possible that the long-term growth potential of some of the newly formed companies included in the sample are larger than mature, profitable, dividend-paying private companies in a saturated industry. This factor also highlights the importance of a comparative analysis between the valuation subject and the companies that issue restricted stock in order to quantify an appropriate DLOM.

About halfway through the time period covered by the first TVA Restricted Stock Study, the landscape for the restricted stock market had changed. On November 15, 2007, it was announced that the required holding period under Rule 144 would be reduced from one year to six months beginning in February 2008. The first edition of the TVA Restricted Stock Study included some transactions that took place after the changes to the Rule 144 holding period; however, the extreme level of volatility and uncertainty in the public markets during the 2007–2008 time frame made it difficult to truly analyze the impact of the reduction in the required Rule 144 period on implied restricted stock discounts.

### The Second TVA Restricted Stock Study

The shortened holding period had now been in effect for more than three years. This allowed us to collect enough data to perform a better analysis of the impact that the changes to the Rule 144 holding period have had on implied restricted stock discounts. We applied the same search criteria in the second study as we did in the first TVA Restricted Stock Study.

After our search process was completed, we determined that 56 additional transactions met our criteria, in addition to the original 80 transactions from our first study. This gave us a total of 136 transactions to work with. Of the total 136 transactions, 89 took place after the rule change, whereas 47 transactions took place before. Details of all the transactions appear in table 15.10 on the following page.

**TABLE 15.10 Unregistered Stock Sales**

Company	Ticker	Date of Transaction	Exchange	Price per Share (\$)	Shares Placed	Offering Amount (\$)	Discount Announced in Filing	Discount	Avg. Stock Price Transaction Month (\$)	Discount
Atlas Mining Co.	ALMI	1/10/2007	OTC BB	1.35	1,481,482	2,000,001	N	N/A	1.62	16.7%
Singing Machine Co.	SMD	1/16/2007	AMEX	0.83	1,800,024	1,500,000	N	N/A	1.15	27.5%
Avalon Pharmaceuticals	AVRX	1/19/2007	NASDAQ	3.34	3,000,000	10,020,000	N	N/A	3.58	6.7%
Ricks Cabaret International	RICK	2/1/2007	NASDAQ	7.00	425,000	2,975,000	N	N/A	9.72	27.9%
VCG Holding Corp.	VCGH	2/2/2007	NASDAQ	7.10	3,000,000	21,300,000	N	N/A	10.08	29.5%
Black Hills Corp.	BKH	2/14/2007	NYSE	36.00	4,170,891	150,152,076	N	N/A	37.59	4.2%
Triangle Petroleum Corp.	TPLM	2/26/2007	OTC BB	2.00	10,412,000	20,824,000	N	N/A	2.77	27.8%
Euronet Worldwide	EEFT	3/8/2007	NASDAQ	25.00	6,374,528	159,363,200	N	N/A	26.59	6.0%
Granite City Food and Brewery	GCFB	3/8/2007	NASDAQ	5.35	2,617,334	14,002,737	N	N/A	5.99	10.7%
Ethos Environmental	ETEV	3/9/2007	OTC BB	1.00	50,000	50,000	N	N/A	3.78	73.5%
Colombia Goldfields	CGDF	3/21/2007	OTC BB	1.00	9,020,000	9,020,000	N	N/A	1.21	17.0%
Transmeridian Exploration	TMYEQ	4/1/2007	OTC BB	2.70	1,655,000	4,468,500	N	N/A	2.93	7.7%
Ricks Cabaret International	RICK	4/2/2007	NASDAQ	9.40	425,000	3,995,000	N	N/A	9.27	-1.5%
AFP Imaging Corp.	AFPC	4/13/2007	OTC BB	1.48	5,500,000	8,140,000	N	N/A	1.90	21.9%
Oilisands Quest	BQI	5/3/2007	AMEX	2.75	13,900,000	38,225,000	N	N/A	3.11	11.6%
BPZ Resources	BPZ	5/8/2007	AMEX	5.25	6,700,000	35,175,000	N	N/A	6.30	16.6%
AtriCure Inc.	ATRC	5/24/2007	NASDAQ	9.15	1,683,060	15,399,999	N	N/A	10.63	13.9%
Synutra International	SYUT	5/29/2007	NASDAQ	16.50	4,000,000	66,000,000	N	N/A	18.75	12.0%
Neogenomics Inc.	NGNM	6/1/2007	OTC BB	1.50	2,670,000	4,005,000	N	N/A	1.68	10.7%
3D Systems Corp.	TDSC	6/19/2007	NASDAQ	17.50	1,250,000	21,875,000	N	N/A	22.68	22.8%
Metalico Inc.	MEA	6/21/2007	AMEX	7.00	5,246,000	36,722,000	N	N/A	7.48	6.4%
VIA Pharmaceuticals	VIAP	6/29/2007	NASDAQ	2.43	10,288,065	24,999,998	Y	38.50%		38.5%
Mandalay Media Inc.	MNDL	7/24/2007	OTC BB	0.50	5,000,000	2,500,000	N	N/A	1.09	54.1%
Enova Systems Sport	ENA	7/25/2007	AMEX	5.35	2,218,000	11,866,300	N	N/A	6.25	14.3%

(continued)

TABLE 15.10 Unregistered Stock Sales (continued)

Company	Ticker	Date of Transaction	Exchange	Price per Share (\$)	Shares Placed	Offering Amount (\$)	Discount Announced in Filing	Discount	Avg. Stock Price Transaction Month (\$)	Discount
Supply Group Progressive	RBI	7/26/2007	NASDAQ	10.00	1,830,000	18,300,000	N	N/A	10.04	0.4%
Gaming Corp.	PGIC	8/13/2007	NASDAQ	4.50	6,943,333	31,244,999	N	N/A	5.50	18.2%
Transworld Corp.	TWOC	8/22/2007	OTC BB	3.50	1,000,000	3,500,000	N	N/A	4.25	17.6%
Meade Instruments	MEAD	8/24/2007	NASDAQ	1.90	3,157,895	6,000,001	N	N/A	2.11	9.7%
Profile Technologies	PRTK	8/24/2007	OTC BB	0.90	436,111	392,500	N	N/A	1.50	40.0%
Manitex Corporation	MNTX	8/30/2007	NASDAQ	6.00	1,500,000	9,000,000	N	N/A	7.23	17.0%
Asian Dragon Group	AADG	8/31/2007	OTC BB	2.16	600,000	1,294,860	N	N/A	3.85	43.9%
Live Current Media	LIVC	9/25/2007	OTC BB	2.00	2,550,000	5,100,000	N	N/A	2.24	10.5%
Big Cat EnergyCorp.	BCTE	10/2/2007	OTC BB	1.00	500,000	500,000	N	N/A	1.42	29.3%
Zhongpin	HOGS	10/9/2007	NASDAQ	8.00	6,250,000	50,000,000	N	N/A	12.05	33.6%
Viper Powersports	VPWS	10/12/2007	OTC BB	0.75	1,338,667	1,004,000	N	N/A	1.00	25.0%
USA Technologies Inc.	USAT	10/17/2007	NASDAQ	7.00	2,142,871	15,000,097	N	N/A	7.80	10.3%
(Ivivi) Technologies	IIVI	10/18/2007	NASDAQ	5.00	1,000,000	5,000,000	N	N/A	5.14	2.6%
Optimer Pharmaceuticals	OPTR	10/23/2007	NASDAQ	7.80	4,600,000	35,880,000	N	N/A	8.11	3.8%
Elixir Gaming Technologies	EGT	10/25/2007	AMEX	3.50	15,000,000	52,500,000	N	N/A	4.55	23.0%
Sequenom Inc.	SQNM	10/26/2007	NASDAQ	9.00	3,383,335	30,450,015	N	N/A	9.32	3.4%
Fushi Copperweld	FSIN	10/26/2007	NASDAQ	14.00	2,786,000	39,004,000	N	N/A	15.85	11.7%
Sten Corp.	STEN	10/30/2007	NASDAQ	2.50	310,000	525,000	N	N/A	2.81	10.9%
Cano Petroleum	CFW	11/2/2007	AMEX	7.15	3,500,000	25,025,000	N	N/A	7.48	4.3%
Kona Grill	KONA	11/6/2007	NASDAQ	16.25	650,000	10,562,500	N	N/A	16.72	2.8%
China Bak Battery	CBAK	11/6/2007	NASDAQ	3.90	3,500,000	13,650,000	N	N/A	4.65	16.0%
EPIX Pharmaceuticals	EPIX	11/9/2007	NASDAQ	3.10	5,245,468	16,260,951	Y	15%		15.0%
Green Plains Renewable Energy	GPRED	11/14/2007	NASDAQ	8.10	1,200,000	9,720,000	N	N/A	9.51	14.8%
Ricks Cabaret International	RICK	11/19/2007	NASDAQ	14.00	1,165,000	16,310,000	N	N/A	16.05	12.7%

**TABLE 15.10 Unregistered Stock Sales**

Company	Ticker	Date of Transaction	Exchange	Price per Share (\$)	Shares Placed	Offering Amount (\$)	Discount Announced in Filing	Discount	Avg. Stock Price Transaction Month (\$)	Discount
General Moly Inc.	GMO	11/20/2007	AMEX	8.50	8,256,699	70,181,942	N	N/A	9.54	10.9%
Pressure Biosciences	PBIO	11/21/2007	OTC BB	5.00	126,750	633,750	N	N/A	6.59	24.1%
Gold Resource Corp.	GORO	12/5/2007	OTC BB	4.00	5,413,500	21,654,000	N	N/A	4.25	5.9%
Wonder Auto Technology	WATG	12/10/2007	NASDAQ	8.65	3,000,000	25,950,000	N	N/A	10.09	14.3%
Legend International	LGDI	12/12/2007	OTC BB	0.80	18,750,000	15,000,000	N	N/A	1.05	23.8%
Cougar Biotechnology	CGRB	12/14/2007	NASDAQ	29.00	3,000,000	87,000,000	N	N/A	31.25	7.2%
AspenBio	APPY	12/20/2007	NASDAQ	7.25	2,516,310	18,243,250	N	N/A	9.97	27.2%
National Coal Corp.	NCOC	12/27/2007	NASDAQ	3.91	1,000,000	3,910,000	Y	15.0%		15.0%
National Coal Corp.	NCOC	12/27/2007	NASDAQ	4.10	1,000,000	4,100,000	Y	15.0%		15.0%
Tri-Valley Corporation	TIV	Jan-08	AMEX	5.00	210,000	1,050,000	N	N/A	6.30	20.6%
Biospecifics Technology	BSTC	1/14/2008	OTC BB	10.50	200,000	2,100,000	N	N/A	12.25	14.3%
En2go International	ENGO	1/22/2008	OTC BB	1.00	1,350,000	1,350,000	N	N/A	2.10	52.4%
Delta Petroleum Corp.	DPTR	2/20/2008	NASDAQ	19.00	36,000,000	684,000,000	N	N/A	20.83	8.8%
Hoku Scientific	HOKU	2/29/2008	NASDAQ	8.64	2,893,519	25,000,000	N	N/A	9.70	10.9%
RCM Technologies	RCMT	3/19/2008	NASDAQ	4.29	700,000	3,000,000	N	N/A	4.72	9.2%
Enova Systems Inc.	ENA	3/26/2008	AMEX	3.91	2,131,274	8,333,281	N	N/A	3.95	1.0%
Secured Digital Storage Corp.	SDGS	4/22/2008	OTC BB	0.80	2,681,375	2,145,100	N	N/A	2.73	70.6%
Widepoint Corporation	WYY	5/2/2008	AMEX	1.02	2,500,000	2,550,000	N	N/A	1.23	16.7%
National Coal Corp.	NCOC	5/12/2008	NASDAQ	4.65	2,332,000	10,843,800	Y	7.4%		7.4%
Asia Premium Television Group	ATVG	5/22/2008	OTC BB	2.00	385,000	770,000	N	N/A	2.88	30.4%
Oil sands Quest	BQI	5/23/2008	AMEX	4.20	12,976,761	54,502,396	N	N/A	4.47	6.0%
Oil sands Quest	BQI	5/23/2008	AMEX	4.20	11,904,761	49,999,996	N	N/A	4.47	6.0%
Graymark Healthcare	GRMH	6/3/2008	NASDAQ	4.50	3,344,447	15,050,012	N	N/A	7.90	43.0%
ICO Global Communications	ICOG	6/6/2008	NASDAQ	3.61	6,515,697	23,500,000	Y	5%		5.0%

(continued)

TABLE 15.10 Unregistered Stock Sales (continued)

Company	Ticker	Date of Transaction	Exchange	Price per Share (\$)	Shares Placed	Offering Amount (\$)	Discount Announced in Filing	Discount	Avg. Stock Price Transaction Month (\$)	Discount
Ricks Cabaret International	RICK	6/12/2008	NASDAQ	20.00	672,000	13,440,000	N	N/A	20.45	2.2%
Harbin Electric	HRBN	6/24/2008	NASDAQ	14.13	3,500,000	49,455,000	N	N/A	16.52	14.4%
Document Security Systems Inc.	DMC	6/25/2008	AMEX	4.00	500,000	2,000,000	N	N/A	5.30	24.5%
Argan, Inc.	AGX	7/2/2008	AMEX	12.00	2,200,000	26,400,000	N	N/A	15.97	24.9%
Tercica Inc.	TRCA	7/11/2008	NASDAQ	6.77	590,580	3,999,998	N	N/A	8.89	23.8%
L-1 Identity Solutions	ID	8/5/2008	NYSE	14.85	8,083,472	120,000,000	N	N/A	14.93	0.5%
Profile Technologies Inc.	PRTK	8/15/2008	OTC BB	0.90	2,550,440	2,295,404	N	N/A	2.40	62.5%
Odyssey Marine Exploration	OMEX	8/19/2008	NASDAQ	4.90	1,970,000	9,653,000	N	N/A	4.85	-1.0%
BPZ Resources	BPZ	2/23/2009	NYSE	3.05	14,300,000	43,615,000	N	N/A	4.63	34.1%
Bryn Mawr Bank Corp.	BMTC	4/21/2009	NASDAQ	16.66	150,061	2,500,016	Y	0%	18.75	0.0%
American DG Energy	ADGE	4/23/2009	AMEX	2.10	1,076,190	2,259,999	N	N/A	2.65	20.8%
Southeastern Bank Financial Corp	SBFC	5/14/2009	OTC BB	13.25	683,272	9,053,354	N	N/A	14.28	7.2%
Odyssey Marine Exploration	OMEX	5/22/2009	NASDAQ	2.97	1,720,000	5,099,800	N	N/A	3.55	16.4%
Macatawa Bank Corp.	MCBC	6/5/2009	NASDAQ	3.20	312,500	1,000,000	N	N/A	3.44	7.0%
Superior Bancorp	SUPR	7/15/2009	NASDAQ	2.18	1,700,000	3,700,000	N	N/A	2.98	26.8%
Neogenomics Inc.	NGNM	7/24/2009	OTC BB	1.36	3,500,000	4,767,000	N	N/A	1.79	23.7%
Heartware International	HTWR	8/10/2009	NASDAQ	22.00	2,500,000	55,000,000	N	N/A	24.79	11.3%
Sierra Bancorp	BSRR	8/27/2009	NASDAQ	11.00	1,935,000	21,285,000	N	N/A	13.37	17.7%
Rand Capital	RAND	9/1/2009	NASDAQ	3.42	741,602	2,536,279	N	N/A	3.56	3.9%
Hanni Financial	HAFC	9/4/2009	NASDAQ	1.37	5,070,423	6,946,480	N	N/A	1.67	18.0%
Ibio, Inc.	IBPM	9/10/2009	OTC BB	0.65	4,615,385	3,000,000	N	N/A	1.10	40.9%
Solar Power Inc.	SOPWE	9/23/2009	OTC BB	1.00	12,077,000	12,077,000	N	N/A	1.46	31.3%
KeyOn Communications	KEYO	10/27/2009	OTC BB	1.50	626,667	940,001	N	N/A	2.12	29.2%
Tri Valley Corp.	TIV	11/1/2009	AMEX	1.00	450,000	450,000	N	N/A	2.33	57.0%



**TABLE 15.10 Unregistered Stock Sales**

Company	Ticker	Date of Transaction	Exchange	Price per Share (\$)	Shares Placed	Offering Amount (\$)	Discount Announced in Filing	Discount	Avg. Stock Price Transaction Month (\$)	Discount
Gulf Resources	GFRE	12/11/2009	NASDAQ	8.50	2,941,181	25,000,039	N	N/A	10.58	19.6%
Oilsands Quest	BQI	12/16/2009	AMEX	1.05	8,571,443	9,000,015	N	N/A	1.18	10.6%
inContact Inc.	SAAS	12/21/2009	NASDAQ	2.45	3,428,571	8,399,999	N	N/A	2.65	7.4%
Saia Inc.	SAIA	12/22/2009	NASDAQ	11.50	2,182,609	25,100,004	N	N/A	14.60	21.2%
Hughes Telematics	HUTC	12/28/2009	OTC BB	3.00	2,516,667	7,550,001	N	N/A	4.46	32.7%
Vermillion Inc.	VRML	1/7/2010	NASDAQ	18.49	2,327,869	43,049,747	N	N/A	24.18	23.5%
Tearlab Corp.	TEAR	1/11/2010	NASDAQ	0.92	1,886,291	1,743,989	Y	20%		20.0%
Meta Financial Group	CASH	1/26/2010	NASDAQ	21.33	265,000	5,652,450	N	N/A	20.17	-5.8%
Meta Financial Group	CASH	1/29/2010	NASDAQ	21.40	150,000	3,210,000	N	N/A	20.17	-6.1%
Cedar Shopping Centers Inc.	CDR	2/5/2010	NYSE	6.60	1,250,000	8,250,000	N	N/A	7.10	7.0%
Prolor Biotech, Inc.	PBTH	3/17/2010	AMEX	2.35	10,382,975	24,399,991	N	N/A	3.71	36.6%
Colony Bancorp	CBAN	3/30/2010	NASDAQ	4.11	1,216,545	5,000,000	Y	0%		0.0%
Appliance Recycling Stores of America	ARCI	4/1/2010	NASDAQ	2.00	915,000	1,830,000	N	N/A	3.18	37.0%
Vist Financial Corp.	VIST	4/21/2010	NASDAQ	8.00	644,000	5,152,000	N	N/A	9.00	11.1%
Metrocorp Bancshares	MCBI	4/23/2010	NASDAQ	3.23	1,250,000	4,037,500	Y	-10%		-10.0%
Sequenom Inc.	SQNM	5/12/2010	NASDAQ	4.15	12,435,000	51,605,250	N	N/A	5.60	25.8%
Boston Private Financial Holdings	BPFH	6/1/2010	NASDAQ	5.81	1,084,450	6,300,004	N	N/A	6.55	11.3%
CAS Medical Systems, Inc.	CASM	6/16/2010	NASDAQ	1.40	1,375,000	1,925,000	N	N/A	1.56	10.0%
Gladstone Commercial	GOOD	7/8/2010	NASDAQ	15.00	4,227	63,405	N	N/A	14.34	-4.6%
Gladstone Commercial	GOOD	7/23/2010	NASDAQ	15.00	4,000	60,000	N	N/A	14.34	-4.6%
Brigus Gold Corp.	BRD	7/29/2010	NASDAQ	1.29	10,000,000	12,943,400	N	N/A	1.18	-10.2%
Gladstone Commercial	GOOD	8/10/2010	NASDAQ	15.00	6,667	100,000	N	N/A	16.46	8.9%
Gladstone Commercial	GOOD	8/26/2010	NASDAQ	15.00	7,000	105,000	N	N/A	16.46	8.9%
MBT Financial Corp.	MBTF	9/1/2010	NASDAQ	1.39	842,038	1,171,831	N	N/A	1.63	14.4%

(continued)

TABLE 15.10 Unregistered Stock Sales (continued)

Company	Ticker	Date of Transaction	Exchange	Price per Share (\$)	Shares Placed	Offering Amount (\$)	Discount Announced in Filing	Discount	Avg. Stock Price Transaction Month (\$)	Discount
Westwood One	WWON	9/7/2010	NASDAQ	6.50	769,231	5,000,002	N	N/A	7.33	11.3%
Gold Resource Corp.	GORO	9/19/2010	AMEX	16.00	3,475,000	55,600,000	N	N/A	17.39	8.0%
Green Mountain Coffee Roasters	GMCR	9/28/2010	NASDAQ	29.18	8,566,649	250,000,004	N	N/A	34.26	14.8%
Gladstone Commercial	GOOD	9/29/2010	NASDAQ	15.00	27,667	415,000	N	N/A	16.88	11.1%
National Penn Bancshares	NPBC	10/5/2010	NASDAQ	6.05	10,462,810	63,300,001	N	N/A	6.42	5.8%
Gladstone Commercial	GOOD	10/12/2010	NASDAQ	15.00	7,156	107,342	N	N/A	18.25	17.8%
Pure Bioscience	PURE	10/22/2010	NASDAQ	2.20	1,080,000	2,376,000	N	N/A	2.65	17.0%
Aveo Pharmaceuticals	AVEO	10/28/2010	NASDAQ	13.50	4,500,000	60,750,000	N	N/A	13.75	1.8%
THT Heat Transfer Tech	THTI	11/2/2010	NASDAQ	3.20	4,453,500	14,251,200	N	N/A	3.88	17.5%
Hyperdynamics Corp.	HDY	11/3/2010	AMEX	2.00	15,000,000	30,000,000	N	N/A	2.84	29.5%
CC Media Holdings	CCMO	11/15/2010	NASDAQ	7.08	706,215	5,000,002	N	N/A	7.83	9.5%
Bridge Capital Holdings	BBNK	11/18/2010	NASDAQ	8.55	3,508,771	29,999,992	N	N/A	8.63	0.9%
Theravance	THRX	11/29/2010	NASDAQ	22.50	5,750,000	129,375,000	N	N/A	22.66	0.7%
Solar Capital, Ltd.	SLRC	11/30/2010	NASDAQ	22.94	1,050,000	24,087,000	N	N/A	23.09	0.6%
China Executive Education	CECX	12/2/2010	OTC BB	2.50	73,900	184,750	N	N/A	3.54	29.4%
Synergy Resources	SYRG	12/23/2010	OTC BB	2.00	6,502,000	13,004,000	N	N/A	2.55	21.6%
<b>Average</b>										<b>16.6%</b>
<b>1st Quartile</b>										<b>7.0%</b>
<b>Median</b>										<b>14.3%</b>
<b>3rd Quartile</b>										<b>23.8%</b>
<b>High</b>										<b>73.5%</b>
<b>Low</b>										<b>-10.2%</b>
<b>Standard Deviation</b>										<b>14.93%</b>
<b>Number of Transactions</b>										<b>136</b>

The 136 transactions in total had an average implied discount of 16.6 percent, a median of 14.3 percent, and a standard deviation of 14.9 percent. For the 47 transactions that took place before the rule change, the average and median discounts were 17.9 percent and 14.8 percent, respectively. For the 89 transactions that took place after the rule change, the average and median discounts were 15.9 percent and 14.2 percent, respectively. A brief statistical summary of the data before and after the rule change is presented in table 15.11.

**TABLE 15.11 Pre-Rule Change Versus Post-Rule Change**

	Pre-Rule Change	Post-Rule Change
Average	17.9%	15.9%
Median	14.8%	14.2%
Standard Deviation	14.6%	15.1%
Number of Transactions	47	89

In an attempt to better understand the data and the factors that drive the implied restricted stock discounts, we updated the correlation and quartile analyses that were performed in the first study. These analyses were performed to see if the addition of the new data changes any of the conclusions reached in the first study.

*Correlation analysis.* The updated correlation coefficients and  $R^2$  statistics are presented in table 15.12. In reviewing these statistics, it becomes apparent that volatility still remains the only variable that has a notable statistical relationship with the implied discounts.

**TABLE 15.12 Correlation Analysis**

	Correlation	$R^2$
Volatility	0.70	0.49
Debt Ratio	0.15	0.02
Exchange	0.47	0.22
Volume	(0.08)	0.01
Shares Placed per Average Volume	0.40	0.16
Share Turnover	(0.11)	0.01
Market Cap	(0.17)	0.03
Revenues	(0.09)	0.01
Total Assets	(0.16)	0.02
Book Value	(0.04)	0.00
Positive Net Income	(0.17)	0.03
Positive EBITDA	(0.27)	0.08
Positive Operating Cash Flow	(0.30)	0.09
Days Until Registration	0.26	0.07

However, despite the weak statistical relationships, the correlation coefficients for each of the variables are consistent with economic theory. The price volatility, shares placed per average volume, debt ratio, exchange, and days until registration variables, all had positive correlation coefficients, which indicate that the implied discounts tend to increase when these variables increase. On the other hand, all size, volume, and profitability metrics had negative correlation coefficients, which indicate that discounts tend to be higher for smaller, thinly traded, and less profitable companies. Nevertheless, the linear relationships between implied restricted stock discounts and all the variables analyzed, with the exception of volatility, are not strong enough to derive any meaningful conclusions.

*Quartile analysis.* We also performed an update to the quartile analysis that was presented in the first study. First, we divided the data into 4 quartiles based on each variable. Each quartile contained a total of 34 transactions. A summary of this analysis is presented in table 15.13.

**TABLE 15.13 Quartile Analysis**

	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Volatility	(47% and under)	(48%–59%)	(57%–78%)	(79%+)
Average	8.95%	10.95%	14.89%	31.63%
Median	8.43%	11.28%	13.00%	29.29%
Standard Deviation	8.65%	9.30%	10.32%	17.75%
Debt Ratio	(32% and Under)	(33%–59%)	(60%–90%)	(91%+)
Average	18.09%	15.24%	15.30%	17.78%
Median	14.11%	14.82%	11.21%	14.68%
Standard Deviation	16.08%	9.57%	14.70%	18.39%
Volume	(13K and under)	(14K–52K)	(53K–215K)	(216K+)
Average	24.74%	13.15%	15.76%	12.76%
Median	20.38%	10.91%	15.00%	10.75%
Standard Deviation	21.17%	11.42%	12.23%	9.33%
Shares Placed per Average Volume	(9 and under)	(10–28)	(29–139)	(140+)
Average	14.30%	14.33%	15.39%	22.39%
Median	13.20%	11.80%	12.78%	18.85%
Standard Deviation	12.11%	14.97%	10.57%	19.55%
Share Turnover	(0.08% and under)	(0.09%–0.32%)	(0.33%–0.69%)	(0.70%+)
Average	24.55%	13.11%	13.94%	14.81%
Median	21.16%	11.18%	12.74%	13.51%
Standard Deviation	21.79%	8.98%	12.77%	10.23%

*(continued)*

**TABLE 15.13 Quartile Analysis** *(continued)*

	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Market Cap (000s)	(56,490 and under)	(56,491–122,457)	(122,458–297,884)	(297,884+)
Average	20.74%	15.32%	18.52%	11.83%
Median	20.78%	14.91%	16.20%	10.08%
Standard Deviation	18.82%	12.70%	16.51%	8.77%
Revenues (000s)	(1,495 and under)	(1,496–28,249)	(28,250–85,332)	(85,332+)
Average	25.43%	17.49%	12.89%	10.61%
Median	23.97%	14.91%	11.93%	9.63%
Standard Deviation	17.67%	15.28%	11.96%	9.51%
Total Assets	(17,777 and under)	(17,778–67,142)	(67,143–395,327)	(395,327+)
Average	30.34%	14.26%	14.87%	9.23%
Median	26.12%	11.09%	14.91%	8.82%
Standard Deviation	17.95%	11.09%	9.91%	10.82%
Book Value (000s)	(5,246 and under)	(5,247–22,241)	(22,242–92,041)	(92,041+)
Average	26.22%	19.45%	11.14%	9.61%
Median	23.75%	16.97%	10.89%	8.87%
Standard Deviation	17.44%	15.47%	10.12%	8.99%

In analyzing the data in table 15.13, it becomes apparent that the only variables in which the average and median implied discounts change as expected across all four quartiles are volatility, book value, and revenues. The average and median implied discounts for all the other variables analyzed, with the exception of the debt ratio, change as expected from the first quartile to the fourth quartile. However, in each of these cases, the change in the averages or the medians from the second quartile to the third quartile was inconsistent. This can partially be attributed to the high standard deviation of the discounts contained in each of these groupings.

The data was further analyzed by constructing quartiles sorted by discount. This analysis is presented in table 15.14 on the following page.

TABLE 15.14 Quartiles by Discount

	Discount	Sales (000s)	Total Assets (000s)	Book Value (000s)	Volatility	Average Trading Volume (000s)	Debt Ratio	Market Cap (000s)	Number of OTC Stocks
<b>1st Quartile</b>									
Average	1.30%	125,925	855,572	198,287	50.38%	337	0.63	381,993	1
Median	1.99%	43,241	319,966	55,365	50.84%	63	0.61	137,302	
High	6.98%	917,574	9,248,229	1,127,228	91.63%	2,832	1.66	1,675,956	
Low	-10.16%	—	2,958	(159,997)	19.37%	1	0.18	20,360	
Standard Deviation	4.61%	211,734	1,630,907	338,635	17.65%	671	0.36	466,505	
<b>2nd Quartile</b>									
Average	10.26%	248,407	977,512	(119,279)	60.98%	293	0.74	280,864	5
Median	10.66%	42,650	119,144	28,896	56.85%	36	0.64	144,083	
High	14.29%	5,865,685	17,479,867	610,180	142.02%	2,074	6.34	1,383,384	
Low	6.98%	—	1,261	(7,695,606)	22.37%	0	0.01	5,585	
Standard Deviation	1.99%	997,366	3,109,615	1,349,311	27.16%	539	1.04	307,789	
<b>3rd Quartile</b>									
Average	18.25%	104,616	304,621	62,081	63.82%	293	0.77	273,346	7
Median	17.54%	26,253	74,477	16,868	57.53%	82	0.54	100,942	
High	23.81%	1,207,997	3,870,851	662,133	115.67%	4,777	6.93	4,514,891	
Low	14.33%	—	3,168	(78,435)	26.05%	3	—	10,947	
Standard Deviation	3.04%	247,455	721,818	123,173	21.14%	821	1.15	757,350	
<b>4th Quartile</b>									
Average	36.61%	30,596	133,298	23,739	113.15%	245	0.94	133,123	17
Median	30.85%	2,813	13,375	5,357	99.05%	26	0.63	76,470	
High	73.51%	238,495	3,215,510	246,770	247.84%	4,201	7.62	608,652	
Low	23.81%	—	4	(8,772)	32.84%	0	0.01	9,879	
Standard Deviation	13.40%	59,354	547,734	50,808	53.36%	743	1.37	137,779	

In this instance, volatility is the only variable in which the average and median increase were expected across each quartile. With the exception of the debt ratio, the changes in the averages and the medians of all the other variables are consistent when going from the first quartile to the fourth quartile. However, the changes in the inner quartiles vary. Another apparent trend in the data in table 15.14 is the number of over-the-counter stocks that were contained in each quartile. The fourth quartile contained 17 over-the-counter stocks in comparison to only 1 in the first quartile.

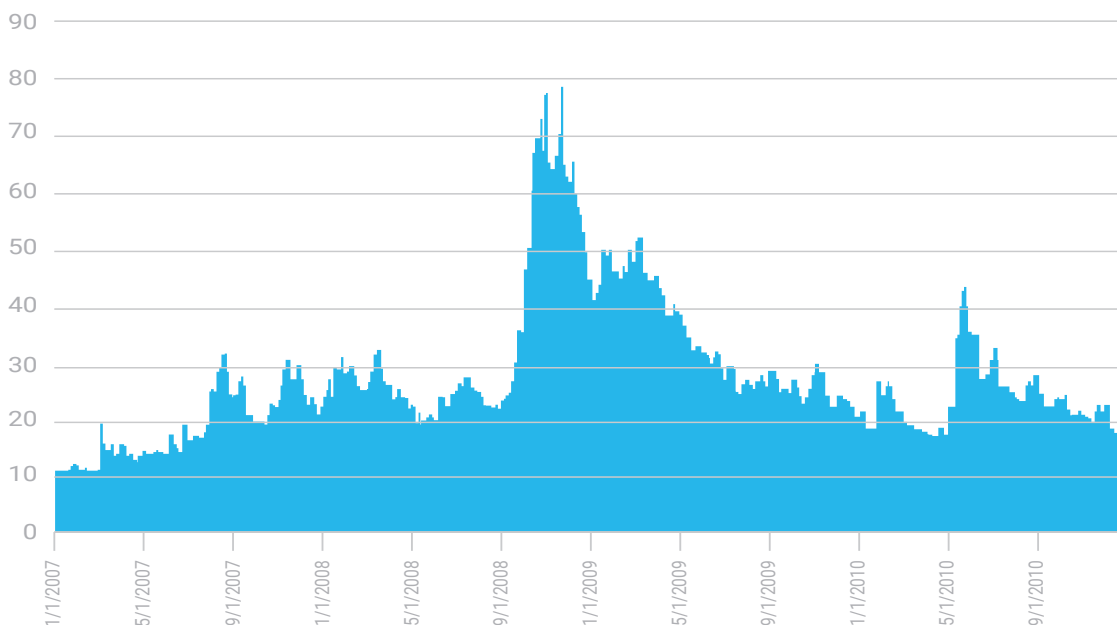
The final part of this analysis involved an analysis of registration rights. In the first study, the data was divided into four quartiles based on the number of days the stock remained unmarketable before it was registered. This analysis was updated using the same time periods that were used in the first study. The update to this analysis is presented in table 15.15.

Days Before Registration	Average	Median	Standard Deviation
0–31 days	12.22%	10.26%	11.29%
32–63 days	15.31%	14.08%	11.48%
64–185 days	16.27%	14.59%	15.80%
185+ days	24.77%	18.51%	17.55%

A review of this data shows that the average, median, and standard deviation of the discounts are higher for stocks that remain unmarketable for longer periods of time.

The update to the first edition of the TVA Restricted Stock Study contained a brief analysis of the impact of the changes to the required Rule 144 holding period as well as an update to the statistical analysis. The average and median discounts for the 89 transactions that took place after the change to the Rule 144 holding period were slightly lower than the average and median discounts of the 47 transactions that took place before. However, this decrease was not as drastic as one would expect. One possible explanation for this is the level of market volatility that was present in the marketplace during these two time periods. To demonstrate, presented in figure 15.1 is the historic trend in the VIX. The trend in this chart shows that volatility in the stock market increased significantly in late 2008 and remained relatively high throughout 2009 and 2010 in comparison to 2007.

**Figure 15.1 VIX Historical**



Considering that the change to the Rule 144 holding period was announced in November 2007 and became effective in February 2008, the transactions that occurred after the rule change took place during a more highly volatile market. In addition, there are other economic, company-specific and transaction-specific factors that could potentially drive the implied discounts. This further supports the notion that various factors collectively must be considered when trying to quantify implied illiquidity discounts.

The update to the statistical analysis performed in the first study resulted in similar conclusions. The only company-specific variable that had a notable statistical relationship with the implied discounts was volatility. Although it is possible that other variables affect the implied discounts to some degree, we were unable to quantify the impact of these variables with a high degree of statistical certainty.

The addition of the new data to the second edition of the TVA Restricted Stock Study provides empirical data on implied illiquidity discounts through 2010. However, when using this new data as a guide to derive a discount for lack of marketability for a closely held business, additional factors must be taken into account, most notably, the change in the holding period. The holding period for a minority interest in a closely held company is usually much longer than the six-month holding period for the majority of the transactions contained in this study. Valuation theory tells us that this should warrant a larger discount. The question becomes how much larger should it be when considering the financial condition, dividend-paying history, risk, and other factors related to the valuation subject in comparison to the companies contained in this study. These are some of the various factors that must be taken into consideration when using the data from this study and constructing discounts for lack of marketability in general.

The TVA Restricted Stock Studies also suggest that there is not one specific factor that universally drives all implied restricted stock discounts higher or lower. Each sale of unregistered stock has its own unique circumstances and contractual rights that could warrant higher or lower discounts. This factor reiterates the importance of a thorough qualitative analysis in constructing DLOMs for private companies.

### Pluris Study

In this study, Pluris analyzed 1,016 private placements of unregistered common stock from the first quarter of 2007 through the third quarter of 2009. After eliminating certain transactions based on the analysis criteria selected, Pluris studied 681 transactions. Pluris found that the average discount for these transactions was 18.8 percent, whereas the median was 18.6 percent. Similar to the findings of other studies, Pluris found that the highest discount quintile had lower than average market capitalization, higher volatility, and greater market-to-book ratios.

### Stout Risius Ross Study

The Stout Risius Ross (SRR) study included transactions from September 2005 through May 2010. After screening these transactions based on a number of selected criteria, SRR analyzed 98 transactions. Based on these transactions, the average discount was 10.9 percent and the median discount was 9.3 percent.

SRR analyzed various factors and how they affect the DLOM. A strong relationship was found between subject company volatility, block size, dividends, and profitability. Growth, size, and leverage showed a moderate relationship, whereas financial distress, recent price performance, and registration rights did not show any type of conclusive relationship.

### More About the DLOM

All the studies about restricted stock deal with minority blocks of stock in public companies. Therefore, the restricted stock studies may be a useful guide in assessing a DLOM for a minority interest. However, a control value may also need to reflect a DLOM, although it probably would be smaller than a DLOM attributable to minority shares. Because a minority interest is more difficult to sell than a controlling interest, the DLOM is usually larger for minority interests. The average DLOM ranges between 25 percent and 45 percent based on the studies previously discussed. Larger discounts may be appropriate if the starting point is a minority marketable, interest value based on public guideline company methods. This is due to the fact that a minority investor in the public market measures liquidity as three days to cash.



Let's discuss a bit of reality. The IRS does not like this reality, but a minority interest in a closely held company may be nearly impossible to sell. In many cases, the only potential market for the minority interest would be other owners in the same company who would like to obtain additional ownership in the company. However, think about the company that is not paying dividends (mainly because it does not have the capacity to pay them), and the controlling owners have no intention of selling the company in the foreseeable future. What would someone pay for an interest in a company that is not going to throw off a return? Nothing! Now, later in this chapter, we will discuss a Tax Court case that tells us to consider the willing seller as well as the willing buyer. I do not care whether there is a buyer, seller, or both—no return generally means no economic value!

But what about entire closely held companies? Clearly, it will take more than three days to sell. In fact, over the years, the business brokers that I have spoken with have told me repeatedly that it generally takes six to nine months to sell a closely held company if priced properly. I was involved in a court case in which the opposing expert raised the issue that many closely held businesses do not sell at all. Frequently, this is because they are overpriced. Many business owners have visions of grandeur and think that sweat-equity has value. They find out quickly how little sweat-equity is really worth in the marketplace. It seems that when a closely held business is properly priced, for reasonable negotiations to take place, a six- to nine-month time period is realistic.

The question that the valuation analyst must ask is "Should the comparison be made to freely traded stocks at the minority level from the public market?" The answer should be obvious. Absolutely not! In fact, think about how long it takes to sell an entire public company. By the time the due diligence is done and the regulatory agencies bless the transaction, more than a year can go by. Entire closely held companies may be more marketable (or maybe the better term would be liquid) than their public counterparts. Unfortunately, we do not have any empirical data on which to base the discount.

Many valuation analysts believe that a 100 percent control position is fully marketable. I think that it depends on the facts and circumstances and must be considered on a case by case basis. Certain businesses will be more difficult to sell than others. Keep in mind, however, that while the owner is attempting to sell the business, he or she continues to get the cash flow from the investment (assuming that there is some) to mitigate the loss incurred in the time it takes to sell the investment. This would reduce the discount.

Let me throw out one more thought. One of the items that the valuation analyst should investigate as part of the industry analysis is whether there is a consolidation or any form of sales activity going on in the industry. If the market has transactions, and if the subject company is a good company, they may be more marketable because they may attract a possible buyer. If the valuation analyst finds that the industry is dormant, it may be a reasonable sign that the company will suffer from illiquidity and may not be able to be sold very easily. This is one more reason for performing the industry analysis. Each of the factors of Revenue Ruling 59-60 eventually come together in a single valuation in which each item has an impact on another item. Do not make the mistake of thinking that these factors are mutually exclusive.

### Stout DLOM Calculator<sup>TM20</sup>

Over the past decade, the business valuation profession has seen a growth in resources available by subscription. One of the tools that I have come to like is the Stout DLOM Calculator<sup>TM</sup> brought to us by the same folks who created the Stout Restricted Stock Study. The calculator is available from BV Resources. This tool includes over 700 transactions that took place between 1980 and 2015. More data is added when appropriate. More than 95 percent of the transactions reviewed were deemed invalid for use in this study because they did not meet Stout's acceptance criteria. This is not a surprise because we reviewed thousands of public filings to narrow our restricted stock study down to only 136 useable transactions.

The calculator was released in fall 2010. This interactive, Internet-based tool, which incorporates input from a user's subject company, takes valuation analysts step-by-step through Stout's preferred DLOM determination method. The calculator provides valuation analysts with many benefits, including the following:

- Greatly reduces time and effort in deriving DLOMs
- Makes detailed comparisons between subject companies and issuers of restricted stock included in the Stout study

20 Much of this section has been adapted from *The 2016 Companion Guide* to the Stout DLOM Calculator.

- Provides users with the options to exclude restricted stock transactions with premiums, registration rights, and trim for specific holding periods, allowing for an even more detailed comparison
- Provides users with an option to adjust the relevant financial statistics in the Stout study for inflation for enhanced comparability with a subject company as of a specific valuation date
- Allows users flexibility to enter their own assumptions and tailor the results based on their professional knowledge and experience
- Creates an easy-to-follow set of exhibits that can be inserted into the analyst's valuation report
- Provides users with the confidence that they are always utilizing the latest restricted stock data and DLOM methodology suggested by Stout

*Inflation Adjustment Tool.* Users who choose not to use the calculator can still adjust the statistics in the Stout study for inflation. An inflation adjustment tool that adjusts the data in the Stout study to a user-selected valuation date based on the consumer price index published by the U.S. Bureau of Labor Statistics is available on the website.

*Consideration of stock market volatility.* Each transaction in the Stout study occurring after June 1990 includes a VIX variable,<sup>21</sup> which represents the level of expected short-term future volatility in equity markets around the time of the transaction. Many valuation analysts have determined that a public company's stock price volatility is a key determinant of the DLOM. I will discuss this in greater detail in the quantitative section of this chapter, but this was also discussed as part of the TVA Restricted Stock Study. The real issue, however, is that the volatility of private company stock can be extremely difficult (if not impossible) to estimate. In response to this dilemma, Stout has made an empirical connection between DLOMs and overall stock market volatility, making it possible to incorporate stock market volatility as a consideration when determining DLOMs for minority, nonmarketable interests in private companies. This is especially important for valuations with valuation dates during 2008 and 2009, when stock markets demonstrated unprecedented levels of volatility and when, as a result, investors fled to the safety of highly liquid, low volatility assets such as short-term Treasury bills.

*Selection criteria.* The transactions in the Stout study were discovered through searches using a number of sources, including 10K Wizard, Security Data Corporation; EDGAR and EDGAR Pro; Dow Jones News Retrieval; Disclosure CompactD; and S&P Corporate Transactions Records. More recent transactions come from Sagient Research, a data research company that compiles PIPE<sup>22</sup> transactions. For each transaction identified, Stout states that it reviewed all relevant public filings and exhibits thereto, including but not limited to, forms 8K, 10K, 10Q, S-1, S-3, and S-4; stock purchase agreements; and registration rights agreements. Overall, thousands of private placement transactions were reviewed during the construction of the Stout study. Transactions were eliminated from the study for the following reasons:

1. The transaction was not a private placement of unregistered shares (for example, the stock was registered prior to the transaction date) or the stock was registered and became fully marketable within 30 days of the transaction.
2. The private placement was of debt, preferred stock, convertible preferred stock, or some kind of hybrid equity-derivative security (the security issued must be identical to the publicly traded common stock in all respects other than its unregistered status).
3. The private placement was issued as part of a stock-warrant unit or had warrants attached, or detachable warrants or options were issued with the common stock.
4. The transaction did not close (for example, was announced and later withdrawn).
5. The stock was not traded on a domestic exchange.
6. The stock traded below \$1 for the entire month of the transaction.

21 The Chicago Board Options Exchange Volatility Index® (VIX) is a key measure of market expectations of near-term volatility conveyed by Standard and Poor's 500 stock index option prices. Since its introduction in 1993, VIX has been considered by many to be the world's premier barometer of investor sentiment and market volatility. See [www.cboe.com/micro/vix/introduction.aspx](http://www.cboe.com/micro/vix/introduction.aspx).

22 The acronym PIPE stands for private investment in public equities.

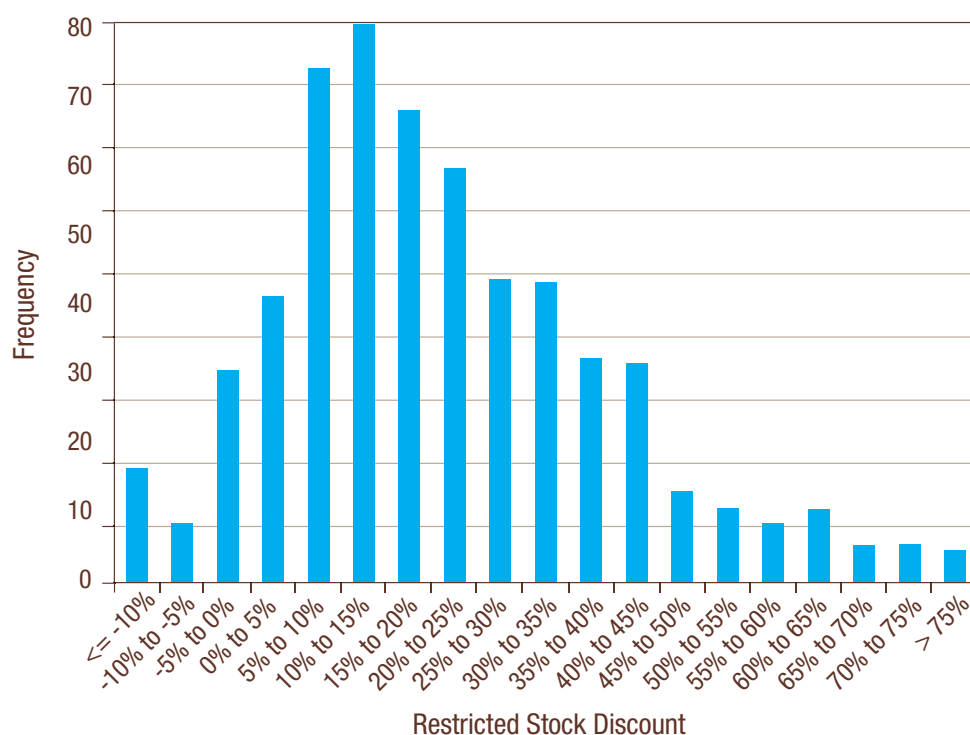
7. Significant pieces of information were unavailable to the extent they were unable to determine the private placement discount, such as the following:
  - a. The market reference price for the fully liquid shares was unavailable.
  - b. The private placement transaction price was unavailable.
  - c. Only the net transaction proceeds to the issuer were reported publicly (net of unknown transaction costs and fees), not the gross purchase price.
8. There were special contractual arrangements between buyer and seller limiting either the economic upside or downside of the buyer (for example, an agreement to increase the number of shares purchased if the market trading price were to fall below a certain level within some specified period of time)
9. The stock was issued in connection with a merger or acquisition, in exchange for services or in connection with any other transaction that could cast doubt on what the fair market value of the restricted stock was.
10. The lead purchaser<sup>23</sup> in the transaction was, based on explicit language provided in the issuer's public filings (or, if not explicitly stated, based on Stout's best judgment considering all available evidence), a related party or received one or more seats on the issuer's board of directors as a result of the transaction.

*DLOM calculation.* The DLOM (transaction discount) is the percentage difference between the private placement price per share and the market trading price per share. If stated explicitly in the language describing the private placement, the transaction discount represents the discount agreed to between the issuer and the purchaser. If not stated, the transaction discount is the percentage difference between the private placement price per share and the closing market price as of the date prior to the agreement date. If the agreement date is not known, the market trading price represents the closing market price as of the day prior to the first to occur of the announcement date or the closing date. For many transactions in the Stout Study, only the month of the transaction, not the exact transaction date, is specified. In these instances, the market trading price is represented by the high-low average stock price for the month of the transaction. Discounts are reported as positive figures, and premiums are reported as negative figures.

*Analysis of the data.* The issue is to determine which company-specific and broader market variables are relevant determinants of the DLOM. In general, these variables relate to the issuer's risk profile, the degree of liquidity of the privately placed stock, and the overall level of stock market volatility around the time of the transaction.

Using data from this study, 736 (out of 778 transactions in the database) private placement transactions of unregistered common stock, with and without registration rights, issued by publicly traded companies from July 1980 through September 2015, were examined and will be discussed here. The overall average discount for all 778 transactions in the Stout Study (as of March 2016) was 19.27 percent, and the median discount is 15.03 percent. However, there are few true premiums in the market for restricted stock, and it is believed that these premiums may be the result of an investment opportunity not available to other investors or an unidentifiable relationship with the seller. Premiums have been excluded from the analysis. The average discount for the 736 transactions, excluding premiums, is 20.89 percent, and the median discount is 16.11 percent. The discount was calculated by dividing the difference between the private placement price and the market reference price by the market reference price. The market reference price in this study is represented by the stock price on the agreement date, closing date, announcement date, or the high-low average stock price for the month of the transaction if no date is specified. The sample distribution is shown in figure 15.2.

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23 A lead purchaser is deemed to be any purchaser of greater than 50 percent of the shares acquired in the private placement.

**Figure 15.2 The Stout Restricted Stock Study**

*Investment risk and discounts.* The impact of investment risk on the DLOM is significant. Smaller, less profitable entities, with a higher degree of income and balance sheet risk and greater stock price volatility tend to issue restricted stock at higher discounts. The following table provides a comparison of company characteristics between high-discount transactions and low-discount transactions. The sample is divided into five percentile groups, or quintiles, based on the distribution of the restricted stock discount, and medians are computed for each quintile group across all parameters. Due to the long time period over which the Stout study transactions took place, company financial characteristics have been adjusted for inflation for better comparability.<sup>24</sup> As shown in the data in table 15.16 on the following page, lower market values, revenues, total assets and book values, and higher market-to-book (MTB) ratios and stock price volatility, are correlated with higher discounts.

Accordingly, higher investment risk, as reflected in smaller firm size, higher MTB ratios, and increasing stock price volatility tends to increase the discount. Profitability is also often used as an indicator of firm risk. However, absolute levels of earnings and losses do not demonstrate a strong correlation with the discount due primarily to the greater impact of company size on the discount. Private placements by large, unprofitable firms tend to exhibit lower discounts than small, profitable firms. Net profit margin tends to be a better indicator than net income because it is not affected by firm size.

<sup>24</sup> For this analysis, financial characteristics have been adjusted based on percentage changes in the U.S. Bureau of Labor Statistics Consumer Price Index, using a base value of 217.97 as of June 1, 2010.

**TABLE 15.16 Comparison of Company Characteristics Between High-Discount Transactions and Low-Discount Transactions**

Quintile <sup>1</sup>	1	2	3	4	5
Discount					
Low	0.0%	7.4%	13.0%	20.9%	33.9%
High	7.4%	13.0%	20.8%	33.5%	91.3%
<b>Median</b>	<b>4.1%</b>	<b>10.0%</b>	<b>16.1%</b>	<b>26.2%</b>	<b>43.2%</b>
Company Characteristics (Median Statistics) <sup>2</sup>					
Market Value (\$mm)	183.5	194.2	116.6	102.1	57.7
Revenues (\$mm)	31.7	42.3	20.9	17.1	8.4
Total Assets (\$mm)	112.9	88.1	37.0	23.1	11.4
Book Value of Equity (\$mm)	49.6	42.3	20.4	13.7	6.5
MTB Ratio	2.6	3.2	3.6	5.7	6.1
Net Income (\$mm)	(4.5)	(2.2)	(2.8)	(4.6)	(2.6)
Net Profit Margin	-6.7%	-5.4%	-8.3%	-23.4%	-38.7%
Volatility	64.0%	65.4%	73.7%	80.2%	104.0%
VIX	17.8	17.6	17.3	17.5	21.3

1 Transactions sorted by Discount. Each "Quintile" includes 147 or 148 transactions.  
2 All statistics have been adjusted for inflation as of January 2016.  
3 Premiums have been excluded from this analysis.

*Discounts by industry.* The marketability discount variance in the Stout study across the spectrum of industries is summarized in table 15.17.

**TABLE 15.17 Industry Analysis**

Industry Description	SIC Range	Trans. Count	Median Statistics					
			Discount	% Shares Placed	Market Value (\$mm)	Total Assets (\$mm)	MTB Ratio	Issuer Volatility
All	All	736	16.1%	10.3%	\$118.3	\$ 14.1	4.0	74.7%
Mining	1000-1999	95	14.6%	10.2%	168.1	76.5	3.4	69.6%
Manufacturing	2000-3999	308	16.8%	11.3%	110.8	26.5	4.8	77.8%
Transportation, Communications, Electric, Gas and Sanitary Services	4000-4999	40	14.9%	9.9%	144.7	88.5	2.8	69.2%
Wholesale Trade	5000-5199	12	25.1%	14.7%	46.3	19.5	4.8	83.0%
Retail Trade	5200-5999	32	12.0%	9.5%	106.9	89.9	3.9	67.8%
Finance, Insurance and Real Estate	6000-6999	92	9.8%	10.2%	169.4	977.4	1.4	49.3%
Services	7000-8999	155	24.4%	9.1%	94.5	16.1	7.1	85.6%

\* 2 transactions from the Agriculture industry (SIC 0179 and 0191) have been excluded from this table.  
Note—the figures in this table have been adjusted for inflation as of January 2016.

The median discounts vary somewhat based on the standard industrial classification (SIC) of the companies in the study. However, the variation in discounts appears to result from differing key financial characteristics among the SIC groups. For example, higher-than-average discounts in the services industry may be due to the significantly lower-than-average total asset values and greater stock price volatility than other SIC groups. Similarly, lower-than-average discounts in finance, insurance, and real estate, as well as retail trade, are correlated with higher market values and total assets and lower stock price volatility than the other SIC groups. Accordingly, Stout determined that a company's industry should not, in itself, have a significant impact on the DLOM, which is, instead, driven much more by a company's financial characteristics and stock price volatility.

*Degree of liquidity and discounts.* The variables discussed up until now are primarily indicators of a company's financial and market risk. The Stout study also provides data about variables that are directly associated with the particular degree of liquidity of the block of restricted stock sold in each private placement. This data is particularly important to the valuation of interests in privately held companies.

The Rule 144's safe harbor provisions for the resale of restricted stock are more imposing on affiliates than nonaffiliates and on noncurrent issuers than current issuers. Based on the publicly available information regarding the transactions in the Stout study, all issuers in the study are subject to the reporting requirements of the Securities Act and are likely current in their filings. However, although Stout has eliminated private placements that are known to involve related party purchasers, it is unknown whether one or more purchasers in each transaction might be deemed to be an affiliate. Accordingly, for each transaction in the Stout study, it is unclear what the purchaser's expectations are regarding the required holding period under Rule 144. This is further complicated by the presence of registration rights agreements in transactions,<sup>25</sup> the terms of which are largely unknown (especially for older transactions); therefore, the resulting impact on the liquidity of the shares is impossible to assess.

Despite the aforementioned difficulty in estimating the likely required holding period related to each transaction, it is true that, all else being equal, large blocks of unregistered stock (expressed as a percentage of total shares outstanding) are more illiquid than small blocks. This results from the both of the following:

1. Rule 144's volume limits after the initial required holding period and prior to the ultimate holding period
2. The difficulty in disposing of a large block of stock in a short period through public sales due to general market supply and demand conditions

Rule 144's volume limits allow for the resale, in any three-month period, of the greater of 1 percent of the company's total outstanding shares or the average weekly trading volume for the four weeks before each such sale.<sup>26</sup> Thus, under the dribble-out provisions, a block of 20 percent or more would take up to five years to resell after the initial holding period, assuming the following:

1. It was sold to just one buyer.
2. The holder of the block was deemed an affiliate under Rule 144 and, thus, would be subject to Rule 144 volume limits indefinitely
3. The trading volume of the stock was so low<sup>27</sup> that 1 percent of total shares outstanding was the most that the buyer could sell in any three-month period.

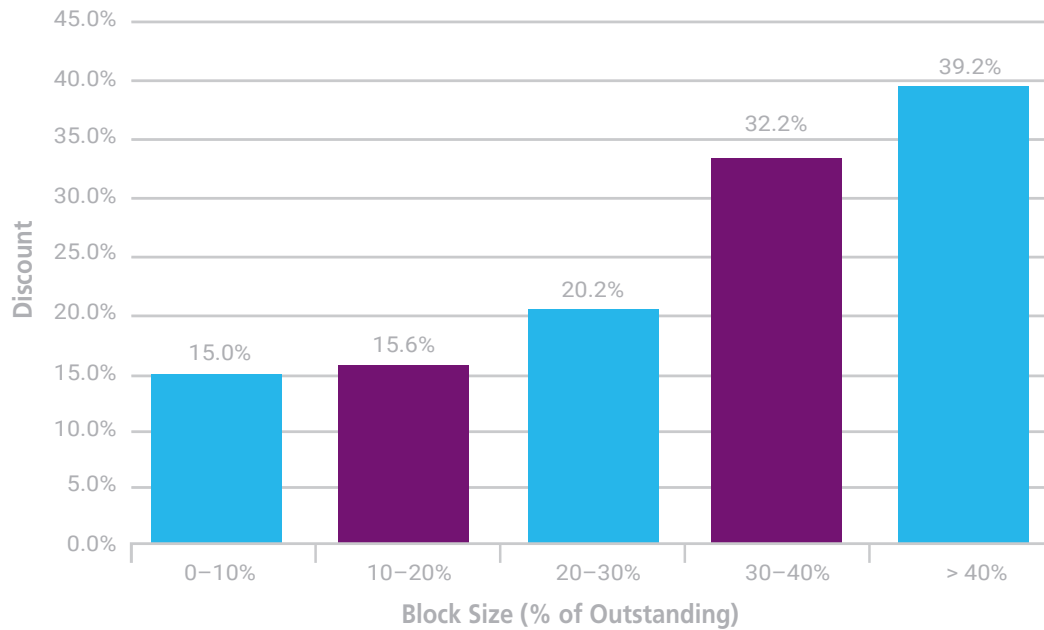
As one can expect, the discount is correlated with the size of the block of stock sold in the private placement, as shown in figure 15.3 on the following page.

.....  
 25 Approximately half of all transactions in the Stout study are known to include registration rights, and for another approximately one-quarter of transactions, the presence of registrations rights is not known.

26 For Over The Counter Bulletin Board (OTCBB) and Pink Sheets companies, only the 1 percent of outstanding shares metric applies.

27 Or the issuer's shares are traded on the OTCBB or Pink Sheets.

**Figure 15.3 Block Size and Discounts**



The data show that the discount increases due to a greater degree of illiquidity (that is, larger block size), and the magnitude of this relationship is most significant among block sizes greater than 30 percent. Specifically, increasing block size from less than 30 percent (median discount of 15.8 percent) to greater than 30 percent (median discount of 38.8 percent) results in an increase to the median discount of 23.0 percentage points ( $38.8\% - 15.8\% = 23.0\%$ ), or 2.45 times ( $38.8\%/15.8\% = 2.45$ ). The largest blocks of restricted stock, which may require many years to liquidate through public sales, are so illiquid that they resemble *private equity*. Stated differently, Rule 144's dribble-out provisions, in addition to general supply and demand conditions for the securities, make it so difficult to sell such blocks in public trading that the most attractive solution, in most cases, would be a private sale. As will be explained shortly, these facts, along with the empirical data discussed previously, are used to derive DLOMs for minority interests in private companies.

**Market volatility and discounts.** The impact of broader market risk, measured by volatility in the equity markets, is also provided in the Stout study. An analysis of the discounts associated with transactions occurring during periods of abnormally high market volatility suggests that given a fixed level of company-specific financial and market risk and the degree of liquidity of a security, discounts are greater during high volatility periods than during normal periods.

In order to assess the impact of broader market risk on restricted stock discounts, Stout has assigned each transaction a market volatility variable. For this analysis, Stout utilized VIX values, a widely used measure of market risk.<sup>28</sup> To control for short-term fluctuations in VIX values (which are highly volatile) and to account for the typical time period required to complete a private placement transaction, Stout has calculated a trailing six-month average daily VIX closing value for each transaction. Because only the transaction month and not the exact day is known for many of the transactions, the market volatility variable for each transaction is the maximum trailing six-month average daily VIX closing value for the month of the transaction. When sorted by the VIX variable, transactions occurring during times of high VIX values have higher-than-normal discounts, particularly when controlling for Rule 144 changes by analyzing only one-year holding period data as demonstrated by the data in table 15.18.

<sup>28</sup> The CBOE Volatility Index® (VIX®) is a key measure of market expectations of near-term volatility conveyed by S&P 500 stock index option prices. Since its introduction in 1993, VIX has been considered by many to be the world's premier barometer of investor sentiment and market volatility.

**TABLE 15.18 VIX Variables**

			Median Statistics			
VIX Range:						
Percentile Group	Low	High	% Shares Placed	Total Assets (\$mm) <sup>1</sup>	VIX	Discount
1-Year Holding Period <sup>2</sup>						
0-60th	11.2	–	23.1	10.8%	57.2	14.7
60th-100th	23.1	–	32.9	8.1%	20.5	25.3

<sup>1</sup> Adjusted for inflation as of January 2016.  
<sup>2</sup> 332 Transactions, February 20, 1997–November 14, 2007.  
*Note*—This analysis excludes all blocks > 30% shares placed and is not adjusted to a two-year equivalent.

VIX Percentile Group	VIX Range:		Median Multiplicative Adjustment Factor <sup>1</sup>
	Low	High	
0-60th	11.2	23.1	1.00
60th-80th	23.1	25.2	1.16
80th-100th	25.2	32.9	1.23
Implied	32.9	40.0	1.39
Implied	40.0	50.0	1.57
Implied	50.0	60.0	1.78

<sup>1</sup> Multiplicative differences between the RSED for each transaction and the actual discount for such transactions.

Transactions involving large blocks demonstrate higher discounts due to poorer liquidity. In order to isolate market risk and control for the degree of liquidity, for the previous analysis, Stout has excluded transactions with block sizes greater than 30 percent. As illustrated, the top 40 percent of transactions (60th–100th percentile) when sorted by the VIX, over the entire time period covered by the study, have a median discount of 18.1 percent versus a discount for the bottom 60 percent of transactions of 14.29 percent.

To control for certain factors such as changes to Rule 144, a similar analysis was performed for the period between February 20, 1997 and November 14, 2007, and the period from November 15, 2007 to the present, during which Rule 144 was unchanged. This analysis is illustrated in the preceding figures. The most recent period is characterized by extremely high VIX values due to the recent financial crisis. Before 2009, the highest VIX in the Stout study was 32.9, but, from 2009–2011, there were 20 transactions with a VIX higher than 32.9. Many of the transactions from November 15, 2007 to the present have an unusually high VIX, with two-thirds above 23; as a result, a multiplicative adjustment factor was calculated using data from the period between February 20, 1997 and November 14, 2007. For this period, which captures times of very high stock market volatility (for example, the tech boom and bust of 1997–2002), as well as periods of very low stock market volatility (for example, 2003 to mid-2007), the Stout study contains 332 transactions with block sizes less than 30 percent, providing a rich sample for analysis. As shown, the top 40 percent of transactions (those



in the 60th to 100th percentiles) when sorted by VIX have a median discount of 25.89 percent versus only 12.11 percent for the bottom 60 percent of transactions. Based on the analysis, in the event that a valuation date falls within a period of high market volatility, it is appropriate to apply an adjustment factor to the discount arrived at by comparison of company-specific financial and market risk and security liquidity characteristics. In the future, as we move further away from the peak of the financial crisis, VIX should decrease and there should be a more well-rounded range of VIX values for transactions having a six-month holding period. Stout says that the suggested adjustment factors will then change accordingly, if necessary.

The impact of market volatility on restricted stock discounts is particularly important during the latter part of 2008, when the VIX soared well above historical highs. Prior to 2008, a VIX reading of 20 or below was considered to be an indication of investor calm and confidence in the market, while a VIX value of 30 or above was considered to reflect investor panic. From 1990 through mid-2008, the VIX briefly topped 40 during only three periods: the 1998 Russian debt crises and subsequent collapse of the Long-Term Capital Management hedge fund; the Dot-Com Bubble collapse; and the attack on the World Trade Center and Pentagon on September 11, 2001. However, during October 2008, the average VIX closing value was 61.18 and on October 27, 2008, the VIX closed at more than 80. Based on the historical data analyzed previously, one would expect significantly higher restricted stock discounts during this period in light of such extreme market volatility.

The Stout study includes 39 arm's length common-stock-only private placements during 2008. Not surprisingly, the majority of these transactions occurred during the first half of the year, and only 6 were completed after August 2008, when investors largely fled to less volatile, more liquid investments. The median discount for the transactions occurring between January 1, 2008 and September 15, 2008, was 9.8 percent. However, it was 24.2 percent for transactions occurring after September 15, 2008, approximately 2.5 times the median discount for the first 8 months of the year. Furthermore, companies that successfully completed private placements after August 2008 demonstrated substantially stronger financial and market risk characteristics than those during the first 8 months of the year, which would otherwise suggest lower, rather than higher, discounts for such companies. This indicates that the actual impact of increased market volatility may be even greater than observed (for instance, when the VIX is below 30). Furthermore, only 2 of these transactions occurred while the VIX was greater than 40, and only 1 occurred when the VIX was greater than 50, suggesting severely limited demand for illiquid securities during this time of extreme market volatility.

One issuer included in the Stout study, Western Alliance Bancorporation (WAL), privately placed an 11.2 percent block of its common shares on June 27, 2008, and another 11.3 percent block on September 30, 2008. Based on block size and the terms of registration rights provided in each case, the two blocks purchased appear roughly equivalent with respect to liquidity. Furthermore, between June 27 and September 30, WAL's share price increased from \$8.11 per share to \$15.50 per share, similar to the share price increases of major competitors Bank of America and Wells Fargo, suggesting an improved market for WAL's stock and the financial sector generally. However, between the two transaction dates, the VIX increased from 23.4 to 39.4, a two-fold increase. As a result, the June transaction had a discount of 2.1 percent, whereas the September transaction had a discount of 25.6 percent.

*Summary of findings.* In summary, the main conclusions of the Stout study are that the magnitude of the DLOM is negatively correlated with the issuing firm's

- market value of equity;
- revenues;
- total assets;
- book value of shareholders' equity; and
- net profit margin.
- On the flip side, the magnitude of the DLOM is positively correlated with the issuing firm's MTB ratio;
- the issuing firm's stock price volatility;
- the block size of the placement, described as a percent of the total ownership; and
- the level of market volatility prevailing as of the transaction date, as measured by the VIX.

*Stout's Two-Year Equivalent Discount.* Rule 144 has been amended twice to reduce the required holding period. The required holding period was initially decreased from two years to one year in 1997 and then decreased further in 2008 to six months. The addition of transaction data with shorter holding periods has

increased the average liquidity of the aggregate restricted stock data. As a result, the average discount in the Stout study has been decreasing with the addition of shorter holding period transactions. Examining data from the Stout study shows that the overall median discounts for the two-year (243 transactions), one-year (342 transactions), and six-month (151 transactions) holding period transactions are 22.1 percent, 15.7 percent, and 12.0 percent, respectively.

In addition to shorter holding periods, the relative liquidity of the Stout study has increased even further as a result of additional transactions having registration rights. Transactions in which registration rights were granted typically have dramatically shorter holding periods than transactions in which no registration rights were granted. The median discount for the 340 transactions with registration rights is 13.2 percent, compared to 18.6 percent for the 261 transactions without registration rights.

The increase in liquidity as a result of the shorter holding periods and the increased number of transactions with registration rights reduces meaningful comparability with private companies. Stout has solved this dilemma by isolating that portion of the discount related to the differences in expected holding period time frames.

Isolating the discount differential between transactions having two-year holding periods, one-year holding periods, and six-month holding periods and those transactions having registration rights (which typically is a four-to-six-week holding period) required developing a data set in which the data were most similar. In developing this data set, Stout made the following adjustments:

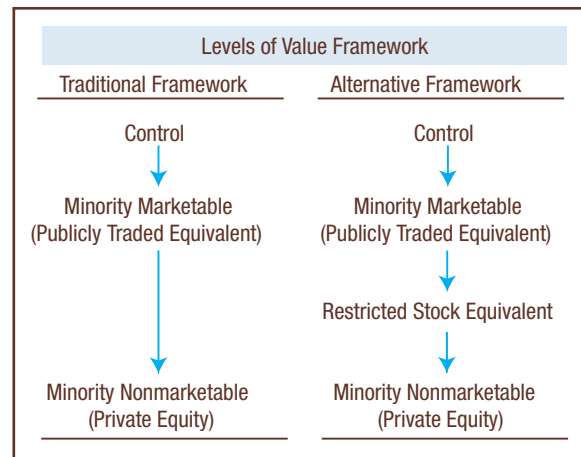
1. *Premiums*: There are a few premiums (negative discounts) in the Stout study. Logically, a knowledgeable investor would rather acquire the stock on the public marketplace without paying a premium. Although Stout does not have access to the underlying purchase contracts, they believe that many of these premiums may be the result of an investment opportunity not available to other investors or an unidentifiable relationship with the seller. For this reason, they have excluded transactions with premiums.
2. *Large-block transactions greater than 20.0 percent*: The data show that discounts increase due to a greater degree of illiquidity. The larger the percentage block sale, the longer the holding period under the dribble-out provisions of Rule 144. Small percentage block transactions of less than 20.0 percent are least affected by block size. For this reason, Stout has excluded transactions of percentage blocks larger than 20.0 percent.
3. *Top quintile VIX transactions*: Transactions occurring during times of high VIX values have higher-than-normal discounts, all things being equal. For this reason, Stout has excluded transactions that occurred during the periods in which the VIX was in the top quintile.
4. *Companies classified by SIC code 6XXX*: SIC code 6XXX includes companies in the finance, insurance, and real estate industries. During the recession, these companies were among the most impacted and exhibited some characteristics inconsistent with historical trends. For this reason, they have excluded transactions classified by SIC code 6XXX.

Based on their analysis of the adjusted data sets described previously, the indicated adjustments to the Stout study holding period data are as follows:

- *Registration rights*: The appropriate adjustment for transactions having registration rights was calculated by comparing the median two-year holding period transactions without registration rights to the median for all six-month transactions with registration rights. This adjustment factor for six-month transactions having registration rights is 6.9 percent.
- *Six-month holding period*: The appropriate adjustment for six-month holding period transactions was calculated by comparing the median two-year holding period transactions without registration rights to the median six-month holding period transactions without registration rights. The adjustment factor for the six-month holding period transactions, without registration rights, is 5.7 percent.
- *One-year holding period*: The appropriate adjustment for one-year holding period transactions was calculated by comparing the median two-year holding period transactions without registration rights to the median one-year holding period transactions without registration rights. The adjustment factor for one-year holding period transactions, without registration rights, is 3.8 percent.

The result of the preceding adjustments is that each additional data point (currently six-month or six-month with registration rights) is as meaningful in the determination of the appropriate discount for lack of marketability as are the two-year holding period data.

*Stout's preferred DLOM determination methodology.* When valuing minority interests in privately held entities, valuation analysts often use a valuation framework with three different levels of value: control; minority marketable (publicly traded equivalent); and minority nonmarketable (private equity). However, the difference between the public and private levels of value can be further refined by another, intermediate level of value—the *restricted stock equivalent value*. This is helpful because there is no available empirical data that provides a directly observable measure of the difference between the public and private equity levels of value. Through this more detailed framework, valuation analysts can hopefully measure the DLOM for minority interests in private companies more accurately by first determining the discount applicable as *if the company were a public company issuing restricted stock* through an empirical comparison with actual restricted stock issuers. From there, valuation analysts can determine a discount increment to account for the greater illiquidity of private company stock versus typical restricted stock in public companies.



There are several important differences between restricted stock in public companies and private company interests. However, the difference is one of degree and not of kind. That is, interests in private entities and the restricted stock of public entities are both illiquid securities. Furthermore, in both cases, their illiquidity is a function of being *cut off from public markets*. In the case of restricted stock, this condition is a temporary one, whereas for private entities it is more long-term and, in many cases, even permanent. It is important to note that both restricted stock in public companies and interests in private entities may generally be sold at any point in time in private transactions. What they each lack is access to public markets.

Minority interests in private companies should typically be considered less marketable than restricted stock in public companies because interests in private companies have no market, whereas public companies have already established trading markets for their shares, and their restricted shares will eventually become fully tradable in those markets, simply with the passage of time.

*Stout's discount determination methodology.* The calculator automates the data sorting and formula building that a user would otherwise have to conduct manually. An analysis of the Stout study data suggests that the most important determinants of the DLOM are (1) the issuing firm's financial and market risk; (2) the level of stock market volatility prevailing around the transaction date; and (3) the degree of liquidity of the securities. Accordingly, Stout's determination of the appropriate DLOM for minority interests in private companies involves a three-step analysis:

1. *Restricted stock equivalent discount (RSED).* The discount applicable to the shares (or other equity interest) in a private company, as if they were typical restricted shares in a public company. The determination of the RSED is based on a comparative analysis of the subject company and the Stout study companies issuing small blocks of restricted stock (less than 30 percent shares placed).
2. *Market volatility adjustment.* The adjustment to the RSED required in the event that equity markets demonstrate unusually high volatility around a given valuation date. The adjustment factor is derived from a comparison of Stout study transactions occurring during months with normal trailing six-month average VIX values versus those occurring during months with very high trailing six-month

average VIX values. The result of applying the market volatility adjustment to the RSED is the adjusted restricted stock equivalent discount (ARSED).

3. *Private equity discount (PED)*. The discount required for private equity, which reflects the fact that interests in private companies are significantly less liquid than all but the most illiquid issues (for instance, the largest blocks) of restricted stock in public companies. The adjustment to go from the ARSED to the PED is based on the adjustment factors derived from the comparison of discounts associated with small-block versus large-block transactions in the Stout study.

The three steps outlined previously relate to the alternative levels of value framework as shown in figure 15.4.

**Figure 15.4**

Level of Value	Adjustment	Supporting Data / Methodology
Marketable Minority (Publicly Traded Equivalent)	] Restricted Stock Equivalent Discount	Comparative Analysis with Small-Block Restricted Stock Transactions
Restricted Stock Equivalent (Normal Volatility Time Frame)		
Restricted Stock Equivalent (Unusual Volatility Time Frame)	] Market Volatility Adjustment	Restricted Stock Transactions During Unusual Volatility Months vs. Normal Months
Nonmarketable Minority (Private Equity)	] Private Equity Adjustment	Large-Block vs. Small-Block Restricted Stock Transactions

Stout does not advocate estimating the DLOM based on a direct comparison of the subject company with large-block transactions, which would necessitate a single step to derive the PED, because there is not a sufficient sample of large-block transactions to allow for a detailed financial characteristics comparison to account for the various risk factors that impact the DLOM.

*RSED*. The RSED takes the subject company value from the public equity equivalent (minority marketable) level of value to the restricted stock equivalent level of value. Because the goal in this first step is to determine the RSED and not the total discount applicable to a privately held entity, Stout bases this analysis on a comparison of small-block transactions only, or blocks in which less than 30 percent of the shares were placed. For the determination of the RSED, the financial characteristics of the subject private company are analyzed in relation to the small-block data. For private companies, Stout typically performs this analysis on the following variables: market value, revenues, total assets, book value of equity, MTB ratio, net profit margin, and volatility. Although stock price volatility demonstrates a strong positive correlation with the DLOM, because it is not a measurable variable for the stock of private companies, Stout typically does not use this variable in the determination of DLOM's for private companies. Stock price volatility, however, should be considered in determining DLOM's for restricted stock in publicly traded companies. Additionally, Stout typically does not consider industry classification to be a significant determinant of the DLOM. Accordingly, when Stout determines the RSED for a subject entity, they generally use financial risk characteristics, rather than industry classification, for selecting the companies in the Stout study that they consider most comparable to the subject entity.

To perform a comparative analysis across the selected variables, Stout sorts the data into five equal percentile groups (quintiles) for each variable and computes the median discount for each group. They then compare the subject entity with the data for each parameter to see in which quintile group it belongs. The median discount for the quintile group in which the subject entity falls provides one indication for the appropriate RSED. An example of this analysis with respect to the total assets variable is provided in table 15.19.

**TABLE 15.19 Total Assets Variable**

	Count	Range (\$mm) <sup>1</sup>		Median Discount	Subject Company Value (\$mm)	Indicated Discount
		High	Low			
1st Quintile	147	42,956.5	224.3	14.3%		
2nd Quintile	147	222.5	66.0	15.2%		
3rd Quintile	147	66.0	25.0	19.8%		
4th Quintile	147	24.4	10.3	24.7%	<b>15.0</b>	<b>24.7%</b>
5th Quintile	148	10.3	0.0	32.7%		

<sup>1</sup> Adjusted for inflation as of January 2016.  
<sup>2</sup> Adjusted to two-year equivalent discounts.

The weighted average of the discount indications is then computed; the selection of weights is based on what factors tend to be the most important determinants of the DLOM. In most cases the key variables are considered to be market value, total assets, shareholders' equity, and volatility (if available). Revenues, MTB ratio, and net profit margin tend to be somewhat weaker indicators. However, the weights applied in any particular case may vary based on the specific facts and circumstances surrounding the subject company and the subject interest being valued.

In addition to the discount indication provided by the preceding analysis, Stout performs an additional analysis that involves identifying companies that are comparable to the subject company across a number of the key variables discussed previously. Again, because the initial goal is to determine the RSED, they base this analysis on small-block transactions only. Each transaction in the study is analyzed to see if the issuing entity is a match with the subject company across the variables considered to be the key financial risk characteristics that affect the discount. For this purpose, a match on any particular variable is defined as the issuing entity being in the same quintile group as the subject company for that variable. The median discounts for each of the subsamples are computed, which provide additional indications for the appropriate RSED for the subject company. In this analysis, particular attention should be given to the number of transactions included in each sample. Generally, depending on the sufficiency of the number of transactions, the greatest weight should be given to the discount indications from the subsamples with the greatest number of matches. The results of this analysis are provided in table 15.20. In the example, Stout attempts to match the subject company with the issuers across all seven variables.

**TABLE 15.20 Sample Transactions**

Number of Quintile Matches	Number of Transactions in Sample	Median Discount
7	0	NA
6	3	19.9%
5	10	19.3%
4	24	21.6%
3	97	18.3%
2	222	16.6%
1	423	17.5%

The RSED for the subject company is selected, giving consideration to each of the indications from the two analyses previously described.

*Market volatility adjustment.* Having determined the RSED, which is based on the risk characteristics of the subject company, the next step is to determine the appropriate market volatility adjustment in the event that a valuation date occurs within a period of abnormally high market volatility.

Note that in the data in table 15.21, there are differences in company financial characteristics between the low- and high-VIX groups, such as company size (measured by total assets, for example) that may account for a portion of the observed difference in discounts. Accordingly, in determining the appropriate market volatility adjustment, Stout first determines what the RSED would be for each high-VIX transaction. Because the RSED analysis is based on all small-block transactions occurring in low-, normal-, and high-VIX time periods, the resulting RSED generally provides an indication for the discount appropriate in normal VIX time periods. Stout then compares the actual discount for each high-VIX transaction with the indicated RSED and calculates a multiplicative adjustment factor related to that transaction. For example, if the RSED is indicated at 15 percent, and the actual transaction discount is 18 percent, the multiplicative adjustment factor would be 1.20 (or  $18\% \div 15\%$ ). Stout performs this calculation for all high-VIX transactions, which produces the output in table 15.22.

**TABLE 15.21 VIX Analysis**

Percentile Group	VIX Range:		Median Statistics				
	Low	High	% Shares Placed	Total Assets (\$mm) <sup>1</sup>	VIX	Discount	
1-Year Holding Period <sup>2</sup>							
0-60th	11.2	–	23.1	10.8%	57.2	14.7	15.9%
60th-100th	23.1	–	32.9	8.1%	20.5	25.3	29.7%

<sup>1</sup> Adjusted for inflation as of January 2016.

<sup>2</sup> 332 Transactions, February 20, 1997-November 14, 2007.

<sup>3</sup> Adjusted to two-year Equivalent Discounts.

Note—This analysis excludes all blocks > 30% shares placed.

**TABLE 15.22 Multiplicative Adjustment Factor**

VIX Percentile Group	VIX Range:		Median Multiplicative Adjustment Factor <sup>1</sup>
	Low	High	
0-60th	11.2	23.1	1.00
60th-80th	23.1	25.2	1.16
80th-100th	25.2	32.9	1.23
Implied	32.9	40.0	1.39
Implied	40.0	50.0	1.57
Implied	50.0	60.0	1.78

<sup>1</sup> Multiplicative differences between the RSED for each transaction and the actual discount for such transaction.

As shown by the positive median multiplicative adjustment factors using 1-year holding period data from the 60th to 100th percentiles, the RSED tends to underestimate the actual transaction discounts for high-VIX transactions. Accordingly, when the VIX is between 23.1 and 25.2, a 1.16 times multiplicative factor is indicated to apply to the RSED to determine the ARSED, and, when the VIX is between 25.2 and 32.9, a 1.23 times multiplicative factor is indicated to apply to the RSED to determine the ARSED. These results are extrapolated to arrive at implied adjustment factors in the event that the VIX is even higher than normal, such as during the 2008–2010 period.

The VIX statistic utilized for this analysis is the trailing 6-month average VIX for the transaction month, and so it follows that the trailing 6-month average VIX for a given valuation date should be given primary consideration in determining which adjustment factor, if any, is appropriate. However, it is Stout's opinion that investors would consider more near-term trends in the VIX, as well, and so consideration may be given to either rising or falling VIX values closer to the valuation date. For example, in the event the VIX value on a given valuation date is significantly above historical levels, such as during fall 2008, VIX values at the valuation date may capture investor sentiment better than trailing 6-month averages. In fact, during such a time period, it may be appropriate to apply adjustment factors in excess of those indicated by the top quintile. For example, due to the collapse of credit markets stemming from the mortgage crisis and compounded by rapidly declining economic conditions in the United States and abroad, on October 24, 2008, the VIX reached a record level of nearly 90, reflecting unprecedented expectations of future volatility. Given that the highest VIX value observed in the Stout study is only 32.9, the indicated adjustment factors would not appropriately consider this unique period in history.

Valuation analysts should also consider the possibility that a downward adjustment to the RSED may be appropriate during times of historically low stock market volatility. Stout's analysis of the transactions, which have 6-month trailing average VIX values as low as 11.2, suggests that no downward adjustment is necessary when the VIX is between 11.2 and 23.2. However, if in the future the VIX falls below the levels represented in the study, a downward adjustment may be appropriate.

*Private equity discount (PED).* The ARSED (calculated by applying the market volatility adjustment to the RSED) represents the discount appropriate for a public company issuing restricted stock that will ultimately have access to a public trading market. Interests in privately held entities are generally subject to significantly greater illiquidity; therefore, an additional analysis must be performed to calculate the appropriate PED. However, Stout notes that in certain cases, a particular subject interest may possess similar or even improved liquidity in comparison to the typical restricted securities in public companies. Under these rarer circumstances, a downward adjustment to the RSED may be warranted.

The adjustment factor that brings the subject company value from the restricted stock equivalent level of value to the private equity (nonmarketable minority) level of value is based on an analysis of the largest (most illiquid) blocks of stock in the study. This analysis involves comparing the discount indications for large-block transactions (for instance, those that most resemble private equity) with those for small-block transactions (those used in determining the RSED).

Unlike differing percentage minority interests in public companies, which have differing degrees of liquidity due to the factors discussed previously, differing percentage minority interests in private entities generally have similar degrees of illiquidity. Furthermore, the degree of illiquidity of typical minority interests in private companies is most similar to the degree of illiquidity of large blocks of restricted stock in public companies. Therefore, a large-block comparison is appropriate for minority interest private equity valuations of any percentage interest because of the more similar degree of illiquidity.

As shown in table 15.23, the discounts associated with block sizes greater than 30 percent are substantially greater than those associated with block sizes less than 30 percent. Stout notes that there are differences in company financial characteristics between the small- and large-block groups, such as company size (measured by total assets, for example) that may account for a portion of the observed differences in discounts.

Accordingly, in determining the appropriate PED adjustment factor, Stout first determines what the RSED would be for each large-block transaction (recall that the RSED analysis is based only on a comparison between the subject company and issuers of small-blocks of restricted stock). They then compare the actual discount for each large-block transaction with the indicated RSED and calculate a multiplicative adjustment factor related to that transaction. For example, if the RSED is 15 percent, and the actual transaction discount is 30 percent, the multiplicative adjustment factor would be 2.0 (or  $30\% \div 15\%$ ). Stout performs this calculation for all large-block transactions, which produces the output in table 15.24.

**TABLE 15.23 Discounts by Block Size**

% Shares Placed	Median Statistics		
	Total Assets (\$mm) <sup>1</sup>	Issuer Volatility	Discount
0%-10%	\$41.1	75.1%	15.0%
10%-20%	\$48.6	72.1%	15.6%
20%-30%	\$30.9	75.3%	20.2%
30%-40%	\$43.4	81.8%	33.2%
> 40%	\$16.1	84.0%	39.2%

<sup>1</sup> Adjusted for inflation as of January 2016.

**TABLE 15.24 Multiplicative Adjustment Factor**

% Shares Placed	Median Multiplicative Adjustment Factor
30%-40%	1.71
40%-50%	1.79

As shown by the positive median multiplicative adjustment factors, the RSED significantly underestimates the actual transaction discounts for large-block transactions. Accordingly, for very illiquid interests, such as private equity, a 1.71–1.79 multiplicative adjustment factor range, which has been adjusted to reflect a two-year equivalent discount (the appropriate multiplicative adjustment factor range is 1.92–1.95 times for the traditional DLOM), has been deemed appropriate to convert the RSED to the appropriate PED. Stout notes that in certain circumstances, applying this range of adjustment factors may yield very high PEDs, potentially higher than 50 percent to 60 percent. Although this may be appropriate, consideration should be given to the fact that only 5.9 percent of all transactions and 20 percent of large-block transactions have discounts greater than 50 percent. The distribution of discounts is presented in table 15.25.



**TABLE 15.25 Discounts By Block Size**

Percentile	Discounts <sup>1</sup>		
	All Transactions	Small Blocks	Large Blocks
10th	8.1%	8.0%	10.7%
20th	11.0%	11.0%	18.4%
30th	13.6%	13.4%	23.5%
40th	16.3%	16.1%	26.6%
50th	19.9%	19.4%	40.6%
60th	23.8%	23.4%	43.5%
70th	28.8%	27.9%	46.3%
80th	36.0%	34.8%	53.8%
90th	44.8%	43.1%	63.1%
100th	95.1%	95.1%	90.8%

<sup>1</sup> Adjusted to two-year equivalent discounts.

In order to ensure the reasonability of the PED indications, in addition to calculating multiplicative adjustment factors, Stout has calculated inverse multiplicative adjustment factors (for instance, a multiplicative adjustment factor based on one minus the discount indication). The inverse of the discount represents the percent of the publicly traded value that the transaction price represents, rather than the discount to the publicly traded value. For example, an \$8.00 per share purchase price in which the publicly traded value is \$10.00 per share represents either a 20 percent discount or 80 percent of the publicly traded value. In this case, 80 percent is the inverse of the 20 percent discount. If the actual discount for a large-block transaction is 40 percent (60 percent inverse discount), and the RSED for the same transaction is 20 percent (80 percent inverse discount), the inverse multiplicative factor is calculated as  $60\% \div 80\%$ , or 0.75. Performing this analysis for each large-block transaction results in the output (based on the two-year equivalent discount) in table 15.26.

**TABLE 15.26 Inverse Multiplicative Factors**

% Shares Placed	Median Adjustment Factors	
	30%-40%	40%-50%
Multiplicative	1.71	1.79
Inverse Multiplicative	0.83	0.75

The appropriate multiplicative and inverse multiplicative adjustment factor ranges are 1.71–1.79 and 0.75–0.83, respectively, unadjusted for the two-year equivalent discount.

The inverse multiplicative factors should generally be considered when the RSED indication for a subject company is more than approximately 20 percent to 25 percent but should not be given weight for lower RSEDs (doing so will artificially inflate the PED). The appropriate adjustment factor to use to derive the PED is selected from the ranges derived from these adjustment factors, giving consideration to all the available data. For most valuations, absent strong arguments to the contrary, the PED for the subject interest is likely to be drawn from the middle of this range. An example of this analysis is provided in table 15.27.

<b>TABLE 15.27 Private Equity Discount</b>			
<b>ARSED</b>	<b>25.0%</b>		
	<b>Median Adjustment Factors</b>		
	<b>% Shares Placed</b>	<b>30%-40%</b>	<b>40%-50%</b>
	Multiplicative	1.71	1.79
	Inverse Multiplicative	0.83	0.75
<b>PED Range</b>		<b>Low</b>	<b>High</b>
	Multiplicative	34.2%	35.8%
	Inverse Multiplicative*	33.6%	40.0%
<b>DLOM Range</b>			
	Narrow Range	34.2%	35.8%
	Wide Range	33.6%	40.0%
<b>Selected PED</b>		<b>36.0%</b>	
* Calculated as $[1 - [1 - \text{ARSED}] \times \text{Inverse Multiplicative Factor}]$			

*Additional considerations.* In analyzing how a subject interest stacks up against the Stout study transactions, consideration should be given to the following:

1. *Risk comparison.* Although the average private firm tends to be riskier than the average public firm, the issuers also tend to be riskier than the average public firm. Carefully analyze where the subject private firm fits within the data set across the relevant parameters. For larger private companies, the analysis may indicate that the subject company is less risky than the average firm in the study, which may indicate a lower DLOM.
2. *Dividend yield.* Liquidity represents the ease of converting an asset into cash. For publicly traded stock, this typically occurs through the sale of the securities for cash. However, a portion of a stock's value may be related to its dividend-paying capacity. If a private firm pays significant and consistent dividends, this may reduce the lack of marketability discount because much of the value of the stock is received in cash by shareholders on a regular basis. In other words, the presence of dividends lowers the DLOM for the security. In cases of high dividend yields, the DLOM should be lower than the indications from the most illiquid restricted stocks in the study because such blocks are generally non-dividend-paying. Due to the limited number of transactions in the study involving dividend-paying firms, this will involve a subjective adjustment determined by the valuator.
3. *Salability.* Valuation analysts must consider the relative ease of finding a buyer for a given interest when determining an appropriate DLOM. Certain factors may result in an interest being relatively more or less attractive, including but not limited to, the following:
  - a. *Ego satisfaction.* The marketability of certain assets may be significantly improved by the "sex appeal" of owning such assets. Minority interests in professional sports franchises or movie studios, for example, have historically not followed trends demonstrated by broader private equities markets. Due to the wide appeal of owning such assets, there seems to be a greater demand for such assets relative to typical interests in private firms.

- b. *Dollar value of interest (percent of ownership)*. All else equal, a small dollar-value position in a private firm may be significantly more difficult to dispose of than a larger dollar-value position due to the high cost of due diligence. Therefore, purchasers of such interests may demand greater discounts to compensate for this high percentage cost.
  - c. *Right of first refusal*. The presence of a right of first refusal on behalf of a private company or its shareholders is typically thought to have a negative impact on a minority shareholder's ability to market interests in the company because potential purchasers may be hesitant, and possibly unwilling, to incur time and cost in evaluating interests with little certainty of ultimately being able to acquire such interests.
4. *Anticipation of a liquidity event*. If a private company anticipates a liquidity event in the foreseeable future, through which shareholders will receive cash or liquid securities equal to a value in excess of the nonmarketable minority value, such as in a typical change-of-control transaction, the DLOM appropriate for such interest may be lower than that indicated from the transactions in the Stout study. Key considerations in determining the likelihood of a near-term liquidity event may include the following:
    - a. *Depth/age of key management*. Although the strength and remaining tenure of a private company's management team may reduce the risk of a minority investment in the firm, it may also inversely affect the DLOM. A weak management team, or the lack of an adequate succession plan, may increase the probability of the controlling shareholder(s) seeking a sale or merger, which may provide an opportunity for liquidity for minority shareholders.
    - b. *Merger and acquisition cycle/demand in industry*. If there exists a significant probability that the subject private company will experience a liquidity event in the foreseeable future due to active IPO or merger and acquisition markets, a downward adjustment to the indicated DLOM may be warranted.
  5. *Economic cycle*. Comparing a subject interest to the study transactions, which have been compiled during a 28-year period, results in an indication of the DLOM applicable in a relatively normal economic cycle. Generally, weak economic climates are accompanied by poorer performance of companies, less access to capital, and weaker demand for equity investments, including minority interests in private firms. Alternatively, when economies are booming and high levels of capital are seeking investment at high valuations, the marketability of equity interests, including minority interests in private firms, is improved.
  6. *Prior transactions*. Prior transactions in the stock of a subject company may not only provide indications of value for the subject interest, but also may provide clues about the existence of a market for a particular interest. In certain private firms, for example, there may be many, if not hundreds or even thousands of shareholders, some of which may, at any point in time, be interested in increasing their ownership position. If there has been a history of trading activity in the stock of a private company, the liquidity of the subject interest should be considered greater than the most illiquid restricted stock and, in some cases, may even be greater than small blocks of stock in the Stout study.

In addition to all the information that we have just discussed, the *Companion Guide* for the Stout Opinions Calculator on the Business Valuation Resources website provides a good case study in how to use all of this information.

## Pluris DLOM Database

Because we do not have enough databases to subscribe to, here is another one, brought to us by ValuSource. The Pluris DLOM database is constructed of data from restricted stock private placement transactions. This is a searchable database containing actual transactions in restricted stock and private placements.

According to its website, ValuSource claims to include more than 3,000 transactions since 2001. The Pluris DLOM database draws on the LiquiStat™ databases that include both restricted stock transactions and warrant transactions. The LiquiStat database includes transactions in the secondary market for illiquid securities. With the use of the LiquiStat data, the Pluris DLOM Database is able to determine the value of restricted stock private placement transactions with warrants attached. However, the search interface for the Pluris DLOM Database also allows the user to screen for only those transactions that do not include warrants.

One of the things that makes this database a bit different than the others is that it analyzes discounts taken in transactions between investors unrelated to the issuing company. This involves sales in private transactions to other investors and, as a result, may actually capture a better willing-buyer-willing-seller scenario.

The Pluris DLOM database contains more than 80 data points for each transaction, including the following:

- Closing and announcement dates
- Market prices for the underlying stock on each date, plus at set intervals before and after each date, industry descriptions, and classifications
- Trading volume and volatility for each stock, as well as the VIX as of each transaction date
- Details of any warrants issued with each deal
- Detail on the operating performance and financial position of each restricted stock issuer

## Pre-IPO Studies

Another manner in which the business valuation profession and users of its services determine DLOMs is through the use of closely held companies that underwent an IPO of their stock. In these instances, the value of the closely held stock is measured before and after the company went public.

John Emory, formerly of Robert Baird & Co., conducted 10 studies over time periods ranging from 1980 to June 2000, comparing the prices in closely held stock transactions, when no public market existed, with the prices of subsequent IPOs in the same stocks. Unfortunately, the last study in this group is old. However, it provides us with a thought process about these transactions. These studies consisted of an analysis of 4,088 prospectuses in an attempt to determine the relationship between the IPO price and the price at which the latest private transaction occurred up to five months before the company went public. The average discount in these studies ranged between 42 percent and 60 percent, with the higher discounts occurring at the time that interest rates were high and low. The median discounts ranged from 40 percent to 66 percent. The results are presented in table 15.28.

**TABLE 15.28 The Value of Marketability as Illustrated in Initial Public Offerings of Common Stock**

Study	# of IPO Prospectus Reviewed	# of Qualifying Transactions	Discount	
			Mean	Median
1997–2000(a)	1,847	283	50%	52%
1997–2000(b)	1,847	36	48%	44%
1997–2000(c)	NA	53	54%	54%
1995–1997	732	91	43%	42%
1994–1995	318	46	45%	45%
1992–1993	443	54	45%	44%
1990–1992	266	35	42%	40%
1989–1990	157	23	45%	40%
1987–1989	98	27	45%	45%
1985–1986	130	21	43%	43%
1980–1981	97	13	60%	66%
<b>Total</b>			<b>47%</b>	<b>48%</b>

(a) Expanded study.  
 (b) Limited study.  
 (c) Dot-Com study.

(Source: John D. Emory, Sr., F.R. Dengel III, and John D. Emory, Jr., "Expanded Study of the Value of Marketability as Illustrated in Initial Public Offerings of Common Stock," *Business Valuation Review* [December 2001]. Copyright © 2001, American Society of Appraisers. Used with permission.)

Although these discounts seem slightly higher than those of the restricted stock studies, don't jump for joy yet. There are several thoughts that should enter your mind. Were many of the purchases that took place before the IPO truly at arm's length (you know—make sure that Uncle Harry, Aunt Millie, and Cousin Gerry all end up with stock before the IPO. What is even worse is that the mural painter for the Facebook headquarters became a multi-millionaire when the company went public)? Furthermore, if the purchaser was aware of the IPO, he or she would also realize that there would soon be liquidity and, because of the new infusion of capital that would be coming into the company, the stock price might be higher than it would have been had the company not gone public. All of these factors could have affected the IPO price, as well as the price that the purchaser was willing to pay for the shares. Therefore, these discounts may be overstated.

A similar private, unpublished study was performed by Willamette Management Associates. The median discounts in the Willamette studies were considerably higher than the others, ranging from 31.8 percent to 73.1 percent.

### Valuation Advisors' Lack of Marketability Discount Study

Another study that I really like is the Valuation Advisors' Lack of Marketability Discount Study (VALOMDS). This study breaks down the discount for lack of marketability based on the amount of time that transactions occurred prior to the IPO. Fortunately, this discount study has been and is regularly updated. It's unbelievable that this study is available from BV Resources (who would have thought?). The VALOMDS compares the IPO stock price to pre-IPO common stock, common stock options, and convertible preferred stock prices. It includes more than 12,580 pre-IPO transactions from 1985 to the present time. It has almost doubled since the previous version of this book.

The database can be used to develop a subject-company-specific DLOM based on the quantitative characteristics of your subject company and expected holding period. An example of a complete transaction report appears in figure 15.5.

**Figure 15.5 Valuation Advisors Lack of Marketability Discount Study**

#### Transaction Detail

<a href="#">PRINTABLE FORMAT</a>		<a href="#">RETURN TO RESULTS</a>	
<b>Company</b>			
Company	Predictive Systems, Inc.		
Business Description	Computer Network Consulting Company		
SIC	7371 Computer Programming Services		
NAICS	54169 Other Scientific and Technical Consulting Services		
Country	United States		
<b>Transaction Data</b>		<b>Financial Data</b>	
Pre-IPO Timeframe	2 mth(s)	Net Sales	\$25,923,000
Transaction Date	9/22/1999	Marketability Discount	33.333%
Transaction Price Per Share	\$12.00	Total Assets	\$13,677,019
Transaction Type	S	Operating Income	(\$822,000)
IPO Date	10/27/1999	Operating Profit Margin	-3.171%
IPO Price Per Share	\$18.00		
Total Shares Outstanding	22,542,280		
Shares Offered in IPO	4,000,000		
<a href="#">PRINTABLE FORMAT</a>		<a href="#">RETURN TO RESULTS</a>	

N/A = Not Available  
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(Source: Valuation Advisor's Lack of Marketability Discount Study™. Used with permission.)

The VALOMDS is an online database of pre-IPO private stock and option transaction data. This study is an Internet-based tool and includes transactions with time frames greater than two years. Data fields include the following:

- Individual four-digit SIC code
- Individual 3 and up to 6-digit North American Industry Classification System (NAICS) code
- Business description
- Date of transaction or date of IPO
- Revenues Assets
- Operating income Time period (year)
- Common stock, common stock options, or convertible preferred stock

One of the nice features of this database is that you can get to all the details in the database. Most companies (except partnerships, foreign companies, and mutual companies) that have gone public since 1986 and had pre-IPO transactions in their stock or options are included in the database. This includes insider transactions and options. The database is searchable by SIC or NAICS codes, company revenues, assets, operating income, time period, and type of security. Similar to the restricted stock studies, the size of the discount does not correlate to the SIC or NAICS codes. It seems that the industry does not matter.

The data contained in the VALOMDS clearly indicates that the longer the period of time before a liquidity event (the IPO), the greater the discount. The liquidity of a minority interest in a closely held company can take a considerable amount of time if a sale of the company is not planned. Therefore, it seems that the discounts based on this study could be very high.

### Quantitative Marketability Discount Model<sup>29</sup>

Another method that has been discussed in the valuation community is the Quantitative Marketability Discount Model (QMDM) developed by Mercer Capital. The QMDM was originally published in 1997.<sup>30</sup> The QMDM Companion can be purchased online at [www.mercercapital.com](http://www.mercercapital.com).

The QMDM, a shareholder-level discounted cash flow model, is a valuation method within the income approach. The QMDM provides a standardized format for analyzing, projecting, and discounting relevant shareholder cash flows that is applicable to almost any subject minority nonmarketable interest.

The QMDM inputs are analogous to those used in traditional enterprise-level discounted cash flow models as shown in table 15.29.

<b>TABLE 15.29</b>	
<b>Enterprise Level DCF Assumptions</b>	<b>Shareholder-Level DCF (QMDM) Assumptions</b>
1. Forecast Period	1. Range of Expected Holding Periods
2. Projected Interim Cash Flows (during forecast period)	2a. Expected Distribution / Dividend Yield 2b. Expected Growth in Distributions / Dividends 2c. Timing (Mid-Year or End of Year)
3. Projected Terminal Value (at end of forecast period)	3a. Growth in Value Over Holding Period 3b. Premium or Discount to Projected Enterprise Value
4. Discount Rate	4. Range of Required Holding Period Returns

Each of the discounted cash flow inputs (from the enterprise model on the left side of table 15.29) are tailored to the considerations of minority shareholders in private enterprises (on the right side). Although the QMDM directly values the subject minority nonmarketable interest, it is not used in isolation but, rather,

<sup>29</sup> A special thanks to Mercer Capital for allowing me to use the information in my book. Most of this section has been adapted from Mercer Capital's write up of the Quantitative Marketability Discount Model.

<sup>30</sup> Z. Christopher Mercer, *Quantifying Marketability Discounts* (Memphis, TN: Peabody Publishing, L.P., 1997).

in conjunction with a contemporaneous valuation of the subject enterprise because the shareholder level expectations regarding cash flows, risk, and growth are inextricably linked to the corresponding expectations with respect to the enterprise.

A benefit of the QMDM is that it forces the valuation analyst to focus on the subject interest's characteristics that determine the magnitude of a discount. The QMDM is driven by the following assumptions from table 15.29.

*Assumption No. 1: Range of expected holding periods.* When constructing an enterprise level discounted cash flow model, the valuation analyst must first determine the forecast horizon or length of the discrete projection period. This was discussed in chapter 12. Shareholder-level discounted cash flow models are no different. In the QMDM, the forecast horizon is referred to as the *expected holding period*. Investors develop holding period expectations by considering factors that may be more qualitative than quantitative. By considering the facts and circumstances of a particular valuation, valuation analysts may assess the likelihood that the expected holding period will be relatively short, relatively long, or somewhere in between. Although subjective, the holding period expectations are reasonably related to the following:

- Historical ownership policies: Insiders, outsiders, family, investors, and so on
- Buy-sell or other shareholder agreements
- Management and ownership succession: Age, health, competence, emerging liquidity needs, and so on
- Business plans and likely exit strategies of the controlling owner(s): Emerging attractiveness for equity offering or acquisition
- History of transactions involving minority interests

*Assumption No. 2A: Expected dividend yield.* Valuation analysts using a shareholder-level discounted cash flow model must project interim shareholder cash flows during the expected holding period. Other things being equal, expected dividends mitigate the marketability discount relative to a similar investment with no dividends. In other words, interim cash flows offer direct access to at least a portion of enterprise cash flows. Valuation analysts estimate the expected interim cash flows for a particular subject interest (and the resulting minority marketable yield) on the basis of several considerations:

- The history of dividends and distributions.
- Preferential dividend claims.
- Other enterprise characteristics. Sometimes, a company has not paid dividends in the past because available cash flow has been used to repay accumulated enterprise debt. If the debt has been repaid at the valuation date, or is about to be repaid, or even if the debt has been paid down to relatively normal financing levels, shareholder distributions may reasonably be expected. Occasionally, a company may be expected to make a one-time distribution, either in addition to normal distributions or in their absence. If such a distribution is reasonably expected at the valuation date, the valuation analyst may separately estimate its impact on shareholder value. Companies may also have periodic but irregular distributions. The analyst may need to estimate these separately, if significant, or estimate an average distribution yield based on historical, but irregular, distributions.
- Controlling shareholder characteristics.
- Enterprise tax characteristics. With pass-through entities, the valuation analyst must convert the anticipated cash distribution to a C corporation equivalent yield. In some cases, the resulting C corporation equivalent yield may be negative, for example, when pass-through income tax liabilities exceed cash distributions.

C corporations pay dividends; S corporations and other tax pass-through entities make distributions. S corporation distributions are not equivalent to C corporation dividends, which are taxable to shareholders. S corporation distributions are adjusted to the equivalent of C corporation dividends by dividing the S corporation distribution by  $(1 - \text{dividend tax rate})$ .

For C corporations, the calculation of expected dividend yield is straightforward. The expected dividend is divided into current value at the minority marketable level to obtain the yield. In table 15.30 on the following page, a C corporation has an expected dividend of \$0.45 per share (annual basis), and a minority marketable value of \$10.00 per share. Therefore, the C corporation's dividend yield is 4.5 percent.

**TABLE 15.30**

C Corporation Dividend Yield		Inputs / Calculations	
Expected Dividends		\$ 0.45	< > Appraiser's estimate
÷ Marketable Minority Interest Value	÷	\$10.00	< > Per the valuation
<b>Implied Ongoing Dividend Yield</b>		<b>4.5%</b>	<b>Rounded</b>

As shown in table 15.31, S corporation distributions can be made equivalent to C corporation dividends by “grossing up” the after corporate and personal tax distributions by the arithmetic inverse of the personal income tax rate on dividends from C corporations.

**TABLE 15.31**

C Corp Equivalent Distribution(\$) for an S Corp	=	$\frac{\text{Pro Rata (Gross) Distribution} - (\text{Personal Income Tax} \times \text{Pro Rata Pass-Through Income})}{(1 - \text{Personal Income Tax Rate on Dividends})}$
	=	$\frac{\text{Net (After Personal / Corporate Taxes) S Corp Distribution}}{(1 - \text{Personal Income Tax Rate on Dividends})}$

Applying the formula in table 15.31 to S corporation distributions yields a C corporation equivalent distribution. Table 15.32 presents the general formula, while table 15.33 presents an example of the calculation.

**TABLE 15.32**

C Corp Equivalent DistributionYield for an S Corp	=	$\frac{\text{C Corp Equivalent Distribution(\$) for an S Corp}}{\text{Marketable Minority Indication of Value for the S Corp}}$
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*Assumption No. 2B: Expected growth of dividends.* For many business entities that pay a regular dividend or distribution to their owners, there is a reasonable probability that the dividend will grow as the enterprise grows. For this reason, the QMDM requires the valuation analyst to make a reasonable assumption about the expected growth rate of dividends. With respect to growth in dividends, analysts make one of four potential assumptions, depending on the facts and circumstances pertaining to the subject interest:

1. *Dividends will grow at the same rate as the expected growth in value (a constant dividend yield).*
2. *Dividends will grow at the same rate as the expected growth of core earnings (a constant dividend payout ratio).*
3. *Dividends will not grow (a constant dollar dividend).*
4. *Dividends will grow at some other rate. Other special circumstances may dictate the appropriate dividend growth assumption.* For example, if a company is on the verge of paying off a significant debt and its cash flow will be freed to pay increased dividends, it may be appropriate to estimate a blended future growth rate for dividends.



**TABLE 15.33**

QUANTITATIVE MARKETABILITY DISCOUNT MODEL (QMDM)  
QMDM ASSUMPTION #2a  
C Corporation Equivalent Yield for Tax Pass-Through Entity

C CORPORATION EQUIVALENT DIVIDEND YIELD FOR TAX PASS-THROUGH ENTITIES		Inputs / Calculations	
1	Expected Pre-Tax Earnings of Pass-Through Entity	\$1.00	Per Share, appraiser's estimate
2	Personal Federal Ordinary Income Tax Rate	35.0%	
3	Personal State Ordinary Income Tax Rate	4.0%	Blended Federal/State Rate
4	Blended Marginal Tax Rate	37.6%	Federal Rate × (1 – State Rate) + State Rate
5	<b>Pass-Through Taxes</b>	\$0.376	Line 1 × Line 4
6	<b>Expected Total Distribution Payout Percentage</b>	80.0%	Appraiser's estimate of annual distribution payout
7	Expected Total Distributions	\$0.800	Line 1 times Line 6
8	– Pass-Through Taxes on Pretax Earnings	(\$0.376)	From Line 3 above
9	= After-Tax Dividend	\$0.424	
10	After Tax Dividend	\$0.424	From Line 9 above
11	+ Blended Tax Rate on C Corp Dividends	15.0%	Federal/State corporate marginal rate (1 – personal blended tax rate)
12	<b>= C Corporation Equivalent Dividend</b>	\$0.499	After Tax dividend ÷ Blended Tax Rate on Dividends
13	C Corporation Equivalent Dividend	\$0.499	From Line 12 above
14	+ Marketable Minority Interest Value	\$10.00	Per Share, appraiser's estimate (Exhibit x)
15	<b>Implied Ongoing Dividend Yield – C Corporation Basis</b>	= 5.00%	C Corporation Equivalent Basis, Rounded

*Assumption No. 2C: Timing of dividend receipt.* Dividends can be assumed to be received at the end of each year or at the middle of each year (simulating continuous, or quarterly, dividend payments). Given the importance of dividends or distributions to value for high-distribution entities, valuation analysts should be clear about this assumption and the reasons for the choice between end-of-year and mid-year receipt. If the company actually pays dividends or makes distributions, a good practice would be to use the timing convention that corresponds to what the company actually does in practice.

*Assumption No. 3A: Expected growth rate in value.* The expected growth in value defines the terminal value in the shareholder-level discounted cash flow model. The QMDM assumes that marketability occurs at the minority marketable level of value, although the model allows the appraiser to change this assumption, if warranted. The assumption related to the growth rate in value can be driven by a number of factors:

1. Several reference points can assist valuation analysts in estimating the expected growth in value. In most appraisals using the income approach, valuation analysts develop specific estimates of earnings or cash flow growth. If the discounted future benefits method is used, specific growth assumptions are made for a finite forecast period. If the Gordon Model is used to estimate the terminal value, an assumption is made regarding the expected long-term growth beyond the finite forecast period.
2. Public company investor returns consist of two components: current income (or dividend yield) and capital appreciation (or growth in value). For public companies, the expected growth in value is the required return less the expected dividend yield. For private companies, various potential agency costs can disturb this relationship. Mercer assigns these agency costs to two categories, both of which increase the marketability discount applicable to the subject minority interest:
  - a. Non-pro-rata distribution of enterprise cash flows
  - b. Suboptimal reinvestment of enterprise cash flows

3. Note that the burden of expected suboptimal reinvestment is borne by all shareholders in the enterprise, whether owning a control or minority interest. From a controlling shareholder's viewpoint, the enterprise value is based on the normalized cash flows and efficient reinvestment of undistributed earnings because the business could be sold for that value. However, the value of the business plan is reduced by the effect of the anticipated suboptimal reinvestment. The difference between the controlling shareholder and the minority shareholder of a private company is that the former has the power to eliminate the potential decrement in value by a change in reinvestment policy or through distributions. The latter does not, and the valuation analyst must consider this impact in determining the marketability discount applicable to minority interests.

*Assumption No. 3B: Adjustments to the terminal value.* The expected growth in value establishes the terminal value at the minority marketable level of value. A related assumption specifies any premium or discount for the terminal value estimate relative to the minority marketable base. Sometimes, the facts of a particular valuation suggest that marketability may be achieved at the end of the expected holding period at a different level of value. For example, the enterprise may be sold to a strategic buyer. Alternatively, a minority interest discount may be irrelevant if a partnership is expected to liquidate within the relevant expected holding period. In such cases, the valuation analyst may indicate that a premium would be expected. Whatever is done, however, should be supported by the valuation analyst. Avoid just making assumptions because "that is what I think will happen."

*Assumption No. 4: Required holding period (rate of) return ( $R_{hp}$ ).* After estimating the interim shareholder cash flows and terminal value at the end of the holding period, application of the discounted cash flow model requires the valuation analyst to specify a discount rate or the required holding period return ( $R_{hp}$ ). (Doesn't this sound like what was covered in chapter 12? Mercer uses the conventional model for a discounted cash flow analysis.) Minority shareholders in private companies bear additional, unique risks associated with the non-marketability of such investments in addition to the underlying risks of the enterprise. Therefore, the appropriate discount rate for the QMDM is the sum of the enterprise discount rate ( $R_{mm}$ ) and the holding period premium (HPP) to compensate for the unique risks of non-marketability.

$$R_{hp} = R_{mm} + \text{HPP}$$

*Estimating the required holding period return.* The discount rate relative to the minority interest must be assessed so that the minority returns can be discounted to present value. Relative to the enterprise discount rate, the minority investor must be compensated for additional risks, such as the following:

- Uncertainty of holding period
- Likelihood of interim cash flows
- Prospects for marketability
- Uncertainty regarding a favorable exit
- Restrictive agreements
- Information costs and monitoring costs

An example of a build up required return rate for a minority interest given common risk categories faced by minority shareholders and sample risk premiums is shown in table 15.34 on the following page.

**TABLE 15.34**

QUANTITATIVE MARKETABILITY DISCOUNT MODEL (QMDM)  
QMDM ASSUMPTION #4  
Required Holding Period Return (Shareholder-Level Discount Rate)  
(Using the Adjusted Capital Asset Pricing Model)

Components of the Required Holding Period Return		Estimated Range		Source/Brief Rationale
		Lower	Higher	
1	Long-Term Government Bond Yield-to-Maturity	5.50%	5.50%	
2	Ibbotson Common Stock Premium	6.00%		As developed in text
3	× Market Beta	1.00		
4	= Beta Adjusted Common Stock Premium	6.00%		
5	+ Small Cap Stock Premium	3.00%		
6	+ Specific Company Risk	2.00%		
7	= Total Equity Premium	11.00%	11.00%	
8	<b>Base Holding Period Required Return</b>	<b>16.50%</b>	<b>16.50%</b>	< > Base equity discount rate
<b>Investor-Specific Risk Premium(s) for This Investment</b>				
9	+ Uncertainties of Expected Holding Period	1.00%	2.00%	Per Text
10	+ Information Acquisition Cost Premium	1.00%	1.00%	Per Text
11	+ Premium for Expected Holding Period Monitoring Costs	0.50%	0.50%	Per Text
12	+ Adjustment for Large Size of the Interest	0.50%	1.00%	Per Text
13	+ Rights of the First Refusal Limiting Transferability (ROFR)	0.50%	1.00%	Per Text
14	+ Uncertainties Due to Potential for Unfavorable Exit	0.00%	0.00%	} Other potential investor risks
15	+ Potential for Adverse Cash Flow	0.00%	0.00%	
16	+ More Onerous Restrictions on Transfer	0.00%	0.00%	
17	+ Lack of Diversification of Assets	0.00%	0.00%	
18	+ Unattractive Asset Mix	0.00%	0.00%	
19	+ Uncertainties Due to Risks of Future Investment Strategies	0.00%	0.00%	
20	+ Unlikely Candidate for Merger/Sale/Acquisition/IPO	0.00%	0.00%	
21	+ Likely Candidate for Merger/Sale/Acquisition	0.00%	0.00%	
22	+ Uncertainties Related to Buy-Sell Agreement	0.00%	0.00%	
23	+ Restrictions on Use as Loan Collateral	0.00%	0.00%	
24	+ Small Shareholder Base	0.00%	0.00%	
25	+ Lack of Expected Interim Cash Flows	0.00%	0.00%	
26	+ General Illiquidity of the Investment	0.00%	0.00%	
27	+ Other	0.00%	0.00%	
28	<b>Total Investor-Specific Risk Premium for This Entity</b>	<b>3.50%</b>	<b>5.50%</b>	Sum of above
29	Estimated Range of Required Holding Period Returns	20.00%	22.00%	Enterprise discount rate plus shareholder risks
30	Rounded Range	20.00%	22.00%	To Nearest <span style="border: 1px solid black; padding: 2px;">0.5%</span>
31	<b>Mid-Point of Estimated Required Holding Period Return Range</b>		<b>21.0%</b>	Assumption #4 of the QMDM

**TABLE 15.35**

QUANTITATIVE MARKETABILITY DISCOUNT MODEL (QMDM)  
Conclusion of the Analysis

DCF Assumptions	Corresponding QMDM Assumptions	Model Inputs	
Forecast Period	Range of Expected Holding Periods (Years)	Low	5
		High	10
Projected Interim Cash Flows (during forecast period)	Expected Distribution / Dividend Yield	Yield	4.7%
	Expected Growth in Distribution / Dividend	Growth	6.0%
	Timing (Mid-Year or End of Year)	Timing	E
Projected Terminal Value (at end of forecast period)	Growth in Value over Holding Period	$G_v$	10.0%
	Premium or Discount to Marketable Value	Prem/Disc.	0.0%
Discount Rate	Range of Required Holding Period Returns	Low	20.0%
		High	22.0%
Base Value (Marketable Minority Interest)			\$1.00

Tax Pass-Thru Assumptions			
Pretax Earnings Growth Rate	6.0%	Personal Capital Gains Rate	15.0%
Distribution Payout %	20.0%	Assumed Corporate Federal Tax Rate	45.0%
		Required Holding Period Return (normally the average of the range above)	21.0%
Ongoing/Expd Net Income P/S	\$0.10	Marketable Minority Value Per Share (or Unit)	\$1.00

Concluded Marketability Discount	30%
----------------------------------	-----

	Assumed Holding Periods in Years													
	1	2	3	4	5	6	7	8	9	10	15	20	25	30
	Implied Marketability Discounts													
17.0%	2%	4%	6%	8%	10%	12%	14%	16%	17%	19%	27%	34%	40%	44%
16.0%	3%	6%	8%	11%	13%	16%	18%	20%	23%	25%	34%	41%	46%	50%
19.0%	4%	7%	10%	14%	17%	20%	22%	25%	27%	30%	39%	47%	52%	56%
20.0%	4%	9%	13%	16%	20%	23%	26%	29%	32%	34%	45%	52%	57%	60%
21.0%	5%	10%	15%	19%	23%	26%	30%	33%	36%	38%	49%	56%	61%	64%
22.0%	6%	12%	17%	21%	26%	30%	33%	36%	40%	42%	53%	60%	64%	67%
23.0%	7%	13%	19%	24%	28%	33%	36%	40%	43%	46%	57%	63%	67%	69%
24.0%	8%	14%	20%	26%	31%	35%	39%	43%	46%	49%	60%	66%	69%	71%
25.0%	8%	16%	22%	28%	33%	38%	42%	46%	49%	52%	63%	68%	72%	73%

PV=100%

## Application of the QMDM

The QMDM model requires the input of the assumptions outlined previously. Two of the assumptions, the holding period and the discount rate, are entered as ranges. As illustrated in table 15.35, with a range in holding period of 5–10 years, and a range of discount rate of 20 percent to 22 percent, the range of marketability discounts is 20.0 percent to 42.0 percent.

*Benefits of the QMDM.* The QMDM is a shareholder-level discounted cash flow method. The calculated range of marketability discounts is nothing more than a sensitivity table enabling the valuation analyst or reader of appraisal reports to understand the sensitivity of the conclusion to relevant changes in key assumptions. The model forces the analyst to focus on the characteristics of the subject minority interest, rather than just the characteristics of various empirical studies that may or may not be relevant to the subject stock. The use of the QMDM enables valuation analysts to make valuation judgments regarding minority nonmarketable investments based on facts and circumstances pertinent to each valuation situation. The discount for lack of marketability is quantitatively related to the cash flows that are projected to be received by the subject interest.

Critics of the QMDM claim that there are too many assumptions that enter into the model, and as such, the model is possibly subject to manipulation by the valuation analyst. However, let's be honest, there are no more assumptions in the QMDM than in a typical discounted cash flow analysis. If a valuation analyst plans to manipulate numbers to obtain a desired end result, that is an ethical issue that goes way beyond this textbook. As with all assumptions made in this profession, the valuation analyst must exercise integrity and objectivity.

## Costs of Flotation

Another consideration in determining a DLOM is the cost of flotation of a public offering. These costs are generally significant and will frequently include payments to attorneys, accountants, and investment bankers. The costs associated with smaller offerings can be as much as 25 percent to 30 percent of a small company's equity, but these costs will probably be much less applicable to the small- and medium-sized companies that are appraised because many of these companies, due to their financial condition (among other reasons), could not go public. Some older information related to flotation costs is included in exhibit 15.1. On occasion, we reference it in our reports. I have looked for more recent information without success. Sometimes we have to settle for what we can get. Just be careful not to rely solely on older data. That can get you burned.

### EXHIBIT 15.1 Costs of Flotation

The methods of liquidating an entire company are to execute an IPO of the stock or to sell the stock in a private transaction. There are several costs associated with executing an IPO, which include the following:

1. Auditing and accounting fees, to provide potential buyers or underwriters with the financial information and assurances they demand.
2. Legal costs, at a minimum, to draft all of the necessary documents, and often to clear away potential perceived contingent liabilities or to negotiate warranties, or both.
3. Administrative costs on the part of management to deal with the accountants, lawyers, potential buyers, or their representatives.
4. Transaction and brokerage costs, if a business broker, investment banker, or other transactional intermediary is involved.

One of the most comprehensive studies on the costs of public flotation was published by the SEC in December 1974. It covered 1,599 initial public offerings. The breakdown of the study is presented in the following table.

(continued)

**EXHIBIT 15.1 Costs of Flotation** *(continued)*

SEC Study on the Costs of Flotation			
Size of issue (Millions)	Number	Compensation (Percent of gross proceeds)	Other expense (Percent of gross proceeds)
Under .5	43	13.24%	10.35%
.5–.99	227	12.48%	8.26%
1.0–1.99	271	10.50%	5.87%
2.0–4.99	450	8.19%	3.71%
5.0–9.99	287	6.70%	2.03%
10.0–19.99	170	5.52%	1.11%
20.0–49.99	109	4.41%	0.62%
50.0–99.99	30	3.94%	0.31%
100.0–499.99	12	3.03%	0.16%
Over 500.00	0	—	—
<b>Total /Averages</b>	<b>1,599</b>	<b>8.41%</b>	<b>4.02%</b>

The data shows a significant decline in the level of expense relative to the size of the issue as the size of the issue increases. Offerings under \$1 million can have expenses as high as 23.6 percent of the offering. In contrast, offerings over \$500 million, on average, have expenses equal to only 3.2 percent of the offering.

A second study on the subject was published by Jay R. Ritter in 1987. The results are presented in the following table.

Direct Expenses of Going Public as a Percentage of Gross Proceeds (1977–1982)				
Gross Proceeds <sup>a</sup> (\$)	Number of Offers	Underwriting Discount <sup>b</sup> (%)	Other Expenses <sup>c</sup> (%)	Total cash Expenses (%)
<b>Firm Commitment Offers</b>				
100,000–1,999,999	68	9.84%	9.64%	19.48%
2,000,000–3,999,999	165	9.83%	7.60%	17.43%
4,000,000–5,999,999	133	9.10%	5.67%	14.77%
6,000,000–9,999,999	122	8.03%	4.31%	12.34%
10,000,000–120,174,195	176	7.24%	2.10%	9.34%
All Offers	664	8.67%	5.36%	14.03%

*(Table continued)*

**EXHIBIT 15.1 Costs of Flotation**

Direct Expenses of Going Public as a Percentage of Gross Proceeds (1977–1982)				
Gross Proceeds <sup>a</sup> (\$)	Number of Offers	Underwriting Discount <sup>b</sup> (%)	Other Expenses <sup>c</sup> (%)	Total cash Expenses (%)
<b>Best-Efforts Offers</b>				
100,000–1,999,999	175	10.63%	9.52%	20.15%
2,000,000–3,999,999	146	10.00%	6.21%	16.21%
4,000,000–5,999,999	23	9.86%	3.71%	13.57%
6,000,000–9,999,999	15	9.80%	3.42%	13.22%
10,000,000–120,174,195	5	8.03%	2.40%	10.43%
All Offers	364	10.26%	7.48%	17.74%

a Gross proceeds categories are nominal; no price level adjustments have been made.

b The underwriting discount is the commission paid by the issuing firm; this is listed on the front page of the firm's prospectus.

c The other expenses figure comprises accountable and nonaccountable fees of the underwriters, cash expenses of the issuing firm for legal, printing, and auditing fees, and other out-of-pocket costs. These other expenses are described in footnotes on the front page of the issuing firm's prospectus. None of the expense categories includes the value of warrants granted to the underwriter, a practice that is common with best efforts offers.

*(Reprinted from: Jay R. Ritter, "The Costs of Going Public," Journal of Financial Economics, January 1987, p. 272.)*

This study again shows a relationship between the size of the offering and the expenses as a percentage of the offering. It is clear that smaller deals incur significantly larger costs as a percentage of gross proceeds.

**DLOM—The Quantitative Stuff**

Now that we have covered the qualitative stuff, it is time to pull out the old calculators and get ready to address the quantitative methods that are growing in use within the business valuation community. I was going to say popularity, but that is just not true. Although we are starting to see the methods that will soon be discussed being used more and more, some of this stuff is so theoretical that it may take a while for it to be fully accepted. Personally, I hope that I can retire before this all kicks in. Please buy another copy of this book for a friend! Well, here goes nothing.

**Option Theory**

As much as I hate the thought of covering stock options in this book, I have to do it. It is actually explained in more detail in chapter 25. Stock option theory has become an important tool in attempting to quantify the DLOM. So, here is what I plan to do. In this chapter, I am going to keep it simple.

Fortunately, stock option models are available on the Internet, where all you have to do is plug in the correct numbers and out pops an answer.

So, let's do an example to demonstrate the use of option pricing to calculate a DLOM. Assume the following facts: You are valuing a closely held business in the automobile industry (a car dealership) and determine that the value on a minority, marketable basis is \$1,357 per share. Your inputs into the option model appear as follows:

<b>Black-Scholes Model</b>	
<b>Date</b>	
8/31/2010	
<b>Inputs Variables</b>	
Stock price as of	\$1,357.00
Exercise price	\$1,357.00
Term (in years)	5.0
Volatility (annual)	60.06%
Annual rate of quarterly dividends	0.00%
Risk-free rate	1.33%
<b>Intermediate Computations</b>	
Present value of stock ex-dividend	\$1,356.53
Present value of exercise price	\$1,269.53
Cumulative volatility	134%
<b>Call Option</b>	
Proportion of stock present value (PV)	76.45%
Proportion of exercise price PV	-26.69%
Call option value	\$ 698.20
<b>Put Option</b>	
Proportion of stock PV	-23.55%
Proportion of exercise price PV	73.31%
Put option value	\$ 611.21
DLOM	45.06%

Now let's discuss what we did here. First of all, this was just one of the variations that was performed using the model. We did the same set of calculations varying the holding period and risk-free rates (to conform to the holding periods). In the case of the subject closely held company, the stock has not been restricted by the SEC, but instead by the company itself. The restrictions on the stock are based on the shareholders' agreement and its closely held status. Although this is not a pure case of where a stock option model applies, we use this model because it can provide us with a reasonable basis for a discount.



In calculating the value of a put option on the company, we used the Black-Scholes option pricing model with the following inputs:

Minority, marketable price per unit*	=	\$1,357
Exercise price	=	\$1,357
Term (years)	=	Various
Volatility	=	Various
Dividend yield	=	0%
Risk-free rate	=	Various

\* Based on the minority, marketable value determined in this valuation and 10,000 shares of common stock outstanding as of August 31, 2010.

Because no empirical data exists on the time it takes to sell minority interests in closely held businesses, we looked at various holding periods for the put option. Longer holding periods were analyzed because an interest in a closely held company cannot be converted to cash immediately, and the holding periods tend to be lengthy. The results of our Black-Scholes pricing analysis are presented as follows:

<b>Black-Scholes Results</b>					
<b>6 Months</b>	<b>1 Year</b>	<b>2 Years</b>	<b>3 Years</b>	<b>4 Years</b>	<b>5 Years</b>
12.55%	18.36%	42.59%	44.61%	44.33%	45.06%

The preceding discounts serve as a proxy for the cost of liquidity for an investor in an industry related to the closely held company. The option pricing model indicates that the cost of liquidity ranged from 12.55 percent to 45.06 percent, depending on the holding period.

A major assumption in the option pricing model is that the future volatility of the guideline companies will resemble the past. We used the publicly traded guideline companies to determine the average volatility to be plugged into the model. In the near term (at the valuation date, which was August 31, 2010), volatility in the automobile market will likely be somewhat lower due to the anticipated recovery in the overall economy. Lower volatility would increase the liquidity of an investment in a closely held entity.

Another factor considered is that the volatility calculated using the option pricing model reflects the volatility of a number of large publicly traded guideline companies, each operating a number of automobile dealerships. The diversification inherent to holding multiple investments reduces the volatility and, therefore, increases the liquidity of an investment in these companies in comparison to an investment in the company. In addition, the subject company is subject to a higher level of risk, thus, increasing its potential volatility and reducing liquidity.

Finally, the holding period for an investment in the company is expected to be longer than five years because there was no liquidity event anticipated. The small number of shareholders supports the notion of a longer holding period, which would suggest a DLOM in excess of 40 percent.

This is also a good time to tell you about a quirk in using option pricing models to calculate a DLOM. Companies that pay dividends are considered to provide more liquidity to their shareholders, and the theory tells us that the DLOM should be lower if dividends are paid. If you notice in the preceding model, we input 0 percent for the annual rate of dividends. If you put a dividend yield into the Black-Scholes model, the calculated DLOM actually goes up, not down. This is because a put option's price goes up as the stock price goes down. When a public company pays a dividend, its stock price goes down because the equity of the company is being

reduced by the dividend. When using a stock option model to calculate a DLOM for a closely held interest, the underlying assumption is that the individual already owns the stock, therefore, he or she will receive a dividend to offset any potential reduction in the per share value of the stock.

An article<sup>31</sup> that appeared in the *Journal of Entrepreneurial Finance* criticizes using stock option models to calculate the DLOM. The authors state that the current practice of using the cost of a put option as a proxy for the DLOM tends to overstate the discount. They believe that while a put option insures that the investor will receive no less than the current value of the underlying asset, the use of a put also allows the investor to maintain the asset's upside potential, thus, overstating the DLOM.

Instead, the authors attempt to demonstrate that the cost of monetizing a nonmarketable asset at its current value through a loan, secured by an at-the-money equity collar, more effectively captures the true cost of marketability. They further state that when puts and calls cannot be employed to secure the current value on the underlying asset, a portfolio consisting of the nonmarketable asset and a stock index in which puts and calls can be written on the index, can be constructed. The effectiveness of the portfolio in creating a risk-free outcome depends upon the correlation and volatility of the stock index and the nonmarketable asset. The calculations shown in the article demonstrate that, relative to current practice, the use of an equity collar with a loan greatly reduces the implied DLOM.

This is an interesting article and should be considered as one more thought-provoking theory that goes against the old conventional wisdom.

## Longstaff Model

Francis Longstaff developed a model to measure what he termed the upper bound on the value of marketability.<sup>32</sup> His model assumes that a hypothetical investor has perfect market timing (that is, he has the foresight to always sell the stock at the market's peak). It also assumes that the investor receives a stock that is restricted from trading for T periods. Conceptually, the lost value in the restriction would equal the present value of the proceeds from the perfectly timed sale less the proceeds from the sale of the asset at the end of the restriction period.

Longstaff was focused on illiquidity issues with publicly held companies, such as investors holding IPO investments and periods in which market trading is halted. He was not primarily concerned with closely held companies.

The Longstaff model, though published in 1995, was not utilized by the business valuation industry for years. It became part of the theoretical underpinning for the use of stock options to measure the DLOM. Longstaff's research shows that the DLOM is tied to the length of the restriction period as well as the underlying stock volatility; these are two key variables in a stock option.

The volatility of a closely held stock cannot be directly measured. Analysts use volatility metrics from guideline public companies or another industry measurement. This can be one area of weakness in the use of stock options because the model is very sensitive to volatility. But that is not just Longstaff—it is all option pricing models.

Because the Longstaff model assumes a perfect timing variable, the discounts tend to overstate the DLOM because actual investors do not know the optimum time to sell. If you have a burning desire to see more information about this model, buy the previous edition of my book. I took out content in this edition because I felt that there was more important information to discuss than a model that I have never seen used in practice.

31 Barenbaum, Lester, Schubert, Walter, and Garcia, Kyle. "Determining Lack of Marketability Discounts: Employing an Equity Collar," *Journal of Entrepreneurial Finance* (2015), Vol. 17, Iss. 1: pp. 65–81.

32 Longstaff, Francis A., "How Much Can Marketability Affect Security Values?" *Journal of Finance*, December 1995.

## Other Option Models

Although I have little intention of spending a lot of time on these other models, I believe that valuation analysts should be aware that they exist and consider some additional research on them beyond what is in this book. I sat through a conference session given by Bob Duffy (retired from Grant Thornton) and Linda Trugman (of my household and firm) and heard about some of this stuff.

*European protective put options.* David Chaffe wrote about this type of option in 1993.<sup>33</sup> A European protective put calculates a DLOM as the cost of locking in the current price to protect the downside risk of price movements during a period of illiquidity. The appeal of this calculation is that the formula itself and the key inputs, such as the risk-free rate and volatility, can be audited. This makes the calculation replicable. European options can be exercised only at the end of the option term. As such, the option is priced based on the end-of-period stock price.

Unlike a European put, a lookback put option (Longstaff) is path-dependent; it assumes that the holder of the option had perfect hindsight and would exercise the option at the optimal point. The value of a lookback put option is greater than that of a regular option; therefore, it costs more, which results in a larger DLOM.

*Asian protective put options.* Similar to a lookback option, Asian protective put options are path dependent because their terminal payoffs are determined by the average price of the stock or the average exercise price during the life of the contract. The value of an Asian option is lower than a standard contract, a consequence of the fact that the averaging process reduces volatility of the stock or exercise price movement. As such, if all else is equal, Asian puts result in lower DLOMs than other puts or lookback options.

Generally, two types of Asian options exist: (1) average rate (or stock price) and (2) average strike (or exercise price, best for protecting against lack of marketability). There are three methods to calculate Asian options: (1) arithmetic (most often used), (2) geometric, or (3) weighted average.

*Arithmetic Average Strike Put model.* The Arithmetic Average Strike Put model is based on research by John D. Finnerty, PhD.<sup>34</sup> It does not assume that the investor has any special market-timing ability. It assumes that in the absence of any restrictions, the investor would be equally likely to sell the shares anytime during the restriction period.

The model appears to be more appropriate for (unrelated) institutional investors, who are much less likely to have any private information that can be exploited. It is consistent with the range of discounts observed empirically in letter-stock private placements with a one year restriction period. This model tends to overstate the DLOM for volatilities under 45 percent. Comments extend equally to geometric Asian puts. Tests by other appraisers have found that this model produces reasonable results in the short term but over longer holding periods, the discount can actually decrease. Obviously, there are issues with this concept.

In an article written by John Stockdale,<sup>35</sup> the author reached some interesting conclusions about some of these models. His conclusions were as follows:

- The Longstaff model can result in DLOMs greater than 100 percent.
- The Chaffe and Finnerty models produce reasonable results in the short term, but over long holding periods, the discount can actually decrease.
- The data indicates that mathematical models should be used in conjunction with qualitative factors and appraiser judgment.

*Long-term equity anticipation securities (LEAPs).* A LEAP is a type of long-term put option. Robert R. Trout, PhD, and Ronald Seaman, ASA, have conducted separate research into LEAPs as a type of insurance against

33 David B.H. Chaffe, III. "Option Pricing as a Proxy for Discount for Lack of Marketability in Private Company Valuations." *Business Valuation Review* (December 1993): 182–88.

34 John D. Finnerty, "The Impact of Transfer Restrictions on Stock Prices," (New York: Financial Management Association International, November 2007 [revised]), Presented at the 2008 FMA European Conference.

35 John Stockdale, "A Test of DLOM Computational Models," *Business Valuation Review* (Fall 2008): 131.

a decline in the value of the underlying security. Trout conducted the first study on LEAPs, with the results shown in table 15.36.

Seaman expanded Trout's work with subsequent studies done in 2005, 2006, and 2008. The earlier studies measured the marketability discounts implied by LEAPs in company size categories stratified by revenues and book value.

**TABLE 15.36 Implied DLOM on LEAPs as of March 2003 on Options Due January 2005**

Company	Stock Price	Strike Price	Option Price	Implied DLOM
Amazon	\$22.69	\$20.00	\$5.202	2.92%
Ford Motor Co.	7.45	7.50	2.20	29.53%
General Motors	31.20	30.00	6.70	21.47%
Morgan Stanley	22.00	20.00	4.70	21.36%
Microsoft	23.27	25.00	6.10	26.21%
Nextel	12.47	12.50	4.30	34.48%
Qlogoc	36.24	35.00	7.00	19.32%
Qualcom	34.98	35.00	8.80	25.16%
Tco Int'l	14.18	15.00	3.00	21.16%
<b>Average</b>				<b>24.62%</b>
<b>Median</b>				<b>22.92%</b>

(Source: Trout, Robert R., "Minimum Marketability Discounts," *Business Valuation Review*, September, 2003. Used with permission.)

By the time that Seaman performed his 2006 study, he expanded the earlier work to include all valid LEAPs in the market. He also expanded the categories to include size, risk (as measured by Value Line safety ratings, and also by betas), profitability, growth, and dividend yield. Not surprising, the study proved that company size and risk had significant effects on the implied DLOM. However, profitability, as measured by the prior year's earnings, growth, and dividend yield had minor effects on the DLOM.

The 2006 study covered more than 900 LEAPs that were purchased in 2006 and were set to expire in 2008 or 2009. The 2009 LEAPs expired in 30 months, whereas the 2008 LEAPs expired in 18 months. The results of the size study are shown in table 15.37.

**TABLE 15.37 Implied DLOM on 2009 LEAPs Stratified by Revenues**

Company Size in Revenues	Average	Median
\$10 Billion plus	14.6%	13.4%
\$1 Billion to \$10 Billion	18.5%	16.6%
\$500 Million to \$1 Billion	24.8%	21.0%
Under \$500 Million	31.2%	28.6%
Under \$100 Million	38.1%	35.0%

(Source: Seaman, Ronald M., "Minimum Marketability Discounts, 3rd Edition" *Business Valuation Review*, Spring, 2008. Used with permission.)

The study on volatility revealed similar implied discounts. The more volatile the stock price, the higher the discount. This is shown in table 15.38.

Seaman's 2008 study covered 1,036 LEAPs purchased between November 24, 2008, and December 1, 2008. The implied DLOM on 2011 LEAPs based on revenues is shown in table 15.39.

The 2011 LEAPs, purchased at the height of the market disaster in 2008, imply discounts that are almost twice as large as the discounts for the LEAPs purchased in 2006. Clearly, these discounts were driven by demand for puts in a market projected to decline. It also indicates that there is an increase in illiquidity during recessionary periods.

The 2008 study was also stratified by industry, and the results indicate that the implied premiums change by industry and time period. This is really interesting because the restricted stock studies and the pre-IPO studies did not appear to be industry-sensitive. What this also means is that a discount that applies to a subject company at one date may not be valid for that same subject company at another date, and a single discount that applies to a given time period cannot automatically be applied across industries. Who said this was going to be easy? The industry breakdown appears in table 15.40.

### Using Bid-Ask Spreads to Estimate the DLOM

Another method that is gaining some popularity in the business valuation profession is to use the spread  $M$  between bid and ask prices. These are the public market prices based on the market makers' *bid price* (price at which he or she buys the stock), and the *ask price* (price at which he or she sells the stock).

The spread between the bid and ask is the result of a number of costs or risks undertaken by the market maker. They may include any or all of the following:

1. *Order processing costs.* Administrative costs of executing transactions (labor, accounting, and so on).

**TABLE 15.38 Implied DLOM on 2009 LEAPs Stratified by ValueLine Beta**

Company Beta	Average	Median
0.6 – 0.8	14.0%	12.4%
0.9 – 1.1	16.5%	14.3%
1.2 – 1.4	19.2%	17.3%
1.5 – 1.7	21.5%	19.6%
1.8 and higher	24.4%	23.0%

(Source: Seaman, Ronald M., "Minimum Marketability Discounts, 3rd Edition", BVR, Spring, 2008. Used with permission.)

**TABLE 15.39 Implied DLOM on 2011 LEAPs Stratified by Revenues**

Company Size in Revenue	Average	Median
\$10 Billion plus	37.1%	35.0%
\$1 Billion to \$10 Billion	43.9%	41.4%
Under \$500 Million	53.7%	50.1%
Under \$100 Million	64.6%	61.5%

(Source: Seaman, Ronald M., "Minimum Marketability Discounts, 3rd Edition", BVR, Spring, 2008. Used with permission.)

**TABLE 15.40 Implied DLOM on 2010 LEAPs Stratified by Industry**

Industry	Average	Median
All Companies	36.4%	33.5%
Basic Materials	38.6%	36.0%
Conglomerates	31.2%	24.6%
Consumer Goods	34.6%	30.9%
Financial	41.6%	37.9%
Healthcare	36.5%	32.6%
Industrial Goods	35.3%	33.5%
Services	37.1%	33.9%
Technology	34.5%	32.0%
Utilities	25.2%	23.6%

(Source: Seaman, Ronald M., "Minimum Marketability Discounts, 3rd Edition", BVR, Spring, 2008. Used with permission.)

2. *Inventory holding costs.* The opportunity cost of holding the stock and the related price risk.

3. *Adverse selection costs.* Costs of dealing with insiders and well-informed traders.

Research shows that the higher the (1) trading volume; (2) the number of traders in the market; and (3) the number of exchanges the stock trades on, then the lower the bid-ask spread. In other words, the market maker requires a lower mark-up if the stock enjoys high liquidity.

There are a number of steps to follow if you want to use bid-ask spreads to estimate the DLOM of the subject company. First, identify appropriate guideline companies and obtain their bid-ask data spreads at the valuation date. This information is available from a number of sources (for example, Yahoo! Finance provides bid-ask prices). Identify guideline companies that are the equivalent of a large closely held company or have low trading volume.

Small publicly traded companies that have a modest active trading volume will not have bid-ask spreads that are meaningful enough to conduct an analysis. Publicly registered companies that have minimal volume or large privately held or individual ownership percentages will possibly have large bid-ask spreads.

Identify operating metrics that are likely to affect liquidity (for instance, return on equity, return on assets, operating margin, and so on). Perform a regression analysis with the operating metrics as the independent variables and the bid-ask spread, as a percentage of the trading price, as the dependent variable. You can then predict the subject's DLOM as a function of its operating metrics using the regression results.

An example of a bid-ask spread analysis is contained in table 15.41.

**TABLE 15.41 XYZ Company DLOM Bid-Ask Spread Analysis**

Public Companies	Bid-Ask/ Price	EBIT %	ROE	Trading Volume	Insider Holdings	
Acadia Realty Trust	26.81%	33.55%	9.65%	117,612	10.01%	
Agree Realty Corp.	13.31%	59.09%	6.15%	33,944	4.57%	
Brookfield Properties Corporation	4.81%	66.90%	17.51%	1,703,780	49.72%	
CB Richard Ellis Group	1.23%	9.46%	19.78%	3,055,201	1.45%	
Gladstone Commercial Corporation	8.68%	45.93%	4.46%	40,286	4.92%	
Pacific Office Properties Trust	86.84%	9.67%	-617.34%	8,600	48.16%	
Tejon Ranch, Co.	6.45%	39.00%	5.58%	89,082	9.75%	
The Intergroup Corporation	30.99%	9.94%	271.95%	500	68.03%	
American Spectrum Realty	4.06%	4.63%	-35.99%	811	60.34%	
Forestar Group	5.70%	0.48%	1.39%	66,397	0.88%	
Corrections Corporation of America	4.78%	19.68%	11.23%	758,333	2.49%	
MI Developments, Inc.	5.07%	12.93%	-3.49%	149,063	50.58%	
Subject Company Metrics		8.00%	6.00%	—	65.00%	
Predicted DLOM	25.19%					

(Table continued)

**TABLE 15.41 XYZ Company DLOM Bid-Ask Spread Analysis** *(continued)*

Regression Statistics						
SUMMARY OUTPUT						
Multiple R	0.81199007					
R Square	0.659327874					
Adjusted R Square	0.464658087					
Standard Error	0.17573633					
Observations	12					
ANOVA						
	df	SS	MS	F	Significance F	
Regression	4	0.418394511	0.104598628	3.386903974	0.076330364	
Residual	7	0.216182803	0.030883258			
Total	11	0.634577314				
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.120713883	0.111245472	1.085112781	0.313822479	-0.142339857	0.383767624
X Variable 1	-0.034847719	0.244452287	-0.142554279	0.890658677	-0.612885526	0.543190087
X Variable 2	-0.083001335	0.026669254	-3.112248055	0.01702751	-0.1460641	-0.019938569
X Variable 3	-4.55158E-08	5.747E-08	-0.791993554	0.454361758	-1.81411E-07	9.0379E-08
X Variable 4	0.213802982	0.207165026	1.032041879	0.336385607	-0.276064461	0.703670425

As with all the methods used to estimate a DLOM, this one is also subject to criticism. The bid-ask spread encompasses factors other than liquidity. Market makers' administrative overhead is considered to be a cost of doing business, not a liquidity factor. Also, the cost of dealing with the most-informed market segment is not a liquidity factor either.

### Yield Spread Between Short-Term and Long-Term Risk Free Securities

Another manner in which the DLOM is estimated is by reviewing the difference in the yield spreads between short-term and long-term risk-free securities. This is especially used to assess marketability discounts for limited partnerships and is calculated by the yield spread between a short-term bond and a long-term bond. This can be used as a proxy for illiquidity.

Although long-term bonds are considered to be marketable, they are rarely marketable at the bond's par value.

Investors could be stuck holding a long-term bond until maturity if interest rates go up. Therefore, higher returns often have to be paid to compensate for the longer exposure period in the market. This is why long-term bonds pay more than short-term bonds. This was mentioned in the discussion about risk-free bonds in chapter 13.

The variance between the returns is an indication of the higher rate of return that investors require for the longer holding period. The percentage increase is an indication of the implied marketability discount. The high volatility in the bond market between 2000 and 2004 caused the DLOM indication to be horrible. This is truly a case of a bad situation becoming worse. However, the historical long-term median discount is approximately 33 percent, but the average and standard deviations are so great that the data may not prove to be very meaningful to support a DLOM.

## Ashok Abbot Model

Dr. Ashok Abbott developed a model to explain the observed change in the market value of a public company due to NASDAQ delisting and the resultant cost of lost marketability. He breaks the cost of the marketability loss down into two factors, the loss of liquidity and the effect of market conditions prevailing at the time of the loss of liquidity event.

The original study looked at 172 NASDAQ de-listings between 1982 and 2001. He removed stocks that were de-listed for reasons other than Rule 550 (loss of market maker participants). Dr. Abbott also removed stocks from the study that might have been de-listed because of merger, bankruptcy, liquidation, or going private to help eliminate confusion in interpreting the data. He also removed market outliers.

The NASDAQ de-listing process occurs if a security's number of market makers drops below 2 (for small firms) or 4 (for large firms). A company receives a notice of deficiency, giving it 90 days (the period of de-listing) to address its liquidity or be dropped from the market.

Dr. Abbott gathered the following information on each of the 172 stocks:

- Name of firm
- Date of the de-listing notice
- Market capitalization of the de-listed firm on the day of the de-listing notice
- Total turnover of the issued stock for the de-listed firm for the year leading to the date of the de-listing notice
- Total value of transactions in the issued stock for the de-listed firm for the year leading to the date of the de-listing notice

The study identifies the impact of the loss of marketability on the market value of the firm and identifies factors that significantly drive the discount. Dr. Abbott used a regression analysis with a dependent variable equal to the cumulative excess return for a 90-day event window (for instance, the period between the notice of deficiency and the de-listing) starting on the day of the deficiency notice and ending with the actual de-listing.

The Center for Research in Security Prices calculated the excess returns by subtracting the market returns for the analysis period from the actual returns. This isolates the liquidity loss from the loss due to market conditions. Causal relationships were tested for a relationship between the observed excess returns for the de-listed firm and the market value on the date of the de-listing announcement, prior-year cumulative excess returns measuring the gains to stockholders from owning the firm compared to holding a market portfolio, the market value of the firm, and the total observed turnover signifying the observed liquidity of the firm.

Dr. Abbott found that the DLOM declines (the decline measured as less market value lost in the de-listing) as the company becomes more profitable, the company becomes larger, or the volume of trades taking place during the year increases. This can be thought of as an illiquidity, rather than a marketability issue.

## Where the Qualitative and Quantitative Factors Meet (or Not?)

As far back as 1977, in Revenue Ruling 77-287, the IRS recognized the effectiveness of restricted stock study data in providing useful information about the quantification of DLOMs. The various pre-IPO studies of transactions in closely held stocks did not exist at that time, but the IRS and the courts have sometimes been receptive to the use of this data for assisting in quantifying DLOMs. Unfortunately, we have seen many court cases begin to question the validity of the underlying data and the use of these studies. A court case such as



*Charles T. McCord, Jr., et ux. v. Commissioner*<sup>36</sup> should be read to gain an understanding of the challenges posed by the courts.

Another Tax Court case that I believe can serve as a good learning tool for all valuation analysts (even me!) is *Bernard Mandelbaum et al. v. Commissioner*.<sup>37</sup> Despite the valuation analyst's research and logical argument, the court in Mandelbaum did not allow the 70 percent and 75 percent discounts deducted in the valuations.<sup>38</sup> The court, however, was extremely methodical in its opinion, and although the decision has its faults, it can be used as a guide for valuation analysts, particularly in the tax arena. Many court cases involve multiple issues. However, *Mandelbaum* relates to only one aspect of the valuation universe, namely the DLOM.

In discussing the DLOM and how it fits in with this case, let's first discuss some of the background regarding the opposing arguments. There were six dates in which shares of the valuation subject (Big M), were gifted from shareholders to other parties. These gifts required the filing of gift tax returns covering dates from 1986–1990.

One issue needs to be mentioned here. The Big M stock was subject to two shareholder agreements. The first agreement required that any positions on the board that became vacant be filled by current members and that the new directors be either current shareholders or their spouses. Upon death, the shares were to be sold to Big M, and the company had sole discretion over what period of time they would pay for the shares. The company also had a right of first refusal for live shareholders (as opposed to dead ones), and again, could determine the time period for the purchase. The company had 90 days to decide whether it would exercise its purchase option.

The second agreement was pretty similar to the first, but if someone wanted out, they had to offer their shares to family members before they could sell to outsiders. These types of agreements are not terribly unusual, except for the provision that allows the company to have sole discretion over the time period for the payout.

To support its determination of value and, therefore calculation of the taxpayers' deficiency, the IRS's expert concluded an applicable DLOM of 30 percent for the gifted shares on the six dates in question. This discount level was calculated relying on three of the restricted stock studies discussed earlier in this chapter. These studies provided a range of DLOMs between 30 percent and 35 percent.

On the other side, the taxpayer, Bernard Mandelbaum and family, utilized the services of another expert to support the values reported on their gift tax returns for the specified dates. To find an applicable DLOM, the petitioner's expert employed a similar analysis to that of the respondent's expert. However, the petitioner's expert used 10 studies, including the 3 used by the respondent's expert, to determine an acceptable range of DLOMs. Furthermore, the petitioner's expert also took into account the details of Big M's shareholder agreements and prior events involving the company and shareholders. Based upon these considerations, and the 10 studies that included 7 restricted stock studies and 3 pre-IPO studies, the petitioner's expert concluded that a 75 percent DLOM applied for the valuation dates in 1986–1989, and a 70 percent DLOM was applicable for the dates in 1990.

The discounts that were concluded were substantially higher than the discounts included in the 10 studies analyzed because of the petitioner's expert's analysis of the restrictions placed upon the company's shares by the shareholders' agreements. Also, he interviewed employees of investment firms to determine the required rate of return of potential investors. These returns ranged from 25 percent to 40 percent. As a result of this, the petitioner's expert determined that a rate between 35 percent and 40 percent would be appropriate for Big M.

After listening to both experts, Judge David Laro gave no weight to either side's expert. First, the court discussed the IRS's expert, his determination of a DLOM, and the resulting value of the gifted shares for the

<sup>36</sup> *Charles T. McCord, Jr., et ux. v. Commissioner*, 120 TC 358.

<sup>37</sup> *Bernard Mandelbaum et al. v. Commissioner*, T.C. Memo. 1995-255.

<sup>38</sup> *Ibid.*

subject dates. Judge Laro did not like the fact that the respondent's expert compared this private company's shares to restricted stocks of public companies, while choosing to ignore the shareholders' agreements.

Also, the court found additional fault with the respondent's expert's conclusions because of his use of such a limited number of restricted stock studies when several others existed. Using the studies as the basis of a range without considering the inherent differences between the subject company and the companies included in the analyses did not conform to what the court felt was a reasonable and justified comparison. To say the least, the judge did not seem impressed.

Analyzing the taxpayer's expert, the court found several faults with the basis of his conclusions. He was less impressed with the petitioner's expert. It was determined that the expert put too much weight on the shareholders' agreement within the conclusion of the DLOM. While Judge Laro stated that the IRS's expert's conclusions mistakenly left out the effect of the agreements, he felt that the taxpayer's expert placed too much emphasis upon them.

The biggest problem that the court found with the taxpayer's expert's opinion is that his analysis did not look at both a willing seller and a willing buyer, it only considered the hypothetical buyer. Judge Laro felt that no shareholder would be willing to sell Big M stock at such a large discount. He was probably correct! The court also was not too thrilled with the taxpayer's expert's analysis that indicated that the shareholders would be stuck holding the stock for a 10–20-year period.

Also, when trying to reflect the characteristics of a willing buyer, the taxpayer's expert erred in developing a comparable group of possible investors. According to the court, the group of investors that the taxpayer's expert attempted to use as a surrogate did not include a good sample of willing buyers. For these reasons, Judge Laro did not hold either analysis in high regard and, for the most part, left them out of his resolution of the correct DLOM value.

Because Judge Laro did not find any value in either experts' analysis, he took on the responsibility of concluding a DLOM for application to the value of Big M's share price on each of the valuation dates. This is where I take my hat off to Judge Laro. Although I may not agree with all the factors that he discusses in his opinion, it is clear that he gave more thought to getting at a reasonable DLOM than either expert did. When you read this opinion, think of the 11 factors from the Moroney article that I will soon discuss in this chapter. Judge Laro attempted to do a similar analysis with some slightly different factors.

The reason that I like this opinion is not because of the conclusion. Reading this opinion provides me with a great idea of what the judge was thinking when pure mathematics would not allow him (or a valuation analyst) to quantify the DLOM. He looked at qualitative factors and elaborated on each about the impact on the DLOM. This is exactly what I suggest the valuation analyst does to support his or her opinion.

Before I tell you what I don't agree with (and why), let's look at the factors considered by Judge Laro (box 15.1) and discuss each item.

**Private Versus Public Sales of the Stock.** The Court used this factor because the studies include transactions of securities with similar attributes to those of privately held stock. Restricted stock is stock of a public corporation, but to avoid dilution and registration costs, is not registered for trading within the public market. However, these shares of stock can be traded privately, mirroring the transaction characteristics of a closely held company. Because these transactions were required to be registered with the SEC until 1990, analysis was permitted, resulting in the creation of the studies. As a result, Judge Laro started his analysis by using the 35 percent to 45 percent discounts from these studies as a benchmark.

**BOX 15.1****Factors Considered by Judge Laro**

- Private versus public sales of stock
- Financial statement analysis
- Company's dividend policy
- Nature of the company, its history, its position in the industry, and its economic outlook
- Company's management
- Amount of control in transferred shares
- Restrictions on transferability of stock
- Holding period for stock
- Company's redemption policy
- Costs associated with making a public offering

**Financial Statement Analysis.** The purpose of including this factor in the analysis was to reflect the notion that a company with favorable financial characteristics would be attractive to willing investors. This attractiveness will result in added marketability. On the other hand, if the company's financial position is weak, it would be less marketable.

Because companies are involved in their own respective industries, this analysis should be done according to publicly traded industry competitors that share similar operating characteristics so that the subject company can be rated accordingly. The purpose of using this factor is to rate and highlight the financial characteristics of a firm according to such items as income, liquidity, and debt. This sounds like a guideline public company analysis.

**Company's Dividend Policy.** In determining a company's attractiveness, most investors will look to see what type of dividend-paying history the company has. Investors purchase a company's stock for one of three reasons:

1. To realize capital appreciation in the stock's price
2. To receive dividend payments over the course of owning the security
3. To realize a combination of reasons 1 and 2

The company's dividend policy, either payment history or capacity for payment as in this case, will increase the attractiveness and, therefore, marketability of a firm's stock. If an investor can receive dividend payments on top of potential appreciation, there may be additional individuals who want to purchase the stock. This has the potential of increasing marketability, resulting in a decreasing effect upon a DLOM for a privately held stock.

**Nature of the Company, Its History, Its Position in the Industry, and Its Economic Outlook.** In general, business performance varies in relationship to the economy. Businesses can be affected by global, national, and local events. For industry purposes, changes in regulatory environments and market forces will also have an impact upon the attractiveness of a company.

Investors will analyze a company's background, industry, and the economic factors that affect it, so that they will have a better idea of what to base future expectations on. This is done to determine where the company is heading and how this will affect its attractiveness to potential investors.

**Company's Management.** Because the operations and goals of a company are determined by management, their experience and involvement are fundamental when assessing attractiveness. The management team is responsible for the company's performance. If investors lack confidence in a company's management, the organization will lose marketability because some investors will not be interested in stock ownership. Based upon the conclusion of the management team's effect upon operations and financial performance, according to Judge Laro, this factor's effect upon the DLOM can be determined.

**Amount of Control in Transferred Shares.** When a company's stock is transferred in blocks, a block that represents control will have additional appeal over a block without such control. This is true because as a block of stock has more control, a potential investor will have the ability to direct and run a company using his or her procedures and guidelines (or whims!).

This will affect the attractiveness of a company's stock, depending on the type of investor. In some, but not all occasions, investors will not address this factor in determining the attractiveness of a company, because control is not an issue.

**Restrictions on Transferability of Stock.** The more restrictive it is to transfer shares, the less marketable the shares will be. This is why we see so many attorneys who draft family limited partnership agreements put in these really stringent restrictions (for example, you cannot sell your shares unless the sky becomes pink with yellow polka dots). In this case, the judge felt that because the shareholder agreements did not fix a price, there was less of a restriction in selling to an outsider.

**Holding Period for Stock.** In some instances, a company's stock may have to be held for a period of time so that the benefits of ownership can accumulate to create a sufficient profit for the investor. Such an event would cause the security to lose some of its marketability because of the need to maintain ownership. This increases market risk, whereas marketability decreases. The holding period is essential for calculating marketability levels and the resulting DLOM because it is a direct determinant of how quickly an individual can purchase a stock and turn around and sell it in the future.

**Company's Redemption Policy.** This factor is important because it will determine if the company can purchase shares from shareholders so that they can gain access to cash. This analysis will indicate how the company can aid in, or detract from, its stock's liquidity. This is especially important for privately held firms because of the nonexistence of a ready market. If a company readily buys back shares, this will increase the liquidity of those shares, thereby increasing marketability. However, if the opposite is true, then the stock of the company is less marketable because another option for sale is removed.

**Costs Associated With Making a Public Offering.** When determining the value of a privately held stock, the cost to make a public offering is typically incorporated within the analysis. This is due to the need for determining which party is required to pay the costs of registering the security. In a case in which the buyer must bear the expense, marketability will decrease because some investors will not consider such a transaction as an option because of the cost. This event causes the pool of potential investors to decrease. If the investor does not have to absorb this cost when making the purchase, the marketability of the stock will be greater. This factor is directly related to economics because as the expense of purchases go up, demand will decrease and vice-versa.

I said that I do not agree with everything in this case. In my humble opinion, I believe that Judge Laro mixed up some issues that affect risk and not liquidity. Although there may be a fine line, and possibly an overlap, I think many of the factors Judge Laro discussed affect the freely traded value of the stock, and liquidity, to a much lesser degree. The factors that bother me the most are the following:

- Financial statement analysis
- Dividend capacity and growth prospects
- Nature of company, its history, its position in the industry, and its economic outlook
- Management

If you read Revenue Ruling 59-60, the eight factors assist the valuation analyst in the valuation of the closely held stock. The four factors that I have listed previously affect the underlying valuation. They should not affect both the freely traded value and liquidity. Although I fully agree that dividends will lower the DLOM due to the mitigation of the holding period risk, dividend-paying capacity is considered in valuing an interest in a company.

However, overall, I still think that this is a great case to read.

The pre-IPO studies and court cases are proof that discounts larger than those quoted from the restricted stock studies can be justified. Think about the appropriateness of the discounts that can be applicable to interests in companies that are not large enough to go public! One of the best explanations of why a DLOM varies from case to case was written by Robert E. Moroney in an article titled, "Why 25% Discount for Non-marketability in One Valuation, 100% in Another?"<sup>39</sup> The 11 factors that are discussed in the Moroney article regarding factors that should be considered in the application of a DLOM are included in box 15.2.

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39 *Taxes* (1977): 316-320.

**BOX 15.2**

**Moroney's 11 Factors for Consideration in the Application of a DLOM**

1. **High dividend yield.** Companies that pay dividends tend to be more marketable than companies that do not.
2. **Bright growth prospects.** Companies that have bright growth prospects are easier to sell than companies that do not. This makes them more marketable.
3. **Swing value.** If a block of stock has swing value, it may be more marketable than the typical small block of stock. This swing value could include a premium. This can be emphasized when a 2 percent interest exists with two, 49 percent interests. The 2 percent interest can be worth quite a bit to either 49 percent interest if it will give that interest control of the company.
4. **Restrictions on transfer.** Restrictions on transfer make the stocks less marketable because of the difficulty in selling them.
5. **Buy-sell agreements.** Buy-sell agreements can go either way. The agreement can create a market for the stock, making it more marketable, or the agreement can restrict the sale, making it less marketable.
6. **Stock's quality grade.** The better the quality of the stock, the more marketable it will be. This can be evidenced by comparing the subject company with others for supporting strengths and weaknesses.
7. **Controlling shareholder's honesty.** The integrity of the controlling shareholder can make a big difference with regard to the ability to sell a partial interest in a company. If the controlling shareholder tends to deal with the other shareholders honestly, the other interests in that company tend to be more marketable.
8. **Controlling shareholder's friendliness.** Similar to the degree of that shareholder's honesty, the manner in which he or she deals with others can make the stock more marketable.
9. **Prospects for the corporation.** If a corporation has good prospects for the future, it will generally be more marketable.
10. **Prospects for the industry.** A company that is in an industry with good prospects will also generally be more marketable.
11. **Mood of the investing public.** When the investing public is bullish, they are more readily willing to make an investment. This can increase the stock's marketability.

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A discussion of how each of these factors relates to the valuation subject can be used to assist in supporting the size of the discount. Obviously, these items can be used to determine if more or less of a discount is warranted, but they will not help the valuation analyst quantify the discount in terms of percentages.

## Private Company Discount

The private company discount is similar to the DLOM. In fact, this discount is the same as the DLOM, except that it is purely size-related. I used to call this the small company discount. However, it really does not only relate to small companies.

The valuation analyst must again be careful not to double-count when considering this type of discount. Size factors may have already been considered in the selection of multiples or capitalization rates. Data in publications such as *Mergerstat® Review* indicates that the acquisition prices for entire private companies tend to be lower than tender offer prices for public companies. One possible explanation for this is that entire private companies tend to be smaller than many of the public companies involved in tender offers.

Even small companies follow a similar trend. An analysis performed a number of years ago by Raymond Miles and based on data from The Institute of Business Appraisers' (IBA) market database further supports the premise that small companies sell for lower multiples than large companies. Miles included the data in table 15.42 in "Correlation Between Company Size and Price-to-Earnings Multiples," in an article titled "Price/Earnings Ratios and Company Size Data for Small Businesses," published in the September 1992 issue of *Business Valuation Review*:

**TABLE 15.42 Correlation Between Company Size and Price-to-Earnings Multiples**

Range of company (\$000)	Mean P/E
0–49	1.66
50–99	2.11
100–149	2.44
150–199	2.74
200–249	3.06
250–499	3.44
500–1,000	4.26

Miles's study of the IBA database indicated that the price-to-annual-earnings multiple increases as a company's size increases.

There are various reasons for a private or small company discount. Closely held companies do not make as much reliable information available to the willing buyer as public companies do, and this may cause acquirers to view the private company as riskier than its public counterpart. The closely held company may also be less marketable than the public company because of the lack of an institutional following. Another reason for the possible discount is that the majority or single shareholder or owner may have all of his or her investment in one business; therefore, he or she has liquidity needs that are very different from those of diversified shareholders in public companies.

Although *Mergerstat*<sup>®</sup> *Review* documents that the entire private company tends to sell at a lower price than that for tender offers of public companies, it does not indicate whether it took longer to sell the privately held company. This may also be justification for the discount. Most of the *Mergerstat*<sup>®</sup> *Review* data results from buyer-initiated transactions. It would be interesting, and probably useful, to know the difference, if any, between published prices of completed transactions in which the seller may have initiated the negotiations and those that were initiated by the buyer. This could help the valuation analyst understand if the parties' motivations could have affected the transaction price.

Completed transactions in which the buyer initiated the transaction would be applicable for valuations used to establish an estimated sale price for planning or negotiating purposes or to perform an allocation of the purchase price when the transaction has already taken place. Completed transactions in which the seller initiated the transaction would be more applicable for estate and gift tax purposes than for other purposes in which the amount of time and effort required to complete the sale is relevant to the value concluded. The sales of closely held businesses are generally seller-initiated because the owners decide to sell their business, and the ultimate sales price already includes a DLOM. If the business was priced too high, interim reductions in the selling price may have taken place during the marketing period. In reality, these reductions may have also corrected the selling price from the seller's "great expectations" to a more reasonable level of market value.

## Some More Empirical Data

In an article titled "The Private Company Discount," professors Atulya Sarin, John Koeplin, and Alan C. Shapiro conclude that for both the domestic transactions and the foreign transactions,<sup>40</sup> the discount for earnings multiples is statistically and economically significant. The discount using the book value multiples is significant

.....  
40 Note that differences in book value multiples actually are significant only for the mean not the median.

only for domestic transactions and the discount using the revenue multiples is not significant for either the domestic or foreign transactions.<sup>41</sup>

However, as they point out in their article, “the net sales and assets of the sample of private companies that were acquired are significantly smaller than those of the comparable public targets.” In light of the research reported previously, it may be that size accounted for all of the difference. Also, for valuation multiples, some feel that the median is a better measure of central tendency than the mean. The mean enterprise-value-to-book-value multiple for domestic transactions is higher for private companies than for public companies, but the median is less.

Just remember that although all of this data supports the notion that smaller companies and private companies sell at lower multiples than larger companies and public companies, respectively, the valuation analyst will be double-counting if he or she uses this data to support the discount after he or she has already either reduced the multiples in the application of the market approach or if he or she obtained the market data from sources that already reflect the lower multiples. What I am saying is simple—don’t double-count!

## Key Person Discount

A key person discount is frequently seen in the valuation of a closely held business when the key person is no longer going to be part of the business. This is often the case when the valuation is being performed for an estate of which the decedent was the key person in the business. One way to determine the appropriate discount is to review the case law for the size of discounts allowed in the past and try to associate the facts of a particular case with the assignment at hand. Be careful not to let case law drive the valuation.

A better way to handle this discount may be to build the effect of the loss of the key person into the forecast of future operations or to add an additional risk component to the discount rate. If the loss of the key person is a true loss, the business will probably suffer. The amount of the loss will be based on the importance of the key person and on how long it may take to find a replacement and bring that replacement up to the level where the key person had been.

Not all owners of businesses are key persons. The valuation analyst should not take a discount unless he or she has the appropriate support for the loss attributable to that person. Key person attributes may include the following:

- Strong relationships with suppliers
- Strong relationships with customers
- Employee loyalty to the key person
- Unique marketing vision, insight, and ability
- Unique technological or product innovation capability
- Extraordinary management and leadership skills
- Financial strength (ability to obtain debt or equity capital, personal guarantees)

There are various factors to consider in analyzing the key person discount. First, consider the services rendered by the key person and degree of dependence on that person. Some businesses would be devastated without the key person. (I keep thinking that mine would be but my wife/partner keeps reminding me that I am the “associates” in Trugman Valuation Associates.) Also, think about the likelihood of loss of the key person. If that person is still active in the business, what is the possibility that this person may leave? By the way, the key person does not always have to be the owner of the business.

When the valuation analyst is considering the likelihood of the key person leaving, he or she should first consider the age and health of the individual. A 75-year old person is more likely to leave than a 57-year-old person, if all else but age is equal. But what if the 57-year-old was recently diagnosed with a terminal illness? As for the nonowner, what about the hair stylist that leaves and opens up a competing shop across the street?

41 Atulya Sarin, John Koeplin, and Alan C. Shapiro, “The Private Company Discount,” *Journal of Applied Corporate Finance* 12: 100.

Factors such as the depth and quality of other company management, the availability and adequacy of potential replacements for the key person, as well as the compensation paid to the key person and probable cost of hiring and compensating the replacement for that person should also be considered. The valuation analyst also needs to consider the value of irreplaceable factors lost, such as vital customer and supplier relationships, insight and recognition, and personal management styles to ensure company-wide harmony among the employees, not to mention the risks associated with the disruption and operation under a new individual. And finally, the valuation analyst should not forget to consider the impact on the company if its borrowing capacity is taken away due to the loss of the personal guarantor of the company's debt. None of these factors can be taken too lightly.

However, with all of these considerations, there are frequently mitigating conditions that would serve to offset some, if not all, of the loss attributable to the key person. Life insurance or disability insurance proceeds payable to the company, not earmarked for other purposes, such as repurchase of the key person's stock, can help mitigate the loss. In fact, Revenue Ruling 59-60 specifically states the following:

The loss of the manager of a so-called "one-man" business may have a depressing effect upon the value of the stock of such business, particularly if there is a lack of trained personnel capable of succeeding to the management of the enterprise. In valuing the stock of this type of business, therefore, the effect of the loss of the manager on the future expectancy of the business and the absence of management-succession potentialities are pertinent factors to be taken into consideration. On the other hand, there may be factors which offset, in whole or in part, the loss of the manager's services. For instance, the nature of the business and of its assets may be such that they will not be impaired by the loss of the manager. Furthermore, the loss may be adequately covered by life insurance, or competent management might be employed on the basis of the consideration paid for the former manager's services. These, or other offsetting factors, if found to exist, should be carefully weighed against the loss of the manager's services in valuing the stock of the enterprise.

Don't forget other mitigating factors such as the compensation saved after the key person is gone if the compensation to the key person was greater than the cost of replacement. You should also consider whether there are any employment or non-compete agreements.

## Quantifying the Magnitude of the Key Person Discount

Ideally, the magnitude of the key person discount should be the estimated difference in the present value of net cash flows with and without the involvement of the key person. If the key person was still involved, the projected cash flows for each year would be greater than without that individual. The value differential, with and without the impact of the key person, would be the key person discount. However, this only really works if the valuation analyst can forecast the impact of the loss of the key person. If we had 20-20 hindsight, we could measure the loss in a manner that is similar to the "before and after" method of calculating economic damages (we will actually discuss this in chapter 26).

A significant factor in the quantification of the key person discount is the presence or absence of employment or non-compete agreements. In the absence of such agreements, the stock may be worth only its tangible asset value.

## Court Cases Involving Key Person Discount

I have repeated this several times now, so I am going to say it again here. The valuation analyst should not rely on court cases to support the discounts. However, with that said, some of the more important court cases that you may want to read include the following:

- Estate tax cases
  - *Estate of Mitchell v. Commissioner*<sup>42</sup> (10 percent discount allowed)

<sup>42</sup> *Estate of Mitchell v. Commissioner*, T.C. Memo 1997-461, 74 T.C.M. (CCH) 872 (U.S. Tax Court, October 9, 1997), affirmed in part, vacated in part, remanded by 250 F.3d 696 (9th Cir., May 2, 2001). The estate appealed the Tax Court's conclusion in *Estate of Mitchell* on other grounds. On May 2, 2001, the 9th Circuit Court of Appeals reversed and remanded *Mitchell*. The 9th circuit decision held that the Tax Court was internally inconsistent in its ruling on minority and marketability issues and failed to adequately explain its conclusion.



- *Estate of Feldmar v. Commissioner*<sup>43</sup> (25 percent discount allowed)
- *Estate of Rodriguez v. Commissioner*<sup>44</sup> (expert for the taxpayer adjusted expected earnings before capitalizing; the court accepted taxpayer's expert's methodology and numbers)
- *Estate of Huntsman v. Commissioner*<sup>45</sup> (with little explanation, the Tax Court discounted one company's stock from \$31 to \$29 per share and another company's stock from \$11 to \$10 per share at date of death because of the key man factor)
- *Estate of Yeager*<sup>46</sup> *v. Commissioner* (10 percent discount allowed)
- Gift tax case
  - *Furman v. Commissioner*<sup>47</sup> (10 percent discount allowed)

One more thing to consider is that adding a key person discount may also increase the possibility that the client will be audited by the IRS. If the other discounts total 35 percent, you may or may not get the audit notice. However, add an additional 15 percent to the 35 percent already taken, and the 50 percent discount will very conceivably flag an audit. That is not to say that the valuation analyst should not consider it or that the analyst will not get it through the IRS if it is well-supported. Just be ready for the audit!

## Blockage Discount

A blockage discount is another type of discount, although it applies only to publicly traded companies. This discount may occur when a large block of stock is placed on the market at one time. The large block hitting the market all at once may cause the price per share to decline in order for all the shares to be sold. The Tax Court has been pretty clear on the point that a blockage discount cannot be taken on closely held shares.

According to the *International Glossary of Business Valuation Terms*, a *blockage discount* is "an amount or percentage deducted from the current market price of a publicly traded stock to reflect the decrease in the per share value of a block of stock that is of a size that could not be sold in a reasonable period of time given normal trading volume."

According to Research Institute of America

[w]here stock is actively traded in, and the turnover is substantial enough, it will yield a representative price picture for valuing smaller blocks but furnish no adequate basis for the valuation of abnormally large blocks. In valuing abnormally large blocks, there has been a definite and flowing recognition by the courts, and reluctantly by IRS, of the blockage rule.

The blockage rule attributes to the unit of a large block a lower value than the market value per unit as found for small lots. It must be shown that the existing market is clearly not broad enough to absorb the large block without decline of the price level. This rule is a concession to the obvious fact that sudden unloading of a large quantity of a commodity tends to drive the price down. It has been applied by the courts for estate, gift and income tax purposes.<sup>48</sup>

Treasury Regulation 20.2031-2(b)(1) states the following:

In general, if there is a market for stocks or bonds, on a stock exchange, in an over-the-counter market, or other, the mean between the highest and lowest quoted selling prices on the valuation date is the fair market value per share or bond.

43 *Estate of Feldmar v. Commissioner*, T.C. Memo 1988-429, 56 T.C.M. (CCH) 118 (U.S. Tax Court, Sept. 12, 1988).

44 *Estate of Rodriguez v. Commissioner*, T.C. Memo 1989-13, 56 T.C.M. (CCH) 1033 (U.S. Tax Court, Jan. 10, 1989).

45 *Estate of Huntsman v. Commissioner*, 66 T.C. 861 (U.S. Tax Court, Aug. 17, 1976).

46 *Estate of Yeager v. Commissioner*, T.C. Memo 1986-448, 52 T.C.M. (CCH) 524 (U.S. Tax Court, Sept. 17, 1986).

47 *Furman v. Commissioner*, T.C. Memo 1998-157, 75 T.C.M. (CCH) 2206 (U.S. Tax Court, April 30, 1998).

48 *Federal Tax Coordinator 2d*, "P-Basis and Valuation of Property," P-6233, (Research Institute of America).

In section 25.2512-2(3), the regulation states the following:

In certain exceptional cases, the size of the block of stock to be valued in relation to the number of shares changing hands in sales may be relevant in determining whether selling prices reflect the fair market value of the block of stock to be valued. If the executor can show that the block of stock to be valued is so large in relation to the actual sales on the existing market that it could not be liquidated in a reasonable time without depressing the market, the price at which the block could be sold as such outside the usual market, as through an underwriter, may be a more accurate indication of value than market quotations.

The theory behind this is that by attempting to sell a large block of stock, two things can occur: The supply of the stock goes up by a large percentage, and the demand is not there, or it takes such a long time to sell the shares that the present value of money received is less than the market value on a given day, or both. Therefore, a discount might be deemed appropriate to compensate for either the depressive effect of dumping a large block of shares into the market or for the time value of not having use of the proceeds of the sale at the valuation date.

Another question that needs to often be addressed when dealing with blockage issues is how can a block trade be accomplished. The stock exchanges define a *block trade* as a trade of 10,000 shares or more. An NYSE working paper from 1994 explained that 54 percent of the NYSE's volume was from block trades. A block trade can be executed in one of two ways. A block trade can be sent directly to "downstairs" markets comprising the continuous intraday market and batch markets, such as the after-hours crossing sessions at the NYSE. Alternatively, a block trade may first be directed to the "upstairs" market where a brokerage firm (or block broker) facilitates the trading process by locating counterparties to the trade before sending it to the downstairs market. Although downstairs markets offer anonymity and a high degree of immediacy, these characteristics may result in significant adverse selection costs for large trades. By contrast, upstairs intermediation reduces the price impact of a large trade but is associated with additional costs in the form of potential information leakage during the process, lack of immediacy, and higher brokerage fees.

An example of the analysis involved in calculating a blockage discount is shown in exhibit 15.2. In this assignment, we were retained to determine whether there should be a blockage discount, and if so, how much it should be? I apologize for the old dates in this example, but we do not get many of these types of assignments.

### EXHIBIT 15.2 Blockage Discount

Trugman Valuation Associates, Inc. was engaged by (a client) to establish the fair market value of seven million shares of Wal-Mart Stores, Inc. stock as of November 1, 1995. The purpose of this appraisal is to determine the fair market value of these shares for inclusion in a gift tax return.

**Background of the Assignment.** On November 1, 1995, a donor gave each of her daughters a gift of 7,000,000 shares of common stock in Wal-Mart Stores, Inc. On that date, Wal-Mart Stores, Inc. was actively traded on the New York Stock Exchange. Its price was as follows:

High/Ask	Low/Bid	Close/Bid	Average
22 $\frac{1}{4}$	21 $\frac{5}{8}$	22 $\frac{1}{4}$	21.9375

The value of the seven million share block, before discounts, was \$153,562,500. Trugman Valuation Associates was hired to determine the value of these shares on November 1, 1995, including the applicable blockage discount.

## EXHIBIT 15.2 Blockage Discount

According to Research Institute of America

Where stock is actively traded in, and the turnover is substantial enough, it will yield a representative price picture for valuing smaller blocks but furnish no adequate basis for the valuation of abnormally large blocks. In valuing abnormally large blocks, there has been a definite and flowing recognition by the courts, and reluctantly by IRS, of the blockage rule.

The blockage rule attributes to the unit of a large block a lower value than the market value per unit as found for small lots. It must be shown that the existing market is clearly not broad enough to absorb the large block without decline of the price level. This rule is a concession to the obvious fact that sudden unloading of a large quantity of a commodity tends to drive the price down. It has been applied by the courts for estate, gift and income tax purposes.<sup>1</sup>

The issue in this matter is whether or not a discount for blockage is applicable, and if so, what is the appropriate size of the discount?

**History of Wal-Mart Stores, Inc.** Wal-Mart Stores began in 1945 when Sam Walton began a franchise, Ben Franklin Variety Store in Newport, Arkansas. Sam's brother, James, began a similar venture in Missouri in 1946. These operations continued until 1962, when the operation was incorporated in Delaware under the Wal-Mart Stores, Inc. name. In 1984, the company opened its first three Sam's Clubs, and in 1988, its first Wal-Mart Supercenter.

By the end of 1995, Wal-Mart Stores, Inc. owned and operated 1,995 Wal-Mart Stores, 433 Sam's Clubs, and 239 Wal-Mart Supercenters in the United States. The company also has operations in Mexico, Puerto Rico, Canada, Brazil, Argentina, and Indonesia.

At October 31, 1995, Wal-Mart was expanding the number of locations in which it was operating, as well as increasing the size of many of its locations. The result was an increase in sales, which increased the company's net income as well. Net income for the nine months ended October 31, 1995, was up almost 9 percent over the same figure from a year earlier.

In August 1995, the company introduced a website, its main purpose was for use as a marketing tool. At the company's annual meeting in June 1995, management revealed expected revenues in excess of \$90 billion dollars. This was not as high as previously expected but still substantially higher than the year before.<sup>2</sup>

In August 1995, retail stocks, including Wal-Mart's were considered to be bargains. "Retail stocks have been beaten down to where they are bargains, and should be helped by the recent drop in interest rates. Recommended stocks include Wal-Mart Stores..."<sup>3</sup> Mr. Wyatt explains that despite the slump in retail stocks, Wal-Mart Stores' stock price had increased 22.3 percent during 1995, and was expected to continue rising for another year. This type of article in the press helps to generate interest in a stock such as Wal-Mart Stores.

**Valuation Calculations.** The subject of this valuation is shares in a publicly traded company. Treasury Regulation 20.2031-2(b)(1) states the following:

In general, if there is a market for stocks or bonds, on a stock exchange, in an over-the-counter market, or other, the mean between the highest and lowest quoted selling prices on the valuation date is the fair market value per share or bond.

In Section 25.2512-2(3), the regulation states the following:

In certain exceptional cases, the size of the block of stock to be valued in relation to the number of shares changing hands in sales may be relevant in determining whether selling prices reflect the fair market value of the block of stock to be valued. If the executor can show that the block of stock to be valued is so large in relation to the actual sales on the existing market that it could not be liquidated in a reasonable time without depressing the market, the price at which the block could be sold as such outside the usual market, as through an underwriter, may be a more accurate indication of value than market quotations.

<sup>1</sup> Federal Tax Coordinator 2d, Chapter P-Basis and Valuation of Property, P-6233, Research Institute of America.

<sup>2</sup> "Wal-Mart Still Growing But Not as Explosively; \$100B Maybe in 1996," *Women's Wear Daily*, 169, (1995): 1.

<sup>3</sup> Wyatt, John. "Discount days are here for retailers," *Fortune* 132 (1995): 260.

(continued)

## EXHIBIT 15.2 Blockage Discount *(continued)*

The theory behind this is that by attempting to sell a large block of stock, two things can occur: The supply of the stock goes up by a large percentage, and the demand is not there, or it takes such a long time to sell the shares that the present value of money received is less than the market value on a given day, or both. Therefore, a discount might be deemed appropriate to compensate for either the depressive effect of “dumping” a large block of shares into the market or for the time value of not having use of the proceeds of the sale at the valuation date.

The stock exchanges define a *block trade* as a trade of 10,000 shares or more. A New York Stock Exchange (NYSE) working paper from 1994 explained that 54 percent of the NYSE’s volume was from block trades.<sup>4</sup>

A block trade can be executed in two ways.

A block trade can be sent directly to “downstairs” markets comprising the continuous intra day market and batch markets such as the after hours crossing sessions at the NYSE. Alternatively, a block trade may first be directed to the “upstairs” market where a brokerage firm (or block broker) facilitates the trading process by locating counterparties to the trade before sending it to the downstairs market. Although downstairs markets offer anonymity and a high degree of immediacy, these characteristics may result in significant adverse selection costs for large trades. By contrast, upstairs intermediation reduces the price impact of a large trade but is associated with additional costs in the form of potential information leakage during the process, lack of immediacy, and higher brokerage fees.<sup>5</sup>

Stock traded on an active market generally represents the price for a small block or blocks of the stock; there is no mechanism for determining the price of a large block. Although a 7,000,000 share block of Wal-Mart only represents a small percentage of the total share holdings, it is a larger number of shares than is traded on an average day.

However, court cases have specifically stated that the value of a block is not determined by what it would bring if dumped as a whole on the market at one time.

Determining a reasonable period of time ‘depends on all the facts and circumstances.’ Periods of up to a year have been found to be reasonable, although the periods may be much shorter if factors such as market volatility and time limitations so dictate.<sup>6</sup>

Some specific examples of determining a reasonable time frame are as follows:

- A blockage discount was allowed for decedent’s 159,000 shares when the average weekly shares traded on the NYSE was 3,600 shares (*Estate of Sophia P. Brownell*, T.C. Memo 1982-632).
- A blockage discount was not allowed for a block of 32,000 shares, when average monthly trading was 10,000 shares per month because the total number of shares being appraised was well below one year’s total trading volume (*Richard O. Wheeler*, T.C. Memo 1978-208).
- A blockage discount was disallowed on two blocks of decedent’s shares, where the size of the block was approximately 1 percent to 2 percent of the total number of shares traded in the year of death. The justification for the discount was that all the shares would be sold at one time. The court stated the following:  
In valuing a block of stock, we are not required to assume that the block was dumped on the market at one time on the valuation date. Rather, the inquiry must be directed to the effect upon the market based on the assumption that the block was being fed out into the market during a reasonable period of time (*Estate of Myrtle M. Sawade*, T.C. Memo 1984-626).

The court follows this up by referencing *Bankers Trust Co. v. United States*, which states, “the courts which have considered the blockage issue have concluded that the problem should be treated in terms of whether the market could have absorbed the shares within a reasonable period of time.”

Clearly, the courts have ruled that the determination of a reasonable period of time is a facts and circumstances test. According to Wal-Mart’s July 31, 1995 Form 10-Q filed with the SEC, Wal-Mart Stores, Inc. had 2,295,757,065 shares of common stock outstanding. The subject block is 0.3 percent of the total out-standing shares.

<sup>4</sup> Cheng, Minder and Ananth Madhavan, “In Search of Liquidity: Block Trades in the Upstairs and Downstairs Markets,” NYSE Working Paper 94-02.

<sup>5</sup> *Ibid.*

<sup>6</sup> *Estate of Dorothy B. Foote v. Commissioner*, T.C. Memo 1999-37.

**EXHIBIT 15.2 Blockage Discount**

Trading activity and stock prices for the year prior to the gift are as follows:

**Wal-Mart Stores, Inc. Trading Volume**

Date	Volume	High/Ask	Low/Bid	Close/Bid
11/1/94	1,174,000	23.75	23.375	23.625
11/2/94	2,917,000	24.125	23.50	23.875
11/3/94	3,009,000	23.75	23.375	23.50
11/4/94	3,114,000	24.125	23.50	23.75
11/7/94	1,718,000	24.125	23.50	23.875
11/8/94	1,712,000	24.125	23.75	23.875
11/9/94	4,184,000	24.375	23.875	24
11/10/94	1,924,000	24.50	24	24.125
Data intentionally left out of this exhibit. It was for an entire year in the original report.				
10/17/95	7,038,000	22.75	22.125	22.75
10/18/95	5,470,000	23	22.50	22.75
10/19/95	4,758,000	22.875	22.375	22.875
10/20/95	6,559,000	23.125	22.625	23
10/23/95	5,230,000	23	22.50	22.625
10/24/95	3,055,000	22.875	22.50	22.50
10/25/95	3,781,000	22.75	22.25	22.50
10/26/95	3,341,000	22.50	21.75	21.875
10/27/95	3,134,000	22.125	21.75	22.125
10/30/95	2,795,000	22.375	21.75	21.875
10/31/95	5,302,000	22.25	21.50	21.625
11/1/95	4,256,000	22.25	21.625	22.25

Based on this data, the average daily trading volume was 3,167,730 shares, with average ask, bid, and close prices of \$24.50, \$23.98, and \$24.28 respectively.

Over this period, the price traded in a fairly narrow range from \$213 to \$272, a spread of \$63, or approximately 30 percent. Over the one-year period, the price rose until approximately July 1995, and then declined again. This appeared to be a weakness in retail stocks in general, but Wal-Mart's stock price was predicted to rise.

The question becomes, how long would it take to "trickle" 7,000,000 shares into the marketplace, and what effect would this have on the price? The courts have clearly determined that it is unreasonable to base a blockage discount on the expectation that all the shares would be put on the market at one time.

(continued)

**EXHIBIT 15.2 Blockage Discount** *(continued)*

One of the issues that the court has addressed in determining the applicability of a blockage discount is the size of the block being valued in relation to the total number of shares traded in the year. According to the trading data previously listed, total shares traded in the period November 1, 1994 to 1995 amounted to 804,603,400. A 7,000,000 share block is less than 1 percent of the annual trading volume. This figure, in conjunction with prior court cases, seems to indicate that a blockage discount would not be applicable.

The second issue revolves around large daily trades in the stock itself. The table that follows excerpts certain days' trading activities. As previously mentioned, average daily trading in Wal-Mart Stores' stock is approximately 3.2 million shares. The data in this table shows trading activity for those days when the number of shares traded exceeded 5 million shares. There were 20 such days. It should be noted that we were unable to determine if the additional shares traded were in large blocks. Also provided in this table is the closing price for the day prior to the large trading volume days, with the percentage change in the closing price.

**Large Trading Volume Days**

Date	Volume	High/Ask	Low/Bid	Close/Bid	Prior Closing	% Price Change
11/17/94	6,512,000	23.5	22.50	22.625	23.375	-3.21%
11/18/94	5,870,000	23.125	22.625	22.75	22.625	0.55%
12/9/94	7,512,000	21.625	21.125	21.50	21.375	0.58%
12/16/94	9,485,000	23	22.25	23	22.625	1.66%
2/28/95	5,310,000	24.25	23.625	23.75	23.375	1.60%
3/28/95	5,678,000	25.125	24.375	24.875	24.50	1.53%
3/29/95	6,047,000	25.75	24.875	25.50	24.875	2.51%
5/12/95	6,291,000	25.50	24.25	25.25	24.375	3.59%
6/13/95	6,307,000	26.125	25.625	26.125	25.50	2.45%
6/14/95	5,282,000	26.625	26	26.50	26.125	1.44%
6/16/95	6,667,000	26.50	26.125	26.50	26.25	0.95%
8/30/95	9,504,000	25.375	24.75	25	25.125	-0.50%
9/15/95	5,989,000	25.875	25.50	25.625	25.375	0.99%
10/11/95	5,909,000	23.875	22.8125	23	23.875	-3.66%
10/12/95	6,791,000	23.50	22.875	22.875	23	-0.54%
10/13/95	7,796,000	23.25	22.875	23.125	22.875	1.09%
10/16/95	5,790,000	23.125	22.125	22.50	23.125	-2.70%
10/17/95	7,038,000	22.75	22.125	22.75	22.50	1.11%
10/18/95	5,470,000	23	22.50	22.75	22.75	0.00%
10/20/95	6,559,000	23.125	22.625	23	22.875	0.55%
					<b>Mean % Price change</b>	<b>0.50%</b>

## EXHIBIT 15.2 Blockage Discount

A couple of facts can be observed from this data:

1. There is no consistency in the price change size or direction when a larger number of shares are traded.
2. There is an active market for large blocks of stock to be bought and sold.

Overall, when large blocks of Wal-Mart Stores' stock are placed on the market, the average price change is approximately 0.50 percent. This indicates that a block of 7,000,000 shares could be sold within a matter of days (two to three), and the sale of this block would not affect the price. Therefore, in our opinion, a blockage discount would not be applicable.

**Conclusion.** The fair market value of 7,000,000 shares of Wal-Mart Stores, Inc. as of November 1, 1995 is \$153,562,500, and no blockage discount is applicable.

## How About Some Court Cases?

Like so many of the other sections of this chapter, I want to point out The Court cases that you should become familiar with but not rely on. Great concept, isn't it? A blockage discount was allowed for a decedent's 159,000 shares when the average weekly shares traded on the NYSE was 3,600 shares.<sup>49</sup> A blockage discount was not allowed for a block of 32,000 shares, when average monthly trading was 10,000 shares per month because the total number of shares being valued was well below one year's total trading volume.<sup>50</sup> A blockage discount was also disallowed on two blocks of a decedent's shares, where the size of the block was approximately 1 percent to 2 percent of the total number of shares traded in the year of death. The justification for the discount was that all the shares would be sold at one time. The Court stated the following:

In valuing a block of stock, we are not required to assume that the block was dumped on the market at one time on the valuation date. Rather, the inquiry must be directed to the effect upon the market based on the assumption that the block was being fed out into the market during a reasonable period of time.<sup>51</sup>

One of the better cases on this subject that you really want to read to learn what the court feels are the factors to be considered in determining the size of a blockage discount is *Estate of Dorothy B. Foote*, T.C. Memo 1999-37.

## Other Premiums and Discounts

There will be times when other premiums and discounts will be appropriate. Some of these occasions may involve swing vote premiums or litigation uncertainties. A swing vote premium is the increased value that a minority interest may have due to the ability to swing the control in the entity to one of the other shareholders. A 2 percent owner may have a valuable asset if the other shareholders each own 49 percent, and the 2 percent provides one of them with control.

Discounts come in all shapes and sizes. During an estate valuation, our firm applied a discount because of the uncertainty of an ongoing litigation, which made the marketability of the decedent's shares less desirable. An example of this from one of our reports is included in exhibit 15.3. The IRS signed off on this valuation. This should serve as further proof that a well-thought-out discussion can assist the valuation analyst in obtaining larger discounts than those in the published studies. In this instance, the business was owned equally by three family factions. One of the families filed suit against the others to force a buyout of this interest and several others in related entities. At the last minute, a proposed settlement fell apart. During this time, a second family faction decided they would hold the remaining faction hostage by trying to coerce a buyout of their interests as well. This family was anything but close.

49 *Estate of Sophia P. Brownell*, T.C. Memo 1982-632.49, *Richard O. Wheeler*, TC Memo 1978-208.

50 *Richard O. Wheeler*, T.C. Memo 1978-208.

51 *Estate of Myrtle M. Sawade*, T.C. Memo 1984-626.

### EXHIBIT 15.3 Discount for Uncertainty of Litigation

At the date of the decedent's death, the Jones family litigation was still ongoing. Despite a possible settlement five months earlier, a four-year litigation continued to shadow the Jones' entities. A willing buyer would have to consider the risks associated with this litigation because it was not finalized until four months after the decedent's death.

At the date of death, the proposed settlement had fallen apart. A willing buyer of the decedent's one-third interest in the partnership was looking at a best-case scenario in which the one-third interest would become a one-half interest, with the remaining one-half interest being owned by a "nonfriendly" partner. At the conclusion of the litigation, it became obvious that the defendants were not necessarily on the same side.

Obtaining the additional interest would force the partnership to commit to a payout of \$913,772. In addition, the following parcels of real estate, having the following appraised values, would no longer be owned by the partnership:

Smith Township	\$1,165,000
Jones, lot 1	8,000
Jones, lot 2	150,000
Brown Township	3,800
Greene	800,000
<b>Total</b>	<b>\$2,126,800</b>

The total settlement amount of approximately \$3 million is greater than the enterprise value.

The willing buyer would also expend additional legal fees to resolve the issue because the settlement was not definite. Why would anyone want to obligate himself or herself in that way? No prudent investor would purchase this 33.3 percent interest knowing that the best-case scenario would render the company insolvent. Furthermore, part of the overall settlement included an indemnification relating to environmental liability, which is a serious problem for this entity.

This litigation would render this partnership interest virtually worthless due to the contingencies associated with it. A settlement was able to take place because the other Jones entities involved in the litigation interacted, and other companies or individuals were able to generate available funds without depending on Jones, Inc.'s financial success. Therefore, the amount paid in settlement of the litigation was clearly in excess of the fair market value of the decedent's interest in Jones, Inc. This valuation analyst feels that a discount of 100 percent is justified in this instance.

Using the uncertainty of litigation in a valuation of another entity that was related to the subject in exhibit 15.3, we could not justify a 100 percent discount, but we used the information that we had to quantify the size of the discount in dollars instead of as a percentage. A section of a report dealing with this issue can be found in exhibit 15.4. The examples in exhibits 15.3 and 15.4 were part of 7 valuation reports that were prepared for a decedent's estate tax return. The cumulative discount taken for the decedent's minority interests was 75 percent. When the IRS audited this estate, it began the negotiations by allowing a 45 percent combined discount. This told us that we had a very strong case for our discounts. The case finally settled, allowing a 62 percent combined discount. The only reason that the case settled at this level was that the IRS threatened to open up the 25 real estate and machinery appraisals that were used by us in determining the value of the various business interests. Power is a wonderful leverage tool!

Some valuation analysts handle these miscellaneous discounts differently. Some adjust income streams, some adjust discount rates or multiples, and some choose to ignore these factors completely. Short of ignoring them completely, there is no definitive method of handling these items. The valuation analyst should use common sense. The manner in which the valuation analyst chooses to handle these situations may depend on the purpose and function of the valuation assignment. In certain types of litigations, such as divorce, some jurisdictions seem to be against discounts because they feel that the nonbusiness owner spouse is "getting



the shaft.” In actuality, that spouse will probably receive a windfall if no discounts are provided for. However, the valuation analyst should use his or her head. If he or she knows that the particular jurisdiction is against discounts, it can be built into the balance of the valuation. However, if the valuation analyst is working on a job that is governed by statute, he or she must perform the valuation in accordance with the law. Remember, the valuation analyst is supposed to be giving his or her objective opinion about the value of the interest being valued. If the valuation analyst gets a good, supportable number, these types of cosmetics may help him or her advocate his or her own opinion.

### EXHIBIT 15.4 Discount for Uncertainty of Litigation

At the date of death, the Jones family litigation was still ongoing. Despite a possible settlement five months earlier, a four-year litigation continued to shadow the Jones’s entities. A willing buyer would have to consider the risks associated with this litigation because it was not finalized until four months after the decedent’s death.

At the date of death, the proposed settlement had fallen apart. A willing buyer would have to acquire the decedent’s interest subject to the ongoing litigation. The best-case scenario for the willing buyer would be that the tentative settlement from before death is reached, and 37.5 shares are redeemed for \$250,921. This would turn the 33.3 percent interest into a 50 percent interest, with the balance of the stock being owned by an “unfriendly” stockholder group.

The company would also be obligated to disburse \$250,921 for the settlement plus the final costs of settling the litigation. Therefore, the best-case scenario would require the willing buyer to assume the interest subject to this obligation. Because the effective pro rata obligation of the decedent’s interest would be 50 percent of \$250,921, or \$125,461, an equivalent discount is appropriate.

## Application of Valuation Adjustments

Now that we have spent all this time on various types of valuation adjustments (premiums and discounts), I thought that it might be helpful to discuss how they should be applied. The proper application of discounts and premiums requires the valuation analyst to understand their impact. Some discounts and premiums are additive, whereas others are multiplicative. For example, the application of lack of control discounts and DLOMs is multiplicative. This can be illustrated as follows. Assume a lack of control discount of 25 percent and a DLOM of 35 percent. If these discounts were additive, the valuation analyst would add them together and deduct a 60 percent discount from the control value. However, the total discount to be taken from the control value is calculated as follows:

$$1 - [(1 - 0.25)(1 - 0.35)] = 0.5125$$

For those like me who are not into mathematical equations, this same example can be demonstrated as shown in table 15.43.

**TABLE 15.43**

Value on a control, marketable basis	\$100.00
Less lack of control discount (25%)	25.00
Value on a minority, marketable basis	\$ 75.00
Less DLOM (35%)	26.25
Value (cumulative discount 51.25%)	\$ 48.75

The application of a DLOM and discounts for legal restrictions, environmental restrictions, and litigation discounts may overlap. Therefore, be aware of the possibility of double-counting. Private or small company discounts that relate to the sale of an entire business—as opposed to the DLOM relating the control value to public prices—are mutually exclusive.

The private or small company discount that is determinable from the *Mergerstat*<sup>®</sup> *Review* data and other sources may be caused by several factors, including, but not limited to, lack of marketability. The DLOM is exactly what it is meant to be, and to add it to the private or small company discount when the valuation analyst values an entire closely held company would result in a double-counting of the DLOM.

The discount from net asset value and the lack of control discount are mutually exclusive. When a discount from net asset value is applied, a lack of control discount is generally inappropriate. However, the discount from net asset value may apply to the subject company or to the underlying assets. This could result in discounts being applied at both the asset level and the entity level. This is the concept that is being used to value minority interests in family limited partnerships. If the valuation subject is a minority block of shares in a closely held investment, holding, or asset-intensive company, the discount from net asset value—used to obtain the freely traded value—and the DLOM are both applicable and are always multiplicative.

## Conclusion

By now it is evident that supporting valuation premiums and discounts is as much fun as going to the dentist. Although there are empirical studies, databases, and models for most of these premiums and discounts, the application of these and other discounts to any size business or business interests is a very subjective task. Using quantitative methods do not work by themselves, forcing the valuation analyst to go back to the old faithful qualitative methods that the courts seem to hate. Nobody said that this would be easy. In fact, it used to be much easier when everyone just whacked the value by 35 percent with no explanation. But I know that you will not do that after reading the last two chapters.

# Chapter 16

## Revenue Ruling 59–60

### Learning Objectives

In this chapter, I will attempt to review Revenue Ruling 59-60 in more detail. In fact, it will probably be in more detail than newcomers to business valuation have ever seen before. This chapter should be used as a review of most of the valuation concepts that have been covered. If you bought an earlier edition of this book, this chapter will serve as a good refresher for you. Not much has changed; if it ain't broke, why fix it?

### Introduction

This chapter contains an annotated version of Revenue Ruling 59-60. The revenue ruling appears in italics, and the sections of this ruling that are in bold italic print are intended to emphasize a particular point. The author, not the IRS, has done the boldfacing. This ruling is so important to business valuation that I was tempted to boldface the entire document. (Relax, I didn't.)

Revenue Ruling 59-60 is said to be one of the greatest business valuation treatises ever written. It is hard to imagine that it came from our government! This ruling is quoted more often than any other source in the valuation field. Although the ruling was written to provide guidance on the valuation of closely held stocks for estate and gift tax purposes, the IRS expanded its applicability to income taxes. Because of its wide acceptance, many other authorities have looked to this ruling for guidance in valuing closely held stocks and other types of entities for many reasons other than taxes.

Despite having read this document hundreds of times, I continue to find elements that I had not seen before. As we go over the ruling, I will attempt to point out the intent of the ruling and illustrate its compliance with modern valuation theory. The essence of this chapter will be to determine what this revenue ruling really says.

### Revenue Ruling 59-60

***Section 1. Purpose. The purpose of this Revenue Ruling is to outline and review in general the approach, methods and factors to be considered in valuing shares of the capital stock of closely held corporations for estate tax and gift tax purposes. The methods discussed herein will apply likewise to the valuation of corporate stocks on which market quotations are either unavailable or are of such scarcity that they do not reflect the fair market value.***

Although the main focus of this revenue ruling is the valuation of closely held stocks, Revenue Ruling 59-60 has equal applicability to other types of entities. Whether the valuation subject is a partnership, sole proprietorship, or a limited liability company, the factors discussed in this ruling can generally be applied. In addition to the fact that this ruling is applicable to other types of entities, Revenue Ruling 65-192 expanded it to include income taxes, estate and gift taxes, and other taxes.

***Section 2. Background and Definitions.***

***.01 All valuations must be made in accordance with the applicable provisions of the Internal Revenue Code of 1954 and the Federal Estate Tax and Gift Tax Regulations. Sections 2031(a), 203, and 2512(a) of the 1954 Code (sections 811 and 1005 of the 1939 Code)***

*require that the property to be included in the gross estate, or made the subject of a gift, shall be taxed on the basis of the **value of the property at the time of death of the decedent, the alternate date if so elected, or the date of gift.***

Two important points are made right off the bat. First, any valuation that is going to be performed for tax purposes must follow the provisions of the IRC and IRS Regulations. The next point is that the valuation is date specific. The property is to be valued at the date of death, the alternate valuation date, or the date of the gift. This is consistent with the discussion in chapter 3 titled “Effective Date(s) of the Valuation.”

*.02 Section 20.2031-1(b) of the Estate Tax Regulations (section 81.10 of the Estate Tax Regulations 105) and section 25.2512-1 of the Gift Tax Regulations (section 86.19 of Gift Tax Regulations 108) **define fair market value, in effect, as the price at which the property would change hands between a willing buyer and a willing seller when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of relevant facts. Court decisions frequently state in addition that the hypothetical buyer and seller are assumed to be able, as well as willing, to trade and to be well informed about the property and concerning the market for such property.***

The definition included in this ruling is one of the most commonly used definitions of *fair market value*. To make the definition complete, it is important to understand and include the statement about court decisions (the last sentence of the previous quotation). For a “true” fair market value to be estimated, the situations outlined in box 16.1 must apply.

**BOX 16.1****Considerations for Fair Market Value Conditions**

1. There must be a willing buyer. Not only does the buyer have to be willing, but he or she must also be able to make the purchase. It would not matter if I wanted to buy a company such as Google or General Electric if I do not have the ability to consummate the deal. (Maybe next year if I sell enough of these books!)
2. There must be a willing seller. This concept seems easier than it really is when it comes to smaller businesses. The business owner frequently has certain obligations that may prohibit the sale of the property. For example, imagine a non-assignable lease with 10 years left on it at an above-market rent. This could prevent the willing seller from being able to sell the business, unless the price is lowered substantially so that the willing buyer can pay the higher-than-market rent. This would indicate that the fair market value of the property is reduced due to the unfavorable lease situation.  
  
Considering a market or income approach, cash flow would be reduced because of the higher rent, resulting in a lower value. This could also make the business less marketable. Using an asset-based approach, the valuation analyst would end up with a liability for an unfavorable leasehold. Although the willing seller may not want to sell the property at a reduced price, the economic reality is that the business is worth less.
3. Neither the willing buyer nor the willing seller should be under any compulsion to buy or sell (no duress). Because fair market value assumes a reasonable period of exposure on the market, the buyer and seller cannot be compelled to consummate a transaction. The seller should be able to wait for the market price and not end up with a fire sale situation. The buyer should not be in a position in which he or she has to purchase this business. If the buyer had been unemployed for a while and purchasing his or her employment was the only way to keep from running out of money, the temptation would be to overpay for the opportunity to get back to work.
4. Both buyer and seller must be reasonably knowledgeable about the property (including property market). Fair market value is not achieved if the parties to the transaction do not know what the business is worth compared with similar businesses in the market. Just as buyers are likely to overpay for the business, sellers may, at times, give the business away for too little. This situation should occur only if the buyer or seller fails to call us to do a valuation.

Although this point is not separately stated, fair market value also assumes a covenant not to compete between the willing buyer and seller. If there was no such covenant, the seller could open up next door. Why would anyone purchase a business if this was the case? This point is somewhat controversial. Many valuation analysts believe that a covenant not to compete is not included in fair market value, but let’s face reality. When a business is sold, there is frequently a covenant not to compete. However, its value is rarely determined. More often than not, a negotiation takes place to include something for tax purposes, but this is usually deducted from the overall price that was agreed on by the parties. However, it is included in the sales price that we find in most of the data in the small transaction databases.

**.03 Closely held corporations** are those corporations the shares of which are **owned** by a **relatively limited number of stockholders**. Often the entire stock issue is held by one family. **The result of this situation is that little, if any, trading in the shares takes place. There is, therefore, no established market for the stock and such sales as occur at irregular intervals seldom reflect all of the elements of a representative transaction as defined by the term “fair market value.”**

In this section of the revenue ruling, the IRS concedes that there is no established market for closely held stocks. This admission indicates that fair market value cannot truly be achieved, because there is no market. This concept begins the recognition of the lack of marketability in a closely held company. Revenue Ruling 77-287 addresses the issue of discounts for lack of marketability as it relates to restricted stock. However, if a property cannot be sold due to lack of a market, how can it be worth something other than its value to the current owner? Marketability issues were discussed in great detail in chapter 15. Revenue Ruling 77-287 is reproduced in appendix 10.

### **Section 3. Approach to Valuation**

**.01 A determination of fair market value, being a question of fact, will depend upon the circumstances in each case. No formula can be devised that will be generally applicable to the multitude of different valuation issues arising in estate and gift tax cases. Often, an appraiser will find wide differences of opinion as to the fair market value of a particular stock. In resolving such differences, he should maintain a reasonable attitude in recognition of the fact that valuation is not an exact science. A sound valuation will be based upon all the relevant facts, but the elements of common sense, informed judgment and reasonableness must enter into the process of weighing those facts and determining their aggregate significance.**

Some very important points are raised in this section. First, the circumstances of each case must be considered individually. This means that the valuation analyst cannot treat each valuation the same. This holds true even if the valuation subject is the same type of business that the valuation analyst has valued previously. No two businesses are truly alike. The valuation analyst should consider all the facts before arriving at a conclusion.

Another important concept is that no formula can be devised (not even the formula method from Revenue Ruling 68-609) that can be applied to every valuation. The valuation analyst must consider the facts and circumstances of each assignment to establish which valuation methodologies are appropriate in each situation. Don't rely on a mechanical application.

Now comes one of my favorite parts: Valuation is not an exact science. No kidding! If you can accept this concept, you are on your way to becoming a valuation analyst. If you are looking for black and white, you have come to the wrong place. By now you should recognize that there is no black and white, only a million shades of gray.

The revenue ruling points out the importance of using “common sense, informed judgment, and reasonableness” in performing the assignment. There are no substitutes for these items. Common sense plays a big role in the valuation process because the decisions that are made by a valuation analyst are often subjective. Because we do not always have the best information to work with, common sense frequently gets us through the assignment.

Along with common sense, informed judgment is important. Because the valuation process is so subjective, the valuation analyst needs to be well-informed to make the various choices that have to be made. Using economic, industry, and company information to analyze risk as it pertains to multiples or discount and capitalization rates can only assist the valuation analyst in making an informed judgment.

**.02 The fair market value of specific shares of stock will vary as general economic conditions change** from “normal” to “boom” or “depression,” that is, **according to the degree of optimism or pessimism with which the investing public regards the future at the required date of appraisal. Uncertainty as to the stability or continuity of the future income from a property decreases its value by increasing the risk of loss of earnings and value in the future.** The value of shares of stock of a company with very uncertain future prospects is highly speculative. **The appraiser must exercise his judgment as to the degree of risk attaching to the business of the corporation which issued the stock, but that judgment must be related to all of the other factors affecting value.**

Economic analysis is necessary at the valuation date to determine how the investing public feels about the future income of the property. Uncertainty about future income increases risk and affects the value in the future. Judgment is related to all factors in the valuation process, not just some. Each analysis that the valuation analyst performs—whether it is on the economy, the industry, or the finances of the company—cannot be done in a vacuum. All of these items must be considered for the valuation analyst to assess risk properly. The risk assessment will be used to adjust the multiples derived from guideline companies (comparables) or to adjust discount and capitalization rates.

Risk analysis is discussed in chapter 6. Multiples are discussed in chapters 9 and 10. Discount and capitalization rates are discussed in chapter 13.

**.03 Valuation of securities is, in essence, a prophecy as to the future and must be based on facts available at the required date of appraisal.** As a generalization, **the prices of stocks which are traded in volume in a free and active market by informed persons best reflect the consensus of the investing public** as to what the future holds for the corporations and industries represented. **When a stock is closely held, is traded infrequently, or is traded in an erratic market, some other measure of value must be used.** In many instances, **the next best measure may be found in the prices at which the stocks of companies engaged in the same or a similar line of business are selling in a free and open market.**

The most important lesson learned in this section of the ruling is that valuation is based on the future (the principle of future benefits is discussed in chapter 4). Relying on history alone to perform valuations is clearly wrong. The only time history can be used is if it represents what is expected to happen in the future.

The ruling also points out that the market is the best source of value. Publicly traded stocks are a good consensus of the market because these stocks are actively traded in a free and open market. However, because this information is not available for closely held businesses, the valuation analyst should use the actively traded stocks of companies that are in the same or a similar line of business. “Use the market approach” is the message that is being sent. Even if the guideline company method cannot be used with public companies, the market approach should continue to be a viable alternative. See chapters 9 or 10 for alternative applications of the market approach.

#### **Section 4. Factors to Consider.**

**.01 It is advisable to emphasize that in the valuation of the stock of closely held corporations or the stock of corporations where market quotations are either lacking or too scarce to be recognized, all available financial data, as well as all relevant factors affecting the fair market value, should be considered. The following factors, although not all-inclusive, are fundamental and require careful analysis in each case:**

- (a) *The nature of the business and the history of the enterprise from its inception.*
- (b) *The economic outlook in general and the condition and outlook of the specific industry in particular.*
- (c) *The book value of the stock and the financial condition of the business.*
- (d) *The earning capacity of the company.*
- (e) *The dividend-paying capacity.*

- (f) *Whether or not the enterprise has goodwill or other intangible value.*
- (g) *Sales of the stock and the size of the block of stock to be valued.*
- (h) *The market price of stocks of corporations engaged in the same or a similar line of business having their stocks actively traded in a free and open market, either on an exchange or over-the-counter.*

What can I say? Here it is again. By now, you know the importance of each one of these items. If you don't, you may want to reread the first 15 chapters of this book. If you have read any other business valuation books, the 8 factors outlined in Revenue Ruling 59-60 appear over and over again. These items should be self-explanatory. If they are not, I suggest that you start this book again.

.02 *The following is a brief discussion of each of the foregoing factors:*

(a) **The history of a corporate enterprise will show its past stability or instability, its growth or lack of growth, the diversity or lack of diversity of its operations, and other facts needed to form an opinion of the degree of risk involved in the business.** *For an enterprise which changed its form of organization but carried on the same or closely similar operations of its predecessor, the history of the former enterprise should be considered. The detail to be considered should increase with approach to the required date of appraisal, since recent events are of greatest help in predicting the future; but a study of gross and net income, and of dividends covering a long prior period, is highly desirable. The history to be studied should include, but need not be limited to, the nature of the business, its products or services, its operating and investment assets, capital structure, plant facilities, sales records and management, all of which should be considered as of the date of the appraisal, with due regard for recent significant changes. Events of the past that are unlikely to recur in the future should be discounted, since value has a close relation to future expectancy.*

Revenue Ruling 59-60 discusses the fact that the valuation analyst has to know where the company has been to predict where it is going. History is an important element in any business valuation exercise because it allows the valuation analyst to assess items such as growth, business diversification, and the other elements of risk that pertain to the valuation subject. This information ultimately helps support the multiples, discount rates, and capitalization rates used in the assignment. The valuation analyst will also want to use history as a basis for forecasting future operations, if that is appropriate in the given assignment.

The valuation analyst should obtain a thorough understanding of the company. This goes far beyond just gathering numbers. The analyst needs to understand the evolution of the business, including information regarding the company's product lines, competition, employees, and management and also a considerable amount of additional information that is gathered in the early part of the assignment. These items are discussed in chapter 5.

Revenue Ruling 59-60 also indicates that events of the past that are not expected to recur in the future should be disregarded because the future is more important than the past. These past nonrecurring items will be adjusted during the normalization process. The normalization process is intended to restate the financial information provided by the company to an economic basis (see chapter 6).

(b) **A sound appraisal of a closely held stock must consider current and prospective economic conditions as of the date of appraisal, both in the national economy and in the industry or industries with which the corporation is allied. It is important to know that the company is more or less successful than its competitors in the same industry, or that it is maintaining a stable position with respect to competitors.** *Equal or even greater significance may attach to the ability of the industry with which the company is allied to compete with other industries. Prospective competition which has not been a factor in prior years should be given careful attention. For example, high profits due to the novelty of its product and the lack of competition often lead to increasing competition. The public's appraisal of the future prospects of competitive industries or of competitors within an industry may be*

**indicated by price trends in the markets for commodities and for securities. The loss of the manager of a so-called “one-man” business may have a depressing effect upon the value of the stock of such business, particularly if there is a lack of trained personnel capable of succeeding to the management of the enterprise. In valuing the stock of this type of business, therefore, the effect of the loss of the manager on the future expectancy of the business, and the absence of management-succession potentialities are pertinent factors to be taken into consideration.** On the other hand, there may be factors which offset, in whole or in part, the loss of the manager’s services. For instance, the nature of the business and of its assets may be such that they will not be impaired by the loss of the manager. Furthermore, the **loss may be adequately covered by life insurance, or competent management might be employed on the basis of the consideration paid for the former manager’s services.** These, or other offsetting factors, if found to exist, should be carefully weighed against the loss of the manager’s services in valuing the stock of the enterprise.

This section of the ruling covers several different topics for consideration. It first tells us to consider current and prospective economic and industry information at the date of the valuation. To assess economic and industry risk properly, the valuation analyst must consider the impact of the economy and the industry on the valuation subject. For example, if the valuation subject is a building contractor that primarily builds residential housing, and mortgage interest rates at the date of the valuation are very high but are forecast to go down substantially, a conclusion could be drawn that the current operations, which probably have slowed down considerably because of the high rates, will most likely pick up again in the future with the falling rates. This can affect the forecast of “probable future earnings” and the amount of risk built into the multiples, discount rates, or capitalization rates. Be careful not to double-count by adjusting in both places!

The industry in which the valuation subject operates must be considered as well. If the entire book publishing industry was changing to e-books to accommodate the explosion of e-book readers in the marketplace, and the valuation subject was continuing to publish paper books for the same market, there might be a problem with the future sales of the company’s products. This would obviously affect the company’s value.

The ruling also tells the valuation analyst to consider the possible impact of competition on the valuation subject. If the valuation analyst is valuing a company with a product that is highly profitable and extremely “hot,” there is a good chance that competition will come into the market, even if it was not there before. If the valuation analyst gets the feeling that the situation is too good to be true, it probably is!

The next area covered by the ruling discusses the mood of the investing public. Fair market value comes from the market, and the valuation analyst cannot ignore the market if an industry has become so favorable that investor perception is driving up prices. If investors are willing to pay higher prices for similar types of companies, the valuation subject may be going along for the ride, if all else is equal.

Finally, this section discusses the impact of the loss of a key person. (The ruling actually refers to a “one-man” business. Ladies, on behalf of the Treasury Department, I apologize. We all know that this is politically incorrect! Certainly, in my firm, the key man is a woman.) The loss of a key person will frequently have an impact on a small company, more so than on a large company that has a management team in place. The loss of a key individual can have an adverse effect on the future operations of any business, but the valuation analyst must consider whether that individual can be replaced and how much time it would take to replace him or her.

There may be a slight downturn for the business in the short term until a replacement is found, but it may, in fact, only be short-term. The company may be able to find an adequate replacement who, given a reasonable amount of time, could put the company back on track. There may even be life insurance proceeds to protect the company so that adequate funds are available to handle this problem. The ruling is pretty clear on the fact that the valuation analyst should consider items that offset the loss of the key person, as well as the impact of the loss of the key person.

**(c) Balance sheets should be obtained, preferably in the form of comparative annual statements for two or more years immediately preceding the date of appraisal, together**



with a balance sheet at the end of the month preceding that date, if corporate accounting will permit. Any balance sheet descriptions that are not self-explanatory, and balance sheet items comprehending diverse assets or liabilities, should be clarified in essential detail by supporting supplemental schedules. **These statements usually will disclose to the appraiser (1) liquid position (ratio of current assets to current liabilities); (2) gross and net book value of principal classes of fixed assets; (3) working capital; (4) long-term indebtedness; (5) capital structure; and (6) net worth. Consideration also should be given to any assets not essential to the operation of the business, such as investments in securities, real estate, etc. In general, such nonoperating assets will command a lower rate of return than do the operating assets, although in exceptional cases the reverse may be true. In computing the book value per share of stock, assets of the investment type should be revalued on the basis of their market price and the book value adjusted accordingly. Comparison of the company's balance sheets over several years may reveal, among other facts, such developments as the acquisition of additional production facilities or subsidiary companies, improvement in financial position, and details as to recapitalizations and other changes in the capital structure of the corporation. If the corporation has more than one class of stock outstanding, the charter or certificate of incorporation should be examined to ascertain the explicit rights and privileges of the various stock issues including: (1) voting powers, (2) preference as to dividends, and (3) preference as to assets in the event of liquidation.**

Here, the ruling tells the valuation analyst to obtain at least two years of balance sheets for the valuation subject so that a comparison can be performed. In practice, most valuation analysts look for more years of data (generally five or more). The idea is to spot changes in the company's trends that will help the valuation analyst understand how the company has arrived at its current financial position. A review of the comparative balance sheets will help the valuation analyst understand if the company has made any major acquisitions of other companies (look for intangibles) or productive capacity (look for large increases in fixed assets) or other items that may be necessary to forecast future operations.

If a proper comparison is to be made to guideline public companies, changes to the capital structure should also be considered, assuming that the interest has the ability to change it. This may affect the valuation analyst's decision about whether to value equity or invested capital. Changes in the capital structure may also affect many of the financial ratios that the valuation analyst uses as analytical tools.

Revenue Ruling 59-60 suggests that the valuation analyst review differences in the rights of the different classes of stock that may exist and pay particularly close attention to voting differences, dividend preferences, and rights in liquidation. These items will affect the level of control that is afforded the stockholders. For example, if a stockholder has voting stock as opposed to nonvoting stock, there is more of an ability to shape the direction of the company (assuming there is enough stock to do this). Therefore, there may be a larger control premium or, conversely, a smaller discount for lack of control (minority).

**(d) Detailed profit-and-loss statements should be obtained and considered for a representative period immediately prior to the required date of appraisal, preferably five or more years. Such statements should show (1) gross income by principal items; (2) principal deductions from gross income including major prior items of operating expenses, interest, and other expenses on each item of long-term debt, depreciation and depletion if such deductions are made, officers' salaries, in total if they appear to be reasonable or in detail if they seem to be excessive, contributions (whether or not deductible for tax purposes) that the nature of its business and its community position require the corporation to make, and taxes by principal items, including income and excess profits taxes; (3) net income available for dividends; (4) rates and amounts of dividends paid on each class of stock; (5) remaining amount carried to surplus; and (6) adjustments to, and reconciliation with, surplus as stated on the balance sheet. With profit and loss statements of this character available, the appraiser should be able to separate recurrent from nonrecurrent items of income and expense, to distinguish between operating income and investment income, and to ascertain whether or not any line of business in which the company is engaged is operated consistently at a loss and might**

**be abandoned with benefit to the company.** The percentage of earnings retained for business expansion should be noted when dividend-paying capacity is considered. **Potential future income is a major factor in many valuations of closely-held stocks, and all information concerning past income which will be helpful in predicting the future should be secured. Prior earnings records usually are the most reliable guide as to the future expectancy, but resort to arbitrary five-or-ten-year averages without regard to current trends or future prospects will not produce a realistic valuation.** If, for instance, a record of progressively increasing or decreasing net income is found, then greater weight may be accorded the most recent years' profits in estimating earning power. It will be helpful, in judging risk and the extent to which a business is a marginal operator, to consider deductions from income and net income in terms of percentage of sales. Major categories of cost and expense to be so analyzed include the consumption of raw materials and supplies in the case of manufacturers, processors, and fabricators; the cost of purchased merchandise in the case of merchants; utility services; insurance; taxes; depletion or depreciation; and interest.

This section of the ruling tells the valuation analyst to obtain at least five years of income statement data in sufficient detail so that the valuation analyst can properly understand the data's components as well as the trends. Five years is not automatically the correct number. There will be times when a company's business cycle is longer or shorter, and the valuation analyst must use judgment to determine the appropriate time period to use for that particular assignment. Adjustments should be made to past earnings (for example, reasonable compensation), if appropriate.

The ruling also tells the valuation analyst to consider operating and non-operating income and expense items separately. Because most of the valuation methods are designed to produce the value of the operating assets and liabilities, it is logical to remove the non-operating income and expense items from the stream of income that is used.

Potential future income is discussed in the ruling and is said to be of major importance in valuation. This is the entire valuation process! Nobody buys history. The potential future income, whether in the form of dividends, capital appreciation, or a combination of the two, is what the willing buyer is purchasing. History is used to help predict the future. The ruling emphasizes that the valuation analyst cannot resort to an arbitrary use of history to value a company if it is not reflective of "probable future earnings." Current trends and future prospects must be taken into consideration in the valuation process.

*(e) Primary consideration should be given to the dividend-paying capacity of the company rather than to dividends actually paid in the past. Recognition must be given to the necessity of retaining a reasonable portion of profits in a company to meet competition. Dividend-paying capacity is a factor that must be considered in an appraisal, but dividends actually paid in the past may not have any relation to dividend-paying capacity. Specifically, the dividends paid by a closely held family company may be measured by the income needs of the stockholders or by their desire to avoid taxes on dividend receipts, instead of by the ability of the company to pay dividends. **Where an actual or effective controlling interest in a corporation is to be valued, the dividend factor is not a material element, since the payment of such dividends is discretionary with the controlling stockholders.** The individual or group in control can substitute salaries and bonuses for dividends, thus reducing net income and understating the dividend-paying capacity of the company. It follows, therefore, that dividends are a less reliable criterion of fair market value than other applicable factors.*

The use of dividend-paying capacity, as opposed to the actual dividends paid for a controlling interest, should be considered in a valuation because the controlling shareholders have the ability to control the level of dividends actually disbursed. In fact, most closely held companies do not pay dividends because they are not tax deductible.

More often than not, dividends are paid as additional compensation to create a tax-deductible expense. The dividend-paying capacity will be determined by normalizing the income statement and using the normalized

earnings to derive the net cash flow available to the stockholders. The net cash flow model (discussed in chapter 12) demonstrates this process.

**(f) In the final analysis, goodwill is based upon earning capacity. The presence of goodwill and its value, therefore, rests upon the excess of net earnings over and above a fair return on the net tangible assets.** While the element of goodwill may be based primarily on earnings, such factors as the prestige and renown of the business, the ownership of a trade or brand name, and a record of successful operation over a prolonged period in a particular locality, also may furnish support for the inclusion of intangible value. **In some instances it may not be possible to make a separate appraisal of the tangible and intangible assets of the business. The enterprise has a value as an entity. Whatever intangible value there is, which is supportable by the facts, may be measured by the amount by which the appraised value of the tangible assets exceeds the net book value of such assets.**

In this section, the ruling indicates that goodwill is based on the company's earning capacity. However, the ruling also seems to indicate that there are other factors (such as prestige or the brand name) that may add to the value and that also should be considered. In essence, the ruling indicates that the valuation analyst should value the entire company, and it is the excess over the value of the net tangible assets that becomes the intangible value. The ruling is a bit ambiguous in this section because it starts off by discussing goodwill and concludes by addressing other intangibles as well.

Most valuation analysts recognize the ruling as suggesting that the value of the entire company will include all intangibles, not just goodwill.

**(g) Sales of stock of a closely held corporation should be carefully investigated to determine whether they represent transactions at arm's length. Forced or distress sales do not ordinarily reflect fair market value nor do isolated sales in small amounts necessarily control as the measure of value.** This is especially true in the valuation of a controlling interest in a corporation. **Since, in the case of closely held stocks, no prevailing market prices are available, there is no basis for making an adjustment for blockage.** It follows, therefore, that such stocks should be valued upon a consideration of all the evidence affecting the fair market value. **The size of the block of stock itself is a relevant factor to be considered. Although it is true that a minority interest in an unlisted corporation's stock is more difficult to sell than a similar block of listed stock, it is equally true that control of a corporation, either actual or in effect, representing as it does an added element of value, may justify a higher value for a specific block of stock.**

Revenue Ruling 59-60 suggests that the valuation analyst review past transactions in the subject company's own stock to determine if it can be used as an indication of value. This can be the case only if the stock was transferred in an arm's length manner meeting all the requirements of the definition of *fair market value*. In particular, distress sales and sales of small blocks of stock will generally be a poor indicator of value. The smaller blocks may be used if the valuation analyst is valuing a small block of stock but may be very inappropriate for a controlling block.

This ruling also indicates that a blockage discount is inappropriate for large blocks of stock of a closely held corporation. The sale of a large block of stock of a closely held company will generally not have the same depressing effect (supply may be greater than demand) that selling a large block of stock may have on the public market. However, the ruling recognizes that it is more difficult to sell a minority interest in a closely held company than to sell the same interest in a public company (marketability), but also that controlling interests may have elements giving them more value (control is worth more than minority, and control is more marketable than minority).

**(h) Section 2031(b) of the Code states, in effect, that in valuing unlisted securities the value of stock or securities of corporations engaged in the same or a similar line of business which are listed on an exchange should be taken into consideration along with all other**

**factors.** An important consideration is that the corporations to be used for comparisons have capital stocks which are actively traded by the public. In accordance with section 2031(b) of the Code, stocks listed on an exchange are to be considered first. However, if sufficient comparable companies whose stocks are listed on an exchange cannot be found, other comparable companies which have stocks **actively traded** on the over-the-counter market also may be used. The essential factor is that whether the stocks are sold on an exchange or over-the-counter there is evidence of an active, free public market for the stock as of the valuation date. **In selecting corporations for comparative purposes, care should be taken to use only comparable companies.** Although the only restrictive requirement as to comparable corporations specified in the statute is that their lines of business be the same or similar, it is obvious that consideration must be given to other relevant factors in order that the most valid comparison possible will be obtained. For illustration, a corporation having one or more issues of preferred stock, bonds or debentures in addition to its common stock should not be considered to be directly comparable to one having only common stock outstanding. In like manner, a company with a declining business and decreasing markets is not comparable to one with a record of current progress and market expansion.

Here is the reason that valuation analysts employ the guideline public company method of valuation. Revenue Ruling 59-60 tells the valuation analyst to consider using comparative (guideline) companies to determine the value of the subject company. The ruling also points out that care should be exercised in selecting guideline companies. Comparability must relate to numerous factors and not be restricted to companies in the same or similar line of business. Review the items discussed in chapter 9 for a suggestion of factors to consider when determining comparability.

Another factor discussed is that the publicly traded guideline companies must be actively traded to be used in this analysis. This should eliminate any of the special motivations that buyers and sellers may have had in the market and that are not representative of fair market value (insiders trading shares of a thinly traded issue).

#### **Section 5. Weight to Be Accorded Various Factors.**

The valuation of closely held corporate stock entails the consideration of all relevant factors as stated in section 4. Depending upon the circumstances in each case, certain factors may carry more weight than others because of the nature of the company's business. To illustrate:

- (a) **Earnings may be the most important criterion of value in some cases whereas asset value will receive primary consideration in others.** In general, the appraiser will accord **primary consideration to earnings when valuing stocks of companies which sell products or services to the public; conversely, in the investment or holding type of company, the appraiser may accord the greatest weight to the assets underlying the security to be valued.**
- (b) **The value of the stock of a closely held investment or real estate holding company, whether or not family owned, is closely related to the value of the assets underlying the stock.** For companies of this type the appraiser should determine the fair market values of the assets of the company. **Operating expenses of such a company and the cost of liquidating it, if any, merit consideration when appraising the relative values of the stock and the underlying assets. The market values of the underlying assets give due weight to potential earnings and dividends of the particular items of property underlying the stock, capitalized at rates deemed proper by the investing public at the date of appraisal. A current appraisal by the investing public should be superior to the retrospective opinion of an individual.** For these reasons, adjusted net worth should be accorded greater weight in valuing the stock of a closely held investment or real estate holding company, whether or not family owned, than any of the other customary yardsticks of appraisal, such as earnings and dividend paying capacity.

In section 5 of the ruling, the weight to be assigned to the different approaches used in business valuation is discussed. For companies that sell products or services to the public, earnings are to be afforded the greatest weight during the valuation process. For companies that are asset-intensive, earnings may not be

as meaningful. The ruling is consistent with modern-day valuation theory because an asset-based approach is rarely used for businesses that have an intangible value beyond the valuation of the underlying assets. Obviously, an asset-based approach can be used if the intangible assets are valued separately and added to the result.

While discussing the valuation of the underlying assets, Revenue Ruling 59-60 also suggests that the expenses of liquidation be considered in the determination of value. The irony of this section is that Private Letter Ruling 9150001 specifically frowns on the application of capital gains taxes attributable to the selling of assets. The courts have taken the position that, unless liquidation is imminent, the effect of capital gains taxes is too speculative to be factored into the valuation. This was particularly true prior to the repeal of the General Utilities Doctrine, which was associated with IRC Section 337 liquidations.<sup>1</sup> Now, however, capital gains taxes have been permitted as part of the discount for lack of marketability in cases such as Davis and Eisenberg. There are also cases allowing a dollar-for-dollar reduction; Dunn is one of them. This has created a favorable argument for corporate-level taxpayers because they can no longer escape the corporate-level tax.

Finally, this section reiterates the importance of a market valuation as opposed to what is performed by a valuation analyst. The ruling indicates that the investing public's opinion should be given more weight than a retrospective assessment by an individual. This confirms the importance of having the underlying assets appraised in the determination of the adjusted net worth of a company, particularly when the underlying assets are real estate or investments, which are regularly valued by the market.

#### **Section 6. Capitalization Rates.**

*In the application of certain fundamental valuation factors, such as earnings and dividends, it is necessary to capitalize the average or current results at some appropriate rate. A **determination of the proper capitalization rate presents one of the most difficult problems in valuation. That there is no ready or simple solution** will become apparent by a cursory check of the rates of return and dividend yields in terms of the selling prices of corporate shares listed on the major exchanges of the country. **Wide variations will be found even for companies in the same industry.** Moreover, the ratio will fluctuate from year to year depending upon economic conditions. Thus, **no standard tables of capitalization rates applicable to closely held corporations can be formulated. Among the more important factors to be taken into consideration in deciding upon a capitalization rate in a particular case are: (1) the nature of the business; (2) the risk involved; and (3) the stability or irregularity of earnings.***

This section says it all! Determining the appropriate capitalization rate is one of the most difficult parts of the valuation process. The important part of this section is that there are no easy answers, there are no standard tables, and the valuation analyst needs to consider, at a minimum, the nature of the business, the risk involved, and the stability or irregularity of earnings.

#### **Section 7. Average of Factors.**

*Because valuations cannot be made on the basis of a prescribed formula, there is no means whereby the various applicable factors in a particular case can be assigned mathematical weights in deriving the fair market value. **For this reason, no useful purpose is served by taking an average of several factors (for example, book value, capitalized earnings and capitalized dividends) and basing the valuation on the result.** Such a process excludes active consideration of other pertinent factors, and the end result cannot be supported by a realistic application of the significant facts in the case except by mere chance.*

<sup>1</sup> The General Utilities Doctrine was repealed as part of the Tax Reform Act of 1986. Previously, it would have been possible to liquidate a corporation and avoid a corporate-level tax. The Tax Reform Act of 1986 removed this escape hatch and created double taxation to the corporation and shareholders on the liquidation.

Section 7 of the ruling states that although a valuation analyst attempts to reconcile the final value estimate, there is no formula available to reconcile the various valuation methods that may be applicable to a given valuation. Each valuation assignment consists of a unique set of circumstances that will require the valuation analyst to analyze the results of the different valuation methods used to derive a final estimate of value. Even between similar assignments, the information that the valuation analyst may obtain will provide more or less confidence in the application of certain methods. Companies have different balance sheet compositions, which could affect the weight to be afforded to the net worth of the company.

In simple terms, the valuation analyst should not blindly take an average of all the valuation methods that he or she decided were appropriate because the answer will, no doubt, be incorrect unless he or she is extremely lucky. He or she may be better off buying a lottery ticket!

### **Section 8. Restrictive Agreements.**

*Frequently, in the valuation of closely held stock for estate and gift tax purposes, it will be found that the stock is subject to an agreement restricting its sale or transfer. **Where shares of stock were acquired by a decedent subject to an option reserved by the issuing corporation to repurchase at a certain price, the option price is usually accepted as the fair market value for estate tax purposes.** See Rev. Rul. 54-76, C.B. 1954-1, 194. However, in such case the option price **is not determinative of fair market value for gift tax purposes.** Where the option, or buy and sell agreement, is the result of voluntary action by the stockholders and is binding during the life as well as at the death of the stockholders, such agreement may or may not, depending upon the circumstances of each case, fix the value for estate tax purposes. However, **such agreement is a factor to be considered, with other relevant factors, in determining fair market value.** Where the stockholder is free to dispose of his shares during life and the option is to become effective only upon his death, the fair market value is not limited to the option price. It is always necessary to consider the relationship of the parties, the relative number of shares held by the decedent, and other material facts, to determine whether the agreement represents a bona fide business arrangement or is a device to pass the decedent's shares to the natural objects of his bounty for less than an adequate and full consideration in money or money's worth. In this connection see Rev. Rul. 157, C.B. 1953-2, 255, and Rev. Rul. 189, C.B. 1953-2, 294.*

Revenue Ruling 59-60 reiterates that buy-sell agreements may be binding for estate tax purposes but may not be binding for gift tax purposes. Factors surrounding the buy-sell agreement must be considered by the valuation analyst to determine if the agreement represents an arm's length agreement and not one that is designed to avoid taxes. Consideration must clearly be given to special situations, such as related shareholders, but that is one of many factors to be considered.

The IRS will also scrutinize a situation in which shareholders arbitrarily determine the value for their buy-sell agreement, as opposed to a provision that calls for an independent valuation by a qualified valuation analyst. The general feeling is that there is too much room for manipulation if the determination of this value is left to the shareholders alone.

### **Section 9. Effect on Other Documents.**

*Revenue Ruling 54-77, C.B. 1954-1, 187, is hereby superseded.*

## **Conclusion**

By now, Revenue Ruling 59-60 should be a bit clearer. Considering that the ruling was promulgated in 1959, it has stood the test of time. Business valuation theory corresponds to the factors set forth in this ruling. For the most part, this revenue ruling is like motherhood and apple pie. It just makes sense! Regardless of the set of standards followed in performing a business valuation, they all send the same message: Consider the factors set forth in Revenue Ruling 59-60. I hope the information presented in this revenue ruling has shed new light on the valuation process. Valuation has not really changed. We just get smarter as time goes by.

# Chapter 17

## The Valuation Report

### Learning Objectives

In this chapter, I will explain the following:

- The components of a valuation report
- The types of valuation reports
- The preparation of the business valuation report
- The defense of the business valuation report
- Common errors in business valuation reports

### Introduction

Valuation reports will vary depending on the assignment. The different types of reports generated will be based on the needs of the client and will frequently be cost-driven. A detailed report may be too expensive for a client, although it may be required because of the nature of the assignment. This is a problem the valuation analyst constantly faces.

### Components of a Valuation Report

*Statement on Standards for Valuation Services (SSVS) No. 1, Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset (AICPA, Professional Standards, VS sec. 100)*, begins its discussion about valuation reports in paragraph .47. It states that

.47 A valuation report is a written or oral communication to the client containing the conclusion of value or the calculated value of the subject interest. Reports issued for purposes of certain controversy proceedings are exempt from this reporting standard (paragraph .50).

.48 The three types of written reports that a valuation analyst may use to communicate the results of an engagement to estimate value are as follows: either a detailed report or a summary report for a valuation engagement and a calculation report for a calculation engagement.

Regardless of whether the valuation analyst is a CPA, Standard 10, “Business Appraisal Reporting,” of the *Uniform Standards of Professional Appraisal Practice (USPAP)*, as well as the rest of the USPAP, must be followed for all Financial Institutions Reform Recovery and Enforcement Act (FIRREA) engagements, which are engagements that involve a federally related transaction. Of course, the vast majority of valuation assignments do not fall into this category.

According to the USPAP, each analysis, opinion, and conclusion reached should be communicated in a manner that is not misleading (no kidding!). The report should be clearly and accurately presented. It should also contain enough information to allow the reader to properly understand the contents, the sources of information used by the valuation analyst to draw certain conclusions, and the basis for the conclusions reached. The valuation analyst should also disclose any unusual assumption or limiting condition that directly affects the valuation and should explain their effects on value. Sounds like SSVS No. 1, huh?

The intent of the USPAP is to ensure that the valuation analyst properly communicates his or her findings in a thorough manner that will be helpful to the reader of the report. To accomplish this task, the USPAP lists certain items that must be in a report. For example, a definition of value must be in a report. If it is not, how will the reader properly understand the context in which the analysis has been done?

In my opinion, a good valuation report should contain at least the required disclosures from SSVS No. 1, which will also put the valuation analyst in compliance with the USPAP (if necessary). The required sections of a detailed valuation report per SSVS No. 1 are in box 17.1 for reference.

## Letter of Transmittal

The letter of transmittal is the cover letter in which the valuation analyst basically tells the client, “Here it is, but if you want to know more, see the attached report.” A sample transmittal letter appears as part of the sample report, which is part of the available download for this book.

## Table of Contents

This should be pretty self-explanatory. Make sure the reader can find things in the report.

## Introduction

The introduction section should provide an overall description of the valuation engagement. SSVS No. 1 states that the introduction section may include the content listed in box 17.2, among other things. The information in this section should be sufficient to enable the intended user of the report to understand the nature and scope of the valuation engagement, as well as the work performed. The intended user is “the client or any other party as identified, by name or type, as users of the appraisal or appraisal review report by the appraiser based on communication with the client at the time of the assignment.”<sup>1</sup>

### BOX 17.1

#### Required Sections of a Detailed Valuation Report

- Letter of transmittal
- Table of contents
- Introduction
- Description of the assignment
- Assumptions and limiting conditions
- Sources of information
- Analysis of subject entity and related nonfinancial information
- Subject company information
- Economic data
- Industry information
- Financial statement or information analysis
- Valuation approaches and methods considered
- Valuation approaches and methods used
- Valuation adjustments
- Non-operating assets, Non-operating liabilities, and excess or deficient operating assets (if any)
- Representation of the valuation analyst
- Reconciliation of estimates and conclusion of value
- Qualifications of the valuation analyst
- Appendixes and exhibits

### BOX 17.2

#### SSVS No. 1 Suggested Content for a Valuation Report

- Identity of the client
- Purpose and intended use of the valuation
- Intended users of the valuation
- Identity of the subject entity
- Description of the subject interest
- Whether the business interest has ownership control characteristics and its degree of marketability
- Valuation date
- Report date
- Type of report issued (namely, a detailed report)
- Applicable premise of value
- Applicable standard of value
- Assumptions and limiting conditions (alternatively, these often appear in an appendix)
- Any restrictions or limitations in the scope of work or data available for analysis
- Any hypothetical conditions used in the valuation engagement, including the basis for their use
- If the work of a specialist was used in the valuation engagement, a description of how the specialist’s work was relied upon
- Disclosure of subsequent events in certain circumstances
- Any application of the jurisdictional exception
- Any additional information the valuation analyst deems useful to enable the user(s) of the report to understand the work performed

<sup>1</sup> 2016–2017 *Uniform Standards of Professional Appraisal Practice* (USPAP), The Appraisal Foundation, Washington, DC, p. 3. The footnote in this quote refers the reader to *Advisory Opinion 36* of the USPAP, which discusses the concept of “intended user” in greater detail. It has been omitted from this book.



If the valuation analyst puts all the stuff included in box 17.2 in the introduction, the report will be 50 pages at this point. Personally, I do not put all of this in the introduction section of my reports. I believe that it can make this section too cumbersome. Fortunately, SSVS No. 1 states, “If the above items are not included in the introduction, they should be included elsewhere in the valuation report.” I vote for elsewhere. I prefer to have a “Description of the Assignment” section. This could be a subsection of the introduction, but the valuation analyst should put it where he or she thinks it belongs. In essence, the analyst has control about where the best places are to put the necessary inclusions in the report. There are times that I may place something as the second paragraph after I describe the assignment because I want to emphasize it to the reader. There are other times that I may place it toward the back of the report. In one assignment, my second section of the report stated the following:

#### SPECIAL LIMITING CONDITION OF THIS REPORT

Despite requesting a considerable amount of information required to properly analyze the valuation subject, we were not provided with much of the data. As far as we can tell, there were two main reasons for this, namely:

- 1) The Court largely denied our request for data that we deemed necessary to perform this valuation in accordance with professional valuation standards, and
- 2) XYZ Company, Inc. failed to provide requested documentation that would support its operations.

Appendix 2, at the back of this report, includes a complete list of those items that were requested and the reason that we requested them.

We consider this lack of documentation to rise to the level of a “Scope Restriction” in accordance with our professional standards. Had we received the requested information, our conclusion of value may have been different.

You can probably tell that this was a contentious litigation assignment, and we were concerned about obtaining *sufficient relevant data* to allow us to do our job properly. The appendix in the back of our report listed every item that we asked for, including why we felt it was necessary. This was included after discussing the concern with our client’s legal counsel in the event that he wished to file an appeal regarding the original judge (not the judge that finally heard the case at trial) not providing access to many documents that we believed were necessary to perform this engagement.

### Description of the Assignment

Consider this section of the report as the introduction. This is the part of the report that spells out what the assignment is. It should include a complete description of the valuation subject—for example, “35 shares of the common stock of XYZ Corp., a New Jersey Corporation, which represents a 43.5 percent minority interest in the corporation, owned by John Smith.” This section should also provide the reader with the effective date of the valuation. This is the date at which the business or business interest has been valued. By the way, the valuation date is a specific point in time, for example, December 16, 2016. It is never December 2016. A valuation analyst cannot value something over an entire month. I see too many reports in which there is either no date given, or it is just a month. This is incorrect. The valuation analyst should also disclose the purpose and function of the valuation. The purpose may be to determine the fair market value of the company, whereas the function may be to describe how it will be used (for example, for gift tax purposes, estate tax purposes, or divorce litigation).

The description section will generally disclose the identity of the client. The client may not be the same individual to whom the transmittal letter is addressed. We are frequently retained by parties going through litigation who instruct us to send the report to the attorney. If the client is not the attorney, the cover letter would be addressed to the client but mailed to the attorney. This is like playing “Who’s on First?” The USPAP also has one other requirement that SSVS No. 1 does not. The USPAP requires the intended user of the report to be identified in the report, as well. A valuation analyst may prepare a valuation report for the client or possibly the client’s CPA, who is going to prepare a gift tax return, and both the client and the CPA may be the intended users of the report. Despite the fact that the IRS will receive a copy of the report attached to the gift tax return,

unless the IRS is specifically named as an intended user of the report, they are not. Without getting into a long legal discussion, this has to do with who has the right to rely on the report.

Finally, this section of the report should include the standard of value being used in the report as well as the definition. It is also a good practice to include where that definition comes from. Often, it will be fair market value, but even fair market value is defined differently in certain circumstances. If a different standard of value is used, it should be very clearly defined.

## Scope of Work

For those valuation analysts who want to follow the USPAP, each valuation report should include a summary of the scope of work used to develop the valuation. In the comments to Standard 10-2(a)(viii), it states the following:

Comment: Because intended users' reliance on an appraisal may be affected by the scope of work, the report must enable them to be properly informed and not misled. Sufficient information includes disclosure of research and analyses performed and might also include disclosure of research and analyses not performed.<sup>2</sup>

## Assumptions and Limiting Conditions

This is one of the most important sections of the report. It contains the valuation analyst's assumptions covering the entire report, such as the assumption that the information being provided by the client is valid without independent verification. This should be considered the valuation analyst's disclaimer. The accounting profession knows all about disclaimers.

Valuation analysts are a little more subtle about the way they disclaim certain items. Instead of the typical accountant's disclaimer, which hits the reader between the eyes on the first page of the accountant's report, the valuation analyst's assumptions are placed more subtly within the report. Some valuation analysts prefer to put this section in an appendix at the back of the report. I frequently cut and paste these items from my engagement letter and add any additional items that may be applicable to the current assignment. It does not matter where in the report this goes, as long as it is included. This is called covering your posterior!

Certain assumptions and limiting conditions are standard for all engagements. These should be included in the engagement letter with the client, so there is no misunderstanding about the client's acceptance of the valuation analyst's report subject to at least those assumptions and limiting conditions. There may be others that end up in the report as well. (See chapter 3 for the discussion of engagement letters.) Some of the more common assumptions and limiting conditions are illustrated in the sample reports available for download with this book.

## Sources of Information

Valuation reports are supposed to be replicable by any qualified reader. Therefore, a valuation report should include all the sources considered by the valuation analyst in providing a conclusion of value. This provides a qualified reader with the ability to independently review the various sources used by the original analyst to draw a similar conclusion (or at least understand how the analyst derived his or her conclusion). (Some valuation analysts prefer to put this section in an appendix to the report, rather than in the report itself.) It is advisable to list all the items that were reviewed but, more importantly, those items that had an effect on the conclusion. Do not include items that have no relevance to the assignment at hand. For example, if the valuation analyst is valuing a corporate interest for a divorce, do not list the personal tax returns of the parties unless they had some relevance to the assignment.

Besides listing all the stuff that the valuation analyst reviewed and considered, SSVS No. 1 also tells us that this section may include the following:

.....  
<sup>2</sup> 2016–2017 *Uniform Standards of Professional Appraisal Practice*, The Appraisal Foundation, Washington, DC, p. 67.

- a. For valuation of a business, business ownership interest, or security, whether and to what extent the subject entity's facilities were visited
- b. For valuation of an intangible asset, whether the legal registration, contractual documentation, or other tangible evidence of the asset was inspected
- c. Names, positions, and titles of persons interviewed and their relationships to the subject interest

## Analysis of the Subject Entity and Related Nonfinancial Information

For this section, SSVS No. 1 states that we should include a description of the relevant information from the categories found in box 17.3.

### BOX 17.3

#### SSVS No. 1 Subject Entity Information

- |  |  |
|--|--|
| • Nature, background, and history  | • Economic environment                   |
| • Facilities   | • Geographical markets                   |
| • Organizational structure   | • Industry markets                       |
| • Management team (which may include officers, directors, and key employees) | • Key customers and suppliers            |
| • Classes of equity ownership interests and rights attached thereto          | • Competition                            |
| • Products or services, or both  | • Business risks                         |
|  | • Strategy and future plans              |
|  | • Governmental or regulatory environment |

Once again, this section can be broken up into smaller sections, but the valuation analyst wants to make sure that he or she includes all the important stuff. I break this section down as follows:

- Subject company data
- Economic data
- Industry data

## Subject Company Data

Revenue Ruling 59-60 suggests that one of the eight factors to be considered in performing a valuation is “the nature of the business and the history of the enterprise from its inception.” This section of the report will frequently include a discussion of the following areas:

- History of the business
- Form of organization
- Restrictions on the sale of the subject interest
- Subsidiaries and affiliates
- Ownership and control
- Management
- Product lines
- Subject industry
- Competition
- Location

This section of the report will allow the valuation analyst to demonstrate his or her knowledge of the subject company. One of the greatest faults that I find in other valuation analysts' reports is that they either skip this section or write a one-paragraph description of the company. How can anyone understand what makes the company have value if this narrative is omitted? Sometimes, I even like to put pictures of the subject company's facilities in the report, so that the reader gets to see what I saw and thought was important to the valuation. Imagine explaining the following in a report and following it up with the picture that was included. Our report stated the following:

While conducting our site inspection, several issues were brought to our attention. The Company's racking units are in need of repair. While walking the facility, one of the warehouse staff was hammering in the racks because they often slip out and are very unstable. The following image shows the results of an accident caused by an employee who backed into a racking unit with a forklift. Although the forklift caused the bulk of the damage, it is unclear what the impact of the potentially faulty racking may have had on the situation.



This information is part of the risk assessment that we discussed previously. It provides data that helps to justify discount rates, capitalization rates, discounts for lack of control, discounts for lack of marketability, and control premiums. These items are discussed in detail in chapter 5.

## Economic Data

The valuation report should contain a discussion of the economy, concentrating on how it affects the valuation subject (see chapter 5 for a detailed discussion about the economic analysis that should be done). Remember to make this section relevant to the valuation subject. Some commercial vendors sell an analysis of the economy that can be inserted into a valuation report. The problem with using such an analysis is that it assumes that every valuation subject is affected by the same economic factors. This is not necessarily true. Although a construction contractor may be affected by rising interest rates, a brain surgeon probably is not. Including a long discussion about interest rates in a valuation report for a brain surgery practice will not only be boring but also out of place.

## Industry Data

The report should also contain a discussion of the valuation subject's industry. The discussion should be detailed enough to demonstrate how the valuation subject fits into the industry; how the industry is affected by the economy; whether the industry is mature, stable, or cyclical; and anything else that may be pertinent to the valuation. The discussion may also cover industries that affect the valuation subject, even though the valuation subject is not in that industry. For example, our firm valued a printing business that was specialized; it serviced only the pharmaceutical industry. Our report contained a discussion of the changes in the pharmaceutical industry because they had a major effect on the valuation subject's business. For more information about industry analysis, see chapter 5.

## Financial Statement and Information Analysis

This is the section of the valuation report that includes the trend and ratio analyses of the subject company. With regard to its performance, the subject company should generally be compared not only with itself but also with either guideline companies or industry composite data. This section of the report also includes the financial forecast for the company, including operational expectations (revenues, net profits, and cash flow). This is a critical section of the report because not only does the valuation analyst need this information to perform the valuation calculations, but he or she also needs it for assessing risk, which will be used to adjust either the multiples used in guideline company methodologies or the component of the discount rate pertaining to the specific company risk premium.

## Valuation Approaches and Methods Considered

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Because the valuation analyst generally considers all applicable approaches and methods, this section of the report is almost boilerplate. This is where the valuation analyst lists the advantages and disadvantages of the approaches to value and why they may or may not be applicable to the particular valuation. For example, this is where the analyst would discuss the fact that he or she will not be using the asset-based approach because he or she is valuing a professional practice, which generates its value from earnings and cash flow.

## Valuation Approaches and Methods Used

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All the methods that were considered as part of the valuation should be discussed either in a separate section or in the valuation section of the report. This section should also contain a discussion about the search for publicly traded guideline companies. The discussion should include the parameters of the search, the reason that certain companies were considered but eliminated, and the companies selected as guideline companies.

Some valuation analysts include an adjusted balance sheet and a normalized income statement in this section of the report, along with an appropriate discussion of the adjustments that were made. Other valuation analysts will include this information in the financial statement analysis section of the report.

After the discussion of the selected methods of valuation and the calculations of value under each method, a reconciliation should be included in the report, and it should lead to a conclusion of value. SSVS No. 1 suggests a separate section. I think that it belongs here. Once again, the standard is not forcing all of our reports to look the same. We are being advised to make sure to include all important parts of the valuation process somewhere in the report so that the reader can properly understand what we have done.

## Valuation Adjustments

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This is the section in which SSVS No. 1 suggests that the valuation analyst discuss premiums and discounts and includes a detailed justification for those that were applied in the report, as well as a justification for the size of those premiums or discounts.

## Non-Operating Assets, Non-Operating Liabilities, and Excess or Deficient Operating Assets

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If the analyst segregated any items from the balance sheet during the valuation process that are to be added back at the end of the process, they must be discussed. The non-operating items were probably normalized from the balance sheet, and the valuation analyst may have discussed this in the financial analysis section of the report. The valuation analyst must not forget to add or subtract this stuff back to or from the operating value of the business (if appropriate). Excess or deficient assets are usually a closing adjustment in a transaction and should be addressed here as well.

## Representation of the Valuation Analyst

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This is the equivalent to the “Appraiser’s Certification” for the non-CPAs. We usually include this as an appendix to the report.

## Reconciliation of Estimates and Conclusion of Value

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I generally put this with the analysis of the approaches and methods used. It can be separately stated, but, in my opinion, it flows better right after the valuation analyst discusses the valuation calculations.

## Qualifications of the Valuation Analyst

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Let the reader of the report know that you are really qualified to do the valuation. Just don’t lie! It is amazing how many reports we see in which the valuation analyst exaggerates his or her qualifications and gets caught doing so. Not only is it unethical, it can be a career-ender if it happens in court under penalties of perjury. It is

not worth your career! Instead, this is where you are saying to the reader of the report that you have the training and background to have done this assignment properly. You may have fooled your client into hiring you, but now the user of the report needs to be convinced. There is no shame in having less experience in valuation, but it should be properly disclosed. We all had to start somewhere.

## Appendixes and Exhibits

This section of the report will generally include the back-up documentation that supports the valuation. Some valuation analysts include a comparative balance sheet and income statement in this section; others may also include all the valuation calculations. To me, there is nothing worse than reading a valuation report in which the valuation analyst makes me constantly jump from the narrative to schedules in the back of the report to follow the story that is being told. I would rather see the financial information included in the body of the narrative. This may be more difficult for the valuation analyst's word-processing person to do, but it is more courteous to the reader. Keep in mind that the reader is frequently the one who will be paying the fee!

## Types of Valuation Reports

During a typical business valuation engagement, the valuation analyst may be asked to issue one type of report or several different types. As indicated previously, SSVS No. 1 states the following:

.47 A valuation report is a written or oral communication to the client containing the conclusion of value or the calculated value of the subject interest. Reports issued for purposes of certain controversy proceedings are exempt from this reporting standard (paragraph .50).

.48 The three types of written reports that a valuation analyst may use to communicate the results of an engagement to estimate value are as follows: either a detailed report or a summary report for a valuation engagement and a calculation report for a calculation engagement.

The standard goes on by stating the following:

- a. *Valuation engagement—detailed Report.* This report may be used only to communicate the results of a valuation engagement (conclusion of value); it should not be used to communicate the results of a calculation engagement (calculated value) (paragraph .51).
- b. *Valuation engagement—summary Report.* This report may be used only to communicate the results of a valuation engagement (conclusion of value); it should not be used to communicate the results of a calculation engagement (calculated value) (paragraph .71). For a valuation engagement, the determination of whether to prepare a detailed report or a summary report is based on the level of reporting detail agreed to by the valuation analyst and the client.
- c. *Calculation engagement—calculation Report.* This type of report should be used only to communicate the results of a calculation engagement (calculated value); it should not be used to communicate the results of a valuation engagement (conclusion of value) (paragraph .73).

Standard 10-2 of the USPAP discusses two types of reports: an appraisal report and a restricted use appraisal report. The comments to this standard state the following:

When the intended users include parties other than the client, an Appraisal Report must be provided. When the intended users do not include parties other than the client, a Restricted Use Appraisal Report may be provided.

The essential difference between these options is in the content and level of information provided. The appropriate reporting option and the level of information necessary in the report are dependent on the intended use and intended users.

An appraiser must use care when characterizing the type of report and level of information communicated upon completion of an assignment. An appraiser may use any other label in addition to, but not in place of, the label set forth in this standard for the type of report provided.

The report content and level of information requirements set forth in this Standard are minimums for both types of report.

A party receiving a copy of an Appraisal Report or Restricted Use Appraisal Report does not become an intended user of the appraisal unless the appraiser identifies such party as an intended user as part of the assignment.

In essence, the distinction being made in the USPAP is the difference between a detailed report and a summary report. It is interesting to note, however, that a detailed report must be provided if the intended users are not the client. This is an attempt to make sure that the reader has all the information necessary to understand the report properly. This can be a potential issue if you perform litigation assignments. Although there is an exception under the reporting standards of SSVS No. 1, there is no such clear exception under the USPAP. This is an area of controversy in the valuation profession, particularly for those valuation organizations that mandate its members follow the USPAP. Therefore, you may not be in compliance with the USPAP if you provide anything less than a detailed or oral report for a litigation assignment.

Whether the engagement is a *valuation* or a *calculation* is defined in the “Scope of Work” section of the USPAP. This is the manner in which the project is identified as well as what steps are necessary to perform a credible job. Keep in mind that a calculation is not a valuation.

Regardless of which report format the valuation analyst uses, every business valuation engagement requires the valuation analyst to do all the work that is necessary to formulate a supportable conclusion of value about the valuation subject. The business valuation report is nothing more than the mechanism that is used to communicate the conclusion. The report, however, can be a dynamic tool to convince the reader that the valuation analyst has done a good job in deriving the conclusion of value.

Each of the report types serves a different purpose in a valuation engagement. The type of assignment can affect the content of the report; therefore, a clear understanding of the engagement is essential before the valuation analyst can do his or her job. Before going too much further, let’s define each of these report types.

## Detailed Reports

A detailed report is covered in SSVS No. 1 beginning at paragraph .51. A detailed business valuation report is the highest-level report that the valuation analyst can provide to his or her client. The contents of the report will generally contain all the information covered earlier in this chapter. A detailed business valuation report can range from 60–100 pages or more. (Four hundred eighty-seven pages is our record. We charged by the pound for that report.)

## Summary Reports

Less than detailed reports are frequently requested and perfectly acceptable in certain situations in which the user of the report is informed that much of the detail is excluded from the report. The USPAP calls these reports *restricted use appraisal reports*. Sometimes, based on the needs of the client, he or she may not want to pay the valuation analyst to include a section in the report that describes the company. This is especially true if the valuation is for planning purposes. However, this description would be important to a third party who is not familiar with the valuation subject.

A summary report contains considerably less information than a detailed report. SSVS No. 1 says “a summary report is structured to provide an abridged version of the information that would be provided in a detailed report, and therefore, need not contain the same level of detail as a detailed report.” However, SSVS No. 1 then goes on to require, at a minimum, that a summary report include the list of items that are included in box 17.4.

**BOX 17.4****SSVS No. 1 Suggested Content for a Summary Report**

- Identity of the client
- Purpose and intended use of the valuation
- Intended users of the valuation
- Identity of the subject entity
- Description of the subject interest
- The business interest's ownership control characteristics, if any, and its degree of marketability
- Valuation date
- Valuation report date
- Type of report issued (namely, a summary report) (paragraph .48)
- Applicable premise of value
- Applicable standard of value
- Sources of information used in the valuation engagement
- Assumptions and limiting conditions of the valuation engagement (paragraph .18)
- The scope of work or data available for analysis, including any restrictions or limitations (paragraph .19)
- Any hypothetical conditions used in the valuation engagement, including the basis for their use (paragraph .22)
- If the work of a specialist was used in the valuation (paragraph .20), a description of how the specialist's work was used, and the level of responsibility, if any, the valuation analyst is assuming for the specialist's work
- The valuation approaches and methods used
- Disclosure of subsequent events in certain circumstances (paragraph .43)
- Any application of the jurisdictional exception (paragraph .10)
- Representation of the valuation analyst (paragraph .65)
- The report is signed in the name of the valuation analyst or the valuation analyst's firm
- A section summarizing the reconciliation of the estimates and the conclusion of value as discussed in paragraphs .68 and .69
- A statement that the valuation analyst has no obligation to update the report or the calculation of value for information that comes to his or her attention after the date of the valuation report

This list has more items on it than the detailed report contains. The valuation analyst just has to write less. When you look closely at these items, you will realize that the standard wants to ensure that the valuation analyst is protected. Most of this stuff is necessary because even though the valuation analyst is issuing a summary report, he or she still performed a full valuation engagement. Whatever the valuation analyst does, he or she should not get mixed up about the assignment. A summary report is appropriate for a full valuation. Anything less in scope falls into a calculation engagement, which requires a different type of report.

## Calculation Reports

This is the only type of report that can be used for a calculation engagement. Think about the calculation engagement as being more of an agreed-upon procedures assignment than a valuation engagement. The valuation analyst will be doing less in scope and, accordingly, he or she needs to report on the lesser scope engagement. SSVS No. 1 requires that the valuation analyst identify that it is a calculation report. The report should contain many of the same items but be adapted for the calculation engagement, including, but not limited to, the analyst's representation, assumptions, and limiting conditions; use of a specialist; appendixes; and exhibits.

As for the section of the report summarizing the calculated value, SSVS No. 1 states that the items listed in box 17.5 should be included in the calculation report.



**BOX 17.5****SSVS No. 1 Suggested Content for a Calculation Report**

- Certain calculation procedures were performed; include the identity of the subject interest and the calculation date.
- Describe the calculation procedures and the scope of work performed or reference the section(s) of the calculation report in which the calculation procedures and scope of work are described.
- Describe the purpose of the calculation procedures, including that the calculation procedures were performed solely for that purpose and that the resulting calculated value should not be used for any other purpose or by any other party for any purpose.
- The calculation engagement was conducted in accordance with the Statement on Standards for Valuation Services of the AICPA.
- A description of the business interest's characteristics, including whether the subject interest exhibits control characteristics, and a statement about the marketability of the subject interest.
- The estimate of value resulting from a calculation engagement is expressed as a calculated value.
- A general description of a calculation engagement is given, including that
  - a calculation engagement does not include all of the procedures required for a valuation engagement, and
  - had a valuation engagement been performed, the results may have been different.
- The calculated value, either a single amount or a range, is described.
- The report is signed in the name of the valuation analyst or the valuation analyst's firm.
- The date of the calculation report is given.
- The valuation analyst has no obligation to update the report or the calculation of value for information that comes to his or her attention after the date of the report.

## Oral Reports

Oral reports are also acceptable, although not advisable. Some attorneys prefer oral reports in litigation as a strategy for keeping the other side guessing. The Federal Rules of Civil Procedure have changed the use of oral reports. This “trial by ambush” approach is now frowned upon in many courts.

This type of report is generally accomplished through testimony, either at a deposition or a trial. On occasion, the valuation analyst's client may just want a verbal opinion regarding what his or her business should sell for. SSVS No. 1 advises the valuation analyst to document the substance of the oral report that is communicated to the client in his or her working papers.

I was going to provide you with a sample oral report, but because this is not a book on tape, I decided against it.

## Preparing the Business Valuation Report

Now that we have discussed the types of reports, the next step is to understand when to use each. Personally, I prefer issuing detailed valuation reports. This type of report allows me to demonstrate not only that I did my job well, but also my knowledge of valuation theory. Knowledge of the different sets of standards from the different valuation organizations can help the valuation analyst play an important litigation support role by assisting the client's attorney in impeaching the other side's expert for not following the standards of the organizations in which the expert belongs.

The standards have been discussed earlier in this book, so there is no need to repeat the discussion here. However, if you did not read about the standards when you encountered them, now would be a good chance to do so (you thought you could skip them and get away with it, huh?). By this point in the book, you should also have awoken from your nap and ordered your own copy of SSVS No. 1 and the USPAP (you have already been given SSVS No. 1 in chapter 2). I would have given you the USPAP, but I hate violating copyright laws.

## Federal Rules of Civil Procedure

This book is not a legal treatise, nor is it intended to address the Federal Rules of Civil Procedure (FRCP), but a valuation analyst must be familiar with the rules regarding reports because they affect expert testimony. The FRCP impose strict rules regarding the disclosure and timing requirements for expert opinions. FRCP 26(a)(2) (B) states that

Except as otherwise stipulated or directed by the court, this disclosure shall, with respect to a witness who is retained or specially employed to provide expert testimony in the case or whose duties as an employee of the party regularly involve giving expert testimony, be accompanied by a written report prepared and signed by the witness. The report shall contain a complete statement of all opinions to be expressed and the basis and reasons therefore; the data or other information considered by the witness in forming the opinions; any exhibits to be used as a summary of or support for the opinions; the qualifications of the witness, including a list of all publications authored by the witness within the preceding ten years; the compensation to be paid for the study and testimony; and a listing of any other cases in which the witness has testified as an expert at trial or by deposition within the preceding four years.

These rules are intended to eliminate the “trial by ambush” technique that certain states have allowed previously. Working with a New York law firm, we were once asked to render our opinion by telephone. The other side could have then deposed us, and unless they asked the correct questions, they might never have known what we did or what we relied on. Let’s face it, that type of law was counterproductive! Maybe with full disclosure, such a case would have settled.

## Using the Report as a Selling Tool

All of us who serve as expert witnesses know that we should be objective if we are to be credible. Those of us who belong to valuation organizations are ethically bound not to be advocates for our client. However, this does not mean that we cannot be advocates for our own opinions or conclusions. The accounting profession has rules on objectivity and integrity.

A business valuation report is the perfect forum for selling the valuation analyst’s conclusion of the value of the valuation subject.

Once the valuation analyst has performed all the required steps to reach a conclusion of value, the next step is to communicate it in such a way that the reader of the report will have no alternative but to realize that the conclusion is reasonable. The manner in which the valuation analyst writes and presents the report can help him or her convince the reader that he or she has reached a reasonable conclusion. I generally want my reports to tell a story. The beginning of my story includes a discussion of the theory of how to value a business or business interest. Keep in mind that the story will change depending on whether you are valuing a controlling interest or a minority interest. It may also change depending on the purpose and function of the assignment.

The middle of my story includes the application of the valuation theory, discussed in the beginning of my story, to the valuation subject. This is the guts of the valuation. It includes the analysis (financial, economic, and industry) and the valuation calculations. This section of the report is intended to show the reader how the theory applies to this valuation. After being presented with the approaches and methods in the beginning section, the reader now sees them with numbers.

The final section of the story is my conclusion, which ties together the first two sections of the report. Here is the theory; here is how it is applied; therefore, my conclusion must be reasonable because I followed the theory. This may seem pretty basic, but it has proven to be an effective tool in the courtroom, regardless of whether it was a bench trial or a jury trial.

The business valuation report should contain a thorough analysis that demonstrates how much the valuation analyst knows about the valuation subject, its industry, and the other items that will affect its value. Too often, reports have all the correct components, but each section is so skimpy that it fails to demonstrate that the valuation analyst did any more than the minimum amount of work in that assignment. For example, a common error is to include financial ratios in the report but fail to discuss what they mean.

The valuation report is the valuation analyst's opportunity to demonstrate his or her knowledge. If the valuation analyst includes items in the report, they should be explained well. The analyst should not be afraid to quote other sources. He or she should use recognized sources in the report to support his or her work. Quoting sources such as the government (the IRS, revenue rulings, the Bureau of Labor Statistics, and so on) makes the valuation analyst's work hard to dispute. Judges and juries show a great deal of respect for information taken from authoritative sources. Quoting other experts in the field also works. I like to include quotes from Pratt, Hitcher, Mercer, and others. Most of the attorneys who have been involved in business valuation litigation know of their works. The valuation analyst can even quote Trugman!

Another way to use the report as a selling tool is to emphasize a particular section, especially if it covers a subjective portion of the process (such as capitalization rates). For example, the valuation analyst can include extra wording in the report if the capitalization rate that he or she has selected is 75 percent. If the analyst had selected 15 percent to 20 percent, he or she would still have to justify the rate, but clearly not as much as if the rate is out of the range that people are used to seeing.

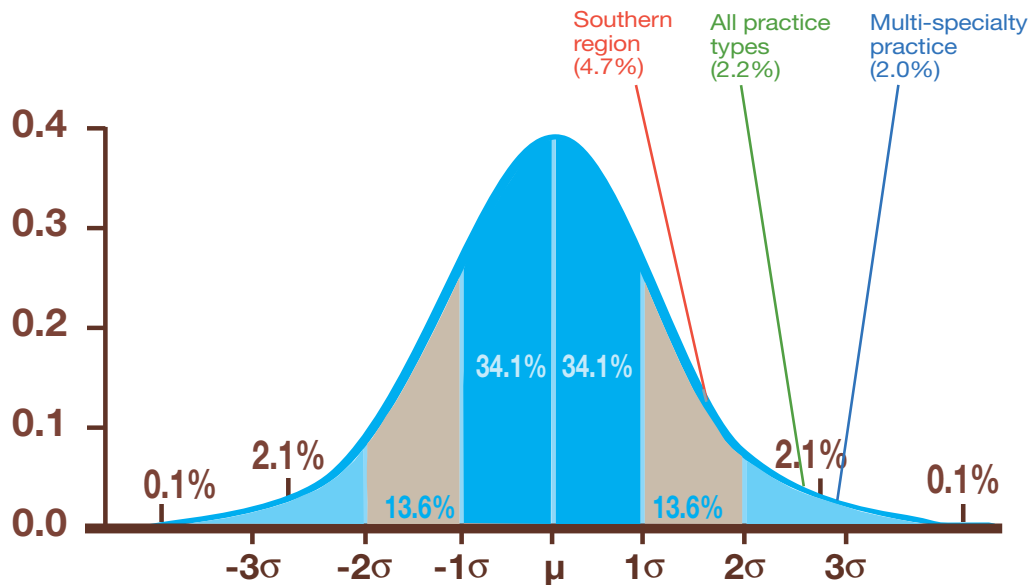
In one particular valuation, we included a discussion of the rates of return required by venture capital firms so that we could support a very high capitalization rate (78 percent). We quoted an article published in *Business Valuation Review* that addressed venture capital returns. The author of this article described different rates of return depending on which stage of the business life cycle the subject was in and we related this to the valuation subject. We showed that the valuation subject could not even qualify for venture capital financing, which supported our assessment of the riskiness of an investment in this company. By quoting another source, we strengthened our argument to the point that the judge found in our favor. Some of the supporting language from our report included the following:

Further support for these high capitalization rates comes from an examination of the venture capital market. "Professional venture capitalism requires a minimum of 40 to 50 percent rates of return on the small company 'superstars' of tomorrow," according to Bradley A. Fowler, Esq. in an article published in *Business Valuation Review*, June 1989. Rates have not changed materially, and as such, this article lends some excellent insight into required rates of return.

According to the article, venture capitalists who are financing seed or start-up companies were looking for 50 percent or more compound rates of return. Quoting a PWC article, the author states, "depending upon the perceived risk, the venture firm is going to want a rate of annual return of 40% to 80% or more. And they will also want the ability to liquidate their investment, usually within five years." Smith Company is clearly not a "superstar." With negative book value, a history of losses, little depth in management, and heavy short-term liabilities, a venture capitalist would not be interested in the company. This should warrant an exceptionally high required rate of return.

Although the article quoted was a bit older, the data was still valid. Sometimes, the valuation analyst must resort to using older articles because they may be the only ones that can be found. The important part of that task will be to convince the reader that the older article is still current.

Another selling tool is the use of graphs. The personal computer has given the valuation analyst a greater capability of demonstrating important points with the use of pictures. Bar charts, pie charts, and trend lines are great tools for driving a point home. A graph that we used in a report to explain statistics about the probability that one particular doctor that was in a medical practice would collect more than \$1 million in revenues in a single year is contained in figure 17.1.

**Figure 17.1 Probability of Collections Greater Than \$1 Million**

In this instance, we performed various analyses comparing the probability of collections for this doctor using a variety of the statistics published for the medical specialty. This graph highlighted the very small probability that it would happen.

Do you really need to say much more? We used this graph to make our point. The use of graphs is especially effective when the valuation analyst is called on to testify. Pointing the judge or jury to a picture in the report will be much more effective than expecting them to read a lengthy report. In fact, the jury never does, and more often than not, the judge does not either. Reports are generally not evidence in a trial. It is the expert's testimony that is the evidence (other than in the U.S. Tax Court, where the expert report is not only evidence, but it serves to be the direct examination of the expert).

The use of color printers not only dresses up the report, but it also highlights the story even better than black and white. A good network-compatible color printer now costs under \$500. The profit from the valuation analyst's next valuation report can buy one (or, it can pay the rent).

Another selling tool for valuation reports is the manner in which they are presented. At our firm, we like to bind our reports in our firm's report covers and include labeled dividers between the sections. We do not use pre-printed dividers because our reports tend to vary. Instead, we use plain dividers and print whatever needs to be on the divider. The appearance of a valuation report can also help sell the report. If it is cosmetically attractive, the reader will believe that a great deal of time went into the work product. We have found that many judges will not read the report but will comment on the fact that it appears to be a well-constructed document.

If the valuation analyst has prepared his or her business valuation report in a comprehensive manner, it will also help him or her prepare for trial. I will use my report to refresh my memory in preparation for testimony. I find that I put so much information in my report that I spend more time reading it than I do going over working paper files. At trial, I will use it as a refresher if I am asked a question that I do not remember the answer to. This is a time saver compared to sitting on the witness stand and going through files.

### Using the Other Side's Report to Help Sell the Conclusion

In a litigation assignment, wouldn't it be great if we were always lucky enough to get the other side's report before we had to do ours? Unfortunately, this does not happen often enough. However, when it does happen, the valuation analyst might as well take advantage of it. The other side's report can help the valuation analyst

structure his or her report to point out the flaws in the methodologies and conclusions of the other valuation analyst. Having the other side's report in advance frequently allows the valuation analyst to emphasize those areas that are known to be a point of contention in the litigation battle of the experts.

Before we go any further, let me make a few comments. First, if the valuation analyst is going to review another valuation analyst's report, he or she might need to be aware of the USPAP Standard 3, "Appraisal Review, Development and Reporting." For those analysts who must follow the USPAP, compliance with this standard is of the utmost importance. Next, many valuation analysts are frequently asked to review the work of others. That is not a problem, but the valuation analyst must be careful to not get caught providing a conclusion of value without performing the necessary steps to be in compliance with the appropriate standards. If the valuation analyst wants to reach a conclusion that says "If John Smith had done this differently, he would have reached \$XX,XXX as his conclusion of value," that is fine. However, the valuation analyst should not start to give his or her own conclusion of value unless he or she has complied with the developmental standards. That is a great way to get in trouble.

Sometimes, critiquing the other side's report before preparing our own points out the many problems that we need to address in our report. We will use whatever information we can to our advantage. The best way to illustrate this point is to use some real examples. An excerpt of a critique that our firm prepared in the past is contained in exhibit 17.1. I will explain how we addressed the problem if it is not evident from the critique itself.

First, I want to caution you that this exhibit is long. However, it should be read in its entirety because it not only reinforces many of the issues that I addressed when performing a business valuation assignment, (what to do and what not to do), but it also demonstrates that the attack on our report by the other valuation analyst allowed us to justify and explain why we did what we did. Again, notice how we are consistent with what I said earlier in this book.

### Exhibit 17.1 Critiquing the Opposing Expert's Report

It should be noted that all of our references to state statutes or case law is our interpretation after speaking with our client's legal counsel. We are not offering a legal opinion.

PAGES 2–4.<sup>1</sup> On page 2, The Smith Report begins by discussing the scope of the assignment and states the following:

Smith was engaged to determine a conclusion of value for DEF as of **December 31, 2015**, determine the **fair market value** of Mr. Brown's 17% ownership interest, and opine on the quality of present management of DEF based upon the analysis done in connection with the valuation. (Emphasis added)

There are several issues with the preceding quote. First, Smith uses the wrong valuation date to value DEF. We include an extensive discussion about fair value in our report on pages 1–8. In essence, the case law seems to indicate that the proper valuation date in a corporate dissolution action would be similar to that which is cited in 15 Pa.C.S. §1572. This statute states that the determination of value should be

The fair value of shares **immediately before the effectuation of the corporate action to which the dissenter objects**, taking into account all relevant factors, but excluding any appreciation or depreciation in anticipation of the corporate action. (Emphasis added)

In this instance, it is our understanding that the correct valuation date should have been August 31, 2015. In addition to valuing The Company as of the wrong date, Mr. Smith values DEF using a standard of value that is inconsistent with Pennsylvania case law. In the scope of the assignment, Mr. Smith states that he was engaged to determine the "fair market value of Mr. Brown's 17% ownership interest." Mr. Smith further elaborates on the standard of value used in the assignment on page 4 of his report which states the following:

<sup>1</sup> Page 3 of The Smith Report discusses a summary of the author's opinions. Instead of addressing each of these opinions on this page, we will address them in more detail within the body of the Smith report.

(continued)

### Exhibit 17.1 Critiquing the Opposing Expert's Report *(continued)*

Fair Value is a judicially determined standard of value. For purposes of this engagement, **I was asked to consider the Fair Value of 100% of DEF to be the Fair Market Value of the Company without valuation discounts attributable to marketability and lack of control.** Accordingly, the Fair Value of a minority interest can be determined by the proportionate interest in the entire Company without discount. However, Fair Market Value of a minority interest would consider applicable valuation discounts from the total company value as discussed within this report. (Emphasis added)

Mr. Smith states that he was advised by legal counsel to consider the fair value of DEF to be the fair market value of The Company without discounts for lack of marketability and control. At the bottom of page 4, The Smith Report quotes Revenue Ruling 59-60, a tax-related promulgation that relates to fair market value, not fair value.

In our report, we quoted Pennsylvania case law, which states the following:

While shareholder oppression cases in Pennsylvania are thin, and such decisions are vague regarding the meaning of 'fair value', the Superior Court, in *In re Glosser Bros, Inc.* 382 Pa. Super 177 (Pa. Super. 1989), a dissenters rights case, provide some guidance. [1] In holding 'fair value is to be construed as going concern value, as contrasted with liquidation value' the Superior Court 'noted that there is a potentially endless list of factors that are considered relevant to this value.' The 'going concern' concept of fair value in a dissenting shareholders' appraisal proceeding and the many individual factors. . . ' *Glosser Bros, 382 Pa. Super at 185 (citing Tri-Continental Corp. v. Battye, Del., 74. A.2d 71, 76 (Del. 1950))*. Such factors include the following:

The basic concept of value under the appraisal is that the stockholder is entitled to be paid for that which has been taken from him, viz., his proportionate interest in a going concern. By value of the stockholder's proportionate interest in the corporate enterprise is meant the true or intrinsic value of his stock which has been taken by the merger. In determining what figure represents this true or intrinsic value, the appraiser and the courts must take into consideration all factors and elements which might reasonably enter into the fixing of value. Thus, market value, asset value, dividends, earning prospects, the nature of the enterprise and any other facts which were known or which could be ascertained as of the date of the merger and which throw any light on future prospects of the merged corporation are not only pertinent to any inquiry as to the value of the dissenting stockholders' interest, but must be considered by the agency fixing the value. [Id. (quoting Battye, 74. A.2d at 72).]

The Pennsylvania Courts have followed Delaware case law, and as a result, the issue at hand is not the fair market value of Mr. Brown's shares but, rather, the fair value of what is being taken from him, which in this case, is his proportionate interest in DEF as a going concern.

By using the wrong valuation date and a standard of value that is inconsistent with Pennsylvania case law, the conclusions reached in The Smith Report are improper and should not be considered by the Trier of Fact.

*PAGE 7.* In discussing the economic and industry analysis, The Smith Report states the following:

The nature of documentation produced through discovery, the background, the history, and the economic and industry information related to DEF, although analyzed, will not be replicated in detail within this report.

The preceding quote indicates that Smith did not perform its own independent economic and industry analysis and, instead, relied on documentation that was "produced through discovery." However, The Smith Report does not specifically state which documents were analyzed that contained such economic and industry information. The only industry source referenced in The Smith Report is an IbisWorld report, which we will address shortly.

A thorough economic and industry analysis is one of the most important parts of a business valuation. According to *Valuing a Business*:

It is difficult to overemphasize the importance of thorough and relevant economic and industry research for a well-prepared business valuation. First, Revenue Ruling 59-60 requires consideration of 'the economic outlook in general and the condition and outlook of the specific industry in particular.' Second, an understanding of the economic and industry outlook is fundamental to developing reasonable expectations about the subject company's prospects.<sup>2</sup>

<sup>2</sup> Shannon Pratt with Alina V. Niculita, *Valuing a Business*, 5th Edition (The McGraw-Hill Companies: New York, New York, 2008): 104.

## Exhibit 17.1 Critiquing the Opposing Expert's Report

*Valuing a Business* goes on to state the following:

The economic and industry outlooks included in valuation reports should be clearly related to the company being valued. It is particularly important to point out how the outlooks will affect the subject company and to focus on those issues most relevant to a thorough understanding of the company's competitive position in its market. As a corollary to this issue, it is important to understand the subject company's relationship to the structure of the industry. Each segment of an industry or an economy may be affected differently by a particular trend or development. Therefore, it is important to focus on the logical impact of each relevant factor on the subject company, whether positive or negative. **Applying economic and industry research to the valuation of the subject company is too often neglected.** (Emphasis added)

By not including a discussion of the economic and industry outlooks and the impact that these outlooks will have on DEF, The Smith Report is omitting an essential piece in determining the value of The Company. Our report contained this important information on pages 26–40.

The Smith Report also provides an additional discussion on the engagement and states the following:

As required by applicable Standards, our valuation considers the same approaches to value used by Mr. Trugman. The financial source documentation and independently obtained publicly available information is also, if not the same, very similar. However, as describe within our report, our conclusion of value for DEF is considerably different than Mr. Trugman's conclusion. **To the extent we do not materially disagree with an underlying assumption or adjustment made by Mr. Trugman we tried to accept his presentation. Our report instead has focused on highlighting material points of difference in our evaluation of the underlying financial information.** As discussed herein our opinions differ in four primary areas - 1) anticipated/projected revenue; 2) consideration of publicly available multiples; 3) assessment of risk in developing our cost of capital; and 4) the failure to consider a prior transaction involving the company's stock (Mr. Roberts) which implied a value of \$60 million and upon which Mr. Trugman advised Mr. Roberts it was valued at \$81 million. Other items impacting value to a lesser extent include a variance in projected EBITDA margin. (Emphasis added).

The preceding quote appears to indicate that Mr. Smith did not perform an independent valuation of DEF but, rather, focused on areas of disagreement with our report and adjusted various items in our report to the benefit of his client. We will address the "four primary areas" of disagreement by Mr. Smith with our analysis later in this critique in the appropriate sections.

*PAGE 8.* The Smith Report discusses the financial analysis that was performed and states the following:

As shown on Exhibit A-1, the Company's operating results have been volatile over the previous five-year period (2011–2015) with sales decreasing from a high of \$134.7 million in 2011 to a low of \$96.3 million in 2013 and then increasing to \$127.3 million in 2015. Over the five-year period, revenue has declined by 5.5%. The five-year negative sales trend is mitigated by the positive trend in sales growth from 2013 to a represented stabilized level of \$127.3 million in 2015. Net income and EBITDA followed a similar trend peaking at \$19.5 million and \$21.6 million before falling to \$9.4 million and \$10.2 million in 2013 and 2014. In 2015, net income was \$14.1 million and EBITDA was \$15.1 million. Overall, net income and EBITDA have declined by 16.4% and 30.1% respectively since 2011. EBITDA for 2010 and 2011 was 16% and 16.2% of sales respectively while stabilized EBITDA averaged 12.4% from 2013 through 2015.

First, it should be noted that The Smith Report includes financial information through December 31, 2015, which is well after the correct valuation date of August 31, 2015. Furthermore, The Smith Report highlights that DEF's revenues and earnings have been volatile over the five-year period but fails to discuss why that was the case. In 2013, one of DEF's production lines was shut down and The Company's financial performance suffered as a result. According to an email from Chris Harris to Frank Brown dated July 17, 2014

I agree. We did \$135mm and can do \$235mm and \$335mm. It isn't rocket science. Short term issues holding us back. This year we had shut lines down and were overstaffed. Lost two years in current project w prior "engineers" ....now we are rebuilding.

In 2014, DEF made capital expenditures of \$2.8 million, most of which related to a new assembly system. Therefore, because valuation is based on anticipated future results, the issue at hand is whether another downturn in financial performance was foreseeable as of the valuation date. In analyzing DEF's Board of Directors' meeting minutes, this did not appear to be the case. The Company budgeted positive revenue growth in 2014 and 2015, as discussed at The Company's Board of Directors' meeting on January 6, 2014. According to the meeting minutes,

(continued)

### Exhibit 17.1 Critiquing the Opposing Expert's Report *(continued)*

RESOLVED, that the [sic]Sales Budget would target \$117.5 million with a focus to award achieving a 10% growth rate in 2015. Registration programs would continue and improvement in on time delivery, quality, performance and net income as outlined above would be completed.

In 2014 and 2015, DEF's revenues increased by 9.5 percent and 20.7 percent, respectively. None of the documentation reviewed, nor The Company's recent financial performance, indicates that another significant downturn was foreseeable. In fact, DEF's own board expected good results.

The Smith Report continues with a discussion of the financial analysis of DEF and states the following:

Over the five-year period, sales, net income and EBITDA have averaged \$117.8 million, \$14.4 million and \$16.2 million, respectively. Given the volatility of the operating results and that normalized 2015 operating results were relatively close to the five-year average, we utilized the Company's 2015 adjusted financial metrics in our income and market approaches to value.

The Smith Report states that DEF's adjusted 2015 operating results were utilized to derive the indications of value under the income and market approaches. By relying on The Company's 2015 results, Smith completely ignores DEF's annual budgets, which are The Company's contemporaneous business records that are a better indication of The Company's expected operating results in the foreseeable future. As previously discussed, these budgets are approved at DEF's Board of Directors' meetings, and as a result, Chris Harris, himself, approves these budgets. Furthermore, in addition to the annual budgets prepared by The Company, Mr. Brown prepares three-year sales forecasts for The Company, which he updates regularly. Smith completely ignores these budgets and forecasts that are prepared internally by The Company during the normal course of business, and as a result, fails to account for The Company's anticipated growth. This causes a significant understatement in the value of DEF.

In the discussion about capital expenditures and depreciation, The Smith Report states the following:

Capital expenditures and depreciation have varied greatly over the five-year period, i.e. ranging from \$0.2 million to \$4.5 million and \$0.5 million to \$4.4 million, respectively with averages of \$1.7 million and \$1.6 million respectively. To normalize the expected average tax shield going forward in our capitalization of earnings, we relied on the five-year average of depreciation and then set forecasted capital expenditures equal to this amount.

Smith determines DEF's future capital expenditures by setting capital expenditures equal to The Company's five-year average depreciation expense. This is an incorrect manner in which to calculate capital expenditures because it completely ignores The Company's actual capital spending needs. The analyst needs to know the capital expenditures to estimate the economic depreciation and not the other way around. The appropriate manner in which to forecast capital expenditures and depreciation is to determine The Company's future capital spending needs and depreciate the future capital expenditures over the economic useful lives of the assets. According to *Financial Valuation: Applications and Models*:

In the normalization process, the depreciation should be adjusted to the level of anticipated capital expenditures; **capital expenditures should not be adjusted to depreciation**. The future depreciation will be generated by future-capital expenditures (Emphasis added).<sup>3</sup>

Furthermore, The Smith Report uses unadjusted depreciation figures to estimate future capital expenditures. DEF's economic depreciation expense has historically been overstated in certain years as The Company has taken advantage of provisions under the Tax Code that allow companies to write off assets as they are acquired. In 2011, DEF recognized bonus depreciation of over \$3 million related to such write-offs. By relying on these unadjusted depreciation figures, the estimated depreciation and capital expenditures in The Smith Report are inaccurate because these items do not reflect the economic useful lives of the assets.

*PAGES 9–10.* The Smith Report includes a discussion about DEF's historic distributions and states the following:

As shown above, any net income of the Company not distributed to the shareholders was retained in the Company to finance an increasing level of accounts receivable and inventory and further, to effectively manage the debt level of the Company.

<sup>3</sup> James R. Hitchner, CPA/ABV/CFF, ASA, *Financial Valuation: Applications and Models*, 3rd ed. (Hoboken, New Jersey, John Wiley & Sons, 2011): 1243.



## Exhibit 17.1 Critiquing the Opposing Expert's Report

Smith states that one of the reasons that DEF has cut its distributions to its shareholders is “to effectively manage the debt level of The Company.” However, later in his report, Mr. Smith determines that the optimal capital structure of DEF is a capital structure that consists of 75 percent equity and 25 percent debt. Based on the business enterprise value of \$77,885,416 in the Smith Report and DEF’s debt balance as of December 31, 2015, the implied capital structure of the business is 93 percent equity and 7 percent debt.

Therefore, based on Mr. Smith’s own calculations, DEF is operating at a sub-optimal level, with not enough debt in its capital structure. Although there are numerous disadvantages to financing operations with a lot of debt, financial theory states that the correct amount of debt in a company’s capital structure can decrease a company’s cost of capital for the benefit of shareholders. With that in mind, some of the cash could have been distributed to shareholders, as opposed to paying down debt to sub-optimal levels. This would have been a benefit to all shareholders. Although this is not intended to second-guess management’s willingness to make these distributions, it further shows that The Smith Report contains an incorrect analysis about the use of the cash.

Another factor that Mr. Smith fails to consider is DEF’s historic policy of maintaining a shareholders’ equity balance of \$14 million and distributing anything in excess of that amount. At December 31, 2015, DEF’s book value was \$33.1 million, which is a much greater amount of book value than The Company has maintained in the years we analyzed. The Smith Report contains no discussion of why the prior policy of distributions was discontinued. Based on his own analysis, the funds were not needed for capital expenditures.

*PAGE 12.* After a discussion of DEF’s financial condition, The Smith Report concludes its financial analysis of The Company with the following statement:

Based on these metrics and financial observations when the Company is compared to other companies in the industry, it is my opinion that DEF’s financial results demonstrate a well-managed company.

After highlighting the historic revenues and earnings volatility of DEF, The Smith Report states DEF’ financial results demonstrate a well-managed company. This seems to be a self-serving statement that contradicts The Smith Report. Furthermore, The Smith Report fails to discuss how The Company’s favorable financial results were factored into its calculation of the discount rate used in its calculation of value. If The Company is so well-managed, why does The Smith Report use a higher discount rate than we used in our report? After all, the discount rate is based on risk. Clearly, The Smith Report includes a greater risk for DEF than we determined, despite being a well-managed company. It appears that Smith is only considering The Company’s favorable financial performance in instances in which it suits its client’s best interest.

*PAGE 14.* In the discussion of the application of the income approach, The Smith Report states the following:

Reliable projections of DEF’s sales, net income, EBITDA and/or cash flow were not available. As a result, a discounted cash flow method could not be developed. As mentioned above and expanded upon in the 2010 Business Plan section of this report, there are no recent sales forecast or projections completed by the Company. There was a business plan prepared by the Company six years ago in 2010. The budgeted results from that plan have not been modified or updated since 2010. Actual operating performance of the Company has also not been consistent with the 2010 Business Plan.

The preceding quote is full of incorrect statements. Either Mr. Smith did not ask his client for the information or he chose to ignore it. DEF prepares internal sales budgets and forecasts and updates these figures regularly. Therefore, DEF had reliable projections that Mr. Smith could have utilized in its analysis. In addition, even if a company does not prepare forecasts or projections internally, it does not mean that an analyst should completely disregard the discounted future benefits method. There is nothing that prevented Mr. Smith from analyzing DEF’S historic growth trends, profitability, and financial ratios, as well as prevailing economic and industry conditions, and use these metrics to prepare a reasonable forecast. Mr. Smith’s client is The Company, and although they would not allow us to perform a site visit or management interview, Mr. Smith clearly had access to The Company’s management. Therefore, there is no reason why a forecast could not have been prepared. According to PPC’s *Guide to Business Valuations*:

In many cases, the valuation consultant may be able to obtain a forecast of future operations from the company being valued. This is the preferred procedure and should be encouraged whenever feasible. In some cases, however, **the consultant may prepare the forecast**. The consultant must consider numerous factors in preparing or reviewing a forecast. A complete discussion of every one would require numerous pages and is beyond the purpose and intent of this Guide.<sup>4</sup> (Emphasis added).

<sup>4</sup> Jay Fishman, FASA, et al., *PPC’s Guide to Business Valuations*, Volume 1 (Thomson Reuters, Carrollton, TX, February 2016):5–7.

(continued)

### Exhibit 17.1 Critiquing the Opposing Expert's Report *(continued)*

As the quote indicates, if Mr. Smith felt that DEF'S internally prepared budgets and forecasts were unreliable for whatever reason, this is not an excuse to not attempt to prepare a forecast themselves. In this instance, DEF was on a growth curve and had not reached a stabilized level of operations. In 2015, The Company's revenues and net income increased by 20.6 percent and 16.5 percent, respectively. When a company is on such a growth curve, the capitalization of benefits method that is utilized in The Smith Report is an incorrect methodology to use. Furthermore, in its financial analysis of DEF, Mr. Smith highlights how DEF'S historic revenues and earnings were volatile. If that's the case, how can Mr. Smith be so sure that 2015 represents a stabilized year of operations? According to *Valuing a Business*:

The important conceptual underpinning of the capitalized economic income valuation model is that there is either a constant annual income stream in perpetuity or a constant annualized rate of growth (or decline) in the economic income variable being capitalized in perpetuity. Obviously, this constant growth rate projection is rarely met in the real world.

**Unlike the discounted economic income model, the capitalization model does not take into consideration the timing of future changes in expected economic income.** The greater the differences in the anticipated changes over time, especially in the early years, the more the analyst is encouraged to apply the discounted economic income method rather than the capitalized income method.

This leads to some generalizations about the relative attractiveness of the two basic income approach valuation methods:

1. Stable or evenly growing economic income flow. If the economic income flow is either stable or growing (or declining) at a fairly even rate, the capitalized economic income method should conclude as accurate a value indication as the discounted economic income method.
2. Predictable but uneven changes. If there are reasons to believe that changes will be significant but predictable, even though uneven, the discounted economic income model should produce a more accurate valuation.
3. Short- or intermediate-term supergrowth. If growth is expected to be quite high in the immediate future, the discounted economic income model should produce a more accurate valuation. One of the most common mistakes in the application of this method is to use a 10 percent growth for the first few years (even though it may not be sustainable over the long term) and then subtract that 10 percent from the present value discount rate. This mistake will result in a low capitalization rate and in an overvaluation of the subject company.
4. Changes that are erratic and unpredictable as to timing. If the company's economic income is unstable and also more or less random as to timing, the company's risk increases, and thus the present value discount rate increases. However, the discounted economic income method may not be able to produce any more accurate a value indication than the direct capitalization method.<sup>5</sup> (Emphasis added).

The preceding quote further demonstrates that a discounted cash flow method is the more appropriate method to utilize with respect to DEF. DEF'S historic revenues and earnings were not growing at a stabilized rate, The Company is achieving significant revenue and earnings growth, and their internally prepared budgets and forecasts indicate that this growth is expected to continue in the foreseeable future.

Included in table 19 of our valuation report was a comparison of DEF's actual results versus The Company's budgeted results in each of the past five years. With the exception of 2013, a year in which The Company had issues with an assembly line, The Company's actual results have come within a reasonable range of its budgeted results. Therefore, there is no reason why The Company's budgets and forecasts should be completely ignored by Mr. Smith. By ignoring The Company's own growth expectations, Mr. Smith is significantly undervaluing The Company.

*PAGE 15.* The Smith Report discusses the normalization adjustments that were made in order to determine DEF's adjusted earnings before interest, taxes, depreciation, and amortization (EBITDA) and states the following:

EBITDA was \$15,084,163 in 2015. Certain normalization adjustments for legal and consulting, charitable contributions, and relocation and recruiting costs, were identified in Mr. Trugman's report for which **we were unable to review detailed support**. However, based on the description of the expenditure it is not an unreasonable adjustment and we have made the same adjustment to EBITDA. As discussed later in this report, no adjustment was made for compensation. As shown on Exhibit A-1 the adjusted EBITDA for 2015 is \$16,112,106 after the add-back of legal and consulting fees of \$215,781, charitable contributions of \$311,000 and relocation and recruiting costs of \$501,162. This is our best estimate of DEF's EBITDA capacity as of the December 31, 2015. (Emphasis added).

<sup>5</sup> *Valuing a Business*, 244–245.

### Exhibit 17.1 Critiquing the Opposing Expert's Report

Mr. Smith states that he was unable to review support for the normalization adjustments that were made in our report. I do not understand how this statement can be made. Considering that Mr. Smith's client is The Company, there is no reason why the details about these various adjustments could not have been obtained from their client. This is another instance in which Mr. Smith did not perform a thorough enough financial analysis of The Company, as many of these nonrecurring expenses were clearly presented in DEF's internally prepared financial reports.

Furthermore, Mr. Smith omits other normalization adjustments that should have been made. First, DEF has continued to pay a significant salary to Jerry Harris, even though he has not been working with The Company on a full-time basis. This was confirmed in the depositions of Christopher Harris, Frank Brown, and Robert Roberts. According to Christopher Harris's deposition testimony,

Q: Okay. Now, as of this time, Jerry had a stroke and he's not—he's not coming in to work or is he—is he still checking his company email?

A: He is checking it, and he did come in in 2015 a couple times, but, yeah, he's not in as frequently as—he's not in frequently. Let me put it that way. And, yes, he's periodically checking email.<sup>6</sup>

Christopher Harris's testimony indicates that Jerry Harris has not been coming to the office as frequently since he had his stroke. Jerry Harris's role with The Company was also a topic that was discussed at Robert Roberts's deposition. The transcript reads as follows:

Q: You're aware that after he became executive chairman, and even after he suffered his stroke, the company continued to pay Jerry Harris a salary?

A: To my knowledge, yes.

Q: Do you feel that that was earned salary?

A: I don't believe so.

Q: Why not?

A: Well, again, Chris was brought in as the chairman of the company, and in a position where Jerry was kind of the overseer and asking questions and so forth and so on. I don't think the full level of salary—he should have been paid more as a consultant or more as a time on application or something like that rather than the full salary, full remuneration, and, oh, by the way, full distributions.<sup>7</sup>

According to Frank Brown, Jerry Harris's role has been limited to attending board meetings. Frank Brown's testified as follows:

Q: All right, I'll make it simple. Do you know what Jerry is doing for DEF and has been doing over the last year?

A: Just the last year?

Q: Well, let's say since Chris became president, what do you know about Jerry's role?

A: It has been very limited at the board meetings to the point that almost can't talk, that had to be prodded. So that would be my exposure, so it would be very difficult.

Q: And that's because he suffered a health issue, a stroke; correct?

A: That's the believing, yes.<sup>8</sup>

Clearly, the deposition testimony from all three individuals indicates that Jerry Harris' role with The Company has been limited, and he no longer provides the role of a full-time Chief Executive Officer ("CEO"). Therefore, his salary should have been added back or at a minimum, replaced with a board of director fee and/or consultant expense at a much lesser cost.

Another normalization adjustment that was omitted by Smith was depreciation expense. As previously discussed, the depreciation expense reflected in DEF's financial statements does not reflect an economic write-off of the assets because The Company periodically writes off assets as they are purchased. By omitting these various adjustments, Mr. Smith, once again, undervalues The Company.

<sup>6</sup> Deposition Transcript of Christopher Harris, April 7, 2016, Page 301, Lines 15–21.

<sup>7</sup> Deposition Transcript of Robert Roberts, April 8, 2016, Page 123, Lines 7–21.

<sup>8</sup> Deposition Transcript of Frank Brown, March 24, 2016, Page 20, Lines 1–13.

(continued)

### Exhibit 17.1 Critiquing the Opposing Expert's Report *(continued)*

PAGES 16–17. The Smith Report discusses the derivation of the cost of equity that is utilized to calculate DEF's weighted average cost of capital (WACC). The biggest difference between the discount rate used in The Smith Report and the discount rate used in our report has to do with the quantification of industry risk. In our valuation, we accounted for industry risk through use of a beta, based on the guideline public companies that we relied on in our market approach. The beta is a measure of systematic risk that relates to the guideline public companies that we used in our analysis of the market approach. Because these companies were deemed similar to DEF, for purpose of our analysis, the same industry risk for DEF would be best represented by using the beta of these guideline companies. Mr. Smith, however, used an industry risk premium to quantify industry risk, and on page 17, The Smith Report reads as follows:

Different industries tend to have different levels of systematic risk. Duff & Phelps addresses this issue by developing an industry premium methodology. The methodology relies on a full information beta estimation process. Utilizing this methodology, Duff & Phelps estimates industry premia for multiple industries and reports them by SIC code. We utilized SIC code 7372 [sic] (Printed Circuit Boards) to determine the industry adjustment applicable to the Company's operations. Duff & Phelps data indicates an industry premium of 4.08%.

Mr. Smith accounts for industry risk by using an industry risk premium of 4.08 percent for SIC code 3672: Printed Circuit Boards. This industry risk premium is calculated annually in Duff & Phelps' *Valuation Handbook*. There are several problems with utilizing an industry risk premium in this instance.

First, Mr. Smith uses a guideline public company method to value DEF. If that is the case, why doesn't Mr. Smith utilize these guideline companies to estimate DEF's cost of equity, rather than the 18 companies that were selected by Duff & Phelps? The Duff & Phelps data includes many companies that are not comparable to DEF. Mr. Smith believes that the valuation multiples for their guideline companies were comparable enough to derive indications of value under a market approach for DEF, but for some reason, does not believe that these companies can be utilized to calculate the cost of equity for The Company. The industry risk premium for SIC Code 3672 that is included in the Duff & Phelps publication contains data for 18 companies, most of which are not comparable to DEF. A summary of the 18 companies that comprise the 4.08 percent industry risk premium that Mr. Smith relied on is presented in table 1.

Company Name	Guideline Company Selected by Smith?
API Technologies Corp.	No
Benchmark Electronics, Inc.	Yes
Cirtran Corp.	No
Compass Diversified Holdings	No
Elecsys Corp.	No
IEC Electronics Corp.	Yes
Jabil Circuit, Inc.	Yes
LSI Industries, Inc.	No
Methode Electronics, Inc.	No
Multi-Fineline Electronics, Inc.	No

*(Table continued)*

### Exhibit 17.1 Critiquing the Opposing Expert's Report

**TABLE 1** (continued)

Company Name	Guideline Company Selected by Smith?
Park Electrochemical Corp.	No
Plexus Corp.	Yes
Probe Manufacturing, Inc.	No
Sanmina Corp.	No
Sigmatron International, Inc.	Yes
SMTC Corp.	No
TTM Technologies, Inc.	No
Viasystems Group, Inc.	No

As indicated in the data in table 1, Mr. Smith selected only 5 of the 18 companies tracked by Duff & Phelps as guideline companies that were comparable to DEF. Two of the companies included in the preceding table, Cirtran and Probe, were penny stocks, and the stock prices of these companies as of December 31, 2015 were \$0.01 and \$0.10 per share, respectively. Furthermore, 6 of the 18 companies incurred net losses during the 12-month period ended December 31, 2015. If DEF is such a financially healthy and well-managed company, why are unprofitable companies being used as a benchmark to quantify the risk of an investment in DEF?

Another issue with Mr. Smith's industry risk premium is that Mr. Smith is basing this industry risk premium on data that is a year old. The valuation date used in The Smith Report is December 31, 2015. However, the Duff & Phelps data that Mr. Smith is relying on only runs through December 31, 2014, and, as a result, Mr. Smith is ignoring an entire year of industry data. The stock price information for the public companies that are utilized to calculate the industry risk premium would have been known or knowable as of December 31, 2015, if this was the correct valuation date. If Mr. Smith had used information through its valuation date of December 31, 2015, the results would have been materially different. According to Duff & Phelps' *2016 Valuation Handbook*, with data through December 31, 2015, the industry risk premium for SIC code 3672 was only 1.03 percent, which is substantially lower than the 4.08 percent utilized by Mr. Smith. If Smith had utilized the correct industry risk premium, the WACC would have been as follows:

Risk-Free Rate	2.67%		
Equity Risk Premium	6.21%		
Industry Risk Premium	1.03%		
Small Stock Premium	5.78%		
Additional Risk Premium	1.00%		
Total Cost of Equity	16.69%		
	<b>Rate of Return</b>	<b>Weight</b>	<b>WACC</b>
Cost of Equity	16.69%	75%	12.5%
Cost of Debt	3.80%	25%	1.0%
<b>WACC</b>			<b>13.5%</b>

(continued)

**Exhibit 17.1 Critiquing the Opposing Expert's Report** *(continued)*

As indicated previously, Mr. Smith's WACC would have been 13.50 percent, as opposed to 15.80 percent. This is in line with the WACC calculated in our report of 13.30 percent. Using a higher WACC results in an understatement of value. In fact, the primary reason why the WACC differs in our report versus The Smith Report is because Mr. Smith uses an incorrect and outdated industry risk premium. This further substantiates our discount rate.

Another factor that needs to be considered is whether the capital structure of the 18 companies used in Duff & Phelps' industry risk premium is consistent with the capital structure utilized by Mr. Smith. The industry risk premium is based on what is known as a "full-information beta" and, as a result, reflects the capital structure of the companies that were used in the composite. Therefore, this beta needs to be unlevered using the capital structures of the companies in the composite and re-levered using DEF's capital structure. No such analysis was discussed in The Smith Report and, as a result, this further makes the industry risk premium less relevant to DEF.

With respect to the company-specific risk premium, The Smith Report states the following:

We then applied an additional (company specific) risk premium to the cost of equity. Given factors such as the Company's reliance on a high customer concentration, contract specific non-recurring work and supplier concentration, we have determined that an additional risk premium of 1.0% is warranted to best reflect the inherent risks associated with operations.

Mr. Smith applies a company-specific risk premium of 1 percent based on customer concentration, nonrecurring contract work, and supplier concentration. There are several issues with the derivation of the company-specific risk premium. Although DEF's revenues are largely concentrated with few customers, many of the guideline public companies that Mr. Smith relies on have similar risks. In our report, we provided detailed descriptions of the guideline public companies that we utilized, and customer concentration risk was a common risk factor among all of them. Therefore, some of this risk has already been captured in the industry risk premium. Furthermore, although Raytheon accounts for a significant portion of DEF's revenues, The Company sells to various independent divisions of Raytheon, each of which has its own programs. This somewhat mitigates the level of customer concentration risk.

Another factor that Mr. Smith discusses is supplier concentration. This should not be considered as a risk factor because DEF is a contract manufacturer and, as a result, The Company has to purchase materials from vendors that are specified by its customers. Mr. Smith also considers contract-specific nonrecurring work as a risk factor related to DEF. However, this risk factor is applicable to all contract manufacturers. If Mr. Smith used guideline public companies that were also contract manufacturers, this is another risk factor that is being double-counted.

In the derivation of the company-specific risk premium, Mr. Smith does not list any positive factors related to DEF that may mitigate the company-specific risk premium. Mr. Smith notes that DEF is a well-managed company based on its financial performance but does not indicate how that factor was considered in its risk analysis. All factors considered, it appears that Mr. Smith overstates the company-specific risk premium attributable to The Company.

*PAGE 18.* The Smith Report continues with the derivation of the WACC by discussing the cost of debt:

To estimate the cost of debt, we examined information on commercial borrowing rates. Based on this data, we estimated the pre-tax cost of debt at 5.5%, which assuming a 31.1% tax rate, results in an after-tax cost of debt of 3.8%.

Mr. Smith estimates the cost of debt at 5.5 percent. This is in spite of the fact that the interest rate on DEF's line of credit is equal to the London-Interbank Offered Rate (LIBOR) plus 167 basis points. In our analysis, we determined that The Company's average borrowing rate was only 1.37 percent. Because the standard of value in this engagement is fair value, the issue is what Mr. Brown is giving up, which, in this case, is an interest in a financially healthy company that is able to borrow at low rates. By using a significantly higher borrowing rate, Mr. Smith is further overstating the WACC and undervaluing the fair value of Frank Brown's interest in The Company.

The impact of the errors in Mr. Smith's calculation of the WACC is substantial. If everything else is held the same and if we simply adjust the industry risk premium and the cost of debt, Mr. Smith's WACC decreases from 16.0 percent to 12.8 percent. Based on this lower WACC, the indication of value under the income approach would increase from \$65,156,648 to \$88,277,325, a difference of 35.5 percent. If we also add back Jerry Harris' salary, the value derived by Mr. Smith would further increase to \$93,488,516. These adjustments do not consider Mr. Smith's mistake of completely ignoring DEF's internally prepared budgets and forecasts.

## Exhibit 17.1 Critiquing the Opposing Expert's Report

PAGE 19. After the discussion about the derivation of the WACC, The Smith Report discusses DEF's buyout of Robert Roberts as follows:

Chris Harris had originally offered Mr. Roberts \$11.0 million in September 2014. Mr. Roberts expressed concern that \$9.8 million of the \$11.0 million was made up of unsecured future payments. Further, Mr. Roberts testified that his valuation of the Company was \$81 million and .... 'Because I'd gone through all these numbers and I had a valuation. This was my valuation of \$81 million, but I had an expert (Mr. Trugman) come back with \$81 million also. So I had the value of the company, and I was taking the position, willing to talk about dilution and so forth to come down to 13 and a half million dollars.'

Mr. Smith utilizes Mr. Roberts' buy-out price as an indication of value. The problem with utilizing this value is that Mr. Roberts agreed to a settlement with The Company in an attempt to settle a litigation. Settling litigation frequently considers the ongoing time and energy, as well as the cost and risks of litigation; therefore, litigation settlements are not an indication of a true negotiated value. In fact, Mr. Roberts' value was based on a valuation done almost a year earlier. As a result, this transaction was not considered to be indicative of a sale between an unmotivated buyer and seller. According to Mr. Roberts' deposition,

Q: About right. Okay. So just to conclude this discussion of value, in November you thought the value really should have been 81 million. Ultimately you agreed to a value—a valuation of 60—

A: I agreed to a value differently than that because the pressures that I was feeling and—and basically I settled for something that I didn't think was equitable and I didn't think was fair, but I just wanted to get the thing over with.

Q: But you agreed to it?

A: I did, but I didn't—

Q: Right.

A: I feel I agreed to it under duress.<sup>9</sup>

Mr. Roberts testified that he settled for a value that he did not feel was equitable and agreed to a value under duress. Not only does this transaction not meet the definition of *fair market value*, but it is inconsistent with the case law that we reviewed that states that a shareholder should be entitled to be paid the fair value of what has been taken away from him. As previously discussed, Mr. Smith was advised by legal counsel to define *fair value* as fair market value without discounts. The definition of *fair market value* assumes that a transaction takes place between a willing buyer and a willing seller with neither party being compelled to buy or sell. Mr. Roberts' testimony indicates that this was not the case with the buyout of his interest.

Aside from the transaction not being consistent with the appropriate standard of value, it should also be noted that the transaction was based on the value of The Company as of August 31, 2014. Since that date, DEF has experienced significant growth and improved profitability. A comparison of select financial metrics for DEF for the latest 12 months ended August 31, 2014 and 2015 is summarized in table 2.

**TABLE 2**

	LTM 8/31/2014	LTM 8/31/2015	% Change
Revenues	\$97,222,530	\$126,201,145	29.8%
Net Income	9,792,851	13,686,911	39.8%
Gross Fixed Assets	21,729,438	24,847,174	14.3%
Total Assets	39,537,389	48,601,430	22.9%
Total Debt	8,060,325	6,729,506	-16.5%

<sup>9</sup> Deposition Transcript of Robert Roberts, April 8, 2016, Page 202, Lines 19–25, Page 203, Lines 1–6.

(continued)

### Exhibit 17.1 Critiquing the Opposing Expert's Report *(continued)*

As indicated in table 2, since the valuation date of Mr. Roberts' shares, DEF has experienced double-digit growth in revenues, earnings, and assets. In addition, The Company paid off approximately \$1.3 million in debt over that one-year period. In 2014, The Company made significant capital expenditures related to a new assembly line, and the impact of these expenditures was not included in the figures for the latest 12-month period ended August 31, 2014. With increasing revenues, profits, and assets, and less debt, it makes sense that The Company has become more valuable since the buyout of Mr. Roberts. Not considering the changes in the business from August 31, 2014 to August 31, 2015 causes Mr. Smith to further understate the value of Mr. Brown's shares.

*PAGE 20.* The Smith Report begins with a discussion of the market approach. Mr. Smith performs the guideline public company method under the market approach but does not discuss why a merger and acquisition transaction method was not performed. If Mr. Smith had done a proper industry analysis, it would have found that a considerable amount of acquisition activity was taking place within this industry, and many of the guideline companies that Mr. Smith utilized made several acquisitions in the years leading up to the valuation date.

On page 90 of our report, we summarized seven transactions from which we were able to obtain enough financial information in order to calculate multiples. The Smith Report states that its analysis was performed in accordance with Statement on Standards for Valuation Services (SSVS) No. 1, as promulgated by the AICPA. SSVS No. 1 requires valuation analysts to consider all relevant approaches and methodologies in performing business valuations. In this instance, given the amount of acquisition activity that was taking place in this industry and the number of acquisitions that were made by the public companies that Mr. Smith deemed comparable to DEF, a merger and acquisition method should have been performed.

With respect to the guideline public company method, The Smith Report states the following:

A search for guideline companies was made utilizing Capital IQ's Quick Comps. This search revealed eleven companies in this industry. We then removed two companies and added Sparton Corp. Of the two excluded companies, one is private and the other has operations that are too dissimilar from DEF.

Footnote 10 of The Smith Report states "Sparton Corp. was utilized in Mr. Trugman's analysis." Considering that Sparton is the most comparable company to DEF in terms of size and operations, it does not make much sense that this company would not appear in Mr. Smith's search results. The guideline companies that were selected by Mr. Smith appear in exhibit F of The Smith Report and are listed as follows:

- Jabil Circuit, Inc.
- Celestica, Inc.
- IEC Electronics Corp.
- Plexus Corp.
- Kimball Electronics, Inc.
- Benchmark Electronics, Inc.
- TTM Technologies, Inc.
- Sparton Corp.
- SigmaTron International, Inc.

Three of the guideline companies that Mr. Smith utilized were also used as guideline companies in our report. We had eliminated the other six companies for reasons summarized in the following:

Jabil Circuit Inc.

- Revenues are 146 times those of DEF.
- Market capitalization over \$4.5 billion.

Celestica Inc.

- Revenues are 44 times those of DEF.
- Market capitalization over \$1.5 billion.
- Located in Canada.

IEC Electronics Corp.

- Negative pretax income

Plexus Corp.

- Revenues are 21 times those of DEF.
- Market capitalization over \$1.2 billion.

Kimball Electronics, Inc.

- Initial public offering (IPO) date was October 31, 2014. Company was traded for less than one year prior to the valuation date of August 31, 2015.



## Exhibit 17.1 Critiquing the Opposing Expert's Report

Benchmark Electronics, Inc.

- Revenues are 21 times those of DEF.
- Market capitalization over \$1 billion.

As indicated previously, Mr. Smith utilized companies that were either significantly larger than DEF, had recently gone through an IPO, or had negative earnings. The multiples of these companies would have to be adjusted by such a significant margin based on size alone to make them comparable to DEF. No such size adjustments were discussed in The Smith Report, nor was there any discussion on how these significant size differences were accounted for. Although size alone is not a reason to eliminate a company, there comes a point in which a company is so much larger than the subject that a comparison becomes unreasonable. According to PPC's *Guide to Business Valuations*

The consultant should not reject a guideline company, however, merely because it is larger than the company being valued. The exception would be if the guideline companies are much larger than the subject company. For example, a guideline company that is five times larger (in revenues) than the subject company may still be a useful guideline company with the appropriate adjustments for size. However, it is doubtful that a guideline company that is fifty times larger would be useful and supportable.

In this instance, Mr. Smith is utilizing guideline companies that are 21–146 times the size of DEF in terms of revenues. Without making the proper adjustments to account for these differences, the multiples derived from these much larger companies have little relevance to DEF. Using the unadjusted multiple assumes that the market would price a company such as Jabil, which generated \$18.6 billion in revenues, in the same manner as DEF, which is a closely held company that generated approximately \$127 million in 2015.

*PAGE 21.* In the discussion about the comparative financial analysis that was performed between DEF and the guideline companies, The Smith Report states the following:

Relevant financial ratios for the comparable companies were calculated compared to those of DEF. After this comparative data was compiled, it was reduced to value indicators. As shown on Exhibit F, DEF generally ranks anywhere from the middle to the bottom of the comparable companies in regards to size and five-year annual compounded growth, and are also one of the least leveraged. DEF ranks at, or near, the top of their peer group in profit margins and liquidity ratios.

Mr. Smith states that DEF ranks anywhere from the middle to the bottom in terms of five-year compounded annual growth. However, Smith makes no note of DEF's future growth prospects in comparison to those of the guideline companies. Valuation is a forward-looking process, and as an investor in DEF, or in any company, the investor would mostly be concerned with The Company's future growth prospects, as opposed to what happened historically. Historical performance cannot be ignored, but future prospects are what gives a company value. Smith also states that DEF ranks at or near the top in terms of profit margins and liquidity ratios and is the least leveraged. Despite DEF's outperforming the guideline companies in these categories, Smith proceeds to value The Company using a median multiple. If The Company is a strong performer, a multiple in excess of the median should be considered.

The Smith Report goes on to state the following:

A comparison of various market multiples for the publicly-traded guideline companies is presented on Exhibit F and shows a wide variation in value multiples. For example, the trailing Enterprise Value (EV) to Revenue multiple ranges from a low of 0.23 to a high of 0.94, with a median of 0.33 while the trailing EV to EBITDA multiple ranges from a low of 3.9 to a high of 8.7 with a median of 5.6.

In applying relevant market multiples to the Company, the median multiples exhibited by the guideline companies provide the most reasonable comparisons to the Company.

- The guideline companies are more diversified with respect to business segments, product lines and geographic dispersion of customer base.
- The depth of DEF's management is somewhat less than that of the guideline companies.
- DEF has historically had higher profit margins than the comparable companies.

The Smith Report acknowledges that the multiples of the guideline public companies had very wide ranges. Instead of performing a proper analysis to determine the reason for these wide dispersions, Mr. Smith blindly selects a median multiple without making any adjustments for size, growth, leverage, profitability, turnover, and liquidity. With such wide dispersions, Mr. Smith should have questioned the reliability of using a statistical median. Taking this into consideration, we analyzed the multiples that were utilized by Mr. Smith. The results are presented in table 3.

(continued)

**Exhibit 17.1 Critiquing the Opposing Expert's Report** *(continued)*
**TABLE 3 Guideline Company Multiples**

	EV to EBITDA	EV to Revenues	EBITDA Margin
Jabil Circuit, Inc.	4.50	0.30	6.60%
Celestica, Inc.	6.40	0.24	3.80%
IEC Electronics Corp.	nm	0.50	3.50%
Plexus Corp.	6.40	0.40	6.30%
Kimball Electronics, Inc.	4.70	0.33	7.10%
Benchmark Electronics, Inc.	3.90	0.23	5.80%
TTM Technologies, Inc.	nm	0.94	12.90%
Sparton Corp.	8.70	0.81	9.30%
SigmaTron International, Inc.	5.60	0.23	4.10%
DEF			11.90%
Average	5.74	0.44	6.60%
Standard Deviation	1.62	0.26	2.29%
Coefficient of Variation	0.28	0.59	0.45
Median	5.57	0.33	6.30%

DEF had the second highest EBITDA margin of the entire peer group. However, despite having a favorable level of profitability in comparison to its peers, Mr. Smith selects multiples that are less than Celestica, IEC and SigmaTron, which are the least profitable companies in the group. Furthermore, Sparton is the most comparable company to DEF in terms of size, profitability, and operations. Sparton has the highest multiples in the entire peer group, so why should DEF's multiples deviate so much from its closest comparable? The R-squared statistic between the enterprise-value-to-revenue multiple and the EBITDA margin is 67 percent. This indicates that 67 percent of the variation in enterprise-value-to-revenue multiples can be explained statistically by the variation in profitability. This makes sense intuitively because a more profitable company should warrant a higher revenue multiple. Mr. Smith ignores this relationship and does nothing to adjust the enterprise-value-to-revenue multiple upwards for this profitability. If we were to utilize this statistical linear relationship to estimate the multiple for DEF, the implied multiple would be 0.82, which is right in line with Sparton.

These various issues demonstrate the deficiencies in Mr. Smith's analysis. It blindly relies on median multiples without performing a thorough analysis in the application of the market approach. The multiples selected by Mr. Smith make little sense, and this is the major reason why Mr. Smith was unable to reconcile the values derived under the market approach. The simple reliance on a median multiple is one of the common errors that is discussed in *Valuing a Business*, which states the following:

Unless the guideline and subject companies are extremely homogeneous in their financial characteristics, the mean or median of the guideline company pricing multiples may not be the most appropriate pricing multiples for the subject company. Yet analysts often use the mean or median guideline company pricing multiple with no explanation to justify the implied notion that the subject company's characteristics indicate that it should be valued right at the average of the guideline companies.

### Exhibit 17.1 Critiquing the Opposing Expert's Report

A section of this chapter was devoted to selecting the pricing multiple for the subject company relative to guideline company pricing multiples. Such analysis is little more than common sense, yet it is surprising how often it is ignored!<sup>10</sup>

At the bottom of Page 21, The Smith Report states the following:

Based upon the application of the market approach, the indicated value of the equity of DEF, as of December 31, 2015, is \$72,234,317 (Exhibit G)

The calculations in exhibit G show that Mr. Smith derived an enterprise value of \$42,102,245 when using an enterprise-value-to-revenue multiple and a value of \$89,812,239 using an enterprise-value-to-EBITDA multiple. These values are 113 percent apart. Instead of reconciling the differences, Mr. Smith weights the values by placing 75 percent of the weight on the enterprise value to EBITDA multiple and 25 percent of the weight on the enterprise value to revenue multiple. When indications of value under the same valuation approach are this wide apart, it is an indication that at least one of them is wrong. The role of the valuation analyst is to explain why the indications of value are so different and possibly eliminate the one in error, rather than merely applying unexplained weights to the indications. Overall, the market approach performed by Mr. Smith is fatally flawed, lacks reasoning, and derives indications of value that do not make sense and cannot be reconciled.

PAGES 22–25. The Smith Report begins its discussion on valuation discounts and states the following:

The method Mr. Trugman employed to value 100% of DEF reflects the value of the Company on a non-controlling, marketable basis. This is the same basis used in our analysis and also used as an estimate of Fair Value. Mr. Brown's interest being valued reflects a non-controlling, non-marketable interest in the Company. Non-controlling interests tend to be less valuable than controlling interests. Exhibit H presents a chart taken from *Guide to Business Valuations, 10th Edition*, and reflects the levels of value and illustrates the application of discounts depending on characteristic of ownership.

In order to calculate the fair market value of Mr. Brown's specific ownership interest, if necessary, we completed our analysis on a non-controlling basis and then applied discount for lack of marketability.

First, it should be noted that we did not value DEF on a non-controlling basis, as The Smith Report describes. Our value was derived on a control basis, which is consistent with the guidance from the Pennsylvania case law that we were provided with. Second, the preceding quote from The Smith Report is inconsistent with both fair value as described in the Pennsylvania case law and the definition of *fair value* that is cited in The Smith Report (fair market value without discounts).

As discussed previously, in *Glosser Bros, 382 Pa. Super at 185* (citing *Tri-Continental Corp. v. Battye, Del., 74 A.2d71, 76 (Del. 1950)*), The court stated that “the basic concept of value under the appraisal is that the stockholder is entitled to be paid for that which has been taken from him, viz, his proportionate interest in a going concern.” By definition, a “proportionate interest” is a pro rata share of the whole (control value) and excludes discounts. This is nothing more than another attempt by Mr. Smith to lower the value of Mr. Brown's interest in The Company.

It should also be noted that The Smith Report references the 10th edition of PPC's *Guide to Business Valuations*. Considering that this publication is now in its 26th edition, one has to question whether the author of The Smith Report is up to date with current business valuation topics and issues.

At the bottom of page 22, The Smith Report states the following:

In valuing privately-held companies, recognition must be given to the fact that the value of an ownership interest in a privately-held company is not equivalent to its underlying economic worth in the public market place because there is a lack of liquidity in the ownership interest, which detracts from its value to a potential investor. This lack of liquidity gives rise to a discount for lack of marketability. We considered restricted stock studies in our calculation of the appropriate marketability discount for an ownership interest in DEF.

In deriving the discount for lack of marketability, The Smith Report relies on restricted stock studies. We have already established that the application of a discount is inconsistent with the definition of *fair value* as discussed in Pennsylvania case law. Therefore, we do not believe any discounts should be applicable in this matter. However, even if The Court should decide that discounts in this matter are appropriate, there are still technical errors in the manner in which Mr. Smith selected a discount for lack of marketability for DEF.

<sup>10</sup> *Valuing a Business*, 305.

(continued)

**Exhibit 17.1 Critiquing the Opposing Expert's Report** *(continued)*

The restricted stock studies that Mr. Smith relies on are listed in exhibit I. The most recent study listed was the Trugman Valuation Associates, Inc. Study that covers the years 2007–2008. Mr. Smith ignores our most recent study with data through 2010, which had an average discount of only 15.9 percent, as well as the SRR Restricted Stock Study that covers the period September 2005 to May 2010 and had an average discount of only 9.3 percent. By excluding the more recent studies, The Smith Report is misleading because it does not reflect what has actually gone on in the marketplace for restricted securities since 2008. This is another example of The Smith Report relying on outdated valuation literature.

The Smith Report also contains no analysis that compares the financial performance of DEF to that of the companies included in the various restricted stock studies. The companies included in the various studies include start-ups, unprofitable companies, and companies that do not pay dividends. In fact, the median net profit margin for the 778 companies that issued restricted stock that are contained in the FMV Restricted Stock Study database (which is available on the Business Valuation Resources website) was negative 12.9 percent (indicating that the median company had a loss). Of the 778 companies, 258 (or 33 percent) had revenues under \$5 million. Seven hundred and four (over 90 percent) did not pay dividends, and 515 companies (66 percent) were not profitable. The average volatility for the companies in the sample was 88.6 percent and 193 of the companies had volatilities over 100 percent. Earlier in The Smith Report, Mr. Smith performed a financial analysis of DEF and concluded that DEF was a well-managed company. If this is the case, how can one justify comparing DEF to financially distressed companies such as these?

Another major flaw in The Smith Report is that all the restricted stock studies involve minority shares in the public companies. This means that these studies are only applicable to minority interests and not controlling interests. Therefore, the application of these discounts to DEF penalizes Mr. Brown even further for his lack of control in DEF. This is the very point that the case law tries to avoid.

On page 24, The Smith Report discusses the basis for the selection of the discount for lack of marketability and states the following:

There are several factors present in this matter that indicate a lower than average discount for lack of marketability could be appropriate for a non-controlling interest in DEF:

1. DEF has made significant historic distributions.
2. DEF generates operating income from which to make distributions.

There are also several factors present in this matter that indicate a higher than average discount for lack of marketability could be appropriate for a non-controlling interest in DEF:

1. DEF does not have a shareholder's agreement or readily available market place to sell its shares.
2. There are no plans for an IPO.
3. The length to liquidity is longer than the term of the restricted stocks.

Based upon the restricted stock studies on Exhibit I, the discount for lack of marketability for The Company would be in the middle of the indicated range. The Company has made distributions to its owners, which would tend to decrease the applicable marketability discount, but that is offset by the risk of adverse tax implications to the shareholder if distributions are not received. There is no shareholder's agreement which could make selling an ownership interest more difficult than if an agreement existed. The location of The Company may present additional challenges for potential buyers as it is approximately three hours away by automobile from the nearest major metropolitan area.

The Smith Report states that DEF has no readily available market place to sell its shares and The Company has a longer time to liquidity than the terms of the restricted stocks. However, what Mr. Smith does not consider is the acquisition activity that was taking place in the industry. For example, since 2012, Sparton Corporation has made 12 acquisitions. Several of the other guideline companies have made acquisitions in recent years, as well. Given the amount of acquisition activity that was taking place in this industry, DEF would be a potential acquisition target, which would make The Company more marketable, especially as the well-managed firm that Mr. Smith describes in its own report. In fact, it is our understanding that The Company has actually received offers to be acquired.

The Smith Report states that DEF's location presents additional challenges for potential buyers because it is located three hours away by automobile from the nearest major metropolitan area. It is unclear what relevance this has because DEF's largest customers, Raytheon and UTC Aerospace, are headquartered in Waltham, Massachusetts and Charlotte, North Carolina, respectively, and The Company has been doing business with these customers for a number of years. Furthermore, this contradicts statements in DEF's Business Continuity Plan for the years 2013, 2014, and 2015 which states the following:

Contract manufacturing is not 100% geographically or region dependent but it plays a higher degree of importance today as the large EMSI providers continue their push for regional and strategic placements of multiple facilities. However, DEF understands the targeted customer base embedded within the Northeast Corridor of the United States and continues to focus on the key industries within this sector.

## Exhibit 17.1 Critiquing the Opposing Expert's Report

As the preceding quote indicates, DEF targets key industries within the Northeast Corridor of the United States. Therefore, its location can actually be viewed as an advantage. The deposition transcripts indicate that management has considered selling DEF. Mr. Roberts testified as follows:

Based on some experience that I had had with past valuations and just kind of a normal practice. When we talked—when we talked specifically back in the time frame where I said Chris went to New York to sell the company, he lined up three firms and we had interaction and interface with these three firms to sell the company.<sup>11</sup>

According to Christopher Harris, he had no interest in selling The Company because he felt it had a bright future. His deposition transcript reads as follows:

Q: What if they don't agree to sell their shares—or strike that. If you don't agree to sell your shares and you won't agree to buy their shares, which choice do they have? There's no threat there, is there?

A: They did not present an option three, and they very clearly presented two options. They gave me an ultimatum. There's nothing else—no other word to call it, Greg. And in those two options, option A, soon after it came off the table. Because we talked about it and said, you know what, we kind of don't feel like selling this company. We like this company. We see a great future with this company.

Based on what was stated in DEF's Business Continuity Plan and the deposition testimony of company management, there is no indication that The Company's location would be a barrier to a potential sale. In fact, Sparton acquired Onyx EMS, LLC, which is headquartered in Watertown, South Dakota. There is no industry analysis or any support for the assumption that DEF's location negatively affects its potential to be acquired.

Despite the poor financial condition of the companies included in the various restricted stock studies, on page 25, The Smith Report states the following regarding the selection of the discount for lack of marketability:

Based on my analysis of the restricted stock studies discussed above and the characteristics specific to the interest owned, a 30% discount for lack of marketability is appropriate to reflect the specific attributes of an ownership interest in DEF. The 30% is consistent with both the median restricted stock study of 31.3% and the mean of 28.5% as reflected on Exhibit I.

The Smith Report blindly selects the median discount for lack of marketability of 30 percent, which is based on the various studies included in exhibit I, with many of the more recent studies being omitted.

The benchmark average approach to developing discounts for lack of marketability have been heavily scrutinized. The following is an excerpt from *A Companion Guide to the FMV Restricted Stock Study 2016 Edition*:

Exhibit 1, excerpted from Shannon Pratt's *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, shows the type of discounts arrived at over the years through various restricted stock studies.

Exhibit 1 is representative of the benchmark average approach in that, other than the average discount, there are no other characteristics from which a comparative analysis with the subject company can be performed. Recently, the benchmark average approach has come under stark criticism by the courts. In an appeal for more detailed data, the *McCormick* court stated, "Respondent relied on third party studies for her . . . base [discount]. We are unable to analyze the specifics of respondent's base." In other words, the courts are seeking "first-party studies" with sufficient data available underlying the discounts so that they may ensure valuers make appropriate comparisons.

This complaint was echoed in *Peracchio*, as the court dismissed the discount determined by the use of the benchmark average approach, stating, "[The valuation expert] simply lists the average discounts observed in several such studies, effectively asking us to accept on faith the premise that the approximate average of those results provides a 'reliable benchmark for the transferred interests.' And *Temple* picked up the complaints of the *Peracchio* court, stating, 'Rather than taking restricted stock sale data and explaining its relation to the gifted interests, [the taxpayer's expert] simply listed the studies and picked a discount based on the range of numbers in the studies.'

<sup>11</sup> Deposition Transcript of Robert Roberts, April 8, 2016, Page 195, Lines 13–19.

(continued)

**Exhibit 17.1 Critiquing the Opposing Expert's Report** *(continued)*

By simply selecting a benchmark median, The Smith Report is performing the exact same analysis that was rejected in the Tax Court cases discussed in the preceding quote. Furthermore, given DEF's favorable financial condition in comparison to these companies, one has to question the appropriateness of a median. In deriving its discount for lack of marketability, Mr. Smith fails to perform a proper analysis, fails to consider numerous important factors that affect the marketability of a company and, as a result, makes another adjustment that further reduces the value of The Company.

*PAGE 27.* The Smith Report begins its critique of our report with a discussion of the guideline public company method used in our valuation and states the following:

Mr. Trugman used a single forward revenue multiple in his report. Mr. Trugman opines that the forward multiples per Yahoo Finance were 0.68x for TTM Technologies, Inc. and 0.74x for Spartan Corporation. There was not a forecast to calculate a forward revenue multiple for Sigmatron International, Inc.; however, as of the Valuation Date, their trailing twelve months' revenue multiple was 0.25x. Mr. Trugman then concluded that Spartan Corporation was the most similar, but DEF should be valued at a higher multiple than Spartan Corporation so he applied a subjective 20.0% premium to Spartan Corporation's 0.74x forward revenue. The resulting revenue multiple selected was 0.88x.

Given that 0.88x is a forward multiple, it was applied to the forecasted revenue of DEF for the next twelve months.

Mr. Trugman appears to have not included the remaining four months of 2015 in the calculation as he applied the 0.88x multiple to his 2016 forecasted revenue figure of \$142,550,000. The resulting value of equity Mr. Trugman concludes on after accounting for the debt is \$120,100,000. (Footnotes omitted).

The statement in The Smith Report indicates that Mr. Smith misunderstood what the forward multiple represents. The forward multiple was based on the guideline company's revenue estimates for the next fiscal year, not the next 12 months. This is the manner in which the valuation profession calculates these multiples. Therefore, in order to appropriately match the multiple with the correct benefit stream, we utilized DEF's revenue estimate for the next fiscal year, not the next 12 months. Therefore, the calculation in our report is correct and we stand by it.

*PAGE 28.* The Smith Report critiques the guideline search and elimination process in our report as follows:

The guideline company method, while an appropriate method, as used by Mr. Trugman, appears to ignore, or in my opinion, not adequately consider, the other relevant data points within the publicly available information. The limitation of search results may suggest the exclusion of the method from consideration rather than the selective use of a data point to support his income approach. Additionally, the single data point (sales multiple) was further subjectively increased 20% which, by itself, added approximately \$24 million to the indication of value.

The Smith Report states that we did not adequately consider other relevant data points within the publicly available information. This statement is ironic considering that Mr. Smith did not locate Spartan Corporation through its own independent research but relied on our report to locate this company. Furthermore, Mr. Smith only utilized one database, whereas we utilized three. Therefore, this criticism is unsupported. The Smith Report offers no specific examples of what we did in our search for guideline companies that was not in full compliance with professional standards. The criticism is merely a "trust me" item, with absolutely no substance behind it. We indicate on page 69 of our report what our search criteria was and the results of the search.

The Smith Report also references the 20 percent premium as being subjective, even though the reasoning was fully explained in our report, and the adjustment was necessary to account for DEF's favorable financial condition. As previously discussed, the valuation treatises favor adjusting the guideline public company multiples to make them more applicable to the subject company, as opposed to blindly selecting a median. Unlike The Smith Report, we explained everything that we did and included our analysis in our report.

The Smith Report goes on to list several criticisms of our market approach. The first criticism is as follows:

Through his search criteria he eliminates all companies with market capitalizations in excess of one billion dollars.

Because of a Company's size, this may make sense if firms with a higher market capitalization commanded a higher multiple; however, in this industry it appears that larger companies do not command higher multiples.

The Smith Report states that a size limitation should not have been utilized because larger companies in this industry do not appear to command higher multiples. However, the variation in the multiples can be attributable to a number of factors, including growth prospects, profitability, liquidity, degree of leverage, and asset utilization efficiency. The Smith Report included no analysis that compares the future growth prospects of DEF to the guideline companies, so we have to question how Mr. Smith can make a determination about how size affects the various multiples when there does not appear to be such an analysis in his report. In this instance, the larger companies had numerous locations, hundreds of thousands of employees, and operations that expanded across the globe. Given these differences, it was determined that the business operations of these companies were not comparable to DEF, a company with a single location, with sales concentrated in a few customers.

## Exhibit 17.1 Critiquing the Opposing Expert's Report

The second criticism in The Smith Report is as follows:

As discussed above, within the guideline company method you can use many different data points (multiples) to create value indications. Mr. Trugman relies on only a multiple of forward revenue, which is further limited by the fact that he eliminates all of the multiples except for one and applies a subjective premium to the one remaining multiple.

The reasons for the use of a forward multiple was discussed in our report on pages 88 and 89. The guideline companies had made several acquisitions over the years that contaminate their historic financial results. Furthermore, the guideline companies had considerable growth expectations. Analysts estimated earnings growth of 30 percent and 70 percent for Sparton and TTM Technologies, respectively, for the next fiscal year. Given these considerable earnings growth expectations, multiples based on historic data are less meaningful.

As previously discussed, The Smith Report utilized historic multiples and ended up with values that were 113 percent apart. This, in itself, should demonstrate how utilizing historic multiples for these companies provides meaningless results.

Next, The Smith Report states the following:

Mr. Trugman's forecast expects 11.2% growth in 2016. The industry is only expected to grow by 0.4% annually over each of the next five years. In using only the forward multiple, which appears to be inconsistently applied as discussed above, he is picking up both the 11.2% growth and applying a subjective single multiple with a 20% premium.

The 11.2 percent revenue growth rate was not "Mr. Trugman's forecast." It was based on DEF's internally prepared budget, which was approved by Mr. Smith's own client. Furthermore, The Smith Report references a 0.4 percent growth rate that was contained in an IBISWorld report (as described in footnote 14 of The Smith Report) for the Circuit Board & Electronic Component Manufacturing industry. This report referenced by Mr. Smith has little relevance to DEF.

Page 5 of the IBISWorld report relied upon in The Smith Report states the following:

The Circuit Board and Electronic Component Manufacturing industry produces inputs that are essential in the downstream production of consumer electronics. As a result, demand for industry products is often tied to production levels and demand from downstream industries.

As the preceding quote indicates, demand for this industry is tied to production levels and demand for end-user markets. In this instance, the demand for DEF's products will be tied to the growth expectations for its major customers and the various industries that The Company contract manufactures for. The Smith Report completely ignores its own industry report and contains no analysis of any of DEF's end-user markets or customers. The industry analysis section of our report contained growth projections for all of DEF's major customers, end-user markets, and the Electronic Manufacturing Services' Industry overall. These industry growth outlooks are much more relevant to DEF than the IBISWorld report that was relied upon by Mr. Smith. Using this single report, instead of performing a meaningful analysis, is one more instance of the poor analysis performed by Mr. Smith.

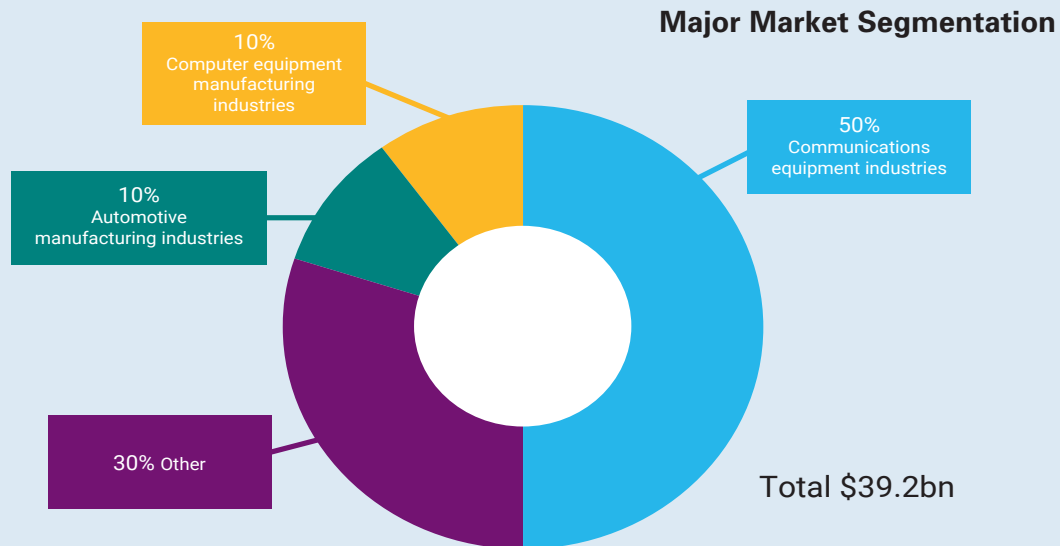
Furthermore, page 9 of the IBISWorld report states the following:

Industry demand is typically determined by production levels in electronic equipment, appliances and computers, which require circuit boards and electronic components as inputs. In turn, demand for these products is affected by broader economic factors, such as consumer confidence and per capita disposable income.

DEF is a contract manufacturer primarily for the defense industry. However, the IBISWorld report states that demand for the Circuit Board & Electronic Component Manufacturing industry is determined by production levels in electronic equipment, appliances, and computers, as well as broader economic factors such as consumer confidence and disposable income. This further demonstrates the irrelevance of this research report. The data systems and computer market only accounts for 3.5 percent of DEF's sales. Furthermore, as a defense contractor, consumer confidence and per capita disposable income do not affect DEF, as much as factors such as military, aerospace and defense budgets, and government spending. All of these factors were discussed in our report and considered in the derivation of the growth rates used in our projections and in assessing the reasonableness of management's budgets and forecasts. In fact, IBISWorld actually has a chart that shows the primary end-user markets of the companies included in its research report. An example based on this chart is presented as follows:

*(continued)*

### Exhibit 17.1 Critiquing the Opposing Expert's Report (continued)



As indicated in the chart, the major markets served by the companies tracked by IBISWorld are communications equipment, computer equipment, and automotive. Communications equipment is not a major industry that DEF serves. DEF's major end-user markets are aerospace and defense (54 percent of total revenues), industrial controls and automation (14.9 percent), transportation and rail (14.6 percent), and medical (13 percent). None of these industries are listed in the IBISWorld report.

Another factor that should be considered is the major companies that were listed in the IBISWorld industry report, which include the following:

- TE Connectivity
- Flextronics International, Ltd.
- Sanmina-SCI Corporation

None of these companies was considered to be a guideline company in The Smith Report. Clearly, this IBISWorld report and the growth outlook contained in the report is of little relevance to DEF and is the major reason why the growth outlook in this report differs from the analyses contained in our report.

The final criticism of our guideline public company method states the following:

As discussed in my report, it would appear that Mr. Trugman's sample size is too small to produce a reliable indication. Given that SigmaTron International, Inc., trades at a revenue multiple far less than TTM Technologies, Inc. and Sparton Corp. it should cause doubt as to the reliability of the sample of guideline companies.

The Smith Report basically states exactly what was discussed in our valuation report on page 96, when we stated, "The values derived under the market approach support the income approach, but were not used as a primary indication of value as the sample sizes were not large enough to derive conclusions with a high degree of statistical confidence." We placed no weight on the market approach due to the small sample size and discussed how Sparton's higher multiples could be attributed to the company's favorable growth prospects and profitability in comparison to the other public companies.

PAGE 29. The Smith Report discusses the critique of the transaction method utilized in our report and states the following:

Again, like the guideline transaction method above, Mr. Trugman relied solely on revenue multiples. The median revenue multiple of the transactions was 0.90x. He then applied a subjective 10% premium to that amount to end up with a revenue multiple of 1.00x. Then, Mr. Trugman applied this multiple to trailing twelve months' revenue of \$126,201,245. The resulting value of equity Mr. Trugman concludes on after accounting for the debt is \$119,500,000.

Our report contains a discussion about why we utilized revenue multiples. In fact, we stated, "The analyst focused on the MVIC to revenue multiple as this metric had the lowest coefficient of variation." The market value of invested capital (MVIC)-to-EBITDA multiples for the acquired companies ranged from 5.85–15.48, whereas the MVIC-to-EBIT multiples ranged from 6.35–25.35. Given these wide ranges and the fact that little information was available regarding the financial information for some of the companies, these multiples were considered to be less reliable. The revenue multiples were much more consistent and had the lowest coefficient of variation. Mr. Smith is criticizing us for doing exactly what we are supposed to have done: analyze the data and make a determination about its reliability.



## Exhibit 17.1 Critiquing the Opposing Expert's Report

The Smith Report continues as follows:

1. Mr. Trugman relies solely on (sic) revenue multiple. The data points from the transactions have a substantial standard deviation and no other implied multiples were utilized in his analysis.

The Smith Report states that the data points for the revenue multiples had a “substantial standard deviation.” It is impossible to know what a “substantial standard deviation” is unless it is compared to an average. In this case, the average and the standard deviation were 0.87 and 0.27, respectively. This results in a coefficient of variation of 0.31, which is not “substantial.” One reason for the variation in the multiples was due to the presence of an outlier. One acquisition had a multiple of 0.38. Other than this one transaction, the multiples ranged from 0.70–1.19. Utilizing the median removes the impact of this outlier in this particular instance. When outliers exist, the average and the standard deviation are less meaningful. More appropriate statistical measures are the median and the semi-interquartile range (one-half of the difference between the third quartile and the first quartile). In this instance, the median was 0.90 and the semi-interquartile range was only 0.18 or 20 percent of the median. Either way, outside of one outlier, the variation in the data set was not determined to be an issue.

*PAGE 30.* The Smith Report continues with a critique of the transaction method in our report and states the following:

He applied a subjective 10% premium to the median multiple. Given the high standard deviation mentioned above, it would appear that Mr. Trugman took an indication that lacked firm basis and added additional subjectivity to it.

We have already addressed the criticism of a “high standard deviation.” The Smith Report proceeds to criticize the use of a premium to the median multiple. However, as discussed in our report on page 94, we stated the following:

In comparison to the acquired companies, DEF outperformed with respect to liquidity and profitability, underperformed with respect to turnover ratios and was overall less leveraged. Based on these factors, the analyst increased the median MVIC to revenue multiple by 10 percent to account for DEF's favorable financial performance in comparison to the acquired companies.

The final criticism of our transaction method as discussed in The Smith Report is as follows:

He fails to account for the synergistic motivations of buyers and the fact that the buyers are acquiring controlling positions.

Because our valuation was performed on a control basis, which is consistent with Pennsylvania case law, this factor is not an issue. A potential purchaser of DEF would be considering the exact same items as considered for the acquisition of the target companies. Also, we did not apply any weight to the transaction method because we only used it to help corroborate the value that we determined under the income approach.

The Smith Report then proceeds with a critique of our income approach and states the following:

According to IBISWorld, the industry is in the decline phase and is only forecasted to have 0.4% nominal revenue growth over the next five years (2016–2021). IBISWorld directly contradicts Mr. Trugman's revenue growth assumptions. The cornerstone of Mr. Trugman's growth assumptions are “budgeted” sales from a five to six year old 2010 Business Plan. The below discussion of the 2010 Business Plan and IBISWorld's industry forecast demonstrate the unreasonableness of Mr. Trugman's growth assumptions forming the basis of his valuation.

As previously discussed, the IBISWorld report that Mr. Smith is referencing is largely irrelevant to DEF. Furthermore, The Smith Report falsely accuses us of relying on sales from a 2010 business plan. In fact, we used DEF's budgets and forecasts for 2015–2017, which we discuss in great detail on pages 59–66 of our report. As indicated previously, The Company prepares budgets on an annual basis and these budgets are approved by Mr. Smith's own client. Therefore, this entire criticism is unwarranted.

*PAGE 31.* The Smith Report begins a two-page discussion about DEF's business plan. First, it should be noted that this entire section of The Smith Report is meaningless because we did not rely on a 2010 business plan in our valuation.

*PAGE 32.* The Smith Report makes several points about DEF's budgeted revenue figures. We will address each of them individually.

1. “The Company's revenue is currently beneath the levels reached in 2011.”

This statement is irrelevant because the important factor to consider is a company's future growth prospects. Our valuation considers management's expectations, as well as the outlooks for the economy, industry, DEF's end-user markets, and DEF's customers.

(continued)

### Exhibit 17.1 Critiquing the Opposing Expert's Report *(continued)*

2. "No apparent analysis of the Company's shrinking backlog in 2015 to support such growth."

On page 85 of our report, we analyzed DEF's backlog as a percentage of sales, and this figure was in line with the guideline companies. Furthermore, The Company's backlog has not been declining as demonstrated in the following:

Year	Backlog (\$000s)
2012	\$45,006.3
2013	33,139.1
2014	69,523.2
31-Aug-15	75,712.0

At August 31, 2015, DEF's backlog was 68 percent higher than it was in 2012. This information was readily available in DEF's internal monthly financial reports.

3. "The 2016 and 2017 budgets are built-up based on customer relationships and projects that existed in 2010 and have not been updated."

This statement is incorrect as demonstrated from the following quotes from DEF's meeting minutes. According to the minutes from the January 6, 2014 meeting:

In addition, to the above critical next steps, the general discussion of the economy and the state of affairs, due to confidence not in place in the economy, doubt about a full economic recovery and a government that is not moving the state of the US out of recession was discussed in great length and the focus is to remain on various cost controls, revenue enhancements and leveraging profitability and immediate action on sales. DEF must stay focused, keep its house in order, enhance quality and aggressively gain new customers and business. **The Sales Plan for the year and targets and objectives were laid out as follows** (bolded for emphasis):

QUARTER 1 (JAN, FEB, MARCH)	\$ 24,800K
QUARTER 2 (APRIL, MAY, JUNE)	\$ 28,500K
QUARTER 3 (JULY, AUG, SEPT)	\$ 31,200K
QUARTER 4 (OCT, NOV, DEC)	\$ 33,000K
TOTAL 2014	\$117,500K

This clearly demonstrates that The Company's budgets have been updated since 2010.

4. "In addition to missing budgeted revenue in 2013, 2014 and 2015, the Company's EBITDA projections were off by -46.8%, -22.2% and -20.6% for the years ended December 31, 2013 through December 31, 2015 respectively;"

The Company does not prepare EBITDA or net income projections. As discussed in our report, we relied upon DEF's sales budgets and forecasted operating expenses and cost of goods sold based on The Company's historic trends.

Clearly, the criticisms contained in The Smith Report are the result of either misunderstanding the analysis performed in our report, or it is being used to put up a smokescreen to avoid the fact that The Company was expecting solid results in the near future demonstrated by its own internal budgeting process.

*PAGE 33.* The Smith Report references previous valuation reports that were prepared for DEF for general business planning and gift tax purposes. These valuations are outdated because one was performed as of December 19, 2005, and the other was performed as of November 30, 2011. Furthermore, these valuations were performed for different purposes and under different standards of value. Because these valuations were performed for gift tax purposes, one has to question whether they are on the low end considering that there is an incentive to derive a lower value. Based on these factors, these valuations were determined to be irrelevant to this litigation.

## Understanding the Weaknesses in the Valuation Process

There are generally two schools of thought when it comes to preparing a valuation report, particularly for litigation. The first is to never admit to having weaknesses in your report. Many attorneys feel that if a valuation analyst includes a discussion about weaknesses in his or her report, or if the valuation analyst points out weaknesses, he or she is giving the opposition too much ammunition with which to attack the report. On the other hand, admitting that valuation is not an exact science and that the process sometimes requires a valuation analyst to use information that is potentially flawed can help demonstrate the level of knowledge of the business valuation analyst, not to mention the objectivity.

The other school of thought is to take the wind out of the opponent's sails and address each area that the valuation analyst expects to be subject to an attack upon cross-examination. If the valuation analyst addresses those areas that he or she knows will be attacked, the valuation analyst will not provide the opposing attorney with the opportunity to raise these issues as if they are a surprise. You saw some of this in exhibit 17.1. Attorneys love to make a judge or jury think that they have caught the expert doing something deceitful. If the valuation analyst admits that there are shortcomings with the report, there is little surprise, and it becomes no big deal. For example, if the valuation analyst uses industry composite data from Risk Management Association (RMA) *Annual Statement Studies*, and the valuation subject is not a "great" match for that Standard Industrial Classification (SIC) code, the valuation analyst can acknowledge that the information should be used with caution. Any experienced business valuation analyst knows that he or she can be attacked because of the weaknesses in certain parts of his or her reports. Think about defending a capitalization rate. Unless the valuation analyst has excellent market data, he or she probably cannot totally support the rate selection. This is a subjective process that is frequently attacked.

The experienced valuation analyst recognizes that a capitalization rate can be justified only by comparing the rate used with other rates available in the marketplace or by testing the conclusion reached for reasonableness. Admitting the subjectivity of the process is not going to be harmful if the valuation analyst proves that the answer makes sense. I frequently testify that I am not hired to determine a capitalization rate but, rather, to opine on the value of the business. Quite frankly, if the value makes sense, who cares how I got there? If the valuation analyst concentrates on supporting his or her overall conclusion of value, the component parts of how he or she got there are not as important.

## Valuation Analyst, Protect Yourself!

When preparing any type of business valuation report, the valuation analyst must think about the potential liability that can arise from this type of engagement. Unlike many of the conventional accounting engagements that a CPA is asked to perform, a business valuation assignment is calling for a conclusion of value. A disclaimer on page 1 of the report will not get the valuation analyst too many jobs. Imagine how the client would feel getting a 100-page report that starts out by stating, "I am not responsible for the conclusion that I am about to give."

The valuation analyst must pay careful attention to each assignment. If I am a CPA-valuation analyst, the last thing that I want a client to think is that a business valuation is an audit. In fact, our engagement letter specifically indicates that we are not doing an audit. In addition, so many of our litigation jobs involve forensic accounting (you know, playing hide-and-seek with unreported income in a divorce) that we must be very careful in that type of engagement.

Because valuation is a prophecy of the future, forecasts are frequently included in our reports. Valuation analysts should include some language to clearly indicate that they are not guaranteeing the outcome, nor have they audited the forecasts, unless they have. Then, they have to consider if their independence will become impaired if they do the valuation. We will accept the forecast from management, perform some due diligence purely with respect to the valuation assignment, and put any and all caveats in our report.

It is also a good idea to restrict the use of the valuation report. Our firm's limiting conditions make it clear that the report can be used only for the purpose that is outlined in the introduction section. The report also states that only the definition of value defined in the report is the applicable definition of value for that assignment. This prevents the client from taking a report that was performed for estate planning and turning it into an offering memorandum for potential investors.

A final suggestion in this regard: if you issue a less than detailed report, put in restrictive language such as the following:

This report does not contain all of the required disclosures of a detailed valuation report. Therefore, only those individuals who have complete knowledge about the valuation subject may be aware of all the facts and circumstances that are not contained herein. Therefore, this report should not be used by others because they may be misled by its incomplete contents.

If that does not scare them away, make them read the report when it is tied around the neck of a Bengal tiger.

## Defending the Business Valuation Report

In any assignment, the valuation analyst may be called on to defend the business valuation report. For litigation engagements, this may take place at depositions or in the courtroom. Many attorneys will tell you that the valuation analyst cannot score any points in a deposition, and there is little reason to try to defend the report at this stage of the proceedings. At the deposition, the opposing attorney is generally trying to find out what the valuation analyst did, why he or she did it, and how it was done. Our firm's experience is that a well-written report often means a short deposition. When we issue a detailed report, there is little left to the imagination. Other than wanting to review our underlying documentation and possibly question us about our assumptions, the other side does not have many questions.

Once we have explained what we did in the report, how we did it, and why we did it, there is little left that can be asked. Always discuss your deposition technique with your client's attorney beforehand. Most attorneys will tell you to give the other side nothing. Others, on rare occasions, will tell you to give them everything in the hopes that your knowledge and thoroughness will help the parties settle the case. Never take the latter for granted! That is not the job of the valuation analyst.

At the time of the trial, the expert will once again have an opportunity to defend the report. The testimony will generally be divided between the direct examination and the cross-examination. On direct examination, I like to use my report as a selling tool. Although the report is rarely entered into evidence, the judge in a bench trial will usually accept a copy of the report to help him or her follow along with my testimony. In these cases, the use of clear tables and graphs is an exceptional way to educate the judge.

The report's appearance is important. It should look as professional as the job that the valuation analyst did. A nice cover, dividers, and good presentation will help. Window dressing works wonders! During the direct examination, take the opportunity to invite the judge to follow along with the chart on page 10, the graph on page 21, or anything else that will give the judge a reason to review this well-structured document. Even if the judge does not read the report, the appearance will indicate professionalism, as long as the valuation analyst's testimony does not negate it.

When preparing for trial with a client's attorney, I ask the attorney to allow me to testify in the sequence of my report. Because the report is written to tell a story, my testimony follows the same pattern. It is much easier to follow a familiar format than having to learn a new routine just before trial.

Cross-examination can also be used by the expert to defend his or her report. I like to refer to my report before answering certain questions. First, it acts as a refresher of what I have done, and second, it allows me to think about the question and also about the answer that I am about to give.

Using the valuation report during cross-examination can also be an effective demonstration of the valuation analyst's thoroughness. When the attorney states, "You didn't consider this in your analysis, did you?" it gives the valuation analyst a great opportunity to respond, "With all due respect, if you turn to page 39 of my report, you will see that I did consider that very issue." Needless to say, a well-prepared attorney will rarely give the expert the opportunity to embarrass him or her that way. Don't be surprised, however, if this opportunity presents itself, and be prepared to take advantage of it.

## Common Errors in Business Valuation Reports

After reviewing numerous business valuation reports, both those in actual engagements as well as those that have been submitted by applicants who have applied for accreditation to some of the valuation organizations, I have compiled a list of what not to do in a valuation report. You have seen many of these items throughout the book when I showed you the other side's work product. I have included some of the most common errors that I have seen in box 17.6.

### BOX 17.6 Common Errors in a Business Valuation Report

- **Definition of value.** Frequently, valuation reports refer to a particular standard of value (that is, fair market value), but the definition is missing from the report. The definition of fair market value has varied considerably in different jurisdictions and must be clearly defined so that the reader can be certain of its meaning.

Another common error regarding the definition of value occurs when the valuation analyst defines the standard of value that was supposed to be used in the assignment but applies a different standard of value during the valuation process.

- **Choice of valuation method(s).** One of the common errors seen in valuation reports is the use of only one or two valuation methods in the assignment, as opposed to all appropriate methodologies. Considering all the appropriate valuation methods act as a good check on each of the methods used and should always be part of a full valuation.

Relying on a “favorite” method is another common error made by inexperienced valuation analysts. Some individuals take a liking to a particular method and always use it. The excess earnings method is one of the favorite methods. This practice should be avoided. The correct valuation methods should be based on the availability of information and the facts and circumstances of the valuation.

Another common error is using methods that contradict each other. For example, the capitalization of income method is generally used if the income in the numerator is stable, whereas the discounted future earnings method is used when the income being forecast is unstable. The use of each of these methods in the same valuation is an indication that the income stream is both stable and unstable. How can that be?

- **Market data.** A major flaw in many valuations occurs when the valuation analyst is so sure that market data cannot be located that he or she never bothers to look for it. This is absolutely wrong! Market data should be looked for in every valuation.
- **Selection of guideline companies.** Many problematic reports include guideline companies that are poor comparables: The guideline companies chosen are not similar and relevant enough to the valuation subject to make them good companies to use in the valuation. This often occurs when the valuation analyst uses guideline companies that are so much larger than the valuation subject that a true comparison cannot be made. Imagine comparing the local hardware store to The Home Depot.

Another problem with the selection process occurs when the valuation analyst does not look far enough to find good guideline companies. A company does not necessarily have to be in the same SIC code to be a good guideline company. Revenue Ruling 59-60 suggests “same or similar.”

- **Financial Analysis.** This is often missing from valuation reports. Other than using historical financial information for the valuation calculations, some individuals forget to perform a trend or comparative company analysis to make the appropriate determinations of risk.

Another common error is the inclusion of financial ratios in the valuation report without any discussion about the meaning or relevance of the ratios. We also frequently see normalization adjustments made in reports that are not adequately explained. There should be an explanation for all adjustments made. Avoid arbitrary adjustments that cannot be properly supported.

- **Discount and capitalization rates.** The problem in this area could fill up an entire book on valuation. The general problem in this part of the report is usually that there is an inadequate amount of support for the determination of the rates used. The risk analysis may be inadequate to support the valuation analyst's conclusion of the appropriate rates.

Another problem is applying a rate for a particular benefits stream to another benefits stream (for example, applying a discount rate for net cash flow to earnings or applying a pretax rate to an after-tax stream).

A frequent error is the use of the 15 percent to 20 percent capitalization rates from Revenue Ruling 68-609, regardless of the risk associated with the benefits stream, particularly the excess earnings attributable to intangibles.

- **Premiums and discounts.** Similar to discount and capitalization rates, the biggest problem is that the report does not include enough support for these items. The percentages used should be supported by a well-thought-out analysis of the factors that affect premiums and discounts.

*(Box continued)*

**BOX 17.6** Common Errors in a Business Valuation Report *(continued)*

- **Typographical errors.** There is nothing worse than seeing a valuation analyst charge a client thousands of dollars and not take the time to proofread the report properly. Typos are an indication of carelessness and should be avoided whenever possible. Spelling errors are unacceptable, especially in light of the spell-check features of most word-processing software packages.
- **Illogical conclusion.** Another error, and the most fatal, is reaching a conclusion that does not make sense; the valuation analyst does not perform any sanity tests, and the end result defies logic. Often, we see that the value conclusion is so high that the cash flow from the business could never support a purchase price in a transaction. My favorite example of this is the time when our client's attorney cross-examined the other side's expert and asked, "Mr. Smith, would you pay that much for this business?" Mr. Smith responded, "Why no, never." How can a valuation analyst expect anyone to believe in the estimate of value if he or she does not?

## The Reconciliation Process

At the end of the valuation process, the valuation analyst must choose a value based on the various methodologies that were used. In a perfect world, all the methods used would result in the same value, making the choice easy. Unfortunately, we do not live in a perfect world. The likelihood of all the values even coming close to one another is slim. This is the part of the assignment that will determine if the valuation analyst understands valuation. The pros and cons of each method should be considered. For example, the adjusted book value method may not have considered any intangibles that the business may have and, therefore, may result in an understatement of the value. On the other hand, the Picasso painting is not generating any cash flow but may have a market value of \$42 million.

Each method should be carefully scrutinized for areas that could have resulted in an error (or less confidence), and a determination should be made about how much weight will be placed on the method in light of the other methods used in the valuation. One set of example data showing the process of weighting various valuation methods is shown in table 17.1.

**TABLE 17.1** Weighting Different Methods

Method	Value	Weight	Calculated Value
<b>MARKET APPROACH</b>			
Price/Earnings	\$4,400,000	30%	\$1,320,000
Percent of sales	4,700,000	10%	470,000
Multiple of book value	4,400,000	30%	1,320,000
Dividend payout ratio	4,200,000	10%	420,000
<b>ASSET-BASED APPROACH</b>			
Adjusted book value	1,200,000	0%	0
Liquidation value	430,000	0%	0
<b>INCOME APPROACH</b>			
Capitalization of benefits method	4,800,000	20%	960,000
<b>ESTIMATE OF VALUE</b>			<b>\$4,490,000</b>
<b>ROUNDED</b>			<b>\$4,500,000</b>

There is no magical formula to the weighting process. It is entirely up to the valuation analyst's judgment regarding where the final value estimate will come in. Some valuation analysts do not like to show the preceding computations, whereas others do. Either way is acceptable as long as the valuation analyst can explain his or her conclusion.

Avoid a common error, which is to take a straight mathematical average of all methods. Most often, the result will be incorrect. In fact, Revenue Ruling 59-60 specifically tells us not to just average the numbers.

The valuation analyst should round the conclusion. The number of places to round to will depend on the materiality of the conclusion. Rounding to the nearest \$1,000 may be appropriate for smaller valuations, whereas rounding to the nearest \$100,000 may be appropriate in others. Rounding the conclusion illustrates to the reader that valuation is not an exact science. Though the valuation analyst wants to be accurate, he or she does not have to be precise.

After reaching the conclusion, the valuation analyst should test the result for reasonableness. The analyst should ask himself or herself two key questions:

- *If I were the buyer, would I pay this much for the business?*
- *If I were the seller, would I sell it for that much?*

If the answer to either of these questions is no, the valuation analyst should go back to the drawing board and see where he or she went wrong. Another test that works particularly well for the income approach and should be considered for the market approach, as well, is known as the *justification for purchase test*. A good friend and mentor of mine, Ken McKenzie, former co-executive director of The Institute of Business Appraisers, taught me this test at the first business valuation seminar that I attended almost 35 years ago. This is also known as the *business broker's method* because it is used by business brokers to price a business for sale.

The justification for purchase test is designed to determine if the cash flow that is forecast to be generated by the business will adequately cover the debt payments that will result from the acquisition of the business, assuming normal business terms. This test, as it was included in a valuation report, is demonstrated in exhibit 17.2 on the following page.

The example in exhibit 17.2 illustrates a simple test that is designed to determine whether the buyer could afford to pay for the business based on the value that was determined by the valuation analyst. Most small- to medium-sized businesses do not have the ability to use creative financing techniques to pay for the acquisition. The two major concerns of the buyer consist of making payroll at the end of the week and being able to pay off the debt service that exists as a result of the acquisition. In fact, if the cash flow of the business is not adequate to pay down the debt, most of these types of transactions cannot take place.

Some valuation analysts (and some software programs) suggest that there needs to be a cash-on-cash return (return on the down payment) in order for the test to work properly. This is incorrect because the valuation analyst's role is to determine a cash equivalent value. If there is a cash return on the down payment, the seller is providing the buyer with an extra return above the required rate of return. This means that the seller is leaving too much money on the table as part of the transaction. The optimal situation is for the cash return to be a break-even, or at least, reasonably close to it.

The justification for purchase test should attempt to simulate a real transaction using a realistic down payment, interest rate, and term for the financing. Certain businesses require larger down payments than others. Speak to a business broker, and he or she can probably give you some guidance. The interest rate that we use is generally anywhere from prime rate to 3 points above the prime rate depending on the risk of the business. The term rarely goes out more than 5 or 6 years. Don't do something silly like using a 15-year payback. The buyer cannot get that type of financing. The results should make sense.

Even after testing the justification for purchase test, the illustration shows additional sanity checks that were performed to support our conclusion.

### EXHIBIT 17.2 Justification for Purchase Test

In order to test our value for reasonableness, we performed a “justification for purchase” test based on a hypothetical acquisition of the company. A willing buyer would be concerned with the ability to pay off the acquisition from the cash flow of the business. We performed a justification for purchase test using a five-year payback period. Our test results are as follows:

	Year 1	Year 2	Year 3	Year 4	Year 5
Annual payments	\$1,561,139	\$1,561,139	\$1,561,139	\$1,561,139	\$1,561,139
Interest	436,623	352,334	261,722	164,319	59,618
Principal	\$1,124,516	\$1,208,805	\$1,299,417	\$1,396,820	\$1,501,521
Cash flow					
Pretax income	\$2,198,907	\$2,286,863	\$2,378,338	\$2,473,471	\$2,572,410
Interest expense	436,623	352,334	261,722	164,319	59,618
Taxable income	\$1,762,284	\$1,934,529	\$2,166,616	\$2,309,152	\$2,512,792
Tax	704,914	773,812	846,646	923,661	1,005,117
Net income	\$1,057,370	\$1,160,717	\$1,269,970	\$1,385,491	\$1,507,675
Principal payments	1,124,516	1,208,805	1,299,417	1,396,820	1,501,521
Cash flow	\$ (67,146)	\$ (48,088)	\$ (29,447)	\$ (11,329)	\$6,154
Return on down payment	-2.06%	-1.47%	-0.90%	-0.35%	0.19%

The preceding calculations indicate a payback period of five years. In other words, a willing buyer who puts down 33 percent and finances the remainder at 1 percent above the prime rate can expect to have the loan paid off in five years. In this case, neither the buyer nor the seller is leaving too much money on the table for the benefit of the other party. This demonstrates the reasonableness of the value that we determined.

As a sanity check, we looked in the Business Reference Guide, which contains rules of thumbs on pricing of businesses. For manufacturing of wood kitchen cabinets and countertops, the pricing rule of thumb is 2.5 times seller’s discretionary earnings. For this company, this would be approximately \$8.7 million. The entity value on a control, nonmarketable basis was calculated to be approximately \$9.8 million. The higher value reflects the better-than-industry performance of the company and further demonstrates the reasonableness of the value we determined.

It was mentioned earlier that there was not enough market data to apply the market approach. However, as an additional sanity check, we compared the company’s price-to-revenue ratio to the price-to-revenue ratios of the transactions. The price-to-revenue ratios from the transactions ranged from 0.09–0.47. The subject company’s price-to-revenue ratio is 0.39. This is within the range of the ratios of the transactions and, again, supports the reasonableness of our conclusion.

## Conclusion

At this point, you now have more of an idea about the valuation report. There are several sample reports as downloadable materials included with this book. Now you even have some samples that you can plagiarize. How do you think we all get started? Thank you, Dr. Pratt, for that great sample report in your first book! Just remember that there is only a small amount of boilerplate, and that the rest will have to be created from scratch each time. Also, remember that a good report will be understandable to the reader. With all of that in mind, I’ll see you in court!



# Chapter 18

# Valuation of Pass-Through Entities

## Learning Objectives

In this chapter, I will attempt to explain the following:

- Characteristics of pass-through entities
- The issues surrounding the valuation of pass-through entities
- Theoretical and empirical evidence of a premium for pass-through status
- Key court cases
- Models developed to measure the value of pass-through entities

## Introduction

One of the more controversial subjects to hit our profession over the past two decades has been the topic of premiums related to pass-through entities. For many years, the pass-through tax status was generally ignored in the valuation process. Pass-through entities were tax affected as if they were tax-paying companies. Near the end of the 1990s and early 2000s, a number of court case decisions (both in and out of the U.S. Tax Court) were issued that forever changed the way we look at pass-through entities. This chapter will discuss the various theoretical issues and provide a working knowledge of a number of techniques available to the valuation analyst when valuing a pass-through entity.

Pass-through entities come in many shapes and sizes, whether an S corporation, limited liability company, or partnership. Although I will primarily focus on S corporations, the same economic theory can be applied to other pass-through entities, as well. I could write an entire book on this subject, but I am not going to. Nancy Fannon, CPA/ABV, MCBA, ASA, already wrote *Fannon's Guide to the Valuation of Subchapter S Corporations*, and she co-authored *Taxes and Value: The Ongoing Research and Analysis Relating to the S Corporation Valuation Puzzle* with Keith Sellers, DBA, both published by Business Valuation Resources, LLC.

## What Is an S Corporation?

Although this is not a treatise on income tax laws, a good place to begin a discussion about the value of an *S corporation* is to understand the rules regarding this type of entity. The term *S corporation* means a small business corporation for which an election to be taxed under Subchapter S of the IRC is in effect for that year.<sup>1</sup> Once made, this election remains in effect until it is revoked. To be classified as a small business corporation for purposes of Subchapter S, a corporation must meet all the following requirements:

- The corporation must be a domestic corporation.
- It must not be an ineligible corporation.
- It must not have more than 100 shareholders.
- Only individuals, decedents' estates, estates of individuals in bankruptcy, and certain trusts may be shareholders. Partnerships, corporations, and many types of trusts may not be shareholders.
- No shareholder may be a nonresident alien.
- The corporation may have only one class of stock, but different voting rights are allowed.<sup>2</sup>

1 IRC Section 1361(a)(1).

2 IRC Section 1361(b).

A corporation can elect to become an S corporation by filing the appropriate form with the commissioner of the IRS. This election can also be revoked, voluntarily or involuntarily, under certain circumstances. Once elected, a corporation will remain an S corporation until such time as a revocation takes place. One thing worth noting is that the election is free. Therefore, why would a willing buyer pay more for the S corporation if he or she could elect it for free?

Keeping this discussion of the tax law simple, an S corporation is a pass-through entity. This means that the profits and losses are passed through to the shareholders, and any tax that is payable will be paid by the shareholders and not the corporation. The original purpose of an S election was to allow these small business corporations to be treated as partnerships while continuing to provide the shareholders with the legal protection of operating in a corporate form.

Being an S corporation provides the shareholders with certain tax benefits. These include, but are not limited to, the following:

- Not being questioned by the IRS about reasonable compensation for shareholder employees (this pertains to excess compensation and not payroll taxes)
- Not being subjected to the accumulated earnings tax if dividends are not paid to the shareholders
- Avoids double taxation upon sale of the corporation's assets (other than those assets that may be subject to the built-in gains tax—see discussion that follows)

Although there are certain tax advantages to electing S corporation status, there are also disadvantages. The major disadvantage relates to C corporations that convert to S corporations. Any gain that the corporation recognizes within the five years after the election is made to convert a C corporation to an S corporation is taxed as if the asset was owned by a C corporation at the time of the conversion to an S corporation. This is known as the *built-in gains tax*. Not only does the corporation pay tax on these items, but the shareholders will also be taxed on the income that flows through after corporate taxes are paid. This constitutes double taxation. Some folks say that this is really not a disadvantage but merely defers the advantage for five years to escape the built-in gains tax. I guess they have a point.

Another tax consideration relating to the S election is the shareholder's income tax basis in the corporation's stock. Whereas in a C corporation, the income tax basis is generally the purchase price of the stock, an S corporation's shareholders will constantly be adjusting the income tax basis of their shares. The S corporation's shareholders will increase their basis for all earnings reported by the company that are not distributed. A simplified basis calculation is as follows:

	Original Investment	\$1,000
+	Profit—year 1	500
–	Distributions—year 1	(200)
=	Basis—end of year 1	\$1,300
+	Profit—year 2	800
–	Distributions—year 2	(400)
=	Basis—end of year 2	\$1,700

The tax implication of the adjusted basis is that the amount of tax that is paid by the shareholder upon the eventual sale of the corporate stock will depend on whether the sale is for a greater or lesser amount than the tax basis. Although a tax basis adjustment, in and of itself, does not affect the value of the corporate stock, the shareholder's return will be affected. Investment decisions may vary depending upon the shareholder's goals relating to a particular investment. This will be discussed later.

## Key Court Cases

Why does the issue of S corporations deserve this much attention in a business valuation textbook? The reason is simple. Various court cases have made our profession think differently about the valuation of these entities than we used to. So, let's briefly discuss some of those court cases. The Tax Court decided the following cases:

- *Gross v. Commissioner*, T.C. Memo. 1999-254, affd. 272 F.3d 333 (6th Cir. 2001)
- *Heck v. Commissioner*, T.C. Memo. 2002-34, Filed February 5, 2002
- *Wall v. Commissioner*, T.C. Memo 2001-75, March 27, 2001
- *Adams v. Commissioner*, T.C. Memo. 2002-80, Filed March 28, 2002
- *Dallas v. Commissioner*, T.C. Memo 2006-212, September 28, 2006

There have been some other Tax Court cases in recent years, but the rulings effectively said the same thing as those cases cited previously. Therefore, there is no point in discussing them here.

Two important non-Tax Court cases that you should be aware of are the following:

- *Delaware Open MRI Radiology Associates, P.A., Petitioner, v. Howard B. Kessler, et al., Respondents, and Howard B. Kessler, et al., Plaintiffs, v. George J. Broder, et al., Defendants*, in the Court of Chancery of the State of Delaware, in and for Newcastle County, Consolidated, C.A. No. 275-N
- *Judith E. Bernier v. Stephen A. Bernier, Dukes Division of the Probate and Family Court Department (July 28, 2003); Judith E. Bernier v. Stephen A. Bernier, 873 N.E.2d 216 (Mass. 2007); and Judith E. Bernier v. Stephen A. Bernier, 970 N.E. 2d 363 (Mass. App. Ct. 2012).*

*Gross v. Commissioner*: In this case, the taxpayer's expert argued that the S corporation earnings of G&J Pepsi-Cola Bottlers, Inc. (G&J) should be tax affected and that its C corporation equivalent earnings should be capitalized with an after-tax discount rate based on the Capital Asset Pricing Model. The expert for the IRS argued that G&J's earnings were after corporate taxes, particularly because an S corporation does not pay any taxes, and before personal taxes of the shareholders. Consequently, according to this expert, the appropriate discount rate applicable to the S corporation's earnings was an after-tax discount rate. The court agreed with this argument in its written opinion. The valuation subject consisted of small, minority interests of G&J.

*Wall v. Commissioner*: This case involved several small gifts of S corporation stock. Both experts tax affected the income stream in the application of the income approach, although at different rates. The Tax Court cited *Gross* and determined that the income stream should not be tax affected.

*Heck v. Commissioner*: In this case, the expert for the taxpayer used a discounted cash flow method in which the pretax flow-through earnings of F. Korbel & Bros., Inc. (Korbel) were considered. The discount rate that he used was an after-tax weighted average cost of capital. The expert for the IRS used a similar discounted cash flow methodology and an after-tax weighted average cost of capital. The court's opinion cited *Gross* on the issue of the cost of capital. The finding of the court in this case was based on discounting the pretax earnings of Korbel with an after-tax cost of capital. (If you remember from chapter 13, I indicated that it was important to match the benefit stream with the discount rate; pretax to pretax, after tax to after tax, and so on) In this instance, a 39.6 percent minority interest was valued.

*Adams v Commissioner*: In this case, the tax affecting issue became extremely important. In this case, the taxpayer's expert, rather than proposing that the S corporation earnings of Waddel Sluder Adams & Co., Inc. (WSA) be tax affected, developed an after-tax discount rate using a build-up method and converted the corresponding capitalization rate (after subtraction of expected growth) to a pretax capitalization rate. He deemed this discount rate applicable to the S corporation earnings of WSA. This stream of income was before corporate taxes and any distributions that may have been distributed to the shareholders to pay their personal income taxes. The IRS expert argued that an after-tax discount rate was applicable to the S corporation earnings of WSA. Although this seems to be consistent with *Gross* and *Heck*, with respect to the issue of pretax earnings and an after-tax discount rate, the valuation subject in WSA was a 61.6 percent controlling interest.

*Dallas v. Commissioner.* After a lengthy hiatus in cases involving S corporations, this case hit our radar. In this case involving Dallas Group of America, Inc. (DGA), one of the issues related to tax affecting the income. The first taxpayer valuation analyst tax affected S corporation earnings using a 40 percent tax rate and the second taxpayer valuation analyst used a 35 percent tax rate. According to the court, the testimony of the taxpayers' analysts was that they tax affected under the assumption that DGA would lose its S corporation status after or as a result of the hypothetical sale of its stock. The court said there was no evidence that DGA expected to lose its S corporation status. The court also noted that DGA had a history of distributing sufficient cash for the shareholders to pay their taxes on their share of S corporation earnings, and there was no evidence that this practice would change. The court gave little weight to the taxpayers' valuation analysts' testimony. The bottom line, as the court said, "We conclude there is insufficient evidence to establish that a hypothetical buyer and seller would tax affect DGA's earnings and that tax affecting DGA's earnings is not appropriate."

*Delaware Open MRI Radiology Associates, P.A., Petitioner, v. Howard B. Kessler, et al., Respondents. and Howard B. Kessler, et al., Plaintiffs, v. George J. Broder, et al., Defendants.* This non-Tax Court case is a fabulous learning tool. In fact, I like it so much that I have included it in "My Favorite Cases" for you to be able to read in chapter 27. To make a long story short, the Chancellor found that tax affecting should not be an all or none decision. He used one of the models that I will talk about soon to calculate the benefit, if any, by being an S corporation. This deviates from the Tax Court rulings, but know that different courts will rarely allow themselves to be bound by court decisions of a different court.

In fact, an argument raised in *Dallas* was that the *Delaware Open MRI* case argued that it was not an all or none situation, but the Tax Court stated that it was not bound by the decision of another court.

*Judith E. Bernier v. Stephen A. Bernier.* This case eventually ended up with three decisions as it bounced between the probate court and the Supreme Court in Massachusetts. The court followed the guidance from *Delaware Open MRI* in deciding this case. If the valuation analyst practices in Massachusetts, this is a case that he or she needs to be familiar with.

## So, Where Do We Go From Here?

Every valuation analyst faces the question of what to do about taxes when valuing an entity that has elected to be treated as an S corporation under the IRC. Some analysts believe that being an S corporation adds value to the entity because it does not pay income taxes. Others believe that making an S election reduces the value of an ownership interest because of personal taxes that will be paid on profits that are allocated to the shareholder, without the benefit of receiving distributions that enable the individual to pay personal taxes when they come due. Let's take a look at the specific issues that come into play when valuing an S corporation.

## Valuation Issues

In the valuation of an interest in an S corporation, two main issues arise. First, do the income tax advantages of the S election create value? This gets carried one step further by raising the questions of value to whom, and how do we account for the incremental value in the valuation process. The second issue is, if we value an S corporation by comparing this entity to non-S corporation entities, what adjustments are necessary in the valuation process?

As I said before, for many years, valuation analysts felt that an S corporation should be valued in the same fashion as a C corporation. This was because

1. C corporations are, in substance, nearly identical to S corporations.
2. S corporations may lose their S status in the future and convert to C corporations.
3. most measures of corporate performance used in valuation models, such as growth and discount rates, are derived from C corporations; therefore, S corporations should be valued as C corporations to maintain consistency with these measures.<sup>3</sup>

<sup>3</sup> William E. Simpson and Peter D. Wrobel, "Income Tax Issues in Valuing S Corporations," *CPA Expert* (Spring 1996).

According to the IRS:

S Corporations lend themselves readily to valuation approaches comparable to those used in valuing closely held corporations [C corporations]. You need only to adjust the earnings from the business to reflect estimated corporate income taxes that would have been payable had the Subchapter S election not been made.<sup>4</sup> [Bracketed material added for clarification.]

Some valuation analysts believe that the tax benefits of having made an S election should increase the value of the entity. Many of the fundamental issues that affect the valuation process must be considered, as well, for the determination of whether or not an S corporation election adds value. Some of these factors include the following:

- Standard of value
- Control versus minority
- Distributing versus non-distributing
- Holding period of the investment
- Time value of S corporation benefits

## Standard of Value

The standard of value in any business valuation assignment can have a significant effect on the final estimate of value. We discussed this earlier in the book. Valuing an entity that has elected S status is no different. Probably the more significant differences will arise between fair market value and investment value.

If the purpose of the valuation assignment is to determine the fair market value of a controlling interest in an S corporation for purchasing, selling, or merging the corporation, the corporation's tax structure may have little or no effect on value. If the most probable willing buyer is an ineligible shareholder (that is, a C corporation), then that shareholder will not pay for income tax benefits that it cannot take advantage of. Therefore, corporate income taxes should be a part of the valuation calculations. Conversely, if the willing buyer can qualify for the S election, that buyer may pay for the benefits that will be received, and no corporate income taxes may be appropriate in the determination of the benefit stream to the investor.

An important component of determining fair market value is the determination of who will be the willing buyer. This became evident in the *Estate of Samuel Newhouse*<sup>5</sup> (another case that is worth reading, so I have included it in the downloadable materials with this book), where it was demonstrated that different classes of investors would pay different amounts under a fair market value scenario. Following this logical foundation, a valuation analyst must make certain assumptions about who the most likely purchaser will be. However, care must be exercised to not fall into a tax trap by identifying a specific buyer. The Tax Court has gone on record to state the following:

We need not identify directly who the buyer would be or even what class of investors the buyer would belong to. The "willing buyer" is supposed to be a hypothetical amalgam of potential buyers in the marketplace. Although we have, in prior opinions, identified types of hypothetical buyers, we did so only to determine which valuation approach, among several reasonable approaches, would result in the highest bid, and therefore the one most acceptable to a willing seller. The question is not so much "who" but "how."<sup>6</sup>

The issue of who the most likely purchaser of the property will be is an essential element of the determination of the highest price that would be offered to a prudent seller. During periods of industry consolidation, companies are offered greater amounts (higher premiums) than they might get from "nonsynergistic" buyers. If there is an expectation by the seller that his or her company will sell to one of the industry players, then it seems that this must be considered when the valuation analyst performs the valuation. This argument can be carried

<sup>4</sup> IRS, *Valuation Guide for Income, Estate and Gift Taxes* (Commerce Clearing House).

<sup>5</sup> *Estate of Samuel Newhouse*, 94 T.C. 193.

<sup>6</sup> *Estate of Mueller v. Commissioner*, T.C. Memo No. 1992-284 at 1415, 63 TCM 3027-16 (citations omitted).

one step further by stating that when a valuation analyst reviews market data, a determination is generally made regarding who is buying up these companies. Therefore, the issue of who the willing buyer is most likely to be needs to be addressed.

For smaller valuation subjects, this determination will be made more easily. Small businesses are frequently purchased by an individual, or a group of a few individuals, who will most likely continue to qualify as S corporation shareholders. For these types of businesses, the continuity of an S election appears to be a reasonable assumption. However, even small businesses may not qualify to be an S corporation if they are purchased. As the melting pot of the United States continues to grow, a large influx of nonresident aliens (no, not Martians) are entering the marketplace as possible purchasers of these businesses. It may no longer be a reasonable assumption that the S election will continue after the acquisition.

Larger corporations are even more problematic than small corporations when the valuation analyst must make assumptions about the willing buyer. Larger entities are more likely to be purchased by a C corporation, which would immediately negate the S election. Therefore, it may not be reasonable to assume that the target company will be able to continue with its present tax status.

## Purpose of the Assignment

In addition to the standard of value, the purpose of the assignment may also cause the valuation analyst to make certain assumptions. For example, if the valuation is being performed for the determination of fair market value to be used in a matrimonial litigation, it may be considered unfair to the nonbusiness-owner spouse to make the assumption that the S election will be lost. However, because matrimonial courts are courts of equity, it may be equally unfair to the business owner not to assume taxes will be paid because they are paid at the personal level, even if no distributions are made.

As previously stated, in *Judith E. Bernier v. Stephen A. Bernier*, the Massachusetts Supreme Court addressed the issue of tax affecting an S corporation. I truly commend the court for taking on this controversial issue. Following the methodology in *Delaware Open MRI Radiology Associates, P.A. v. Howard B. Kessler, et al.*, the court applied a methodology to determine the tax effect that I really like.

When the standard of value is investment value, the notion of whether the specific buyer will qualify as an S corporation should be considered. The specific buyer's goals regarding rates of return or whether he or she wants current cash flow or capital appreciation must be considered when deciding on an S election. More often than not, valuations performed for transaction purposes use pretax earnings streams because it is the buyer's expected tax status that should be considered in place of the seller's historical tax structure.

## Control Versus Minority

If the business interest being valued is a minority ownership interest—that is, the valuation of an ownership interest not having the prerogatives of control—then a direct comparison with values of other minority interests is the most appropriate method of valuation. In essence, if the minority interest cannot effectuate a change in the company's tax structure, no such change should be assumed.

An argument could be made that a minority shareholder could, in fact, cause a change to an S election by selling the shares to a nonqualified shareholder of the S corporation. This violation of the rules regarding ownership could kill the election, therefore, changing the status involuntarily. However, a valuation analyst should also consider the likeliness of the shareholder's actions. It would seem that the shareholder would have to have special motivations to intentionally kill the S election for the balance of the shareholders. These special motivations may be enough to violate the definition of *fair market value*.

The S election may have been made by the shareholders for reasons that have nothing to do with value. For example, an S election may be made so that the issue of reasonable compensation may be avoided upon audit by the IRS. Another reason for an S election may be to avoid double taxation at the time that the company is sold. For a shareholder to want to intentionally violate the S election, the company could be ex-

posed to greater risk of loss, thus, reducing its value. The prudent shareholder would not want to diminish the value of the investment.

Although the minority shareholder can cause the S election to be involuntarily terminated, it does not seem logical to assume that this will occur. However, the facts and circumstances of the situation must dictate whether or not to make such an assumption.

## Distributing Versus Non-Distributing

An S election may be favorable or unfavorable depending on whether the corporation has the ability to distribute its earnings to its shareholders. If only some, or possibly none, of the earnings can be distributed, the result can be extremely unfavorable to the investor. Let me illustrate this point by using a real example, which appears in exhibit 18.1. Our firm did a critique of another valuation analyst's work for a litigation. One of the many issues was that we tax affected the earnings, and he did not. This is an excerpt from our critique. (Names have been changed to protect the guilty!)

### EXHIBIT 18.1 To Tax or Not to Tax—Critiquing Another's Report

#### TAX AFFECTING EARNINGS

The issue of tax affecting the earnings of S corporations or other pass-through entities, such as general partnerships, limited partnerships, or limited liability companies, is a highly debated issue in business valuation. The conventional wisdom used to be that you would tax affect the earnings of a pass-through entity because the willing buyer may not be able to avail itself of the nontaxable status of the seller. Valuation theory has stated that it is essential to match the earnings stream being capitalized, when using the income approach, with the correct capitalization rate. Because publicly traded companies report their earnings on an after-tax basis, sources that compile this data for use by valuation analysts in determining discount and capitalization rates consider these rates to be applicable to after-tax earnings streams (or cash flow). The most widely used source in the valuation field is data published by Duff & Phelps (D&P). D&P data is clearly after-tax at the entity level.

The argument first started to be raised about after-taxes to the entity in the Tax Court case *Estate of Gross*. I will address this shortly. It is not uncommon for a valuation analyst to tax affect the earnings of S corporations by applying marginal C corporation tax rates to their earnings. This is consistent with the approach employed in our reports.

Contrary to Mr. Smith's assertion that we reduce available cash flow by a "hypothetical" corporate income tax, this adjustment does not assume that the companies will indeed incur a tax, but, rather, is a necessary adjustment when applying historical D&P return data (which is presented on an after-tax basis) to the subject earnings stream. The following are additional reasons for tax affecting S corporation earnings:

1. The S election has no effect on the operating cash flows of the business.
2. The benefits of the S election are shareholder benefits and, therefore, capitalizing these benefits would overstate the value of the enterprise because the benefits can be taken away involuntarily if the S election is broken.
3. S corporations usually pass through a sufficient portion of their earnings to their shareholders to allow them to pay their taxes, which leaves the S corporation in almost the same position after taxes as if it were a C corporation.
4. The public stock markets tend to price the earnings of publicly traded partnerships on a basis equivalent to the after-tax earnings of publicly traded C corporations in the same lines of business.
5. Most of the likely buyers of S corporations are C corporations or groups of investors who may need to organize as C corporations. There is no apparent advantage for S corporation buyers to C corporation buyers.
6. Every C corporation (with eligible shareholders) would either make the S election or would have the option to convert if this was desirable. If a higher value is attainable following the S election, corporate sales of companies would reflect this value. There is no logic for the existence of two levels of corporate value for eligible entities when there are no logical or practical barriers prohibiting election to obtain the higher value.
7. It has been suggested that buyers will pay no more for an S corporation than an equivalent C corporation; therefore, there are no S corporation premiums.

To address the tax treatment of pass-through entities from an independent perspective, we consulted textbooks and articles written and published by some of the leading practitioners in the business valuation field. In general, well-known business valuation authorities, including Shannon Pratt, Christopher Mercer, and Roger Grabowski, all agree that there is no hard-and-fast rule that applies to treatment of pass-through entities in all cases. There is a general consensus among these individuals that the issue of whether or not to tax affect the earnings of a pass-through entity is one that must be addressed on a case-by-case basis.

(continued)

## EXHIBIT 18.1 To Tax or Not to Tax—Critiquing Another’s Report *(continued)*

This debate has also been highlighted in four recent Tax Court cases:

1. *Gross v. Commissioner*, T.C. Memo.1999-254, affd. 272 F.3d 333 (6th Cir. 2001)
2. *Wall v. Commissioner*, T.C. Memo.2001-75, filed March 27, 2001
3. *Heck v. Commissioner*, T.C. Memo.2002-34, filed Feb. 5, 2002
4. *Adams v. Commissioner*, T.C. Memo. 2002-80, filed March 28, 2002

In all four of these cases, the court ultimately determined that it was appropriate to capitalize S corporation earnings using an after-tax rate. In each case, the valuation conclusion was reached without tax affecting earnings, which is consistent with Mr. Smith’s approach.

However, in response to the Tax Court rulings, Christopher Mercer argues that in *Gross*, *Heck*, and *Adams*, “The Tax Court has rendered opinions based on unsound economic and financial theory.” Mercer, with agreement from Dr. Shannon Pratt, concludes the following:

- S corporations are worth the same as otherwise identical C corporations at the level of the enterprise. Their operating cash flows are identical, and there is no rationale that suggests that their enterprise values should be anything but identical.
- Interests in S corporations may be worth more or less than otherwise identical interests in otherwise identical C corporations. The cash flows to shareholders may be different between S and C corporations, and these differences, considered in the context of the riskiness of their receipt, can create differences in value.

In determining the appropriate discount rate for capitalizing pretax earnings, an analogous situation may be drawn to municipal bonds. Yields on municipal bonds are significantly lower than yields on taxable bonds. This is due to the favorable tax treatment received by investors holding municipal bonds (that is, no federal taxes and, in some cases, no state or municipal taxes). In order to convert the yield on a municipal bond to its taxable equivalent for comparison purposes, analysts divide the tax-free yield by  $(1 - \text{tax rate})$ , where the tax rate is the investor’s effective personal rate for both state and federal taxes. The term  $(1 - \text{tax rate})$  is simply the factor used to convert pretax dollars to after-tax dollars.

Upon issuance, both municipal bonds and taxable bonds are issued at par value. Thus, the trading price (or par value) of a municipal bond is a function of its tax-free yield because investors discount the present value of future cash flows at the tax-free rate. In essence, the investment community prices municipal bonds as if taxes have been prepaid on interest and principal payments received by investors. Thus, if a business is valued using pretax earnings as the applied earnings measure, rather than after-tax earnings, then an additional adjustment is also necessary to the discount or capitalization rate. Accordingly, the future cash flows of the business should be discounted or capitalized at a pretax rate, which is calculated by dividing the after-tax discount rate by  $(1 - \text{tax rate})$ . Mr. Smith does not make any such adjustment.

In addressing the issue of taxation in light of recent tax legislation, we conducted our own analysis of the differences between holding stock in the companies under a tax-affecting scenario (C corporation assumption) versus the current pass-through taxation of the entities. The argument against tax-affecting the earnings of an S corporation or other pass-through entity is predicated upon the belief that the shareholder of an otherwise identical C corporation is burdened by “double-layer” taxation at both the entity and the shareholder levels. Mr. Smith claims that because the ABC Organization will end up owning the companies, the S corporation assumption should be continued into the future. The argument here is that although the ABC Organization may be an S corporation, there is no guarantee that it will ultimately be sold to a buyer that can qualify as an S corporation; therefore, it is a flawed assumption to think that a buyer will pay for a benefit that it will not realize.

Another argument going forward pursuant to the Jobs and Growth Tax Relief Reconciliation Act of 2003, effective January 1, 2003, is that dividend income to C corporation shareholders is taxed at the same rate as capital gains (at a maximum rate of 15 percent), **[Author’s Note: Today, that rate is now 20 percent.]** whereas shareholders in pass-through entities continue to be taxed at personal tax rates on S corporation earnings,<sup>1</sup> thus, minimizing differences in tax liabilities at the shareholder level, regardless of the level of earnings distributed to shareholders. Although this reduction was not in effect as of the valuation date in this case, given the ongoing litigation associated with this assignment and the anticipated transfer of ownership interests in the companies, we believe this factor is particularly relevant.

For each company, we incorporated the recent decline in dividend tax rates and examined the cash flows available to a shareholder or member under the two scenarios. For taxable income, we used the adjusted income from our reports before taxes, while the assumed payout ratio of distributions is based on actual distribution levels for each entity.

<sup>1</sup> Anthony J. DeChellis, CPA, CFP, and Sheila Owen, CPA, “A Closer Look at Qualified Dividends under the 2003 Act,” PPC National Tax Advisory, September 9, 2003.



### EXHIBIT 18.1 To Tax or Not to Tax—Critiquing Another’s Report

The importance of this calculation is that distributions make a big difference in determining the difference in value of these two types of entities. In this case, the level of indebtedness, and the need for reinvestment into new assets, does not enable the shareholders to receive significant distributions. It is important to note that in the *Estate of Gross*, distributions to shareholders were at about 100 percent.

#### Author’s Note

The tax scenarios that you are about to review address the issue of whether the various entities that were the subject of the valuation would be a benefit to the shareholders after considering the level of distributions that the companies were able to make as well as the taxes that would be paid at both corporate and personal levels. At the time this was done, the capital gains rate was 15 percent. If we did the same analysis today, we would substitute the 20 percent capital gain rate into our calculations.

#### Company One, Inc.—Comparison of tax scenarios

		C Corporation		S Corporation
Debt-free pretax income		\$ 84,166		\$ 84,166
Corporate income tax	26%	(21,866)		0
Net income available to shareholders		\$ 62,300		\$ 84,166
Less: Addition to retained earnings		(62,300)		(62,300)
Distributions	0%	\$0	26%	\$ 21,866
Less: Personal taxes	15%	0	40%	(33,666)
Net cash flow to shareholders		\$ 0		\$ (11,800)
<b>Net disadvantage to Company One’s shareholders</b>				<b>\$(11,800)</b>

#### Company Two, LLC Comparison of tax scenarios

		C Corporation		S Corporation
Debt-free pretax income		\$ 73,046		\$ 73,046
Corporate income tax	25%	(18,192)		0
Net income available to members		\$ 54,854		\$ 73,046
Less: Addition to retained earnings		0		0
Distributions	100%	\$ 54,854	100%	\$ 73,046
Less: Personal taxes	15%	(8,228)	40%	(29,218)
Net cash flow to members		\$ 46,626		\$ 43,828
<b>Net disadvantage to Company Two’s members</b>				<b>\$( 2,798)</b>

(continued)

**EXHIBIT 18.1 To Tax or Not to Tax—Critiquing Another’s Report** *(continued)***Company Three, LLC Comparison of tax scenarios**

		C Corporation		S Corporation
Debt-free pretax income		\$244,353		\$244,353
Corporate income tax	38%	(91,963)		0
Net income available to members		152,390		\$244,353
Less: Addition to retained earnings		0		0
Distributions	100%	\$152,390	100%	\$244,353
Less: Personal taxes	15%	(22,859)	40%	(97,741)
Net cash flow to members		\$129,532		\$146,612
<b>Net advantage to Company Three’s members</b>				<b>\$ 17,080</b>

**Company Four, LLC Comparison of tax scenarios**

		C Corporation		S Corporation
Debt-free pretax income		\$ 68,813		\$ 68,813
Corporate income tax	24%	(16,848)		0
Net income available to members		\$ 51,965		\$ 68,813
Less: Addition to retained earnings		0		0
Distributions	100%	\$ 51,965	100%	\$ 68,813
Less: Personal taxes	15%	(7,795)	40%	(27,525)
Net cash flow to members		\$ 44,170		\$ 41,288
<b>Net disadvantage to Company Four’s members</b>				<b>\$ (2,882)</b>

As shown in three out of the four scenarios, the shareholders would actually receive less cash, assuming that the company was not taxed at the entity level. By tax affecting the earnings of the companies, cash flow to owners is not reduced on an aggregate basis. In fact, cash flow to owners is higher after tax affecting earnings. Mr. Smith fails to consider this in his analysis by ignoring the effect of personal taxes on the shareholders and by ignoring the recent reduction in tax rates on C corporation dividends, which has seriously weakened the argument that double-layer taxation is a detriment to C corporation shareholders.

In the preceding example, the analyst on the other side of the case thought that by not tax affecting the earnings, he could support a higher value for his clients. By the way, the difference in our valuations due to the taxes alone was \$14 million.

As previously stated, it is readily accepted that an investor in common stock of any corporation makes an economic investment for three reasons. They are as follows:

1. Immediate cash flow (dividends)
2. Future cash flow (capital appreciation)
3. A combination of 1 and 2

The total expected return to the shareholder consists of a part that is currently taxable and a part that is tax-deferred until the time of sale. Under the current tax law, the deferred portion may be subject to favorable capital gains tax rates. Although the discount rate used in the application of a discounting model ignores personal tax rates, the investor does not.

If the shareholders of an S corporation have control of the company, they will generally do everything possible to ensure that distributions are made in sufficient amounts to cover personal taxes. They do not want to reach into their own pockets to pay taxes on profits that they did not receive. Shareholders of a C corporation will usually take the opposite position because they generally want to avoid paying tax on dividend distributions. However, the current tax law favors the tax treatment of dividends from a C corporation versus the distributions from an S corporation.

Because shareholders of an S corporation will frequently attempt to pass-through dividends to themselves in an amount at least equal to their estimated tax obligation, the actual dividend distributions may appear to be attractive. This could give the appearance of a company that is a “great” dividend payer, and it makes the investment appear as if it has excellent liquidity. The opposite is true with the shareholders of a C corporation. They will generally do everything possible to avoid dividends. This would give the appearance of an investment with far less liquidity. This contrasting position of the shareholders makes dividend-paying capacity a more attractive manner in which to assess value.

David C. Dufendach raises an interesting point about these returns.<sup>7</sup> He states

Research has shown that the slope of the actual security market line is less than predicted by the CAPM.<sup>8</sup> Riskier stocks have lower required returns than predicted, whereas less risky stocks suffer from higher required returns. One possible explanation is that riskier stocks provide relatively more of their return in the form of nontaxable price appreciation. One study suggests that this is the case.<sup>9</sup> If true, then investors who wish to avoid current tax liability on dividend income would prefer higher risk/lower dividend stocks, driving down their required return below that predicted by the CAPM. Another study supported this view, implying that dividends are undesirable (presumably because of their immediate taxability), and that stocks with higher dividends are penalized in the form of higher required returns.<sup>10</sup>

The various studies cited by Dufendach lead to the conclusion that given all other risk factors being equal, a stock that pays a dividend, causing an immediate tax consequence, is worth less than a stock that provides capital appreciation, which is tax-deferred and then possibly taxed at more favorable rates. The factor that causes the difference in value is apparently personal taxes. Because we accept the premise that a prudent investor considers personal income taxes in investment decisions (otherwise, if all else were equal, why would anyone buy tax-free bonds?), we should not ignore the personal tax effect of the investment. The difficulty is determining which tax rates to use.

7 David C. Dufendach, “Valuation of Closely Held Corporations: ‘C’ v. ‘S’ Differentials”, *Business Valuation Review* (1996): 176–179.

8 Eugene F. Brigham and Louis C. Gapenski, *Financial Management: Theory and Practice*, 6th ed.: 156–157.

9 Thomas E. Copeland and J. Fred Weston, *Financial Theory and Corporate Policy*, 2nd ed.: 513. Refers to a study by I. Friend and M. Puckett, “Dividends and Stock Prices,” *American Economic Review*, (1964): 656–682.

10 *Ibid.*, pp. 515–516. Refers to a study by R. Litzenberger and K. Ramaswamy, “The Effect of Personal Taxes and Dividends on Capital Asset Prices: Theory and Empirical Evidence,” *Journal of Financial Economics* (1979): 163–196.

## Corporate or Personal Income Tax Rates

One of the difficulties that the valuation analyst faces is the determination of which set of income taxes is appropriate to use in valuing the S corporation. This will most likely depend on the standard of value. However, this can be more trouble than it's worth.

If the standard of value is fair market value, the appropriate income tax rates should be those rates that will be applicable in the hands of the willing buyer. The problem is that we do not know who that specific buyer will be. Will it be an individual, another S corporation, or a C corporation? Once again, there is no distinct answer. Depending upon the facts and circumstances, the valuation analyst may be able to make an assumption about the most probable willing buyer (or category of buyer). The other problem that we face is that in fair market value, the buyer and seller are hypothetical parties, rather than actual parties. Our assumptions could convert our valuation results into an investment standard of value.

If the standard of value is investment value, the valuation analyst should consider the tax rates of the specific buyer. In this instance, the valuation analyst is estimating value to a particular buyer. This makes this task a little bit easier.

Once the standard of value has been identified, the valuation analyst is still faced with the choice of which rates to use. If corporate tax rates are used, the valuation analyst, with or without the help of the local CPA, can calculate the taxes based on the rates applicable at the time.

However, if personal rates are to be used, this calculation can become even more complicated due to factors such as personal exemptions, itemized deductions, phase out rules, and other income or losses from unrelated activities that could affect the income tax rates that may be applicable. This could be a nightmare.

The practical application of income tax rates is up to the valuation analyst. If the rates can be calculated in a relatively straight forward manner, the analyst should do so. If personal tax rates are involved, most analysts believe that there is little to be gained by factoring in personal exemptions and itemized deductions. If the valuation analyst represents a specific individual, these items may be taken into consideration if they are material. Common sense and reasonableness should prevail.

## Holding Period of the Investment

Many valuation analysts feel that both S and C corporations should be valued on an after-tax basis. Many subscribe to the premise that the "after tax" is to the corporation and not the individual.

Because capitalization rates are determined from market evidence, usually on a pretax basis to the individual, more comparability can be achieved in the selection of these rates. Adjusting the income returns for personal taxes would make the discount rate selection more difficult particularly because rates of return reported in the empirical literature are based on pretax returns to the investor.

Some analysts adjust the benefit stream of an S corporation for the amount of distribution needed to make the shareholders whole after paying personal taxes. It is fairly common to see distributions being made in at least the amount necessary to pay the personal taxes so that the shareholders do not pay taxes from monies that they have not received. The problem with this approach is that the tax law provides that the shareholders of an S corporation can increase their income tax basis in the S corporation for monies that are taxed and not distributed. Therefore, comparability cannot truly be achieved between the S corporation shareholders and the C corporation shareholders.

Another consideration related to this is that S corporation shareholders are permitted to take subsequent distributions from the S corporation without current tax implications. Shareholders' undistributed taxable income from previous years is available for distribution because the shareholders have already paid tax on the profits in the year that it was earned. This also causes a significant difference in the timing of the cash flows between the shareholders of these different types of entities.

An argument can be made that the difference between a perpetual S corporation and a C corporation is the present value of the annual corporate tax savings. In each valuation assignment regarding an S corporation, the analyst faces the question of what the holding period of the investment will be while the corporation keeps its S election. Some authors believe that a corporation will lose its S election at some point.<sup>11</sup> This means that the interest in the corporation being valued will be an S corporation for certain years and then a C corporation for its remaining life.

When a valuation analyst is requested to determine the fair market value of an enterprise, one of the factors to be determined by the analyst is who, or what group of investors, would be the most likely “willing buyer.” Another factor to be considered in the “willing buyer” scenario is will the willing buyer qualify to be an S corporation. Once it is determined that the willing buyer can be an S corporation, the next question to be answered is for how long? As with many other decisions confronting the valuation analyst, there is no clear-cut answer.

### Timing of the Valuation

Conventional wisdom dictates that when a business valuation is performed for an interest in a corporation, the value determined is based on the value of the interest without regard to the investor. This means that when we value shares of stock in a corporation, it does not matter who the shareholder is, nor do we consider the tax implications of a sale of the interest by that shareholder. Personal taxes generally have no effect on the valuation of corporate stock (assuming that the shareholder is an individual). Obviously, not all shareholders are individuals, and not all shareholders are tax-paying entities. Pension plans, for example, do not pay taxes. Therefore, should the value of a share of IBM be different if an individual owns it or if a pension plan owns it?

### So, What Do We Do?

At this point, we have come almost full circle in our discussion about willing buyers. The investing public calculates rates of return on an after-tax basis. Because different classes of investors have different tax structures, the required rates of return will vary among the classes. In determining an appropriate discount rate for the net cash flow of an S corporation versus a C corporation, it is reasonable to assume that there is an increased risk relative to the net cash flow of the S corporation that the enterprise may, at some point in time, pay taxes and have a lower cash flow. This could be justification for a different discount rate for the two entities. The question to be raised is by how much? Without empirical data in the marketplace, it becomes difficult, if not impossible, to quantify the exact level of adjustment. Mathematical quantification cannot be used as readily as it is for the conversion of pretax and after-tax discount rates. Valuation analysts continue to struggle with the notion of whether the corporate cash flows from an S corporation are after tax. Authors have argued that there should be a tax equivalency made to reflect the personal taxes that will have to be paid by S corporation shareholders.<sup>12</sup> The reality of the situation is that personal taxes will be paid whether distributions are made to the shareholder or not. It seems reasonable to consider these taxes in a similar fashion as corporate taxes. Either way, the government is going to get paid. The exception is that there may be a tax rate differential that could additionally benefit the shareholder in the form of an adjustment to his or her basis in the corporate stock.

Arguments have been raised for years regarding the built-in gains tax. For a long time, the position of the Tax Court has been that no discount would be permitted for a built-in gains tax, even though investors in the real world consider this tax in making investment decisions. In *Estate of Artemus D. Davis v. Commissioner*,<sup>13</sup> part of the discount for lack of marketability was attributed to the built-in gains tax. This could influence future valuations of S corporations, particularly those that have exposure to the built-in gains tax in the post-conversion period. This raises the issue of the S election having a possible discount associated with it because of the taxes that potentially could be paid at the corporate level. In fact, the Tax Court allowed the deduction of taxes in this situation in *Litchfield*, TCM 2009-21.

11 Robert E. Duffy and George L. Johnson, “Valuation of ‘S’ Corporations Revisited: The Impact of the Life of an ‘S’ Election Under Varying Growth and Discount Rates,” *Business Valuation Review* (1993): 155–167.

12 George G. Cassiere, “The Value of S-Corp Election—The C-Corp Equivalency Model,” *Business Valuation Review* (1994): 84–91.

13 *Estate of Artemus D. Davis v. Commissioner*, 110 T.C. 35.

Valuation in the hands of the owner of the investment in an S corporation may result in a more realistic valuation. However, that is clearly not fair market value. Personal tax rates may vary depending upon too many factors that have nothing to do with the investment. A valuation analyst cannot be expected to consider items such as personal exemptions and itemized deductions. Certainly, the value of smaller S corporations can be affected by these items, although larger S corporations may not be influenced by these items because the shareholders are more likely to be in higher tax brackets where these items do not matter. Does this mean that valuation analysts should have two methodologies, one for small companies and one for large companies?

## Empirical Evidence of an S Corporation Premium

There are two commonly referenced studies that attempted to test the existence of the S corporation premium for controlling interests. In September 2002, a study was published by Merle Erickson and Shiing-wu Wang that showed that S corporations were purchased at higher relative values than the comparable C corporation. In their study, Erickson and Wang looked at 77 pairs of stock acquisitions of S and C corporations that occurred between 1994 and 2000. Companies were paired based on their one-digit SIC code and then compared with one another based on 6 purchase price multiples, including price-to-pretax income; earnings before interest, taxes, depreciation, and amortization (EBITDA); operating cash flows; and operating cash flows before working capital adjustments. This analysis led Erickson and Wang to conclude that the organizational structure of S corporations is worth 12 percent to 17 percent more than that of the comparable C corporation.

A second study was published by Michael J. Mattson, Donald S. Shannon, and David E. Upton in the November and December 2002 editions of *Business Valuation Update*. This study analyzed approximately 2,500 asset and stock transactions contained within the *Pratt's Stats*<sup>®</sup> database that occurred between January 21, 1991 and March 19, 2002. Mattson, Shannon, and Upton determined through their research of the 2,500 transactions that there was no evidence that S corporations sold for premiums over C corporations. In fact, C corporations generally sold at higher price-to-sales multiples than S corporations.

In order to test the conclusions of the Erickson and Wang study, Mattson, Shannon, and Upton conducted a separate analysis on the stock transactions (totaling 1,227 transactions). This analysis also concluded that S corporations did not consistently sell for higher price-to-sales multiples than C corporations. However, the results of this analysis were not necessarily inconsistent with those of the Erickson and Wang study. The largest companies within the Mattson, Shannon, and Upton study's data set showed that S corporations sold for higher price-to-sales multiples than C corporations. The companies analyzed by Erickson and Wang were generally within the same size range, indicating that although the largest S corporations might sell for higher multiples than their C corporation counterparts, the relationship does not exist universally.

Further evidence of the inconsistency of the S corporation premium was obtained by Erickson and Wang through interviews with various buyers and sellers of S corporations. In numerous cases, sellers and buyers were either unaware of the acquired pass-through benefits or simply didn't consider them. On the other hand, a number of buyers and sellers reported that a premium was incorporated in the purchase price for the S corporation. So, what does all of this mean? The studies show that sometimes there may be a premium paid for the pass-through status of an S corporation, and sometimes, no consideration is given to it. (What a surprise, no clear-cut conclusions!) This tells us to use discretion in measuring the pass-through benefits for every valuation.

## Back to the Future

Now that we have gone through numerous illustrations that tell us to look at the facts and circumstances of each situation on its own, let's step back to where the Tax Court has taken us and where the future needs to be. In *Adams*, the court stated, "The net cash flow and the capitalization rate used to compute the fair market value of the WSA stock should have the same tax character; i.e., before corporate tax or after corporate tax."<sup>14</sup> The opinion stated the following:

.....  
 14 *Adams*, p. 13.

We disagree that Shriner (the taxpayer's expert) properly converted the capitalization rate because there was no need to do so. The parties agree that Shriner's estimated capitalization rate (before he converted it to before corporate tax) is an after tax corporate tax rate. Thus, as in Gross, the tax character of Shriner's estimate of WSA's prospective net cash flows matches that of the unconverted capitalization rate because both are after corporate tax. It follows that Shriner should not have converted the capitalization rate from after corporate tax to before corporate tax because the tax character of both his estimated net cash flows for WSA and unconverted capitalization rates is after corporate tax.<sup>15</sup>

Every valuation treatise that I have read or course that I have taken discusses the importance of properly matching the benefit stream with the discount or capitalization rate. In fact, I discussed this very fact in chapter 13. The reason for this, simply stated, is consistency. If the numerator is changed in a capitalization model, the denominator must also change in order to maintain the same value. Clearly, the value should not change as a result of using a different benefit stream.

However, the Tax Court has taken the position through its opinions that although they are not disputing our theory, they find that the benefit stream of an S corporation is higher than the benefit stream of a similar C corporation due to the nonpayment of taxes at the entity level. Because we are attempting to reach an economic value, shouldn't we consider all economic activities that affect value? In almost every case, S corporations distribute at least enough of their earnings so that their shareholders can pay their taxes based on the amount of profits that flow through to the shareholders. This can almost be thought of as entity-related taxes. If S corporations did not distribute cash flow to pay individual income taxes, the shareholders would most likely revoke the S election, assuming that they had the ability to do so.

If anything can be gained thus far as a result of reading this chapter of the book, it is probably that the question of adding a premium or a discount to the value of an investment in an S corporation does not have an easy answer. Although there appears to be a possible benefit if the willing buyer can continue the S election into the future, there is no guarantee that this will happen. Consideration should be given to all the factors that influence value when making a determination. The premium or discount issue must be examined on a case-by-case basis because there is no other way to do it. In many instances, the increase or decrease in value will be based on the manner in which the benefit stream is taxed. With that in mind, let's talk about some models we can use to deal with the pass-through issue.

## S Corporation Models

Over the past decade, various S corporation models have surfaced. The purpose of these models is to calculate the tax differential relating to the S corporation. Valuation analysts seem to agree that there is little or no difference in the market values of controlling interests in S and C corporations under most circumstances. If there is a difference in the values, it is based on finding a buyer that can take advantage of the potential tax savings. However, the valuation community also seems to agree that there may be differences in value at the shareholder level for noncontrolling interests. All the models have been constructed to address the valuation of noncontrolling shareholder interests in S corporations.

The three models that I have seen most often include those that were designed by Roger Grabowski, Dan Van Vleet, and Chris Treharne. Although some articles also address a model by Chris Mercer, it is actually a variation of his Quantitative Marketability Discount Model (QMDM) model that is discussed in chapter 15. By his own admission, the QMDM is not an S corporation model. Let's walk through these models. In addition, Nancy Fannon provides a simplified approach to valuing S corporations, which will also be explained in this chapter. Finally, I will show you an example of how our firm dealt with the S corporation issue in one valuation. Each model is solid in its quest to determine the tax affecting of an S corporation. Some are much more complicated than others.

<sup>15</sup> *Ibid.*, pp. 14-15.

So that we may compare the output of each model, the assumptions used in each of the examples is contained in box 18.1.

## The Grabowski Models

Roger Grabowski has stated that interests in S corporations and other pass-through entities should have a higher value than an otherwise identical taxpaying entity. According to Grabowski, there are three major benefits to owning a business as a pass-through entity: (1) income is only taxed once (that is, no dividend tax); (2) owners receive a step up in their investment basis when income exceeds distributions; and (3) owners may realize more proceeds in the event of a sale due to a step up in basis for the buyer of the entity's assets. This last point refers to a lower tax liability for the purchaser when the target company is eventually sold to another buyer and only exists for the controlling shareholder. The first two points, however, are applicable to both minority and controlling shareholders.

### BOX 18.1

	Year 1	Year 2
Income Before Taxes	\$100,000	\$103,000
Depreciation	20,000	20,000
Capital Expenditures	(20,000)	(20,000)
Working Capital Requirements	(10,000)	(10,000)
Debt Repayments	—	—
Annual Growth		3%
Growth in Terminal Year		3%
Personal Income Tax Rate		35%
Corporate Income Tax Rate		40%
Dividend Tax Rate		20%
Capital Gains Tax Rate		20%
Discount Rate to Equity		20%
Distributions as a Percentage of Net Cash Flow		85.0%
Value of Subject Company as C Corporation		\$296,814

Grabowski offers three models to value S corporations: the C corporation equivalent model, the modified traditional model, and the modified Gross model.<sup>16</sup> These models all look to measure the benefits in avoiding dividend taxes and the step up in investment basis when income exceeds distributions. Importantly, each Grabowski model assumes the sale of the subject company as a C corporation at the end of the projection period.

## C Corporation Equivalent Model

The C corporation equivalent model is the easiest (I think) of the three Grabowski models to understand. This model assumes a sale of the subject company at the end of the projection period to a C corporation buyer. The calculation itself is divided into two separate parts. The first calculation values the subject company's cash flow and tax-avoidance benefits to the S corporation shareholder, assuming a sale as a C corporation at the end of the projection period. The second calculation measures the tax savings in capital gains taxes due to the build up in basis. This model takes into consideration personal income taxes through the projection period, which eliminates the need to account for the difference in personal and corporate income taxes later. An example of the C corporation equivalent method is provided in table 18.1.

<sup>16</sup> The modified traditional model expands the traditional S corporation valuation model used prior to the court cases discussed earlier in this chapter. Similarly, the modified Gross model expands on the Tax Court's S corporation valuation model utilized in the Gross case.



**TABLE 18.1 Valuation of S Corp Applying C Corp Equivalent Method**

		Year 1	Year 2	Residual Value as if C Corp	
<b>Key Calculations</b>	Income before tax	\$100,000	\$103,000	\$106,090	
	Corporate income tax	—	—	42,436	
	Corporate level net income	\$100,000	\$103,000	\$ 63,654	
	Cash Flow Adjustment				
	Depreciation	20,000	20,000	—	
	Capital expenditures	(20,000)	(20,000)	—	
	Change in net working capital	(10,000)	(10,000)	(10,000)	
	A	Pretax free tax cash flow	\$ 90,000	\$ 93,000	\$ 53,654
	B	A x 35%	35,000	36,050	
	C	A – B	Free cash flow after personal income taxes \$ 55,000	\$ 56,950	
D	C/(1 – 20%)	C Corporation-equivalent free cash flow	68,750	71,188	
	Present value factor	0.8333	0.6944		
	Discounted cash flow	\$ 57,292	\$ 49,436		
	Sum of discounted cash flow	106,727			
	PV terminal value as if C Corp	219,175			
	Value of pass-through basis adjustment	8,238			
	<b>Indicated Value</b>	<b>\$334,140</b>			

Terminal Value	
Capitalization rate	17.0%
Terminal Value	\$315,612
Present Value Factor	0.6944
PV of Terminal Value	\$219,175

**Capital Gains Tax Savings from Build up in Basis**

		Year 1	Year 2	
<b>Key Calculations</b>	S Corp net income	\$100,000	\$103,000	
	S Corp distributions as percentage of pretax free cash flow	76,500	79,050	
	Retained net income	\$ 23,500	\$ 23,950	
	E	Total build up in basis	47,450	
	F	E x 20%	9,490	
	G	F/(1 – 20%)	Pretax equivalent of avoided capital gains taxes	11,863
		Present value factor	0.6944	
		PV of capital gains tax savings from build up in basis	8,238	
		<b>Value of pass-through basis adjustment</b>	<b>\$8,238</b>	

In table 18.1, we first calculate pretax free cash flow (line A). Just to be clear, the figures on line A in years 1 and 2 represent the amount of cash flow to shareholders of the subject S corporation. Line A for the terminal year represents the cash flow available to shareholders of the subject company as if it is a C corporation at the date of the sale. In line B, the model takes personal income taxes into consideration. This eliminates the need to separately account for any difference in corporate and personal income tax rates. Because this model is attempting to arrive first at a C corporation-equivalent value, in line D, we “convert” S corporation free cash flow to a C corporation basis by adding the benefit of avoided dividend taxes. In other words, because a C corporation would not bear the burden of dividend taxes, we make this adjustment to arrive at a pre-dividend tax level of cash flow. From here, the remaining calculations involve a typical discounted future cash flow analysis.

To calculate the tax savings from the build up in basis, we sum up the total excess of income over distributions over the projection period (line E), calculate the avoided capital gains taxes (line F), and then calculate the C corporation-equivalent of the avoided taxes (line G). Because the benefit of avoiding capital gains taxes occurs when an S corporation is sold, the pretax equivalent of avoided taxes is discounted from the end of the projection period (year 2 in table 18.1). After adding up the results of our preceding calculations, we arrive at the aggregate value of the subject company on a marketable basis.<sup>17</sup>

## Modified Traditional Model

The modified traditional model completes the same overall analysis as the C corporation equivalent model but takes a different route. This model first values the subject company as if it were a C corporation and then breaks out each component of value (or detriment) generated by the subject company's status as an S corporation. An example of this model is provided in table 18.2.

As you can see in table 18.2, the modified traditional model starts with a discounted cash flow analysis to arrive at a C corporation-equivalent value. Benefits and detriments associated with the subject company's S corporation status are then accounted for in separate calculations.

**TABLE 18.2 Modified Traditional Method**

		Year 1	Year 2	Residual Value as if C Corp
Key Calculations	Income before tax	\$100,000	\$103,000	\$106,090
	Entity level tax rate (C Corp)	40.0%	40.0%	40.0%
	Entity level tax	(40,000)	(41,200)	(42,436)
	Net income	\$ 60,000	\$ 61,800	\$ 63,654
	Cash Flow Adjustment			
	Depreciation	20,000	20,000	—
	Capital expenditures	(20,000)	(20,000)	—
	Change in net working capital	(10,000)	(10,000)	(10,000)
	Free cash flow	\$ 50,000	\$ 51,800	\$ 53,654
	Present value factor	0.8333	0.6944	
	Discounted cash flow	\$ 41,667	\$ 35,972	
	Sum of discounted cash flow	77,639		
	Terminal Value	219,175		
C (See below)	Tax savings of S corp election	77,431		
H (See below)	Tax savings of build up in basis	8,238		
K (See below)	Tax on income in excess of free cash flow	(15,844)		
N (See below)	Tax paid due to tax rate differential	(32,498)		
	Asset sale amortization benefit	—		
	<b>Indicated Value</b>	<b>\$334,140</b>		

Terminal Value	
Capitalization rate	17.0%
Terminal Value	315,612
Present Value Factor	0.6944
PV of Terminal Value	\$219,175

(Table continued)

<sup>17</sup> For the sake of simplicity, we have not calculated the asset sale amortization benefit (or tax amortization benefit) associated with the step up in basis to the subject company's assets upon its sale. The purchaser of the subject company would recognize a tax benefit generated from the additional amortization expense associated with acquired intangible assets. Theoretically, this benefit should be added to the total indicated value of the subject company. This calculation will be explained in detail in chapter 19.

**TABLE 18.2 Modified Traditional Method** (continued)**Plus: Entity Level Tax Saved with S Election**

		Year 1	Year 2
<b>Key Calculations</b>	Entity level taxes for S Corp	\$ —	\$ —
	Entity Level taxes for C Corp	(40,000)	(41,200)
A	Difference in entity level taxes	\$40,000	\$41,200
B	$A/(1 - 20\%)$ Pre-tax equivalent	50,000	51,500
	Present value factor	0.8333	0.6944
	Discounted tax savings of S Corp election	\$41,667	\$35,764
C	<b>Tax savings of S Corp election</b>	<b>\$77,431</b>	

**Plus: Pass-Through Basis Adjustment**

		Year 1	Year 2
<b>Key Calculations</b>	S Corp net income	\$100,000	\$103,000
	Distributions as a percentage of free cash flow	76,500	79,050
D	Net income less free cash flow	\$ 23,500	\$ 23,950
E	Sum of cash flow differential	47,450	
F	$E \times 20\%$ Benefit of avoided capital gains tax	9,490	
G	$F/(1 - 20\%)$ Pre-tax equivalent of avoided capital gains taxes	11,863	
	Present value factor	0.6944	
H	<b>Pass-through basis adjustment</b>	<b>\$ 8,238</b>	

**Less: Out of Pocket Tax Payments**

		Year 1	Year 2
<b>Key Calculations</b>	Tax on income in excess of free cash flow	\$ 8,225	\$8,383
	Pre-tax equivalent (owner dividend tax rate)	10,281	10,478
I	$D \times 35\%$	0.8333	0.6944
J	$1/(1 - 20\%)$	\$ 8,568	\$7,276
K	<b>Tax on income in excess of free cash flow</b>	<b>\$15,844</b>	

**Less: Higher Shareholder Level Tax v. Dividend Tax**

		Year 1	Year 2
<b>Key Calculations</b>	Owner level taxes if C Corp	\$10,000	\$10,360
	Owner level taxes if S Corp	26,775	27,668
L	Income tax differential	16,775	17,308
M	$L/(1 - 20\%)$ Pre-tax equivalent	20,969	21,634
	Present value factor	0.8333	0.6944
	Discounted tax adjustment	\$17,474	\$15,024
N	<b>Tax increase due to tax rate differential</b>	<b>\$32,498</b>	

The first of these adjustments accounts for the amount of corporate income taxes avoided due to the subject company's S election. Because the lack of corporate taxes increases the amount of cash available for distribution to shareholders, the difference in entity-level taxes is adjusted to account for the lack of dividend taxes paid by the S corporation shareholder (line B). This pretax figure is then discounted to the present.

Next, the model calculates the capital gains tax savings due to the build up in basis. The total benefit of the tax savings (line F) is converted to a pretax equivalent (line G) and then discounted to the present value. Because the benefit from the build up in basis will be realized when the company is sold (after year 2 in this example), the present value factor for year 2 is used. We then calculate any out-of-pocket tax payments due to the excess of income over distributed free cash flow. The value determined here will be accounted for as a detriment to the subject company because shareholders obviously would not want to use personal money to pay taxes on undistributed income. Again, the pretax equivalent of this detriment is calculated (line J) and discounted to the present.

Finally, the model accounts for the difference in the level of taxes paid by the shareholders in the subject company as if it were an S corporation or C corporation. Taxes to the C corporation shareholder are a function of C corporation dividends and dividend taxes. This figure is a detriment to overall value as the level of taxes paid at the shareholder level for the S corporation (personal income taxes) exceeds taxes paid by shareholders of a C corporation (dividend taxes).

## Modified Gross Model

The modified Gross model starts by calculating the pretax net present value of the subject company's cash flow during the projection period. The terminal value again is calculated on a C corporation basis. The model then makes various adjustments to account for value attributable to various differences in S corporation and C corporation taxes and the build up of basis. An example of the modified Gross model is shown in table 18.3.

**TABLE 18.3 Valuation of S Corp Applying Modified Gross Method**

		Year 1	Year 2	Residual Value as if C Corp
Key Calculations	Income before tax	\$100,000	\$103,000	\$106,090
	Entity level tax	—	—	(42,436)
	Net income	100,000	103,000	63,654
	Cash Flow Adjustment			
	Depreciation	20,000	20,000	—
	Capital expenditures	(20,000)	(20,000)	—
	Change in net working capital	(10,000)	(10,000)	(10,000)
	Free cash flow	\$ 90,000	\$ 93,000	\$ 53,654
	Present value factor	0.8333	0.6944	
	Discounted cash flow	\$ 75,000	\$ 64,583	
	Sum of discounted cash flow	139,583		
	PV terminal value as if C Corp	219,175		
	D (See below)	Entity level tax adjustment to C corp equivalent	15,486	
I (See below)	Tax savings of build up in basis	8,238		
L (See below)	Tax on income in excess of free cash flow	(15,844)		
Q (See below)	Taxes paid due to tax rate differential	(32,498)		
	Asset sale amortization benefit	—		
	<b>Indicated Value</b>	<b>\$334,140</b>		

Terminal Value	
Capitalization Rate	17.0%
Terminal Value	315,612
Present Value Factor	0.6944
PV of Terminal Value	\$219,175

(Table continued)

**TABLE 18.3 Valuation of S Corp Applying Gross Method** (continued)**Plus: Entity Level Tax Saved with S Election**

		Year 1	Year 2		
<b>Key Calculations</b>	Entity level taxes for S Corp	\$ —	\$ —		
	Entity Level taxes for C Corp	(40,000)	(41,200)		
	A	Difference in entity level taxes	\$40,000	\$41,200	
	B	A/(1 – 20%)	Pre-tax equivalent	50,000	51,500
	C	B x 20%	Shareholder dividend taxes	10,000	10,300
		Present value factor	0.8333	0.6944	
		Discounted tax savings of S Corp election	\$ 8,333	\$ 7,153	
	D	<b>Tax savings of S Corp election</b>	<b>\$15,486</b>		

**Plus: Pass-Through Basis Adjustment**

		Year 1	Year 2	
<b>Key Calculations</b>	S Corp net income	\$100,000	\$103,000	
	Distributions as a percentage of free cash flow	76,500	79,050	
	E	Net income less free cash flow	\$ 23,500	\$ 23,950
	F	Sum of cash flow differential	47,450	
	G	F x 20%	Benefit of avoided capital gains tax	9,490
	H	G/(1 – 20%)	Pre-tax equivalent of avoided capital gains taxes	11,863
		Present value factor	0.6944	
	I	<b>Pass-through basis adjustment</b>	<b>\$ 8,238</b>	

**Less: Out of Pocket Tax Payments**

		Year 1	Year 2		
<b>Key Calculations</b>	Tax on income in excess of free cash flow	\$ 8,225	\$8,383		
	J	E x 35%	Pre-tax equivalent (owner dividend tax rate)	10,281	10,478
	K	J/(1 – 20%)	Present value factor	0.8333	0.6944
		Discounted tax adjustment	\$ 8,568	\$7,276	
	L	<b>Tax on income in excess of free cash flow</b>	<b>\$15,844</b>		

**Less: Higher Shareholder Level Tax v. Dividend Tax**

		Year 1	Year 2		
<b>Key Calculations</b>	Owner level taxes if C Corp	\$10,000	\$10,360		
	M	C corp FCF x 20%	Owner level taxes if S Corp	26,775	27,668
	N	S corp dist'n x 35%	Income tax differential	16,775	17,308
	O	Pre-tax equivalent	20,969	21,634	
	P	O/(1 – 20%)	Present value factor	0.8333	0.6944
		Discounted tax adjustment	\$17,474	\$15,024	
	Q	<b>Tax increase due to tax rate differential</b>	<b>\$32,498</b>		

As shown in table 18.3, the modified Gross model starts with a pretax discounted cash flow analysis over the projection period. The terminal value is calculated as if the subject company was a C corporation. The build up in basis, out-of-pocket tax payment, and personal versus dividend tax differential are the same calculations as seen in the modified traditional model. However, the amount of entity-level taxes saved through the S election is slightly different. In the modified Gross method, the avoided C corporation taxes are calculated (line A) and then converted to their pretax equivalent. Under the assumption that this difference would be distributed to shareholders, the amount of dividend tax avoided by the S corporation shareholder is calculated and discounted to the present.

If you look at tables 18.1, 18.2, and 18.3, you will notice that the indicated values in each of the models are identical. Like I said earlier, each of these models does the same thing. The C corporation equivalent model achieves in two steps what the modified traditional and modified Gross models do in five steps. When using Grabowski's models, remember that they assume the sale of the subject company at the end of the forecast period. If the valuation analyst is valuing a minority interest, he or she must be careful when applying these models because a minority shareholder cannot force the sale of a company. Either way, the valuation analyst is forced to make an assumption about when the interest will be sold. Good luck with that!

### The Van Vleet Model

This model, otherwise known as the S Corporation Economic Adjustment Model (SEAM), was developed by Dan Van Vleet and calculates the net economic benefit to shareholders of the subject company in C corporation and S corporation form. In this case, economic benefits include the after-tax dividend income and after-tax capital gains recognized by shareholders in the subject company. With these calculated economic benefits, we can derive a multiple that converts a C corporation-equivalent value to an S corporation value. To illustrate this, table 18.4 shows the derivation of economic benefits to the C corporation and S corporation.

The calculations in table 18.4 are relatively straightforward. In this example, we used the same assumptions as used in the previous examples. The model accounts for the net dividend income and net capital gains received by shareholders of the subject company in C corporation and S corporation form. The net economic benefits are used to derive an economic adjustment multiple through the following calculation:

$$S \text{ Corp Economic Adjustment Multiple} = \frac{(\text{Net Economic Benefit to Shareholders of S Corp})}{(\text{Net Economic Benefit to Shareholders of C Corp})}$$

In our example, the economic adjustment multiple would be 1.3542 (or \$65,000/\$48,000). This multiple is then applied to the value of the subject company as if it were a C corporation. One of the key strengths of the Van Vleet model is that the economic adjustment multiple can be applied to a value derived under the income and market approaches. Keep in mind, though, that this multiple is to be applied to equity values and not invested capital.

**TABLE 18.4 Van Vleet Model Determination of Net Economic Benefit to Shareholders**

		85% of Free C Corp	Cash Flow S Corp
Income before income tax		\$100,000	\$100,000
Corporate Income tax @	40%	(40,000)	n/a
Net Income		60,000	100,000
Dividends to S corp shareholders		n/a	76,500
Income tax due by shareholders @	35%	n/a	(35,000)
Net cash flow to S corp shareholders		n/a	41,500
Dividends to C corp shareholders		42,500	n/a
Income tax on dividends @	20%	(8,500)	n/a
Net cash flow to C corp shareholders		34,000	n/a
Net Income		60,000	100,000
Dividends to shareholders		(42,500)	(76,500)
Net capital gains		17,500	23,500
Effect of increase in tax basis		—	(23,500)
Net taxable capital gains		17,500	0
Capital gains tax liability @	20%	(3,500)	—
Net capital gains benefit to shareholders		14,000	23,500
Net cash flow to shareholders		34,000	41,500
Net capital gains benefit to shareholders		14,000	23,500
<b>Net economic benefit to shareholders</b>		<b>48,000</b>	<b>65,000</b>

Using the assumptions relied on in previous examples, the value of the subject company on a C corporation basis is \$296,814. Applying the economic adjustment multiple (1.3542) to this figure results in an S corporation-equivalent value of \$401,936.

Simple, right? Well, a few assumptions behind the model are important to discuss. First, the Van Vleet model assumes that an investor would place equal value in current distributions and retained net income. This may be true for an investor in a public company, who can collect dividends and have the ability to sell the stock to recognize any appreciation in value. However, for the minority interest shareholder in a privately held company with an indefinite holding period, this may not be the case. Thus, the model somewhat overcompensates for the economic benefit generated by capital gains to the private company investor. An analyst using this model would have to account for the longer holding period with a larger discount for lack of marketability.

Another important point to consider is that the Van Vleet model assumes no change in future corporate, personal, dividend, and capital gains taxes. In reality, effective tax rates change given the amount of income being taxed, as well as changes in marginal tax rates.

Finally, the Van Vleet model, unlike the Grabowski models, assumes that the S corporation benefit is realized into perpetuity. Although this may be an appropriate assumption for a minority interest valuation in a company that has no prospect of a sale, it would not be appropriate in a controlling interest valuation of a company whose owners could be looking to sell the business within a few years.

## The Treharne Model

Chris Treharne believes that S corporations have three primary benefits over C corporations: (1) distributions are made to shareholders before any taxes are paid; (2) the avoidance of dividend taxes; (3) and the differential between personal and corporate income taxes. Treharne's model is composed of four separate calculations, the first of which calculates the value of the subject company's retained cash flow on a C corporation basis. Not surprisingly, the remaining three calculations are designed to account for each of the S corporation benefits listed previously. Let's work through an example, starting in table 18.5.

**TABLE 18.5 Treharne Model**

Year	Tax rates	Year 1	Year 2	Terminal Year	Present Value
<b>Distributions:</b>		76,500	79,050	81,677	
<b>Retained Cash Flow</b>					
S corporation net income		100,000	103,000	106,090	
Depreciation		20,000	20,000	—	
Capital expenditures		(20,000)	(20,000)	—	
Changes in working capital		(10,000)	(10,000)	(10,000)	
Debt principal changes		—	—	—	
<b>Net cash flow</b>		90,000	93,000	96,090	
S corp tax distribution paid	35%	35,000	36,050	37,132	
S corp "excess distributions"		41,500	43,000	44,545	
<b>Retained cash flow</b>		13,500	13,950	14,414	
C corp valuation adjustment		(5,000)	(5,150)	(5,305)	
<b>Retained cash flow to C corp</b>		8,500	8,800	9,109	
<b>Terminal value</b>				53,582	
<b>Total</b>		8,500	8,800	53,582	
<b>Net retained cash flow to investors (C corp)</b>		7,083	6,111	37,210	50,404

The first calculation determines the value of the subject company's retained cash flow as if it were a C corporation. Notice, however, that distributions have been estimated on an S corporation basis. (Year 1 distributions of \$76,500 have been calculated as 85 percent of year 1 net cash flow prior to any corporate taxes.) The model calculates the subject company's net cash flow to equity and removes distributions in each year to arrive at the cash flow retained by the business in each year. Next, the model adjusts retained cash flow to account for the difference in corporate and personal tax rates. Assuming that corporate and personal tax rates are different, the level of retained cash flow in each year needs to be adjusted to a C corporation basis. The benefit (or detriment) generated by the difference in corporate and personal tax rates will be accounted for in a separate calculation. Retained cash flow to the C corporation is then discounted to the present and summed. Next, the model considers the value of cash received by the investor (table 18.6).

Cash flow received by the investor is calculated net of personal income taxes then discounted to the present. This calculation accounts for the higher level of distributions received by an S corporation shareholder because the subject company pays no income taxes at the corporate level. Next, the model tackles the double taxation issue (table 18.7).



**TABLE 18.6 Treharne Model**

Year	Tax rates	Year 1	Year 2	Terminal Year	Present Value
<b>Distributions:</b>		76,500	79,050	81,677	
<b>Net Cash Flow to Investor</b>					
S corp tax distribution paid		35,000	36,050	37,132	
S corp "excess distributions" paid		41,500	43,000	44,545	
Personal taxes on S corp income	35%	(35,000)	(36,050)	(37,132)	
Net cash flow to investor		41,500	43,000	44,545	
Terminal value				262,029	
Total		41,500	43,000	262,029	
Present Value		34,583	29,861	181,965	246,409

**TABLE 18.7 Treharne Model**

Year	Tax rates	Year 1	Year 2	Terminal Year	Present Value
<b>Distributions:</b>		76,500	79,050	81,677	
<b>Double Taxation Adjustment:</b>					
Total S corp distributions		76,500	79,050	81,677	
C corp entity-related taxes		(40,000)	(41,200)	(42,436)	
S corp "excess distributions" paid		36,500	37,850	39,241	
S corp "excess dist." Tax benefit	20%	7,300	7,570	7,848	
Terminal Value				46,166	
Total		7,300	7,570	46,166	
Present Value (double tax adj.)		6,083	5,257	32,060	43,400

In table 18.7, the model first calculates the amount of S corporation distributions in excess of corporate income taxes as if the subject company was a C corporation. The excess in distributions paid represents the amount of actual distributions that would be subject to dividend taxes if the subject company was a C corporation. Dividend taxes are then calculated and discounted to the present. The net present value of this calculation represents the value of avoided dividend taxes due to the subject company's S election. Finally, we account for the difference in corporate and personal income taxes (table 18.8).

The final adjustment illustrated in table 18.8 is identical to the "C corporation valuation adjustment" made in the calculation of retained cash flow on a C corporation basis (see table 18.5). The difference in corporate and personal taxes is calculated and discounted to its present value.

**TABLE 18.8 Treharne Model**

Year	Tax rates	Year 1	Year 2	Terminal Year	Present Value
<b>Distributions:</b>		76,500	79,050	81,677	
<b>Tax Rate Differential Adjustment:</b>					
S corp entity related taxes	35%	(35,000)	(36,050)	(37,132)	
C corp entity related taxes	40%	(40,000)	(41,200)	(42,436)	
S corp benefit (detriment)		5,000	5,150	5,305	
Terminal value				31,203	
Total		5,000	5,150	31,203	
Present value (tax rate diff adj.)		4,167	3,576	21,669	29,412

Summing the net present value of each of the calculations completed previously brings us to the value of the subject company on an S corporation basis. In our example, this amounts to \$369,625.

As with the Grabowski and Van Vleet models, there are important considerations in determining when this method is appropriate for use. First, this model does not explicitly calculate the build up in basis for an S corporation. Treharne states that the build up in basis should be considered on a case-by-case basis. Treharne's model also assumes that the avoided dividend tax and difference in corporate and personal income taxes will continue indefinitely. Thus, the model assumes a long-term holding period. If you are valuing a minority interest in a company that has a sale date planned three years from now, there may be a material benefit generated by the build up in basis and you might want to consider a different model. In addition, if the subject company was sold and lost its status as an S corporation, it would be incorrect to reflect the impact of avoided dividend taxes and the differential between corporate and personal income tax rates in the company's value.

### The Fannon Model

In *Fannon's Guide to the Valuation of Subchapter S Corporations*, Nancy Fannon identifies the difficulty that analysts run into when attempting to explain the models presented earlier in this chapter. As a solution to this issue, Fannon developed what she considers to be a simplified model using a discounted cash flow analysis to measure the benefit of avoided dividend taxes and consider the benefit of the build up in basis. When using this model, an assumption must be made regarding when the subject company will be sold (or if it will continue indefinitely as an S corporation), as well as the likelihood that a purchaser would benefit from the S election. These assumptions necessitate the identification of potential buyers for the company. Analysts using this model need to investigate the facts and circumstances of each case (restrictions in the shareholder agreement, transaction data, and so on) in order to estimate whether or not the buyer would benefit from the subject company's S election.

Many of these calculations will look familiar because this model essentially completes the same calculation as the three models already discussed. Let's take a look at an example in table 18.9.

In the first calculation in table 18.9, a discounted net cash flow analysis of the subject company is conducted using personal income tax rates. The resulting figure is adjusted by the benefit from avoided dividend taxes and the build up in basis to arrive at the indicated value of 100 percent of the subject company on a marketable basis. This particular example assumes a sale after year 2 of the projection period.

The calculation of avoided dividend taxes is based on the difference in annual distributions and personal income tax liabilities in each year. Because the company is sold after year 2, there are no dividends or taxes to be paid in the terminal period. Depending on who the most likely buyer is, a probability percentage is applied to the net present value of avoided dividend taxes.

**TABLE 18.9 Fannon Model**

	<u>Year 1</u>	<u>Year 2</u>	<u>Terminal Year</u>
Pretax income	100,000	103,000	106,090
Personal income taxes	(35,000)	(36,050)	(37,132)
Net income	65,000	66,950	68,959
Cash flow adjustment			
Depreciation	20,000	20,000	—
Capital expenditures	(20,000)	(20,000)	—
Change in net working capital	(10,000)	(10,000)	(10,000)
Debt principal changes	—	—	—
Net cash flow	55,000	56,950	58,959
Terminal value			346,815
Present value factor	0.8333	0.6944	0.6944
Discounted cash flow	45,833	39,549	240,844
Sum of discounted cash flow	326,225		
Benefit from avoided dividend taxes	12,888		
Benefit from build up in basis	6,590		
<b>Total indicated value, marketable</b>	<b>345,704</b>		
<b>Benefit from Avoided Dividend Taxes</b>			
	<u>Year 1</u>	<u>Year 2</u>	<u>Terminal Year (Assumed Exit)</u>
Annual distributions	76,500	79,050	
Personal income taxes	(35,000)	(36,050)	—
Equivalent C corporation dividends	41,500	43,000	—
C corporation dividend taxes	8,300	86,00	—
Present value factor	0.8333	0.6944	0.6944
Present value	6,917	5,972	—
Net present value	12,889		
Likelihood of buyer benefitting from S corp benefits	100%		
<b>Total estimated benefit from avoided dividend taxes</b>	<b>12,889</b>		
<b>Benefit from Build Up in Basis</b>			
	<u>Year 1</u>	<u>Year 2</u>	<u>Terminal Year (Assumed Exit)</u>
S corp net income	100,000	103,000	—
S corp distributions	76,500	79,050	—
Income in excess of distributions	23,500	23,950	—
Total income in excess distributions over projected period	47,450		
Capital gains taxes	9,490		
Present value factor	0.6944		
Present value	6,590		
Likelihood of buyer benefitting from S corp benefits	100%		
<b>Estimated benefit</b>	<b>6,590</b>		

The benefit from the build up in basis is determined based on the excess of pretax income over distributions to shareholders in each year. Capital gains taxes are calculated based on the total amount of income retained over the projection period.

The biggest strength of Fannon's simplified model is that it is relatively straightforward. It takes into account personal taxes, avoided dividend taxes, and the build up in basis. It also allows the analyst to consider the likelihood of a buyer being able to benefit from the subject company's S corporation status. However, this model (like the previous models) has its weaknesses as well. One of the biggest issues with the model is the fact that it can be difficult to explain when using it for an assignment in which the analyst must determine fair market value. The concept of identifying the most likely buyer may conflict with the concept of the hypothetical willing buyer. Identifying the probability of a buyer benefitting from the S election can also be an issue. Care must be taken when using this and all the models used to measure the S corporation benefit.

### How Our Firm Handled the S Corporation Issue

The model that I like the most, probably because to me it is the most simplistic, is Treharne's model. It was also the model that was referenced in *Delaware Open MRI*. The judge in that case did a fabulous job of explaining what he did. In fact, a footnote in the opinion cites a presentation that Treharne gave at an American Society of Appraisers conference as his source. Because I like this so much, let's look at table 18.10 and follow the calculations as the court did.

**TABLE 18.10**

#### Comparison of C Corporation to Pass-Through Entity

		<u>C Corporation</u>		<u>Pass-Through</u>
Debt free pre-tax income		100.00		100.00
Corporate income tax	40.0%	(40.00)	0.00%	—
Net income available to shareholders		60.00		100.00
Less: Addition to retained earnings	23.5%	14.10		23.50
Distributions	76.5%	45.90	76.5%	76.50
Less: Personal taxes	20.0%	(9.18)	35.0%	(35.00)
Net cash flow to shareholders		<u>36.72</u>		<u>41.50</u>

#### Net Increment to Shareholder

**4.78**

#### Calculation of Effective S Corporation Tax Rate

	<u>C Corp.</u>	<u>Pass-Through</u>	<u>Pass-Through Valuation</u>
Income before tax	100.00	100.00	100.00
Corporate rate	40.00%	0.00%	32.19%
Available earnings for distribution	60.00	100.00	67.81
Distributions	45.90	76.50	51.88
Dividend or personal income tax rate	20.00%	35.00%	20.00%
Available after dividends	<u>36.72</u>	<u>41.50</u>	<u>41.50</u>

Assuming the same facts and figures from previous examples, the model used in the *Delaware Open MRI* model calculates the difference in distributed cash flow to shareholders in a C corporation and S corporation. To stay consistent with previous examples, we have assumed a distribution rate of 76.5 percent of net income (equivalent to 85 percent of net cash flow). If the difference between the C corporation and pass-through cash flow is negative (meaning that the pass-through entity shareholder receives less cash flow), then there is a detriment to the subject company being an S corporation and no benefit exists. If the differential is positive, then there is a benefit to being an S corporation.

In the bottom portion of table 18.10, the model calculates the corporate level rate (32.19 percent) under the assumption that the subject company continues to generate cash flow to shareholders on an S corporation equivalent basis. In other words, the model works backwards from the pass-through level of cash flow to shareholders to arrive at the corporate level income tax rate. This methodology accounts for the benefit associated with avoiding dividend taxes and the differential in corporate and personal income tax rates. The only complaint that I have heard other analysts make about this and the Treharne model is that it does not consider the potential value that is attributable to the reduced taxes that the shareholder will pay due to the build up in the tax basis of the stock. My attitude about that is—does it really matter when the underlying assumption is that the willing buyer has a long-term horizon for the investment? The present value of the tax savings 20 or 30 years from now will be relatively small. I really do not believe that this is a major concern, but who am I to decide that?

## How Do the Models Compare?

By now, you probably have been keeping track of which models yield the highest (or lowest) values. Fortunately, we used the same assumptions throughout all of our examples in this chapter and can now draw a broad comparison of the models. The output of each model is summarized in table 18.11.

**TABLE 18.11 Summary of Methodologies**

Grabowski Models	\$334,140
Van Vleet Model	401,936
Treharne Model	369,625
Fannon Model	345,704
<i>Delaware Open MRI</i> Method	342,758

The preceding table shows that the range of indicated values can vary, but they are not all that far off from one another. The Van Vleet model generated the highest indicated value and is actually the most sensitive to a change in the tax rates. As discussed before, this model assumes that an investor would place equal value on distributions and retained net income. Because an investor in a privately held company is unable to immediately realize the benefit of retained net income (due to a long holding period), some additional discount for lack of marketability would be warranted to arrive at fair market value. The *Delaware Open MRI* method resulted in the second lowest value but did not include any value attributable to a build up in basis. It goes without saying that the selection of a methodology should be dependent on the facts and circumstances of the company the valuation analyst is valuing (and not on which model will yield the lowest or highest value). Thus, the analyst needs to understand all the assumptions and theories underlying these models before using them.

## Some Points to Consider

The models described previously are sensitive to changes in distributions and taxes. These factors affect each model differently. However, to illustrate the impact distributions have on a pass-through entity's value, we have changed an assumption within the model used in the *Delaware Open MRI* model.

As can be seen in table 18.12, when changing the level of distributions to 50 percent, cash flow to shareholders of an S corporation is negative (compared to a positive result in table 18.10). This means that given a 50 percent distribution rate, shareholders of an S corporation would have to reach into their own pockets to pay for the subject company's tax liabilities. Thus, it would be better for the subject company to be organized as a C corporation. Under the assumption that management would seek to maximize profits to shareholders, an analyst would then apply C corporation rates to the subject company's earnings.

A change in the tax rates, specifically dividend taxes, can make a major difference in the amount of benefit associated with the S election. In table 18.13, I have changed the level of dividend taxes to 35 percent (equal to personal taxes). Take a look at what happens.

When dividend taxes equal personal taxes, the benefit of the S election increases and the corporate-level income tax rate declines substantially. When the *Gross* decision was issued, dividends were taxed as regular income at marginal federal rates. The avoidance of additional taxes at the marginal federal rates resulted in substantial benefits to S corporation shareholders. Changes in the tax law in 2003 reduced federal dividend taxes to 15 percent and brought total taxes to the C corporation and S corporation shareholder much closer.

**TABLE 18.12****Comparison of C Corporation to Pass-Through Entity**

		<u>C Corporation</u>		<u>Pass-Through</u>
Debt free pre-tax income		100.00		100.00
Corporate income tax	40.0%	(40.00)	0.00%	—
Net income available to shareholders		60.00		100.00
Less: Addition to retained earnings	50.0%	30.00		50.00
Distributions	50.0%	30.00	50.0%	50.00
Less: Personal taxes	20.0%	(6.00)	35.0%	(35.00)
Net cash flow to shareholders		<u>24.00</u>		<u>15.00</u>

**Net Increment to Shareholder****(9.00)****Calculation of Effective S Corporation Tax Rate**

	<u>C Corp.</u>	<u>Pass-Through</u>	<u>Pass-Through Valuation</u>
Income before tax	100.00	100.00	100.00
Corporate rate	40.00%	0.00%	No S Corp Benefit
Available earnings for distribution	60.00	100.00	60.00
Distributions	30.00	50.00	30.00
Dividend or personal income tax rate	20.00%	35.00%	20.00%
Available after dividends	<u>24.00</u>	<u>15.00</u>	<u>24.00</u>

TABLE 18.13

**Comparison of C Corporation to Pass-Through Entity**

		<b>C Corporation</b>		<b>Pass-Through</b>
Debt free pre-tax income		100.00		100.00
Corporate income tax	40.0%	(40.00)	0.00%	—
Net income available to shareholders		60.00		100.00
Less: Addition to retained earnings	23.5%	14.10		23.50
Distributions	76.5%	45.90	76.5%	76.50
Less: Personal taxes	35.0%	(16.07)	35.0%	(35.00)
Net cash flow to shareholders		<u>29.84</u>		<u>41.50</u>

**Net Increment to Shareholder****11.67****Calculation of Effective S Corporation Tax Rate**

	<b>C Corp.</b>	<b>Pass-Through</b>	<b>Pass-Through Valuation</b>
Income before tax	100.00	100.00	100.00
Corporate rate	40.00%	0.00%	16.54%
Available earnings for distribution	60.00	100.00	83.46
Distributions	45.00	76.50	63.85
Dividend or personal income tax rate	35.00%	35.00%	35.00%
Available after dividends	<u>29.84</u>	<u>41.50</u>	<u>41.50</u>

**Some New Thoughts on the Issue**

The models described throughout this chapter are cash-flow-based models because the benefits of the pass-through entity are adjusted for in the calculation of cash flow. These models require estimates of corporate and personal income tax rates to compare the cash flow that would flow through to an investor in a C corporation versus the cash flow that would flow through to an investor in a closely held pass-through entity. These tax rates are often based on the statutory corporate and personal income, dividend, and capital gains tax rates that are in effect as of the date of the valuation. However, many practitioners question the appropriateness of using such tax rates in these models. Research suggests that publicly traded companies and their investors have effective tax rates that are well below the statutory rates that are often used by practitioners. This can be due to a variety of factors, including the ability of certain investors to avoid and defer taxes, the presence of nontaxable institutional investors, and so on.<sup>18</sup> If a valuation analyst looks at an income statement of a publicly traded company, he or she will often see that the company's effective tax rate is far less than the corporate tax rates that are being used in the S corporation models. Furthermore, due to the diversity of the tax status of the investing public, the average tax rates incurred by the investing public are often below the 39.6 percent personal income tax rate for the highest income bracket.

In *Taxes and Value*, published by Business Valuation Resources, Nancy Fannon and Keith Sellers discuss an alternative methodology that addresses this issue. Although I will not go into complete detail regarding this revised model and its assumptions, it is important for valuation analysts to at least be aware of these issues when performing the valuation of a pass-through entity. According to the authors, one manner in which to adjust for the tax differences between the pass-through entity and the C corporation is by making an adjustment to the discount rate. The logic behind this is that the rates of return that are used in the derivation of the

18 Nancy J. Fannon and Keith F. Sellers, *Taxes and Value*, (Portland, OR: Business Valuation Resources, 2015): 62–63.

cost of capital have certain shareholder-level tax rates embedded in them. Therefore, the valuation analyst can remove the effect of these embedded shareholder-level taxes from the discount rate so that it better matches the tax rate utilized in the calculation of the subject company's after-tax cash flows. The Fannon/Sellers model deducts the income taxes that would be incurred by a shareholder in a pass-through entity and adjusts the cost of capital to reflect the same tax rate that was used in the income stream. This publication contains research that shows that shareholder-level taxes negatively affect stock prices.

Although the concept seems plausible, starting to adjust the discount rate may get the valuation analyst in trouble if the calculations are not done correctly. I previously discussed discount rates in chapter 13, and if that discussion wasn't confusing enough, now consider making another change that would have to consider the various tax rates that took place over the period of time for the companies in the specific industry that the subject company is in. This entire concept is sure to blow whatever budget the valuation analyst may have to perform the valuation. My suggestion is that the valuation analyst study this entire concept in greater detail before leaping of the cliff!

## Other Pass-Through Entities

Although I have mainly addressed the pass-through status of S corporations, there are other types of pass-through entities, including partnerships (limited and general partnerships), limited liability companies, real estate investment trusts (REITs), and closed-end investment funds. The profits and losses of these entities (like S corporations) are passed through to the owners and subject to personal tax rates. These entities must also meet certain criteria in order to maintain their pass-through tax status. For example, REITs must make distributions totaling at least 90 percent of their taxable income each year. The theory and models shown in this chapter can be adapted to these other pass-through entities, as well. However, the valuation analyst needs to be aware of other tax code sections that could affect what he or she is doing. For example, a partnership may have an IRC Section 754 election available. I am purposely not going to explain what this means. If it is not known already, the valuation analyst, needs to make sure that he or she is working with a CPA or a tax attorney about the tax issues.

## Conclusion

By this point, an analyst should have some understanding of why valuations of pass-through entities can be problematic and how to deal with this issue. Remember that the need to account for a premium associated with a company's pass-through status depends on the data used to derive value. If the valuation analyst is using a discount rate derived from C corporations, he or she needs to account for the subject company's pass-through tax status. If the analyst compiled market multiples from REITs, which are pass-through entities, no adjustment for the subject company's pass-through status is necessary. As with any other step in the valuation process, common sense should prevail when selecting a model to apply in any valuation. Let's forge on to the next chapter on financial reporting (which is sure to give anyone a headache)!



# Chapter 19

# Valuation in Financial Reporting

## Learning Objectives

Because performing valuation assignments for financial reporting purposes has become increasingly important, I decided to include it as a separate chapter in this book. If I did my job properly, at the conclusion of this chapter, the following should be clear (or, more confusing):

- The primary reasons for fair value measurements in financial reporting
- The accounting standards that are applicable to fair value measurements
- How to apply fair value measurements in business combinations
- How to apply fair value measurements in impairment testing
- Where to find the profession's best practices in this area
- How to work with management's outside auditor in defending the reasonableness of your conclusions
- The new Mandatory Performance Framework
- Identifying intangible assets for financial reporting

## Introduction

An area of valuation that has been growing over the past decade is valuations for financial reporting. Certain accounting standards require individual assets and liabilities acquired as part of a business combination to be measured on the opening balance sheet as of the date of the acquisition at their relative fair values. Other accounting standards require that these assets be subsequently tested for impairment in future periods, which often requires additional fair value measurements for the impairment test. This is an area that has become a specialization within the business valuation profession. There are many firms that only perform these types of valuations and many firms that will not touch them. The rules are very complex and subject to scrutiny at several different levels. Therefore, the scope of this chapter is not intended to be an end-all that one needs to know to practice in this area; it is intended to provide you with an introduction to this specialized area and refer you to additional resources. I will provide examples of valuing certain individual intangible assets in chapter 20.

Measuring fair value is one of the more controversial topics in financial accounting because the measurement inherently requires some judgment. Consequently, it is a complex area of practice for valuation analysts (we are actually referred to as *valuation specialists* in the accounting literature). Valuation specialists not only have to be experienced in valuation itself but also have a fundamental understanding of the accounting standards that require fair value. Often, the accounting standards require assumptions in the measurement that, at first glance, seem counterintuitive to valuations for other purposes. Before I explain how to measure fair value, I will provide an overview of the accounting standards themselves to provide a basis for the actual valuation measurement. Now don't get too excited.

## Background of Valuation in Financial Reporting

Although measuring fair value has been a requirement in many accounting pronouncements for decades, the use of outside valuation specialists to assist management with fair value measurement has recently become more widespread. One reason for the increase is the requirement in financial reporting to measure assets and liabilities acquired in a business combination at fair value and to test impairment of long-lived assets. FASB issued *Accounting Standards Codification (ASC) 805, Business Combinations* (formerly FASB Statement No. 141R), for fiscal years beginning after December 15, 2008. FASB Statement No. 141 was originally issued

in 2001. FASB ASC 350, *Intangibles—Goodwill and Other* (formerly FASB Statement No. 142), was issued shortly thereafter.

As the valuation analyst will soon realize, fair value measurement requires unique valuation skills. Management often retains an outside valuation specialist to assist them with the measurement. The use of an outside valuation specialist creates a new dynamic in the measurement process in financial reporting, and the valuation specialist has to understand his or her role in the process. Not only is the valuation specialist providing an opinion on the fair value of the assets, and sometimes the liabilities, of an acquired company in a business combination, but the valuation specialist's work product is also used as audit evidence for management's representations about the fair value measurement. Valuation specialists working in this area must realize that auditors have to be comfortable with the reasonableness of the methods and assumptions used by the specialist. This is a very different process than providing a valuation for tax reporting purposes or providing expert testimony in a dispute.

Another factor that valuation specialists have to understand when practicing in this area is that best practices related to fair value measurement continue to evolve within the accounting and valuation professions. To understand the best practices, it is helpful to understand the recent history of fair value measurements. Another history lesson—just what you were looking forward to! I'll keep it brief, I promise.

## FASB ASC 820, *Fair Value Measurement*

In 2006, FASB introduced a new accounting standard that provides a framework of how FASB would like fair value to be measured in financial reporting. This standard is now codified as FASB ASC 820, *Fair Value Measurement* (formerly FASB Statement No. 157). I will refer to it just as FASB ASC 820. FASB ASC 820 provides guidance and information about fair value measurement in financial reporting.

FASB ASC 820 does not create any new requirements for *when* fair value should be used. Instead, it provides additional guidance to preparers of financial statements about *how* fair value should be measured whenever it is required in financial reporting. FASB issued the standard to provide information about the assumptions that should be used when measuring fair value if required by any other accounting standard. FASB ASC 820 actually describes certain valuation concepts, provides a uniform definition of *fair value*, sets forth a “hierarchy” of input assumptions to be used in the measurement of fair value, and requires specific disclosures about the inputs and the assets and liabilities measured at fair value.

### Definition of Fair Value

We already covered the definitions of *value* in chapter 3, but, here we go again. FASB ASC 820 provides additional details on several concepts that should be considered in fair value measurements in financial reporting. The most important is the definition of *fair value*. *Fair value* is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.<sup>1</sup>

Note that this definition of *fair value* is used exclusively in financial reporting. The definition of *value* in shareholder disputes is sometimes also referred to as *fair value*; however, the definition of *value* in those matters is completely different than the concepts I am discussing here. I will discuss shareholder fair value in chapter 24.

The first concept that is interesting in this definition is that *fair value* is the price to “be received to sell an asset.” Fair value is an exit notion, meaning that it is not necessarily the price that was paid for the asset, but, what would be received if the assets were to be sold in the market place. This definition does not presume that the asset is expected to be sold or even considered to be sold, just if it *were* to be sold. The second concept embedded in this definition is that the measurement is for a particular asset or liability, meaning the measurement should consider attributes specific to the asset or liability. For example, the measurement should consider the condition and location of the asset or liability and any restrictions on its potential sale or use.

<sup>1</sup> See FASB Accounting Standards Codification (ASC) 820, *Fair Value Measurement*, at [www.fasb.org](http://www.fasb.org).

The definition of *fair value* is somewhat similar to the concept of *fair market value* as defined for tax purposes in Revenue Ruling 59-60. If these concepts seem familiar, it's because FASB had considered using the same definition of fair market value from Revenue Ruling 59-60 (see FASB Statement No. 157, *Fair Value Measurements and Disclosures*, paragraph C50). However, FASB did not want to inadvertently bring all the court decisions about fair market value into the financial reporting area. The FASB definition of *fair value* has some differences from *fair market value*, particularly concerning the process that the valuation specialist should undergo when making assumptions in the measurement, which I will explain as we continue.

One of the important considerations in measuring fair value is something that is referred to in accounting literature as the *unit of account*. *Unit of account* means that when measuring the fair value of an asset or liability, the assumptions that the valuation specialist uses may be as if the asset is sold or liability transferred by it. Or, if value is maximized by selling in conjunction with other assets or liabilities, it is okay to assume a sale of the group of different assets if that assumption maximizes value from a market participant perspective. You need to consider how the maximum value to market participants would be achieved, whether as a "stand alone" (if the asset would provide maximum value to market participants principally on a stand-alone basis) or as a "combined use" (if the asset would provide maximum value to the market participants principally through its use in combination with other assets as a group).<sup>2</sup>

As an example, let's say the valuation specialist is measuring the fair value of three intangible assets acquired in a business combination: technology, a trade name, and a customer list. First, we assume what the price would be in the marketplace if we sold these three assets (despite the fact we are measuring their fair value because we just bought them). If the fair value of these individual assets would be maximized if sold as a group, rather than individually, then we can make that assumption.

The second consideration is where the asset would most likely be sold or where the liability would be transferred to. Well, FASB also answers that question in FASB ASC 820. First, the analyst is supposed to look at the potential market where the asset could be sold. A fair value measurement assumes that the transaction to sell the asset or transfer the liability occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability. The FASB ASC glossary defines these terms as follows:

The *principal market* is the market in which the reporting entity would sell the asset or transfer the liability with the greatest volume and level of activity for the asset or liability.

The *most advantageous market* is the market in which the reporting entity would sell an asset or transfer a liability with the price that maximizes the amount that would be received for the asset or minimizes the amount that would be paid to transfer the liability, considering transaction costs in the respective market(s).<sup>3</sup>

In measuring fair value, the principal market for the asset or liability should be considered first. If there is no market that meets the criteria of the principal market, then the asset is assumed to be sold in the most advantageous market. The most advantageous market is where the seller would receive the highest price. Now, doesn't this seem circular? Hey, I don't make these crazy rules. Even I am not that dysfunctional (I hope).

One twist to receiving the highest price is that FASB ASC 820 asks us to ignore transaction costs in fair value measurement because transactions costs are not an attribute of the asset or liability; rather, they are specific to the transaction and will differ depending on how the reporting entity transacts.<sup>4</sup> One simple way to think of this concept is to think about the value of your house. People typically think about the value of their homes in terms of what price they could sell their houses for, not the amount they could realize after real estate commissions.

2 FASB Accounting Standards Update (ASU) No. 2011-04, *Fair Value Measurement (Topic 820): Amendments to Achieve Common Fair Value*.

3 See FASB ASC 820 at [www.fasb.org](http://www.fasb.org).

4 *Ibid.*

However, FASB does allow the consideration of transportation costs in the measurement, if any market participant would do so. I mentioned briefly that location is an attribute of the asset or liability. Consequently, the fair value of the asset or liability must be adjusted for any costs that would be incurred to transport the asset or liability to or from its principal or most advantageous market. So, if you have to ship the machine to Mexico, include that cost. An example of this stuff follows.

### Example of Principal and Most Advantageous Markets

Banana Company acquires Tangerine Company in a business combination. On its balance sheet, Tangerine has an investment in the common stock of Grape Company, a publicly traded company that is listed on the New York Stock Exchange (NYSE) and London Stock Exchange as follows:

Exchange	Price	Transaction Costs	Net
NYSE	\$21	\$3	\$18
London	\$20	\$1	\$19

The accounting standards require a fair value measurement of the common stock of Grape held by Tangerine. What is the fair value of the common stock of Grape? The answer would be \$21 if the principal market is the NYSE. The answer would be \$20 if the principal market is London.

The answer would be \$20 if neither NYSE nor London is the principal market. This is based on the most advantageous assumption, which results in a net of \$19. Note that in order to determine the most advantageous market, one considers the net price to be received if the stock of Grape is sold in the open market. However, FASB ASC 820 asks us to ignore transaction costs in the fair value measurement itself. So, transaction costs can be considered in determining the most advantageous market but not in the conclusion of fair value. Ain't that a kick? How is anyone supposed to get this stuff right?

### Market Participants Assumptions

The key concept in FASB ASC 820 is that fair value is based on how a market participant would view the price of the asset using market-based assumptions in its pricing and not necessarily entity-specific assumptions. The FASB ASC glossary defines *market participants* as buyers and sellers in the principal (or most advantageous) market for the asset or liability that has all the following characteristics:

- Independent of the reporting entity (that is, they are not related parties).
- Knowledgeable (having a reasonable understanding about the asset or liability and the transaction based on all available information, including information that might be obtained through due diligence efforts that are usual and customary).
- Able to transact for the asset or liability.
- Willing to transact for the asset or liability (that is, they are motivated but not forced or otherwise compelled to do so).<sup>5</sup>

Doesn't this really sound like fair market value? It is truly close, but not exact.

As I discussed previously, the fair value of the asset or liability is based on the assumptions that market participants, not necessarily the entity, would use in pricing the asset or liability. In developing these assumptions, the reporting entity does not have to identify specific market participants. Rather, the reporting entity should identify characteristics that distinguish market participants generally, considering factors specific to (a) the asset or liability, (b) the principal or most advantageous market for the asset or liability, and (c) market participants with whom the reporting entity would transact in that market. Typically, these market participants fall into two broad groups: strategic acquirers or financial acquirers.

<sup>5</sup> *Ibid.*

A staff person in the Office of the Chief Accountant at the SEC provided guidance concerning market participants when markets are inactive.<sup>6</sup> In a speech at an AICPA conference, the SEC staff person outlined what should be considered when making assumptions from a market participant viewpoint. Some of the considerations outlined in the speech were as follows:

- What are the potential exit markets for an asset, and what is the asset's principal or most advantageous market?
- Whether the market is active, inactive, or recently inactive.
- Whether there are distinct groups of market participants (strategic versus financial buyers).
- Whether there are clusters within the groups (small versus large and profitable versus unprofitable).
- The competitive nature of the market (perfect competition versus monopoly and fragmented versus unfragmented).
- What is the highest and best use for the asset?
- Must identify all potential uses for the asset.
- Who are the potential market participants, and what are their distinguishing characteristics?
  - Financial versus strategic buyers
  - National versus regional competitors
    - o Financial capacity
    - o Acquisition strategy
    - o Marketplace synergies
    - o Market share
    - o Complimentary assets
    - o Management capabilities
- How do the market participant characteristics compare to the reporting entity's own characteristics?

## Highest and Best Use Application Criteria Applied in Fair Value Measurements

In a preceding chapter of this book, I discussed the concept of highest and best use. Well, guess what? It's here again, but this time in the context of fair value. Measuring the fair value of nonfinancial assets (both tangible and intangible) also assumes the highest and best use of the asset by market participants. FASB suggests that highest and best use is physically possible, legally permissible, and financially feasible at the measurement date. Highest and best use assumes that market participants would maximize the value of the asset, or the group of assets within which the asset would be used. Highest and best use is determined by how market participants would likely use the asset, even if the intended use of the asset by the reporting entity may be different than a market participant's use.

To illustrate the concept of highest and best use, suppose Big Technology Company (Big Tech) makes an acquisition of Little Technology, Inc. (Little Tech). To keep it simple, assume that in the business combination, Big Tech acquires just three assets: developed technology, customer relationships, and a trade name. Also assume that the reason Big Tech acquired Little Tech was for the customer relationships and did not plan to use the technology acquired because Big Tech believes that the technology it already has is far superior. The question under fair value measurements is what is the fair value of the technology if Big Tech decides not to use it? In order to answer that question, you have to think about how market participants would use the technology. If market participants would act in the same manner as Big Tech and not utilize it, the fair value of the acquired technology would likely be minimal. However, if market participants would likely exploit the technology and use it in products, then the fair value measurement would be modeled upon that assumption, even if Big Tech has no plans to do so. Are you beginning to understand why many business valuers will not touch this stuff?

<sup>6</sup> Evan Sussholtz, Speech by SEC Staff: Remarks Before the 2009 AICPA National Conference on Current SEC and PCAOB Developments, December 7, 2009.

## FASB ASC 805, *Business Combinations*

FASB ASC 805 changed the way business combinations are recorded in financial reporting. Many of us are familiar with the purchase method of accounting which used to be used for all business combinations. FASB ASC 805 changed the concept of accounting for business combinations through the introduction of the acquisition method. Applying the acquisition method under FASB ASC 805 requires the following:

1. Identifying the acquirer
2. Determining the acquisition date
3. Recognizing and measuring the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree
4. Recognizing and measuring goodwill or a gain from a bargain purchase<sup>7</sup>

There are some interesting differences in measuring fair value under FASB ASC 805 than there were under the old purchase accounting rules. First, under the acquisition method, the fair value of the consideration paid is independent from the fair value of what was received in the combination. That is why FASB no longer requires allocating to a particular price. Another significant difference is that under the acquisition method, the fair value of contingent consideration (earnouts) is to be measured at its relative fair value.<sup>8</sup>

Also, FASB ASC 805 requires an acquirer to recognize assets or liabilities arising from contingencies as of the acquisition date, measured at their acquisition date fair values, only if it is probable that an asset existed or that a liability had been incurred as of the acquisition date and if the amount of the asset or liability can be reasonably determined.

### Recognizing Identified Assets in Business Combinations

An intangible asset is recognized as an asset apart from goodwill if it meets one of two criteria:

1. The asset arises from contractual or other legal rights (regardless of whether those rights are transferable or separable from the acquired entity or from other rights and obligations).
2. If it is separable (that is, it is capable of being separated or divided from the entity and sold, licensed, exchanged, rented, or transferred (SLERT)) regardless of whether there is intent to do so. An intangible asset that cannot be sold, transferred, licensed, rented, or exchanged individually is considered separable if it can be sold, transferred, licensed, rented, or exchanged in combination with a related contract, asset, or liability.<sup>9</sup>

So now that the analyst is probably confused (I know I am), let's illustrate some of this stuff. A brief case study in measuring fair value in a business combination is provided in exhibit 19.1.

#### EXHIBIT 19.1 Example of the Acquisition Method

##### ALPHATECH, INC

On December 31, 20X1, the publicly traded technology company Alphatech, Inc. (Alphatech) acquired 100 percent of the equity of Betatech, Inc. (Betatech). The acquisition price was \$500,000 in cash, \$16,000,000 in Alphatech common stock, and an additional \$2,200,000 in cash if certain technology under development is completed and beta tested within one year of the acquisition date. Alphatech is very confident that the technology under development will be successfully implemented in a second generation product. In addition, Alphatech will assume a \$1,900,000 note payable owed to a Betatech investor. Betatech was founded in January 20X0 by two individuals named Bill Meridian and Roger Eckert. Bill and Roger developed a new technology that allows wireless Internet access over much greater distances than currently available.

<sup>7</sup> See FASB ASC 805 at [www.fasb.org](http://www.fasb.org).

<sup>8</sup> For additional information on measuring the fair value of contingent consideration, see "Valuing Contingent Consideration: Challenges and Solutions" *Journal of Accountancy* (November 2011): 28.

<sup>9</sup> See FASB ASC 805 at [www.fasb.org](http://www.fasb.org).

**EXHIBIT 19.1 Example of the Acquisition Method**

1. Discuss the steps in the acquisition method required under FASB ASC 805, *Business Combinations*. What are the criteria for determining the acquirer and the acquisition date? In this example, which entity is the acquirer, which is the acquiree, and what is the date of the business combination?

Alphatech hired an outside valuation specialist to estimate the fair value of the assets and liabilities acquired as part of the acquisition under FASB ASC 805. The valuation specialist summarized the fair value of the acquisition price and requested historical financial statements as a starting point in the analysis.

The calculation of the acquisition price appears in table 1, and the historic financial statements appear in tables 2 and 3.

**TABLE 1 Betatech, Inc.—Date Of Valuation: December 31, 20X1—Acquisition Price**

Acquisition Costs (1)	Dollar Amount
Cash	\$ 500,000
Stock	16,000,000
Contingent Consideration	2,200,000
	<u>\$18,700,000</u>
Plus Assumed Liabilities:	1,900,000
Total Purchase Price (Invested Capital)	<u>\$20,600,000</u>
<b>Net amount allocated</b>	<b><u>\$20,600,000</u></b>

Notes: (1) Provided by management.

**TABLE 2 Betatech, Inc.—Date of Valuation: December 31, 20X1—Historic Balance Sheet**

	20X1		20X0	
<b>ASSETS</b>				
Current assets:				
Cash and cash equivalents	\$1,267,822	89%	\$892,011	94%
Accounts receivable	113,532	8%	12,031	1%
Interest receivable	—	0%	—	0%
Prepaid expenses	20,517	1%	15,334	2%
Other	—	0%	—	0%
Total current assets	<u>\$1,401,871</u>	98%	<u>\$919,376</u>	97%

(Table continued)

**EXHIBIT 19.1 Example of the Acquisition Method** *(continued)***TABLE 2 Betatech, Inc.—Date of Valuation: December 31, 20X1—  
Historic Balance Sheet** *(continued)*

	20X1		20X0	
Property and equipment:				
Cost	\$ 89,036	6%	\$ 62,335	7%
Accumulated depreciation	(61,554)	−4%	(33,599)	−4%
Net	\$ 27,482	2%	\$ 28,736	3%
Goodwill	—	0%	—	0%
Deposits	960	0%	960	0%
<b>Total Assets</b>	<b>\$ 1,430,313</b>	<b>100%</b>	<b>\$ 949,072</b>	<b>100%</b>
<b>LIABILITIES &amp; EQUITY</b>				
Current liabilities:				
Accounts payable	\$ 29,769	2%	\$ 22,709	2%
Deferred revenue	—	0%	—	0%
Accrued personnel costs	90,459	6%	236,416	25%
Intercompany/IEV payable (receivable)	—	0%	—	0%
Accrued interest	—	0%	—	0%
Notes payable to investors	—	0%	—	0%
Retention Compensation Plan 2004	—	0%	—	0%
Equipment loans payable	—	0%	—	0%
Other current liabilities	72,761	5%	72,139	8%
<b>Total current liabilities</b>	<b>\$ 192,989</b>	<b>13%</b>	<b>\$ 331,264</b>	<b>35%</b>
<b>Total liabilities</b>	<b>\$ 192,989</b>	<b>13%</b>	<b>\$ 331,264</b>	<b>35%</b>
Equity:				
Preferred stock	\$ 14,769,362	1033%	\$ 12,625,187	1330%
Common stock	14,146	1%	14,146	1%
Additional paid-in capital	1,703,099	119%	1,689,172	178%
Cumulative translation adjustments	—	0%	—	0%
Retained earnings (acc. deficit)	(15,249,283)	1066%	(13,710,697)	−1445%
<b>Total Equity</b>	<b>\$ 1,237,324</b>	<b>87%</b>	<b>\$ 617,808</b>	<b>65%</b>
<b>Total Liabilities &amp; Equity</b>	<b>\$ 1,430,313</b>	<b>100%</b>	<b>\$ 949,072</b>	<b>100%</b>



**EXHIBIT 19.1 Example of the Acquisition Method****TABLE 3 Betatech, Inc.—Date of Valuation: December 31, 20X1—  
Historic Income Statement**

	20X1		20X0	
Revenues	\$ 419,066	100%	\$ 55,308	100%
Cost of revenues	370,863	88%	202,297	366%
Gross margin	\$ 48,203	12%	\$ (146,989)	−266%
Operating expenses:				
Business development	\$ 10,204	2%	\$ 48,252	87%
General and administrative	705,736	168%	678,171	1226%
Marketing	218,846	52%	24,626	45%
Product development	660,784	158%	223,052	403%
Other	—	0%	—	0%
	\$ 1,595,570	381%	\$ 974,101	1761%
Operating income (loss)	(1,547,367)	−369%	(1,121,090)	−2027%
Other income (expense):				
Interest income	\$ 8,781	2%	\$ 9,669	17%
Other non-operating	—	0%	(1)	0%
	\$ 8,781	2%	\$ 9,668	17%
Taxable income (loss)	(1,538,586)	−367%	(1,111,422)	−2010%
Provision for income taxes	—	0%	—	0%
Net income (loss)	(1,538,586)	−367%	(1,111,422)	−2010%

The valuation specialist analyzed Betatech's working capital requirements. Because fair value measurements in business combinations are from the perspective of market participants instead of specific entities, the valuation specialist analyzes industry working capital requirements. The working capital computation appears in table 4.

(continued)

**EXHIBIT 19.1 Example of the Acquisition Method** *(continued)***TABLE 4 Betatech, Inc.—Date of Valuation: December 31, 20X1—  
Debt-Free Working Capital Computation**

<b>Industry Debt-Free Working Capital Requirements (1)</b>		
	<b>SIC # 7373 Computer Integrated Systems Design</b>	
	<b>All</b>	<b>\$1-\$3 MM in Sales</b>
As a % of Total Assets		
Current Assets	71.7%	65.2%
Less: Current Liabilities	59.5%	66.3%
Working Capital	12.2%	-1.1%
Working Capital	12.2%	-1.1%
Plus: Notes Payable Short-Term	15.7%	20.0%
Plus: Current Mat.—L.T.D.	3.0%	4.2%
Debt-Free WorkingCapital (DFWC)	30.9%	23.1%
Debt-Free Working Capital	30.9%	23.1%
Times: Total Assets—\$000	\$ 5,429,026	\$ 59,300
Debt-Free Working Capital—\$000	\$ 1,677,569	\$ 13,698
Debt-Free Working Capital—\$000	\$ 1,677,569	\$ 13,698
Divided by: Total Sales—\$000	10,013,023	149,598
DFWC as a % of Sales	16.8%	9.2%
<b>Concluded Debt-Free Working Capital Requirements</b>		

Notes: (1) RMA Annual Statement Studies 2002–2003.

As part of the acquisition due diligence, Alphatech developed a set of forecasts which were prepared with the assistance of Bill and Roger and represent their best estimate of the future performance of Betatech as of the acquisition date. The outside valuation specialist used these forecasts as a basis for a discounted cash flow analysis. The valuation specialist also analyzed Betatech's weighted average cost of capital for use as a discount rate in a discounted cash flow analysis. The working capital requirement and a perpetual growth rate are other key assumptions in the discounted cash flow analysis. The weighted average cost of capital and discounted cash flow analysis appear in tables 5 and 6.

## EXHIBIT 19.1 Example of the Acquisition Method

**TABLE 5 Betatech, Inc.—Date Of Valuation: December 31, 20X1—  
Weighted Average Cost Of Capital**

<b>Capital Asset Pricing Model (CAPM), Cost of Equity: <math>K_e = R_f + (\beta \times RP_m) + RP_s + RP_u</math></b>			
Risk-Free Rate ( $R_f$ )			4.56% (1)
Beta ( $\beta$ )			1.60 (5)
Market Premium ( $RP_m$ )			7.20% (2)
Small Company Market Premium ( $RP_s$ )			6.41% (3)
Company-Specific Risk Premium ( $RP_u$ )			7.00% (4)
		<b><math>k_e =</math></b>	<b>29.51%</b>
<b>After-Tax Cost of Debt: <math>k_d = K_b(1-t)</math></b>			
Borrowing Rate ( $K_b$ )			8.00% (6)
Tax Rate ( $t$ )			38.00% (7)
		<b><math>k_d =</math></b>	<b>4.96%</b>
<b>Weighted Average Cost of Capital (WACC)</b>			
	Capital Structure (8)	Cost	Weighted Cost
Debt	7.12%	4.96%	0.35%
Equity	92.88%	29.51%	27.41%
		<b>WACC =</b>	<b>27.76%</b>
		<b>Rounded =</b>	<b>28.00%</b>

**Notes:**

- (1) 20-Year Treasury Bond as of July 31, 20x1; Federal Reserve Statistical Release.
- (2) Ibbotson: *SBBI: Valuation Edition 20x1 Yearbook*. (This could also be from Duff & Phelps *Cost of Capital*).
- (3) Ibbotson: *SBBI: Valuation Edition 20x1 Yearbook* (long-term returns in excess of CAPM estimations for decile portfolios of the New York Stock Exchange/AMEX/NASDAQ, 10th decile). (This could also be from Duff & Phelps *Cost of Capital*).
- (4) Based on discussions with management and the Butler-Pinkerton model of similar publicly traded companies.
- (5) Based on the industry beta (Standard Industrial Classification (SIC) code: 7373), *20x1 Cost of Capital Quarterly*: re-levered according to the selected capital structure.
- (6) Company's marginal borrowing rate of 8.0% per discussions with management.
- (7) Estimated effective corporate tax rate.
- (8) Based on median level of capital structure for the industry (SIC code: 7373); *20x1 Cost of Capital Quarterly*.

(continued)

## EXHIBIT 19.1 Example of the Acquisition Method (continued)

TABLE 6 Betatech, Inc.—Date of Valuation: December 31, 20X1—Discounted Cash Flow Analysis—Total Company

Assumptions:	Discount Rate (2)		Perpetuity Growth Rate (3)	5.0%		Capitalization rate		A23.0%		Terminal Year
	Estimate Corporate Tax Rate			Debt-Free Working Capital as % of Revenue (4)		20X5		20X6		
	20X1	20X2	20X3	20X4	20X5	20X6	20X7	20X7		
<b>Total Revenue(1)</b>	\$ 5,808,000	100%	\$ 14,146,000	100%	\$ 26,152,418	100%	\$ 30,519,871	100%	\$ 33,419,259	\$ 35,090,222
% Chg.			132.4%	47.9%	25.0%	16.7%	9.5%	5.0%		
<b>Total COGS</b>	799,000	14%	1,288,000	9%	2,615,242	10%	3,051,987	10%	3,341,926	3,509,022
<b>Gross Profit</b>	\$ 5,009,000	86%	\$ 4,917,000	81%	\$ 12,858,000	91%	\$ 23,537,176	90%	\$ 30,077,333	\$ 31,581,200
Operating Expenses	2,323,200	40%	2,392,896	39%	5,966,000	42%	11,029,643	42%	14,094,394	14,799,114
<b>EBITDA</b>	\$ 2,685,800	46%	\$ 2,524,104	41%	\$ 6,892,000	49%	\$ 12,507,533	48%	\$ 15,982,939	\$ 16,782,086
Estimated Tax	1,020,604	18%	959,160	16%	2,618,960	19%	4,752,863	18%	5,546,591	6,377,193
<b>Net Income</b>	\$ 1,665,196	29%	\$ 1,564,944	26%	\$ 4,273,040	30%	\$ 7,754,671	30%	\$ 9,909,422	\$ 10,404,893
Less: Capital Expenditures	(80,000)	-1%	120,000	2.0%	130,000	0.9%	240,338	0.9%	307,119	322,475
Plus: Depreciation & Amortization(5)	80,000	1%	(120,000)	-2%	(130,000)	-1%	(240,338)	-1%	(307,119)	(322,475)
Less: Incremental Debt-Free Net Working Capital	(69,447)	-1%	(513,480)	-8%	(967,080)	-7%	(627,658)	-2%	(347,927)	(200,516)
<b>Net Cash Flow</b>	\$ 1,595,749	27%	\$ 1,051,464	17%	\$ 3,305,960	23%	\$ 7,127,013	27%	\$ 9,561,496	\$ 10,204,378
Period			2.50	3.50	4.50	5.50	6.50			44,366,860
Present Value Factor	0.5	1.50	2.50	3.50	4.50	5.50	6.50			
Present Value of Cash Flow	\$ 1,410,456	\$ 726,072	\$ 1,763,498	\$ 2,271,978	\$ 2,346,728	\$ 2,193,161	\$ 1,921,591	\$ 8,916,489		
<b>Value of Business Enterprise(000's)</b>	<b>\$21,569,973</b>									
<b>Rounded</b>	<b>\$21,570,000</b>									

## Notes:

- (1) Forecast is provided by management.
- (2) See table 5.
- (3) Assumed growth rate into perpetuity. (4) See table 4.
- (5) Operating expenses projection provided by management did not include depreciation.
- (6) Terminal year value is calculated based on the Gordon Growth model.

**EXHIBIT 19.1 Example of the Acquisition Method**

2. How does the valuation specialist identify and measure the fair value of the company's intangible assets?

Alphatech's management indicated that they believed that in addition to the net working capital and various fixed assets, several identified intangible assets were acquired. These intangible assets include the following:

- Developed technology
- In-process research and development
- Customer relationships
- Trade name
- An assembled workforce
- Non-competition agreements with the selling shareholders

3. How is goodwill or the gain from a bargain purchase recognized and measured?

A summary of the Betatech acquisition is provided in table 7. It shows how the fair value of the acquisition price is allocated to the acquired tangible and intangible assets and illustrates the calculation of goodwill as a residual value. In this example, the fair value of the assembled workforce is shown separately. However, it would be recorded as goodwill and would not be recognized as a separate asset in the financial statements.

**TABLE 7 Betatech, Inc.—Date of Valuation: December 31, 20X1—  
Acquisition Summary**

Acquisition Costs (1)	Dollar Amount	
Cash		\$ 500,000
Stock	\$16,000,000	
Contingent Consideration	2,200,000	
		\$18,700,000
Plus Assumed Liabilities:		1,900,000
Total Purchase Price (Invested Capital)		20,600,000
<b>Net Amount Allocated (Rounded)</b>		<b>\$20,600,000</b>
<b>Net Assets Acquired</b>		
		<b>Concluded Value Estimate</b>
<b>Tangible Assets (1)</b>		
Current Assets		1,401,871
Equipment		27,482
<b>Intangible Assets</b>		
Aggregate Developed Technologies, Income Approach	\$12,487,000	
Aggregate Developed Technologies, Cost Approach	10,776,500	
Concluded Value of Aggregate Developed Technologies		\$12,059,375
In-Process Research & Development		500,000
Customer List		210,000
Trade Name		2,947,700
Assembled Workforce		400,000
Goodwill		3,053,572
<b>Total Assets Acquired</b>		<b>\$20,600,000</b>

Notes:

(1) Provided by management.

(continued)

### EXHIBIT 19.1 Example of the Acquisition Method *(continued)*

Now, let's go over some suggested answers to the questions raised.

1. FASB ASC 805, *Business Combinations*, requires that a business combination be accounted for by applying the acquisition method. Applying the acquisition method requires all of the following steps:
  - Identifying the acquirer
  - Determining the acquisition date
  - Recognizing and measuring the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree
  - Recognizing and measuring goodwill or a gain from a bargain purchase

Under the acquisition method, one entity acquires another, and a business combination occurs when one business entity gains control over another business entity. The entity that gains control of the acquiree is considered to be the acquirer. Control generally means a controlling financial interest in another entity, which is usually indicated by the ownership of a majority voting interest. The acquirer is usually the entity that transfers the cash or other assets or is the entity that incurs the liabilities in order to effect the business combination.

The acquisition date is the date on which the acquirer obtains control of the acquired company. Control is typically demonstrated when the acquirer transfers consideration, acquires the assets, and assumes responsibility for the acquired liabilities, which usually occurs on the closing date of the transaction.

In this example, Alphatech is the acquirer, Betatech is the acquired entity, and the acquisition date is December 31, 20X1.

2. A good starting point for identifying acquired intangible assets is discussion with management. Because the costs to develop intangible assets are generally expensed as research and development, some assets that were not previously recognized by the acquired company may have to be recognized as a result of the business combination.

Under FASB ASC 805, the acquirer is required to recognize identifiable intangible assets separate from goodwill. An intangible asset is considered to be identifiable if it meets either the separability criterion or the contractual legal criterion contained in the FASB ASC master glossary's definition of *identifiable*. According to the master glossary, an asset is identifiable if:

- (1) It is separable, that is, capable of being separated or divided from the entity and sold, transferred, licensed, rented, or exchanged, either individually or together with a related contract, identifiable asset, or liability, regardless of whether the entity intends to do so. Or,
- (2) It arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

The fair value of the intangible assets is measured through a variety of methods under the cost, market, and income approaches to valuation.

3. Generally, goodwill is recognized when the fair value of the consideration transferred exceeds the sum of the fair value of assets acquired and liabilities assumed. If the sum of the fair value of assets acquired and liabilities assumed is greater than the fair value of the consideration transferred, then the business combination is considered a bargain purchase and a gain is recognized. Goodwill is a residual value or the difference between the fair value of the acquisition price and the sum of the fair values of all identifiable tangible and intangible assets and liabilities.

The fair value of the identified intangible assets in exhibit 19.1 was measured using valuation techniques that are discussed in more detail in the next chapter. I wanted to demonstrate that in a business combination, there are several ways that valuation specialists can assist management in measuring fair value. First, the consideration paid in the transaction is measured at fair value, including the contingent component. Second, a valuation specialist can assist management with the fair value of the acquired business enterprise. Third, a valuation specialist can assist management with measuring the fair value of the identified intangible assets.

## Fair Value Measurements in Impairment Testing

The accounting using fair value measurements in business combinations is as of the date of the acquisition. However, there are also fair value measurements specifically for testing various assets previously recorded on the balance sheet in the business combination for potential impairment that may require a valuation specialist in periods subsequent to the date of the acquisition.

In financial reporting, specifically under FASB ASC 350 (originally FASB Statement No. 142), goodwill is no longer amortized for financial statement reporting purposes but, rather, is tested at least annually to determine if its carrying value has been impaired. Testing goodwill for impairment is a two-step process that begins with the measurement of the fair value of a reporting unit. The first step is to determine if there is potential impairment, and the second step actually measures the amount of any impairment. However, FASB issued guidance under Accounting Standards Update (ASU) No. 2011-08, *Intangibles—Goodwill and Other (Topic 350): Testing Goodwill for Impairment*, which says that if certain qualitative criteria are met, the requirement to test goodwill for impairment annually can be satisfied without going through the original two-step process. The qualitative assessment is sometimes referred to as *step zero*. FASB's decision to add a step zero is for companies who have goodwill, and it is more likely than not that there is no impairment of the goodwill. Step zero helps those companies limit when they have to go through the sometimes costly and time-consuming impairment testing process.

The qualitative factors outlined in ASU No. 2011-08 are not intended to be all inclusive and are not intended to represent stand-alone events or circumstances that would require the entity to perform the first step of the impairment test. In addition, an entity should consider positive and mitigating events and circumstances that may affect its conclusion. Examples of events and circumstances that would require assessment follow. This list is not exhaustive:

- General macroeconomic conditions
- Deterioration in general economic conditions
- Limitations accessing capital
- Fluctuations in foreign exchange rates
- Other developments in equity and credit markets
- Industry and market considerations
- Deterioration in the operating environment
- Increased competition
- A decline in market-dependent multiples
- A change in the market for the entity's products or services
- A regulatory or political development
- Cost factors that have a negative effect on earnings
- Increases in raw materials, labor, or other costs
- Decline in overall financial performance
- Negative or declining cash flows
- A decline in actual or planned revenues or earnings
- Entity-specific events
- Changes in management or key personnel
- Changes in strategy or customers
- Bankruptcy or litigation
- Events affecting a reporting unit
- A change in the carrying amount of net assets (write-offs)
- Plans to sell or dispose of a portion or all of a reporting unit
- Testing for recoverability of a significant asset group within a reporting unit
- Recognition of goodwill impairment in a component of the reporting unit
- A sustained decrease in share price, both absolutely and relative to peers.<sup>10</sup>

This qualitative assessment provides a better cost benefit for preparers of financial statements. Although this list is not exhaustive, after an analysis of these and other material factors, if the preparer of the financial statements believes it is more likely than not that the goodwill is not impaired, then the preparer can forgo the test described in FASB ASC 350.

In addition to testing goodwill for impairment, FASB ASC 350 also provides guidance on testing identifiable intangible assets that are indefinite-lived and, as such, are not amortized for impairment. Intangible assets that are not amortized are tested for impairment by comparing the fair values of those assets with their recorded amounts. Finally, FASB ASC 360 describes testing of long-lived assets, which are currently being amortized, for impairment.

.....  
 10 ASU No. 2011-08, *Intangibles—Goodwill and Other (Topic 350): Testing Goodwill for Impairment*.

Under FASB ASC 350 (FASB Statement No. 144), the asset or asset group has to be tested for impairment if the asset or the asset group has a “triggering event,” such as the following:

- A significant decrease in the market value of the asset
- A significant change in the extent or manner in which the asset is used or significant physical change to the asset
- A significant adverse change in legal factors or in the business climate that could affect the value of an asset, or an adverse action or assessment by a regulator
- An accumulation of costs significantly in excess of the amount originally expected to acquire or construct an asset
- A current-period operating or cash flow loss combined with a history of operating or cash flow losses or a projection or forecast that demonstrates continuing losses associated with an asset used for the purpose of producing revenue

The test is simple in concept. If a triggering event occurs, then as of that date, you need to measure all the future expected cash flows that the asset or asset group is expected to generate and add it up. The cash flow is not discounted but simply summed. If the sum of the undiscounted cash flows is greater than the carrying value (the amount recorded on the financial statements), then the asset or group is not impaired. If the sum of undiscounted cash flows is less than the carrying amount, then the asset is measured at its fair value as of the test date. The difference between the fair value and the carrying value is the amount of impairment.

There are a lot of fair value measurement requirements in financial reporting on an ongoing basis. This can help the valuation analyst obtain a recurring engagement.

## When to Test for Ongoing Impairment

The following table should provide a basic understating of when to test for an impairment.

	Frequency of Testing	Standard for Impairment Testings
Goodwill	Annually or if indicated	FASB ASC 350-20 (FASB Statement No. 142)
Intangible assets with indefinite lives	Annually or if indicated	FASB ASC 350-20 (FASB Statement No. 142)
Intangible assets subject to amortization	If indicated	FASB ASC 350-30 (FASB Statement No. 144)

If assets under each of these categories are tested for impairment on the same test date, then they are tested in reverse order from the preceding list. For example, if they fail the triggering event, intangible assets subject to amortization are tested for impairment first, then indefinite-lived assets are tested for impairment, followed by testing goodwill for impairment.

## Developing Best Practices in Valuation for Financial Reporting

One aspect of measuring fair value that valuation specialists have to understand when practicing in this area is that best practices related to fair value measurement continue to evolve within both the accounting and valuation professions. Fortunately, there are many resources currently available to help practitioners.

## Valuation Resource Group

Shortly after FASB Statement No. 157 was issued, FASB created a Valuation Resource Group (VRG) to provide advice to FASB staff about implementation issues related to fair value measurements. The VRG comprises preparers, auditors, and valuation specialists. The members of the VRG provide alternative viewpoints about implementation issues. Valuation specialists should follow the summaries of discussions of



issues considered to be of importance by the VRG so that the specialists can be aware of current best practices in applying fair value measurements. Issues discussed by the VRG can be found on FASB's website at [www.fasb.org](http://www.fasb.org).

## AICPA

The AICPA is also at the forefront of providing its members with best practices on several topics related to fair value. One such initiative is an update of the practice aid titled *Assets Acquired in a Business Combination to be Used in Research and Development Activities: A Focus on Software, Electronic Devices, and Pharmaceutical Industries*, which is sometimes referred to as the IPR&D practice aid. One useful aspect of the updated practice aid is that the methodologies included have a wide application to other types of intangible assets, not just in-progress research and development. The revised practice aid will consider the impact of FASB ASC 820 and the new revised business combinations statement in FASB ASC 805.

The AICPA has also revised the practice aid *Valuation of Privately-Held Company Stock Issued as Compensation*, taking into consideration the financial reporting impact of FASB ASC 820 on the measurement of equity issued as compensation. The updated practice aid addresses several issues related to fair value measurement of an equity interest, including consideration of marketability restrictions, controlling versus noncontrolling interests, and the treatment of debt in the measurement. One tricky issue that is addressed is the application of what is known or knowable when measuring fair value. For example, when a company undergoes an initial public offering (IPO), the filings must include three years of audited financial statements. Sometimes, the financial statements for each of the three years are prepared in anticipation of the IPO. When measuring fair value, the question the new guide considers is how the valuation specialist should consider the impact of the now more likely IPO on a discount for lack of marketability in previous reporting periods.

A third AICPA guide addresses issues in testing goodwill for impairment. The guide provides discussion about the first step of the two-step goodwill impairment test, such as identifying and assigning assets and liabilities to reporting units. The guide also discusses the impact of FASB ASC 820 on goodwill impairment testing and provides detailed examples of valuation techniques related to step one of goodwill impairment testing. The guide also discusses the qualitative factors in testing goodwill for impairment under ASU No. 2011-08.

## Working With the Client's Outside Auditing Firm

In the introduction, I mentioned that there are several unique aspects of valuations used for financial reporting. One aspect is that the measurement, particularly with intangible assets, often requires judgment. A second aspect is that the preparer of the financial statement assumes responsibility for the conclusion of the work product of the outside valuation specialist retained to assist them with the measurement. A third aspect is that the valuation specialist's work product (a report or working papers, or both) is often used as audit evidence of the reasonableness of the measurement. A fourth aspect is that the preparer's outside auditing firm may have another valuation specialist, usually from the same firm, as part of the audit team to test the reasonableness of management's fair value measurements. Each of these aspects creates what I referred to in the introduction as a *unique dynamic* in the measurement process. In other words, there are so many other people who are going to scrutinize your work that you may find yourself justifying what you did to others who have little or no knowledge about the intricacies of business valuation.

In dealing with this unique dynamic, one important suggestion is to have open and frequent communication with your client and, if at all possible, its outside auditor. This includes an initial meeting or conference call with all parties to make sure that the various roles in the engagement are understood. The specific intangible assets that are identified by management should also be addressed. The audit firm should address any issue related to the timing of the results of the engagement and the work product expected for the audit process. The valuation specialist should be prepared to discuss at least preliminarily the methods of valuation that are being considered and any important assumptions that will be used in the measurement process. The initial communication helps set expectations by each party. I cannot begin to tell you how often I have received a call that goes something like this: "I need to have an allocation of purchase price done because my auditors

are in and need it for our SEC filing next week.” After I stop laughing, I usually suggest that they find a very large firm that could put an army of appraisers on the job at a cost that will be much more than I can consider charging for my time. It is bad enough that the client expects the valuation specialist to drop what he or she is doing to take on this last-minute assignment; but the client also wants it cheap. Good luck!

## The New Mandatory Performance Framework

As a result of the SEC’s apparent dissatisfaction with the valuation for financial reporting work that it sees, several valuation organizations got together (AICPA, ASA, and RICS<sup>11</sup>) to create a Mandatory Performance Framework (MPF) that can lead valuation analysts to becoming Certified in Entity and Intangible Valuations (CEIV™). The Fair Value Quality Initiative is a collaboration among the three valuation professional organizations (VPOs) to develop a professional credential and a quality framework for valuation analysts who perform fair value measurements for financial reporting of public companies.

The MPF is a practical nonauthoritative framework that defines the level of documentation and performance that is necessary to provide supportable and auditable fair value measurements. By design, the MPF and the application sections of the MPF do not provide illustrative examples that might otherwise be interpreted as requirements for “how to” perform a valuation. Instead, the purpose of the MPF is to provide valuation professionals with guidance on “how much” documentation is required when performing fair value measurements for U.S. public company financial reporting.

CEIV™ credential holders will be required to comply with the MPF to ensure confidence in the consistency and transparency of their work for the public interest. The group started with a task force that addressed governance and operational issues relevant to developing, implementing, and maintaining an infrastructure to support the new Fair Value Quality Initiative credential. The task force’s work streams are as follows:

- Governance and coordination
- Qualifications
- Performance requirements
- Quality control

It was the task force that was charged with developing the MPF, which was designed to establish a minimum threshold to the question of “how much” for valuation professionals who obtain this credential.

The following definitions are intended to differentiate professional standards and technical standards from the performance framework for the purposes of the MPF:

- *Professional Standards.* Standards that encourage professional behavior.
- *Technical Standards:* Standards that address the “how to” of work that must be done to prepare a “professional” work product.
- *Performance Framework.* Contains requirements that cover “how much” work should be performed in order to prepare a “professional” work product.

The MPF consists of the following:

- Section 1: *Preamble.* Provides an overview of the MPF’s purpose and scope
- Section 2: *Evaluation Engagement Guidance.* Establishes parameters of the documentation requirements that CEIV™ credential holders must abide by
- Section 3: *Mandatory Performance Framework Glossary.* Sets forth definitions of terms that may be unique to the MPF
- Section 4: *Authoritative and Technical Guidance.* Includes a list of accounting, audit, and valuation standards and references to certain technical literature applicable to the guidance presented in the MPF

At the time that I was writing this edition of the text, the VPOs were getting ready to release training programs and guidance on the MPF. The examination was going to be administered in the near future. Stay tuned! For more information about this, visit the AICPA’s website.

11 RICS = Royal Institute of Chartered Surveyors. This organization has a large international presence mainly in the real estate world but is very big in international valuation standards.

## Identification of Intangible Assets for Financial Reporting

Because this chapter is intended to address valuations for financial reporting purposes, this would be a good time to discuss the identification of intangible assets. I will address valuing them in the next chapter, but this is a good time to at least get you familiar with the various groupings under financial reporting.

FASB ASC 805 lists five principal classes of intangible assets:

- Contract-based intangibles
- Marketing-related intangibles
- Customer- or supplier-related intangibles
- Technology-related intangibles
- Artistic-related intangibles

Contract-based intangible assets are established by contracts and include the following:

- Licensing, royalty, and standstill agreements
- Advertising, construction, management, service, or supply contracts
- Lease agreements
- Construction permits
- Franchise agreements
- Operating and broadcast rights
- Servicing contracts such as mortgage servicing contracts
- Employment contracts
- Use rights such as drilling, water, air, timber cutting, and route authorities<sup>12</sup>

Marketing-related intangible assets are primarily used in the marketing or promotion of a company's products or services. Some examples include the following:

- Trademarks, trade names, service marks, collective marks, and certification marks
- Trade dress (unique color, shape, or package design)
- Newspaper mastheads
- Internet domain names
- Non-competition agreements<sup>13</sup>

Customer- or supplier-related intangible assets arise from relationships with or knowledge of the company's customers or suppliers. Examples include, but are not limited to, the following:

- Advertising, construction, management, service, or supply agreements
- Licensing and royalty agreements
- Servicing contracts
- Order books
- Employment contracts
- Use rights, such as drilling, water, air, timber cutting, and airport landing slots
- Franchise agreements<sup>14</sup>
- Customer relationships
- Customer lists<sup>15</sup>

Customer-related intangible assets may include several different categories of assets. Some of these include the following:

- *Order or production backlog:*
  - Arises from contracts or specific sales orders.
  - Time, volume, price, and quality are fixed.
  - Contractual-legal basis would lead to recognition and valuation.
- *Customer contracts and related customer relationships:*
  - Time volume, price, and quality are stipulated.
  - Contractual-legal basis would lead to recognition and valuation.

12 FASB ASC 805-20-55-31 (non-exhaustive list).

13 International Valuation Standards Council (IVSC), Guidance Note (GN) 4 paragraph 3.3 and FASB ASC 805-20-55-14 (non-exhaustive list).

14 Franchise agreements are included in separate categories under IVSC and generally accepted accounting principles.

15 IVSC GN 4, paragraph 3.4, and FASB ASC 805-20-55-20 provide a similar listing.

- *Noncontractual customer relationships:*
  - Absence of legal rights to protect or control the relationship.
  - Customer relationships where there is meaningful contact generally lead to recognition and valuation (exception is walk-in retail customers).

Technology-based intangible assets protect or support technology and include the following:

- Patented technology
- Computer software and mask works
- Unpatented technology
- Databases, including title plants
- Trade secrets, such as secret formulas, processes, and recipes<sup>16</sup>

Artistic-related intangible assets are those intangible assets of an artistic nature reflecting the creativity of the creator. These can include such items as the following:

- Plays, operas, and ballets
- Books, magazines, newspapers, and other literary works
- Musical works such as compositions, song lyrics, and advertising jingles
- Pictures and photographs
- Video and audiovisual material, including motion pictures, music videos, and television programs<sup>17</sup>

## Conclusion

Valuations performed for financial reporting make up a relatively new area that often requires the use of outside valuation specialists. The process of these types of valuations is unique, and the valuation specialist should fully understand his or her role in the process. The process requires frequent and open communication with all interested parties about expectations and presentation of the results because the work product has to be auditable for reasonableness. This work has become a subspecialty within the business valuation field and may not be for everyone. If you are going to take on this type of work, you need to be fully aware of all the accounting pronouncements and unique aspects of the job.

16 FASB ASC 805-20-55-38 (non-exhaustive list) and IVSC GN 4, paragraph 3.5, provide a similar listing of technology-related intangibles.

17 FASB ASC 805-20-55-29 (non-exhaustive list) and IVSC GN 4, paragraph 3.6, provide a similar but abbreviated listing of artistic-related intangibles.

## Chapter 20

# Valuing Intangible Assets: An Overview

### Learning Objectives

In this chapter, I am going to explain some stuff about separable intangible assets and why this area is emerging as a bona fide specialty area of business valuation and financial reporting. At the conclusion of reading this chapter, the following should be clear:

- The basic types of intangible assets
- How intangible assets are used by the owners of these assets
- Some of the common valuation assignments requiring this type of analysis
- Some legal cases addressing royalty rate calculations for patent infringement cases
- Some of the background of valuing intangibles independently
- Issues of remaining useful life (RUL) and intangible life cycles
- Where to look for market information for royalty rates
- Some of the emerging concepts of fair value in financial reporting
- How an allocation assignment of separable intangible assets is distinguished from unallocated goodwill
- Personal goodwill for income tax purposes (divorce is covered in chapter 22)

You should not consider yourself to be a valuation specialist in this area simply because you've read this chapter. In the last edition of this book, I said that "a specialist requires at least two chapters (and probably more)." After you read the last chapter and this one, you have met the two-chapter requirement. If you believe that you are a specialist after reading these two chapters, get a refund for this book, and put it towards some really good therapy. Clearly, you are insane.

Intangible asset valuation for financial reporting is a dynamic and changing arena with emerging terminology and interaction between U.S. and international accounting standards. If the plan to play in the fair value for financial reporting playground, look for additional classes and specialized work experience. A number of resources for determining the fair value of intangible assets are listed in box 20.1.

This area of valuation is not for everyone. The valuation analyst really needs to know what he or she is doing. To help even more, some of the books that I have in my library include the following:

- *Valuing Intangible Assets*
- *The Handbook of Business Valuation and Intellectual Property Analysis*
- *Valuation of Intellectual Property and Intangible Assets*

#### BOX 20.1

#### Resources for Determining Fair Value for Intangible Assets

1. Several organizations offer continuing professional education classes for determining fair value for intangible assets.
  - a. The AICPA offers a two-day, in-person interactive Fair Value Measurements Workshop. See CPA2Biz.com
  - b. The AICPA offers a live course that is offered through various state societies titled "Fair Value Accounting" as well as a self-study course with the same name.
  - c. The American Society of Appraisers offers two, three-day classes, BV 301, "Valuation of Intangible Assets for Financial Reporting," and BV 302, "Special Topics in the Valuation of Intangible Assets."
2. Guidance Note 4: *The Valuation of Intangible Assets* is available as a PDF from the International Valuation Standards Council and can be downloaded at no charge from [www.ivsc.org/pubs/index.html](http://www.ivsc.org/pubs/index.html).

- *Intellectual Property: Valuation, Exploitation, and Infringement Damages*
- *Valuation for Financial Reporting*
- *Fair Value Measurements: Practical Guidance and Implementation, 2nd Edition*

See the bibliography in appendix 15 for the full details on these books.

## Introduction

*Intangible assets* (intangibles) are long-lived assets used in the production of goods and services. They lack physical properties and represent legal rights or competitive advantages (a bundle of rights) developed or acquired by an owner. In order to have value, intangible assets should generate some measurable amount of economic benefit to the owner, such as incremental revenues or earnings (pricing, volume, and better delivery, among others), cost savings (process economies and marketing cost savings), and increased market share or visibility. Owners exploit intangibles either in their own business (direct use) or through a license fee or royalty (indirect use). *The International Glossary of Business Valuation Terms* (IGBVT)<sup>1</sup> defines intangible assets as “non-physical assets such as franchises, trademarks, patents, copyrights, goodwill, equities, mineral rights, securities and contracts (as distinguished from physical assets) that grant rights and privileges, and have value for the owner.” There are other sources for definitions, as well, and if the valuation analyst is going to work in this area of practice, he or she should probably become familiar with them. Other definitions are as follows:

- International Valuation Standards Council Guidance Note (GN) 4, *Valuation of Intangible Assets*. Paragraph 3 defines an intangible asset as “a non-monetary asset that manifests itself by its economic properties. It does not have physical substance but grants rights and economic benefits to its owner or the holder of an interest.”
- International Accounting Standard 38, *Intangible Assets*. Paragraph 8 defines an intangible asset as an “identifiable non-monetary asset without physical substance.”
- FASB *Accounting Standards Codification* (ASC) Master Glossary. Intangible assets are defined as “assets (not including financial assets) that lack physical substance. (The term intangible assets is used in this statement to refer to intangible assets other than goodwill.)”
- Intellectual Property (IP) (a type of intangible asset) from the U.S. Patent and Trademark Office Glossary. IP is defined as “creations of the mind—creative works or ideas embodied in a form that can be shared or can enable others to recreate, emulate, or manufacture them. There are four ways to protect intellectual property—patent, trademark, copyright, or trade secrets.”

We also find various definitions of *goodwill*. In fact, the term *goodwill* is defined by some of these sources in ways that differ significantly. We often consider goodwill to be either all intangible assets of a business (even though we know that there are other types of intangible assets), or a residual set of undefined intangibles after all other assets (including many intangibles) have been valued. In accounting speak, this is the “plug” after everything else has been identified and valued. Definitions of goodwill include the following:

- IGBVT. “That intangible asset arising as a result of name, reputation, customer loyalty, location, products, and similar factors not separately identified.”
- IRS *Glossary to Publication 551*. “The value of a trade or business based on expected continued customer patronage due to its name, reputation, or any other factor.”
- FASB *Master Glossary*. This resource distinguishes goodwill from other intangible assets. FASB Master Glossary defines goodwill as “an asset representing the future economic benefits arising from other acquired assets in a business combination or an acquisition by a not-for-profit entity that are not individually identified and separately recognized.”

For financial reporting, the definition of *intangible assets* is simply, “assets (not including financial assets) that lack physical substance, other than goodwill.” This definition excludes *goodwill*, which is separately defined. Financial goodwill also includes any other intangible assets that do not meet the recognition criteria in the financial reporting standards.

Let’s discuss goodwill a little bit more. As valuation analysts, we are concerned with the determination of goodwill value. It is not enough to just say that the business has goodwill because a business can have

<sup>1</sup> Available at [www.aicpa.org/interestareas/forensicandvaluation/membership/downloadabledocuments/intl%20glossary%20of%20bv%20terms.pdf](http://www.aicpa.org/interestareas/forensicandvaluation/membership/downloadabledocuments/intl%20glossary%20of%20bv%20terms.pdf) or see appendix 2\_\_\_ of this book.

goodwill and not have goodwill value. Let me give you an example. Suppose I own a hardware store. I run an advertisement that says for every customer who comes in this Tuesday, I will give them a \$5 bill with no purchase necessary. Based on the traditional concept of goodwill, which is the expectation of repeat patronage, I will probably generate a lot of goodwill because customers will keep coming into my hardware store to pick up a \$5 bill. If they do not buy anything, how much value will there be to the goodwill that I generate? In fact, how soon before I go bankrupt?

Now, let me give you an illustration with numbers. The application of the different definitions of goodwill under normal business valuation practices and financial reporting is illustrated in exhibit 20.1.

### EXHIBIT 20.1 Comparative Balance Sheets Differing Definitions of Goodwill

	Under IGBVT Definition	Under Financial Reporting Definition
Current Assets	\$20,000,000	\$20,000,000
Net PP&E	\$15,000,000	\$15,000,000
Intangible Assets		
Favorable Contract (Lease)	\$ 2,000,000	\$ 2,000,000
Customer Relationships	N/A	17,000,000
Developed Technology	N/A	7,000,000
Trade Name	N/A	6,000,000
Goodwill	50,000,000	20,000,000
Total Intangible Assets	\$52,000,000	\$52,000,000
Other Assets	—	—
Total Assets	\$87,000,000	\$87,000,000
Current Liabilities	\$ 9,000,000	\$ 9,000,000
Long-Term Debt	23,000,000	23,000,000
Total Liabilities	\$32,000,000	\$32,000,000
Shareholders' Equity	55,000,000	55,000,000
Total Assets and Current Liabilities	\$87,000,000	\$87,000,000

**Notes:**

For financial reporting balance sheet, goodwill is a residual amount after all recognizable intangible assets have been valued. For traditional goodwill balance sheet, the value of all traditional intangibles is grouped together. Favorable contract essentially represents a "non-operating" asset and has been reported separately in both balance sheets.

Increasingly, intangibles—ranging from IP (discussed in the following section) and brands to licenses and research and development pipelines—dwarf the tangible book assets of all sorts of companies in all sorts of industries. It is not unusual to see operating companies bought and sold that are in the primary business of

owning and managing intangibles, particularly IP. Most of the value in service companies that are “tangible asset light” comprises intangible value.

Apart from tangible assets that have *financial substance* (things like cash, accounts receivable, or prepaid expenses) or *physical substance* (fixed assets, such as equipment), intangible assets have several characteristics that are described in box 20.2.

Of these characteristics, the two most commonly seen factors of intangibles are that they are *identifiable* and *transferable*. Ask yourself if the subject asset will meet the SLERT (sold, licensed, exchanged, rented, or transferred) factors that we discussed in chapter 19.

**BOX 20.2****Intangible Asset Characteristics**

- *Identifiability.* Intangible assets can be specifically identified with reasonably descriptive names and have some evidence or manifestation of existence, such as a written contract, license, diskette, procedural documentation, or customer list, among others. The intangible assets should have been created at an identifiable time (or event) and be subject to termination at an identified time (or event).
- *Manner of acquisition.* Intangible assets can be purchased or developed internally.
- *Determinate or indeterminate life.* A determinate life will usually be established by law or contract or by economic behavior and should have come into existence at an identifiable time as the result of an identifiable event.
- *Transferability.* Intangible assets may be bought, sold, licensed, or rented and are subject to the rights of private ownership, ensuring a legal basis for transfer.

If at least one of the SLERT criteria can be met by an asset lacking substance, chances are that you are dealing with an intangible asset that can be distinguished from overall goodwill, particularly if the rights to this asset can be separated legally. For financial reporting, the asset will be allocated apart from goodwill if it has legal or contractual standing, regardless of the ability to separate the asset. The types of assets that are commonly seen in a business enterprise are shown in box 20.3. They were listed at the end of chapter 19, but I figured that it would not hurt to see them again.

**BOX 20.3****Common Assets Within a Business Enterprise**

Tangible assets within a business enterprise include the following:

- Financial assets (cash, accounts receivable, prepaid expenses, or sometimes net working capital [current assets less current liabilities])
- Plant, property, and equipment
- Other generally accepted accounting principles defined assets

Intangible assets within a business enterprise include the following:

- Recorded and separable
  - Marketing-related
    - Trademarks
    - Trade names
    - Brand names
    - Logos or marks
    - Internet domain names
    - Newspaper mastheads
    - Trade dress
  - Technology-related
    - Proprietary computer software products (external market)
    - Operating or application software, or both (internal use)
    - Software copyrights
    - Automated databases (including title plants)
    - Integrated circuit masks and masters (mass works)
    - Industrial designs, formulas, processes, and recipes
    - Product patents and applications
    - Process patents and applications
    - Trade secrets
    - Engineering drawings and technical documentation
    - Blueprints or proprietary documentation
    - In-process research and development

(Box continued)



**BOX 20.3****Common Assets Within a Business Enterprise** *(continued)*

- o Customer-Related
  - Customer lists (prior customers, existing customers, and customer leads)
  - Customer contracts
  - Customer relationships (short term or long term)
  - Order or production backlogs
  - Favorable supplier contracts
- o Contract or Location Related
  - Supplier contracts (unfavorable supplier contracts may be a liability)
  - License and franchise agreements
  - Operating and broadcast rights
  - Non-compete agreements (employment contracts) Leasehold interests
  - Mineral exploitation rights
  - Easement rights
  - Air and water rights
- o Artistic-Related
  - Literary works and copyrights
  - Musical compositions
  - Copyrights
  - Maps, pictures, and photographs
  - Engravings
  - Video and audiovisual materials (including marketing materials)
  - Name, likeness, and voice (which can be licensed—consider the new “I Dream of Jeannie” slot machines)
- Unallocated and Not Separable (Overall Goodwill)
  - o Human-capital-related (collection of experience, skill, and education for future performance)
    - Trained and assembled workforce
    - Customer service capability
    - Labor relations, including union contracts or nonunion status
    - Ongoing training or recruiting programs
  - o Strategic- or enterprise-related
    - Intellectual capital
    - Organizational infrastructure
    - Network synergies
    - Growth opportunities
    - Unidentifiable walk-in customers
    - Presence in geographic markets or locations
    - Credit ratings and access to capital markets
    - Favorable governmental relations

## What Is Intellectual Property?

IP is a subset of intangible assets created by human intellect or inspiration. Intangible assets that receive legal protection become IP patents, trademarks, trade secrets, and copyrights, among other things, and fall into this category. Some economic phenomena do not qualify as IP, such as high market share, profitability, monopoly position, and market potential. A specialized subset of law has developed around IP that is transferred between owners or is the subject of a lawsuit for misuse. Four legal sources give rise to this field:

1. *Patents* (U.S. Code Title 35). A patent is a document that describes an invention that can be developed, used, and sold with the authorization of the owner. A patent is an agreement between the inventor and a country with exclusionary rights (usually 15–20 years) defined by the claims, divulged to prevent others from making, using, importing, or selling, or some combination of these, whatever it is that is included in the claims. This does not give rights to do anything, just *negative* rights to exclude others from doing those things claimed. In the total absence of any other subject patents that would otherwise block the original patent holder, patents to enter the product into a commercial endeavor would not block the patent holder. Patents have to be new (which includes original). Only the inventor is allowed to get a patent.

2. *Trademarks or brands* (U.S. Code Title 15). Trademarks are distinctive names, symbols, sounds, colors, mottos, or emblems that identify and distinguish a product or firm from others to indicate the source of the goods or services. Unlike patents, trademarks can be renewed forever as long as they are being used in commerce.

Trademarks include such items as the following:

- a. Trade dress, design, or image of products.
- b. Trade names.
- c. Service marks (service firms).
- d. Collective marks (manufacturers and others not providing services).
- e. Certification marks (Professional Engineer (PE), Certified Business Adviser (CBA), “union made”).

Trademarks have a 10-year registration with the U.S. Patent Office.



#### Author's Note

According to the United States Patent and Trademark Office, “registrations granted prior to November 16, 1989 have a 20- year term, and registrations granted on or after November 16, 1989, have a 10-year term.” You can search for characteristics of intangible assets at [www.uspto.gov/main/faq/](http://www.uspto.gov/main/faq/).

3. *Trade secrets* (Uniform Trade Secrets Act, although governed by state laws). Trade secrets are things that get value from being kept secret and are subject to reasonable efforts to being kept secret. A trade secret may be information, a formula, a pattern, a method, a process or a technique that (1) derives actual or potential independent economic value from not being generally known or readily ascertainable by other persons who can obtain economic value from its disclosure or use, and (2) is the subject of reasonable efforts to maintain its secrecy. Examples include customer lists, research and development, recipes and food formulas, patterns, or anything that gains value from being kept secret (proprietary) and lasts forever as long as it keeps its utility and is kept secret.
4. *Copyrights* (U.S. Code Title 17; 1976 Copyright Act). A copyright is a form of protection to the authors of expressive ideas such as literary, dramatic, musical, artistic, and certain intellectual work, both published and unpublished. Copyrights have to be original. Registered copyrights are enforceable. Unregistered copyrights are enforceable only upon registration. Statutory damages (up to \$70,000) are only possible for registered copyrights. It is hard to prove—unless it's a direct copy—economic damages beyond the statutory damage level, and Internet stuff may be particularly hard to prove. Copyrights for works created on or after January 1, 1978, protect the work from the moment of creation until 70 years after the author's death. Works for hire and anonymous and pseudonymous works have copyright protection that lasts for 95 years from the date of publication or 120 years from the date of creation, whichever is shorter.

## Conducting a Valuation of Intangible Assets

Valuation assignments must estimate the value of intangibles, recognizing the volatility, ongoing creation, and problems with protection and enforcement. Business valuation analysts have been independently valuing intangible assets for many years, usually in the context of an exchange between owners (transaction), for estate and gift tax purposes, or as part of a litigation assignment. Knowledge underlies the creation of value. Some of the questions that need to be answered include the following:

- What would a willing buyer pay to employ the intangible asset?
- What is the useful life of this asset?
- What portion of the operating income does this asset generate?

New financial reporting concepts require measurement of these separable intangible assets from the overall goodwill in a purchase price allocation, attributable to an acquisition (price paid over tangible assets and assumed tangible liabilities), and periodic testing of unallocated residual goodwill for impairment. I discussed this in the last chapter. I've included some of the most common types of assignments in box 20.4.

**BOX 20.4** Common Intangible Assignments

In financial reporting, intangible assets are valued on a control basis, and the total value of the intangible is estimated rather than the equity in the intangible. In other assignments, some proportion or fractional interest of the rights or total ownership in equity may be the subject being valued.

- Financial reporting (goodwill allocation, goodwill impairment, and intangible asset impairment)
  - Purchase price allocation goodwill impairment
  - Accounting for impairment or disposal of long-lived assets
- Taxation (Federal, state, and local)
  - Charitable contribution
  - Gift or estate
  - Compensation paid (intellectual property)
  - Basis of transferred assets in partnership
- Transaction, merger, contribution to joint venture, acquisition, and fairness opinion
- Financing, loan collateral, or securitization
- Litigation (infringement damage, contract breach, marital dissolution, anticompetitive behavior, and attorney malpractice)
- Transfer pricing (IRC Section 482 studies—related intercompany parties in different tax jurisdictions)
- Licensing and royalty rate decisions
- Bankruptcy and reorganization analysis

Is an intangible asset valuation assignment different from a more standard, or traditional, business valuation assignment? Well, *yes* and *no*. I just want you to know that I am being very decisive here. Although it is true that one particular valuation method might be precisely wrong for a particular intangible asset, there are usually several valuation methods that would be approximately right, and although arguments exist for the use of each of these methods, there may be no clear winner. Doesn't that make you feel better?

In undertaking the intangibles assignment, there are common planning elements for all valuation assignments, such as the following:

- Purpose and objective of the analysis
- Defining the subject intangible asset
- Understanding the legal rights subject to analysis
- Date of value
- Highest and best use considerations
- Report writing—telling a story; analysis should be replicable<sup>2</sup>

Data collection, however, will probably be different in the intangibles assignment. We need to consider the following:

- History and development of the intangible asset
- Owner or operator, or both
- Licensee or licensor, or both
- Industry operations and pricing data
- Competitive environment
- Commercial comparative intangible assets, cost, and treatment

With regard to the approaches and methods to be used in these types of assignments, the same ones that I discussed in chapters 9–12 will be used here also. The minor exception is that the asset-based approach will be referred to as the *cost approach*. There will be a few minor twists in the application of these approaches, but they are similar. As in all valuations, all three approaches should be considered. Here are a few ideas on methodologies and the inherent struggles in using each one.

<sup>2</sup> Robert Reilly, "Effective Intangible Asset Valuation Reports." *Business Appraisal Practice* (Spring 2007).

## Market Approach

Observable (one might say “findable”) market-based transactions of identical or substantially similar intangible assets recently exchanged in an arm’s length transaction are often difficult to obtain. Publicly traded data usually represents a market capitalization of the enterprise, not single intangible assets. Market data from market participants is often used in income-based models, such as determining reasonable royalty rates and discount rates. Direct market evidence is usually available in the valuation of Internet domain names, carbon emission rights, and Federal Communications Committee licenses (for radio stations, for example). Consider the following:

1. Search for sale and license transactional data
2. Issue of comparability and timing
3. Selecting and adjusting price multiples
4. Selecting and adjusting royalty rates

## Income Approach

Income-based models are best used when the intangible asset is income-producing or when it allows an asset to generate cash flow. Just as in other valuation assignments, an income approach technique converts future benefits (such as cash flows or earnings) to a single, discounted amount, usually as a result of increased revenues or cost savings. We have the traditional two choices of either *capitalizing* a single period of benefits or *discounting* a future stream of benefits. One of the primary difficulties within an income approach method is distinguishing the cash flows uniquely related to the intangible asset from the cash flows related to the entire company. Income models examine a discount rate from either (1) a weighted average cost of capital (WACC, or the right side of the balance sheet reflecting debt plus equity), (2) a weighted average return on assets (WARA, or the left side of the balance sheet), or (3) an internal rate of return to the investor. Among the most common income-based methods is the *relief from royalty method*, in which one directly estimates cost savings (or income enhancement) from using an intangible such as a trademark or patent. Under the relief from royalty method, value is based on the avoided third party license payment for the right to employ the asset to earn benefits. A multiperiod excess earnings model begins with an estimate of total income reduced by contributions from all other tangible and intangible assets, yielding residual income (or excess) that is then discounted to present value. Income-based methods are usually employed to value customer-related intangibles, trade names, and covenants not to compete. Consider the following with regard to the income approach:

- Separation of revenue streams and related expenses
- The expected useful life of the intangible asset
- Alternative measures of income
- Operating earnings of the intangible asset
- Royalty rate income that might be earned by the intangible asset
- Direct capitalization methods
- Residual value considerations
- Discount rate selection
- Alternative valuation methods, including real options techniques and Monte Carlo models
- Tax amortization benefit (more controversial)

## Cost Approach

Cost-based analyses are based on the economic principle of substitution and usually ignore the amount, timing, and duration of future economic benefits, as well as the risk of performance within a competitive environment. *Historical cost* only includes the actual costs that had been incurred to develop the asset. *Reproduction cost new* implies the current cost of an *identical* new property. *Replacement cost new* implies the current cost of a *similar* new property having the nearest *equivalent utility* to the property being valued. In most cases, replacement cost new is the most direct and meaningful cost-based means of estimating the value of an asset. Once replacement cost new is estimated, various forms of obsolescence must be considered, such as functional, technological, and economic. Physical deterioration is common for tangible assets, but not for intangibles, although overuse or deterioration of tangible assets could affect the values of specific intangibles and the business enterprise. You might reflect upon the following formula:

**Reproduction Cost New**

Less	Curable functional and technological obsolescence
Equals	Replacement cost new
Less	Incurable functional and technological obsolescence
Less	External economic obsolescence
Less	Physical deterioration
Equals	Pretax value of the intangible asset (absent any amortization benefit)

Cost-based models are best used for valuing an assembled workforce, engineering drawings or designs, and internally developed software in which no direct cash flow is generated. Consider the following:

- Hard and soft costs are included.
- Cost measurements.
- Reproduction cost new (exact duplicate).
- Replacement cost new (equal utility).
- Measuring functional and economic obsolescence.
- Replacement cost new less depreciation.

Although different valuation analysts may approach the valuation assignment differently, how you might consider approaching the valuation of certain types of intangibles is included in table 20.1.

**TABLE 20.1 Intangible Valuation Approach Summary**

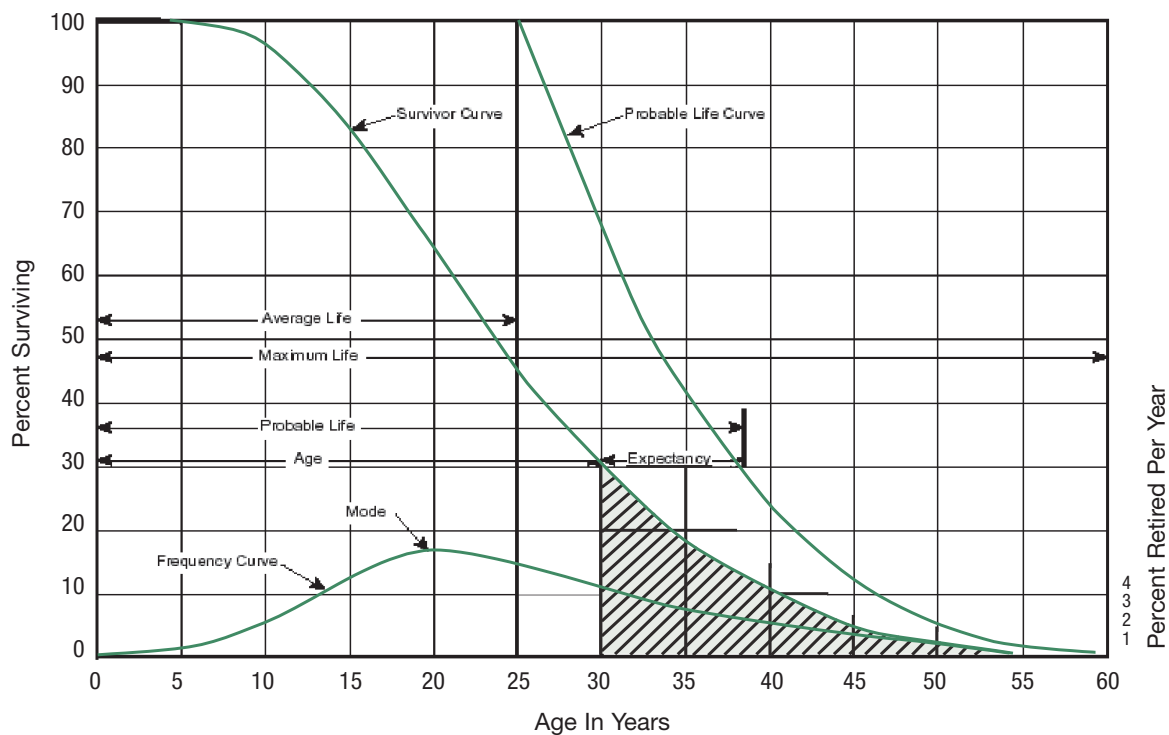
ASSET	PRIMARY	SECONDARY	TERTIARY
Patents	Income	Market	Cost
Technology	Income	Market	Cost
Copyrights	Income	Market	Cost
Assembled workforce	Cost	Income	Market
Internally developed software	Cost	Market	Income
Brand names	Income	Market	Cost
Customer relations	Income	Cost	Market

**What Is a RUL Analysis?**

Every separable intangible asset carries the concept of *utility*, or effective use, over a time horizon. Like fixed assets, intangibles wear out, too. Market forces, obsolescence, replacements, and operational enhancements eat away at the value of existing intangibles. Legal, regulatory, or contractual provisions may limit the asset's useful life. This concept relates to asset attrition (a decay or retirement pattern) similar to mortality tables that are used in insurance. Separable intangible assets require estimates of their RULs, which, technically, are management's responsibility, although valuation analysts should understand the mechanics and assist management in developing an estimate of the economic life of the asset. In other words, the amortization of the asset's value for financial reporting purposes is an accounting estimate and not a valuation estimate. The value of a non-compete agreement, for example, may be reflected over the life of the agreement (for example, three years). At the end of the third year, the agreement has no basis or distinguishable competitive advantage, so the value following the expiration of the agreement would be zero. The same type of argument is sometimes made for separately identifiable supplier agreements. Yet, the asset carries one additional advantage—the opportunity for the existing business to attempt to extend the agreement, perhaps under new terms.

I hate to do this, but a valuation analyst working in this area should be familiar with the term *Iowa curves*. This original analysis was developed in the 1930s by academics studying characteristics of industrial properties.<sup>3</sup> These professors studied the attrition of units of property and placed them into curves representing expected trends with convergence to zero survivors at some future point. As a result, the range of survivor characteristics usually experienced by utility and industrial properties was encompassed by a system of generalized survivor curves known as the Iowa curves. As seen in figure 20.1, the key lines represent the percentage of survivors (Y-axis) with aging over time (X-axis). At time zero, 100 percent of the asset utility (survivors) exists, with the most probable life curve at 30 years. As time advances, however, the asset decays, offering smaller and smaller utility to the owner.

**Figure 20.1 A Typical Survivor Curve and Derived Curves**



Other theoreticians have pointed out the importance of survival analysis for valuation assignments.<sup>4</sup> In case this stuff is not bad enough, the valuation analyst may be confronted with the term *Weibull distributions*. Similar to the Iowa curves analysis, in 1951, Professor Waladdi Weibull developed statistical methods that were used to estimate the RUL of many industrial items, such as ball bearings, vacuum tubes, and electrical insulation. In addition, a survival curve can be estimated based on turnover information. The first question that the analyst should have already raised is what would motivate someone to do this stuff? Clearly, the guy did not have much of a life. It is almost as bad as people who write books. The statistical methods and processes for performing a lifeing analysis can fill a whole book and are beyond the scope of this chapter. Thank goodness!

## What Is a Reasonable Royalty Rate and Where Do I Get This Stuff?

A number of methods used in valuing intangibles require the use of reasonable (or comparable) royalty rates to judge the discounted value of costs saved, as if the intangible asset (such as a patent) was licensed for use through a royalty requirement. Usually royalty rates are stated as a percentage of sales or payment to the licensor per product divided by the product sales price. Factors affecting selection of appropriate royalty rates include the following:

<sup>3</sup> Robley Winfrey, "Statistical Analysis of Industrial Property Retirements," Iowa State College, Engineering Experiment Station, Bulletin 125, 1936.

<sup>4</sup> M. P. Dandekar, "Estimate of Remaining Useful Life," *Valuation* (June 1996).

- Profitability
- Investment necessary
- Life or obsolescence, or both
- Government restrictions
- Terms (such as infringement penalties, geographic limits, time limits, and exclusivity)

I am about to mention some court cases, but as a reminder, the valuation analyst should always, and I mean always, check with the attorney about any cases that he or she is going to follow. There may be newer cases or the jurisdiction that you are working in may not follow these cases, so do yourself a favor and ask the attorney before you possibly commit a fatal error.

One key court case you should be familiar with is *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*, 575 F.2d 1152 (6th Cir. 1978). This was a patent infringement case that outlined good reasoning to either calculate lost profits directly or estimate damages based on a royalty rate model. In order for a patent holder to receive damages in the form of lost profits, four questions must be answered:

1. Is there a demand for the patented products?
2. Are available non-infringing substitute products not available (for example, in a two-supplier market, the customer must purchase either the patent holder's product or the infringing product)?
3. Did the patent owner have manufacturing and marketing capabilities to exploit the demand?
4. Can the lost profits be quantified?

If the answer is "yes" to all of these questions, lost profits may be calculated directly. If any of the questions results in a "no" answer, reasonable royalty rates should be used to quantify the value of infringement.

A second court case is *Georgia Pacific v. U.S. Plywood*, 318 F. Supp 1116, 6 USPQ 235 (SD NY 1970) concerning a hypothetical royalty rate for patent infringement. The legal reasoning in this case listed 15 factors that should be considered in estimating damages from alleged misuse. When actual damages in the form of lost profits cannot be proven, the patent owner is entitled to receive a reasonable royalty as payment for infringement by the defendant. Conceptually, a *reasonable royalty* is an amount that a person, desiring to manufacture and sell a patented article, as a business proposition, would be willing to pay as a royalty and yet be able to make and sell the patented article, in the market, at a reasonable profit.

The setting of a royalty rate after infringement, however, undermines the assumption of ordinary arm's length negotiations between a truly willing patent owner and a potential licensee. If the setting of a reasonable royalty after the fact did not take into account the distressed nature presented by forced litigation, it would make an election to infringe a handy means for competitors to impose a compulsory license upon every patent owner. In fact, except for the limited risk that the patent owner might meet the heavy burden of proving the four elements required for recovery of lost profits (see the preceding *Panduit* case), the infringer would have nothing to lose and everything to gain if he could count on paying only the normal, routine royalty noninfringers might have paid.

The 15 factors shown in box 20.5 have become known as the *Georgia-Pacific factors*. They were first set out in *Georgia-Pacific Corp. v. U.S. Plywood Corp.* by Judge Tenney of the District Court for the Southern District of New York. Although it is rare for the U.S. Court of Appeals to defer to any court, let alone a district court, time and time again, the Federal Circuit has endorsed these factors as the appropriate factors to consider in making a determination regarding the appropriateness of any award of reasonable royalties.

**BOX 20.5****Georgia-Pacific 15 Factors in Determining Reasonable Royalty Rates**

The amount of a reasonable royalty after infringement turns on the facts of each case, as best as they may be determined. Among the relevant facts cited in the case *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, are the following:

1. The royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty
2. The rates paid by the licensee for the use of other patents comparable to the patent in suit
3. The nature and scope of the license, as exclusive or nonexclusive, or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold
4. The licensor's established policy and marketing program to maintain his patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly
5. The commercial relationship between the licensor and licensee, such as whether they are competitors in the same territory, in the same line of business, or whether they are inventor and promoter
6. The effect of selling the patented specialty in promoting sales of other products of the licensee, the existing value of the invention to the licensor as a generator of sales of his non-patented items, and the extent of such derivative or conveyed sales
7. The duration of the patent and the term of the license
8. The established profitability of the product made under the patent, its commercial success, and its current popularity
9. The utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results
10. The nature of the patented invention, the character of the commercial embodiment of it as owned and produced by the licensor, and the benefits to those who have used the invention
11. The extent to which the infringer has made use of the invention and any evidence probative of the value of that use
12. The portion of the profit or the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions
13. The portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer
14. The opinion testimony of qualified experts
15. The amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying to reach an agreement, that is, the amount that a prudent licensee—who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention—would have been willing to pay as a royalty and yet be able to make a reasonable profit, and that amount would have been acceptable by a prudent patentee who was willing to grant a license

Even though royalty rates are frequently used in calculating economic damages, the selection of reasonable royalty rates is also necessary for “relief from royalty” calculations to estimate value in a discounted cash flow analysis. This type of analysis is a blend of the market and income approaches. This evidence is scattered throughout SEC submissions, newspaper articles, and other company information and is especially difficult to gather for a one-time use. Most valuation analysts inquire of one or more databases available via the Internet (with a credit card) that have been compiled for IP experts. Cost can vary according to the number of transactions selected and the amount of information available, from less costly (\$) to more costly (\$\$\$):

- Royalty Source ([www.royaltysource.com](http://www.royaltysource.com)) (\$)
- Licensing Economic Review (Smith & Parr) ([www.ausinc.com](http://www.ausinc.com)) (\$\$)
- Intellectual Property Research Associates ([www.ipresearch.com](http://www.ipresearch.com)) (\$\$)
- Consor Intellectual Asset Management ([www.consor.com](http://www.consor.com)) (\$\$\$)
- ktMINE (available through BV Resources at [www.bvresources.com](http://www.bvresources.com)) (\$\$\$\$)

Selections among the various royalty rate transactions require judgment in order to match the selection to the subject intangible. Most initial scans from the previously mentioned databases will result in dozens of transactions, and some selection winnowing must take place. An example of a winnowed peer group list is noted in table 20.2, showing 13 sample royalty rate transactions for a trademark valuation.



**TABLE 20.2 Trademark—Relief from Royalty Calculations**

Date of Value, December 31, 2007 Detailed Royalty Rate Data—Trademark/Business Services (Selection based on business services, consumer orientation, and name recognition)									
Licensee	Licensor	Upfront Fee	Royalty Rate % (Low Range)	Royalty Rate % (High Range)	Basis	Annual Minimum Fee	Licensed Property	Notes	
<b>Trademark: Business Services</b>									
1 CHC International, Inc.	Carnival Corp.	\$ —	1.00%	1.00%	sales	\$ 100,000	Use of “Carnival” trademark in hotels and casinos.	1997 agreement allows for minimum \$100,000 annual payment; 20-year term.	
2 Uffman & Associates, Inc.	Credit Bureau of Baton Rouge	\$ —	5.00%	5.00%	sales	\$ —	Use of name.	1997 transaction.	
3 Various advertising agencies	AdsOnly Group, Inc.	\$ 19,500	5.00%	5.00%	sales	\$ —	Planned advertising franchisees. Licensor plans to assist in location, operations, legal and accounting work, and training.	Additional 1.5% is charged for continuing national advertising costs. agencies The \$19,500 typically covers training manuals and additional materials.	
4 Various advertising agencies	Resourcenet	\$ 50,000	5.00%	5.00%	sales	\$ —	Support services for creative service companies.	The \$50,000 typically covers materials and additional set-up expenses. Franchisees also pay an initial audit fee of \$10,000 and \$7,500 for initial training.	
5 Various services agencies, computer integrated systems design	USWeb Corp.	\$ —	5.00%	5.00%	sales	\$ —	Non-exclusive right to maintain an office and advertise in designated territory. Fee includes rights to use intellectual property, proprietary information, and development methodologies.	Licensees pay royalties equal to the greater of a minimum monthly fee or 5% royalty plus 2% promotion payment (expenses) based on adjusted gross revenues.	

*(Table continued)*

**TABLE 20.2 Trademark—Relief from Royalty Calculations** (continued)

Date of Value, December 31, 2007 Detailed Royalty Rate Data—Trademark/Business Services (Selection based on business services, consumer orientation, and name recognition)									
Licensee	Licensor	Upfront Fee	Royalty Rate % (Low Range)	Royalty Rate % (High Range)	Basis	Annual Minimum Fee	Licensed Property	Notes	
<b>Trademark: Business Services</b>									
6 Various advertising agencies	Adventures in Advertising Franchise, Inc.	\$ 27,500	4.00%	4.00%	sales	\$ —	Imprinted promotional products to be used in trade shows, product introductions, safety programs, and various awards. Licensed property includes customer-designed computer software program and total market support.	Initial franchise fee of \$27,500 may include sample products and training.	
7 Various accounting, auditing, and bookkeeping services	E.K. Williams	\$ 35,000	2.00%	8.00%	sales	\$ —	Accounting franchises, including support materials.	Royalty will vary on a sliding scale based on volume and longevity. Royalty percentages drop as gross revenue increases and as practice ages.	
8 (affiliate)	Minnegasco	\$ —	1.00%	1.00%	sales	\$ —	Use of utility's name and reputation.	Utility regulators ordered gas utility to pay its customers the royalty fee; 1996 order by the Minnesota Public Utilities Commission.	
9 Sodexho Marriott Services, Inc.	Sodexho Alliance, S.A.	\$ —	0.05%	0.05%	sales	\$ —	Use of name "Sodexho" in connection with food services.	1998 transaction through 2001; extended at same rate thereafter.	
10 SUSA Partnership LP (Storage USA, Inc. is a general partner)	Storage Development Portfolio, LLC	\$ —	5.00%	5.00%	sales	\$ —	Use of trade name "Storage USA" for self-storage facilities.	1999 agreement.	

**TABLE 20.2 Trademark—Relief from Royalty Calculations**

Date of Value, December 31, 2007									
Detailed Royalty Rate Data—Trademark/Business Services									
(Selection based on business services, consumer orientation, and name recognition)									
Licensee	Licensor	Upfront Fee	Royalty Rate % (Low Range)	Royalty Rate % (High Range)	Basis	Annual Minimum Fee	Licensed Property	Notes	
<b>Trademark: Business Services</b>									
11 (affiliate)	Washington Natural GasCompany	\$ —	1.50%	1.50%	sales	\$ 150,000	Use of parent company's name, reputation, and public image.	1994 order of the Washington Utilities and Transportation Commission.	
12 Vitaminshoppe. Com, Inc. (retail stores)	The Vitamin Shoppe (catalog and mail-order house)	\$ —	1.00%	5.00%	sales	\$ 1,000,000	Exclusive use of name, logo, and marks for online sales.	2000 agreements between affiliated entities; 5% royalty for sales up to \$25 million; declining royalties to 1% for sales over \$100 million.	
13 ftd.com, Inc. (affiliate) Delivery, Inc.	Florist Transworld (subsidiary of FTD Corporation)	\$ —	1.00%	1.00%	sales, net of discounts	\$ —	Nonexclusive right to use parent company's trademarks in sales through Internet.	1999 agreement; 99-year term.	
<b>Analysis of Data:</b>									
	Low		0.05%	0.05%					
	Mean		2.81%	3.58%					
	Median		2.00%	5.00%					
	High		5.00%	8.00%					
	Standard Deviation		0.0201	0.0239					
	Coefficient of Variation		0.7153	0.6676					

Although some of these transactions include upfront fees or minimum annual fees, the analyst must sift through all of this and choose a reasonable rate from the data to apply in a discounted cash flow model.

Let me put in a plug for a really good product that I mentioned previously, ktMINE. This product is not cheap (\$495 for a one-day pass—even Disneyworld is cheaper!), but it is easy to use (even I was able to use it when I had the opportunity to do so). As I was writing this section, this database had over 16,000 license agreements with nonredacted royalty rates and over 60,000 royalty rate agreements that were searchable. New agreements are being added regularly. ktMINE offers one-day database access, with unlimited searches, for one price, as compared to paying the hefty annual subscription price. The valuation analyst can always pass along the cost to his or her client. The idea is to download everything that might be needed within the day that the valuation analyst subscribes and then do the analysis afterwards. This way it is only a single charge for the day.

What I really like about this database is that the valuation analyst has control of the search, with direct access to royalty rates, license agreements, statistical analyses, and related information. The royalty rate data comes from the licensing agreements only, and analysts have full access to those agreements. This provides the valuation analyst with a full set of working papers to support the analysis. The analyst also has the ability to refine the searches and save search and agreement sets for future use. I really like this product because it allows me to do the research, as opposed to having to depend on someone else who is not working under my supervision.

Once the reasonable royalty rate is selected (let's say 3 percent, based on the analyst's judgment of the peer group evidence), it is applied to sale projections (let's say the royalty is based on revenues) to arrive at the pretax-affected discounted royalties "avoided" or "saved."

In table 20.3 on the following page, a simple model is shown using a tax rate of 40 percent and a discount rate of 18 percent with a mid-year convention. We will assume 100 percent usage of the trade name, although some adjustments for unbranded products, maintenance expense, and future probability of continued use might also be included. Summing the present values for the discrete periods and adding a terminal value provides a combined cash flow savings of \$1,163,764. An amortization benefit is added (I will explain this in a little while) to suggest a fair value of the trade name of \$1,365,000. Because the royalty rate is derived from market evidence and used in an income-based discounted future earnings projection, most valuation professionals consider the relief from royalty method to be a hybrid methodology of market and income approaches.

## What Is an Amortization Benefit?

FASB ASC 805 and FASB ASC 740 requires the recognition of a *deferred tax liability* in the opening balance sheet for identified intangibles that have no tax basis or other assets with a greater book basis than tax basis. Except for *goodwill* and *going concern value*, these are usually class VI assets as described in IRC Section 197. A detailed discussion about the tax amortization benefit is beyond the scope of this book. However, it is something that the valuation analyst needs to know about. For reference, the common formula for the tax amortization benefit is as follows:

$$PVCF * (n/n - ((PV(k, n, -1) * (1-k)^{0.5 * t}) - 1))$$

where,

- PVCF = Present value of cash flows from the asset
- $n$  = 15 years (or finite amortization period)
- $k$  = Discount rate
- $t$  = Tax rate
- $PV(k, n, -1) * (1-k)^{0.5}$  = Present value of a \$1 annuity over 15 years, at the given discount rate (which assumes mid-period receipt of benefit)

Cool formula, huh? The tax amortization benefit should only be included for assets in which the benefit is appropriate and the asset is subject to taxation. Assets in foreign countries should reflect conditions of the local tax code.

**TABLE 20.3 Trademark—Relief of Royalties Calculations**

For the 12-month periods in the future:						
	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal Year
Sales	\$6,000,000	\$8,000,000	\$10,000,000	\$10,500,000	\$10,815,000	\$11,139,450
Sales growth rate in model		33.33%	25.00%	5.00%	3.00%	
Proportion of trade name revenues	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Total revenue	\$6,000,000	\$8,000,000	\$10,000,000	\$10,500,000	\$10,815,000	\$11,139,450
Royalty (3%)	180,000	240,000	300,000	315,000	324,450	334,184
Total royalties	\$ 180,000	\$ 240,000	\$ 300,000	\$ 315,000	\$ 324,450	\$ 334,184
Tax effected royalty savings	40.0%					
Periods (mid-year convention)	0.5	1.5	2.5	3.5	4.5	4.5
Present value factor (WACC)	0.9206	0.7801	0.6611	0.5603	0.4748	1,336,733
Present value of royalty savings	\$ 99,425	\$ 112,334	\$ 118,998	\$ 105,897	\$ 92,429	\$ 0.4748
Terminal year value						\$ 634,681
Sum of present values						\$ 529,083
Terminal year value						634,681
Combined value of cash flows						\$ 1,163,764
<b>Amortization benefit</b>						
Discount rate						18.0%
Tax rate						40.0%
Tax amortization period						15
Present value of annuity over period						5.53087
Amortization benefit						201,339
Fair value of trade name						\$ 1,365,103
Rounded						\$ 1,365,000

**Author's Note**

The amortization benefit factor is  $201,346 / 1,163,808 = .1730062$ , or 17.3%.

## How About Some More Examples

Because I know this stuff is as exciting as it can possibly be, let's throw in a few more examples. Here are some unrelated examples of various methods that valuation analysts have used to estimate the fair value of specific intangibles.

### Create a Lead Schedule for Your Analysis

Let's suppose that we are engaged to undertake an allocation assignment to determine the fair value of separable intangible assets and unallocated residual goodwill. The *structure of the transaction* is the first issue, which will suggest an overall value of the total intangible component of the transaction. The example in table 20.4 shows a lead schedule of a sample acquisition costing \$2,600,000, with \$1,920,000 comprising the intangible amount to be allocated.

Because it is a lead schedule, we can use this schedule as a sanity check of our ultimate conclusions regarding the separable intangibles and the unallocated goodwill component by using a weighted average return on assets. In this example, if the discount rate is 18 percent for the entire company, the working capital and fixed assets would require a smaller rate of return because of their tangible nature, and the discount rates for the combined intangibles must be higher. This is similar to the example about the rates of return when using the excess earnings method as described in chapter 12.

In table 20.4 on the following page, we find the rates concluded for the separate intangibles (customer list, software, trademarks, non-compete contracts, and unallocated goodwill). A proof of the appropriateness of the rates can be derived by calculating the return on the asset categories as a percentage of the purchase price, suggesting a target for allocation. Similarly, computing the return on the separate intangibles suggests an approximate proof of the overall intangible assets to be allocated. Although the algebra of this methodology may appear somewhat constrained, it, nonetheless, offers mathematical support for the conclusions reached if you chose to select different after-tax rates of return for the separate intangible assets.

#### Author's Note

The remaining examples do not relate to this schedule.

### Fair Value of the Customer List

The example in table 20.5 on page 830 shows a simple replacement cost method for assessing the value of a customer list, based on acquisition costs invested to attract each customer. For purposes of these models, we will assume that the judgments reflect unobservable, but objective, entity-specific data reflecting assumptions that market participants would use.

Following the model, total selling costs attributable to attracting new customers during the prior four years totaled \$366,839. After tax affecting this amount, the replacement cost per customer is gauged to be \$1,378. Extending by the number of customers in the business and allowing for an amortization benefit suggests that the fair value of the customer list is \$1,550,000.

**TABLE 20.4 Lead Schedule—Summary**

<b>Structure of the Acquisition</b>		
Cash paid at closing	\$2,500,000	Per asset purchase agreement
Plus: Liabilities assumed	100,000	
Total consideration (adjusted purchase price)	\$2,600,000	
Less: Net working capital assets assumed	(160,000)	Per closing statement
Less: Net fixed assets assumed	(520,000)	Per market appraisal
Net amount to be allocated (rounded)	\$1,920,000	
Goodwill and other intangible assets	\$1,920,000	

**Discount Rate Attributable to Overall Assets**

	Fair Value	% of Enterprise Value	Weighted Average Return on Assets (Discount Rate)	Total Return	Return as % of Purchase Price
PURCHASE PRICE	\$2,600,000	100.0%	18.0%	\$468,000	18.0%
Working capital	160,000	6.2%	8.0%	12,800	0.5%
Fixed assets	520,000	20.0%	10.0%	52,000	2.0%
Intangibles	1,920,000	73.8%	21.0%	403,200	15.5%
				\$468,000	18.0%

***Intangibles discount rate in total must be higher than the enterprise overall!***

**Discount Rate Attributable to Identified Intangibles**

	Fair Value	% of Enterprise Value	Weighted Average Return on Assets (Discount Rate)	Calculated Total Return	Return as % of Purchase Price
Purchase price	\$2,600,000	100.0%	18.0%	\$468,000	18.0%
Customer list	800,000	30.8%	20.0%	160,000	6.2%
Software	500,000	19.2%	20.0%	100,000	3.8%
Trademarks	300,000	11.5%	22.0%	66,000	2.5%
Non-compete contracts	130,000	5.0%	22.0%	28,600	1.1%
Unallocated goodwill	190,000	7.3%	26.0%	49,400	1.9%
Fair value of intangibles	\$1,920,000	73.8%		\$404,000	15.5%

\* Note: May change with new rules

**TABLE 20.5 Fair Value of Customer List/Customer Base Replacement Cost Method**

Year	Reported Revenues	Selling Costs to Reported Revenues	Proportion of Estimated Independent Selling Costs	% Selling Costs Allocated to New Customers	New Customer Selling Costs	Number of New Customers
Jan–Dec 2016	\$3,000,000	\$110,000	3.67%	90.0%	\$ 99,000	23
Jan–Dec 2015	2,500,000	103,000	4.12%	90.0%	92,700	45
Jan–Dec 2014	2,200,000	97,500	4.43%	90.0%	87,750	37
Jan–Dec 2013	2,000,000	56,339	2.82%	90.0%	50,705	40
		\$366,839			\$ 330,155	145
		Total pretax selling costs, new customers			\$ 330,155	
		Less taxes at 39.5%			(130,411)	
		After-tax selling costs, new customers			199,744	
		Divided by new customers			145	
		Replacement cost per new customer			1,378	
		Number of existing customers			1,000	
		Total replacement cost of customers			1,378,000	
		<b>Amortization Benefit</b>				
				Discount rate	25.00%	
				Tax rate	39.5%	
				Tax amortization period	15	
				Present value of annuity over period	4.31479	
				Amortization benefit	176,643	
				<b>Fair value of customer list (rounded)</b>	<b>\$1,554,643</b>	
				<b>Fair value of customer list (rounded)</b>	<b>\$1,500,000</b>	

## Fair Value of Acquired Software

A simple replacement cost for existing software less an obsolescence factor is shown in table 20.6. The key elements are the number of lines of code, productivity ratings based on time to recreate lines of code, and estimated hours required to reproduce this software. Generally, software does have some obsolescence, requiring a judgment factor derived from technical management personnel. In this example, using a 20 percent obsolescence adjustment plus adjustments for taxes and the amortization benefit, the software intangible is estimated at \$175,000.

## Fair Value of Customer-Related Intangibles With an Excess Earnings Model

A multiperiod excess earnings model (EEM) is an income-based method using, in most cases, a discounted cash flow analysis. Theoretically, the value of the subject intangible is equal to the present value of the discounted incremental after-tax cash flows attributable only to the subject intangible. EEM is most commonly used to value the most essential, or primary, asset responsible for generating income in the enterprise, such



as customer-related intangibles or technology, or both (that is sold to third parties). The net cash flows attributable to the subject intangible are those in excess of fair returns on all other contributory assets. Be careful when using an EEM model, however. Complex issues arise in possible cross charges and indirect (or related) benefits to related assets.

**TABLE 20.6 Fair Value of Acquired Software Replacement Cost Method Less Obsolescence**

Module in Place	Lines of Code	Productivity Rating*	Adjusted LOC Basis	Std LOC Per Hour	Hours to Recreate
1	15,000	4	3,750	4	938
2	2,100	3	700	4	175
3	18,000	3	6,000	4	1,500
Total	35,100				2,613
		Blended hourly rate			\$ 125
		Reproduction cost			\$326,625
		Less obsolescence factor			20%
		Replacement cost			\$ 261,300
		Less taxes			39.5%
		After tax value, before amortization			\$ 158,086
		<i>Amortization benefit</i>			30.00%
		Discount rate Tax rate			39.5%
		Tax amortization period			15
		Present value of annuity over period			3.72633
		Amortization benefit			17,200
		<b>Fair value of software</b>			<b>\$175,286</b>
		<b>Fair value of software (rounded)</b>			<b>\$175,000</b>

\*Productivity rating based on code generation tools as discussed with technical operations management.

In table 20.7, the projected net income of the enterprise is adjusted for the contribution of the tangibles and all other intangibles (as derived from different methods). After-tax cash flows are discounted using a 28 percent discount rate (mid-year convention). Adjusting for an amortization benefit of 12 percent (let's say as previously calculated), the fair value of the residual customer-related intangibles is \$45,000.

## Fair Value of Non-Compete Agreements Using a “With and Without” Model

I am going to provide you with an example here, but I am also going to address this topic further in chapter 22. Valuing a non-compete agreement is commonly accomplished using an income method to demonstrate the economic difference in future operational income *without competition* and *with competition*. A discounted cash flow model is constructed for the length of the term of the non-compete. There is no residual value once the non-compete agreement expires. The projections should reflect the probability of competition, although some valuation analysts prefer to multiply the difference finding by a percentage probability factor (generally, 10 percent to 90 percent, reflecting capacity, desire, and ability to effectively compete) that the competition will occur if the non-compete agreement was not in place. An example of valuing a 3-year non-compete agreement, with an amortization factor (previously determined) added at the end, is shown in table 20.8. The analysis concludes that the employment agreement carries a fair value of \$76,000.

**TABLE 20.7 Fair Value of Customer-Related Intangibles Excess Earnings Method**

Year (Period)	Year 1	Year 2	Year 3
Income from operations before tax	\$40,000	\$52,000	\$45,000
Less taxes at 39.5%	(15,800)	(20,540)	(17,775)
Enterprise projected net income (loss)	\$24,200	\$31,460	\$27,225
Less charge for contributory assets*			
Working capital	\$900	\$ 1,100	\$ 800
Fixed assets	5,000	7,500	7,000
Assembled workforce	700	700	400
Trademarks	500	800	100
Non-compete agreements	100	50	
Total contributory charges	\$ 7,200	\$10,150	\$ 8,300
After-tax cash flows	\$17,000	\$21,310	\$18,925
Periods (mid-year convention)	0.50	1.50	2.50
Discount rate based on asset category	28.00%	28.00%	28.00%
Discount factor based on asset category	0.8839	0.6905	0.5395
Present value of cash flows	\$15,026	\$14,715	\$10,210
Sum of three-year impact			\$39,951
Tax amortization factor			1.12
<b>Calculated fair value of residual customer-related intangibles</b>			<b>\$44,745</b>
<b>Calculated fair value of residual customer-related intangibles (rounded)</b>			<b>\$45,000</b>

\*Note: Derived from other sources

## Fair Value of the Assembled Workforce

Overall, goodwill is what is left over from the fair value paid in exchange, after removing the fair value of the tangible assets and the separable intangible assets. We accountants call it the “plug” number. Although we typically do not independently recognize human capital assets as separable, most valuation assignments in this arena require that we estimate the fair value of the workforce itself as a contributory asset. The assembled workforce component is usually less than the remaining portion of goodwill, which we label as unallocated. Occasionally, the calculation of the workforce value is greater than the residual unallocated portion, suggesting that the buyers may, in fact, have gotten themselves a deal.

To put it simply, in doing an allocation assignment, a valuation analyst is expected to prepare an estimate of the fair value of the assembled workforce. An example of one model is shown in table 20.9. It shows a variety of costs that market participants would expect to absorb in order to attract, train, and assume a full productive status. With assumptions regarding fringe benefits, hiring and relocation costs, and training costs, the after-tax projected expense to recreate the workforce is slightly more than \$480,000. Adjusting for an amortization benefit suggests a value of \$528,000.

**TABLE 20.8 Fair Value Calculation of Employment and Non-Competition Agreements**

<b>Forecasted Normalized Income Statements of Without Competition</b>			
	<b>1</b>	<b>2</b>	<b>3</b>
Revenue	\$ 16,000,000	\$ 19,000,000	\$ 22,000,000
<i>Growth Percentage</i>		18.75%	15.79%
Cost of Sales at 71.15%			
Gross Profit	\$ 4,616,000	\$ 5,481,500	\$ 6,347,000
Operating Expenses at 27.58%	14,203,200	5,241,300	279,400
Income From Operations Before Tax	\$ 203,200	\$ 241,300	\$279,400
Less: Taxes at 39.5%	(80,264)	(95,314)	(110,363)
Forecasted Operational Income After Tax	\$ 122,936	\$ 145,986	\$ 169,037
<b>Forecasted Normalized Income Statements Operations With Competition</b>			
	<b>1</b>	<b>2</b>	<b>3</b>
Revenue	\$ 12,000,000	\$ 14,250,000	\$ 16,500,075
<i>Growth Percentage</i>		18.75%	15.79%
Cost of Sales at 71.15%	8,538,000	10,138,875	11,739,803
Gross Profit	\$ 3,462,000	\$ 4,111,125	\$ 4,760,272
Operating Expenses at 27.58%	3,309,600	3,930,150	4,550,721
Income From Operations Before Tax	\$ 152,400	\$ 180,975	\$ 209,551
Less: Taxes at 39.5%	(60,198)	(71,485)	(82,773)
Forecasted Operational Income After Tax	\$ 92,202	\$ 109,490	\$ 126,778
<b>Calculation of Differences Between Operational Income Without and With Competition</b>			
	<b>1</b>	<b>2</b>	<b>3</b>
Income Without Competition	\$ 122,936	\$ 145,986	\$ 169,037
Income With Competition	92,202	109,490	126,778
Net Difference in Model Due To Competition	\$ 30,734	\$ 36,496	\$ 42,259
Periods (Mid-Year Convention)	0.50	1.50	2.50
Discount Rate Based on Asset Category	30.00%	30.00%	30.00%
Discount Factor Based on Asset Category	0.8771	0.6747	0.5190
Operational After-Tax Income Difference	\$ 26,957	\$ 24,624	\$ 21,932
Sum of Three-Year Impact			\$ 73,513
Tax Amortization Factor			1.04
<b>Calculated Fair Value of Agreements</b>			<b>\$ 76,454</b>
<b>Calculated Fair Value of Agreement (Rounded)</b>			<b>\$ 76,000</b>

**TABLE 20.9 Assembled Workforce Valuation**

<b>I. Hiring Costs:</b>										
Employee Classification	Average Annual Salary	Fringe Benefit % of Salary	Average Salary With Benefits	Hiring Costs	Relocation Costs	Total Hiring Cost Per Employee	Number of Employees as of Valuation Date	Total Hiring Cost		
Executive staff	\$170,000	24%	\$210,800	\$63,240	\$20,000	\$83,240	2	\$166,480		
Key supervisory staff	90,000	24%	111,600	33,480		33,480	5	167,400		
Administrative staff	52,000	24%	64,480	2,000		2,000	10	20,000		
Support staff	45,000	24%	55,800	5,000		5,000	22	110,000		
						Total Hiring	39	\$463,880		
<b>II. Training Costs:</b>										
Employee Classification	Average Salary With Benefits	Percent Effective	Months Until Full Productivity	Inefficiency Training Costs	Direct Training Costs	Total Training Costs Per Employee	Number of Employees as of Valuation Date	Total Training Cost		
Executive staff	\$210,800	75%	6	\$15,371	7,685	\$23,056	2	\$ 46,112		
Key supervisory staff	111,600	75%	5	6,975	5,000	11,975	5	59,875		
Administrative staff	64,480	75%	4	3,358	1,679	5,037	10	50,370		
Support staff	55,800	75%	4	2,906	5,000	7,906	22	173,932		
					Total training		39	\$330,289		
					Subtotal			\$794,169		
					Less income tax expense (39.5%)			(313,697)		
					Total			\$480,472		
					<b>Amortization benefit</b>					
					Discount rate		33.10%			
					Tax rate		39.5%			
					Tax amortization period		15			
					Present value of annuity over period		3.43765			
					<b>Amortization benefit</b>			47,824		
					<b>Fair value of workforce</b>			<b>\$528,296</b>		
					<b>Fair value of workforce (rounded)</b>			<b>\$528,000</b>		

## Personal Goodwill

Because this chapter addresses intangible assets, and we have discussed the concept of goodwill, I thought that this would be a good time to touch on another subject, *personal goodwill*. I am going to discuss this further in chapter 22 because this subject comes up more often in divorce litigations than in any other type of situation. However, it also comes up in the tax allocations of a purchase price.

The amount of intangible value of an entity that relates to the entity, rather than the individual, can affect the value of many entities and the structure of an acquisition transaction. This will especially be the case for smaller businesses in which the contribution of a key person or group of people can be of great importance. For a very small professional practice or many smaller businesses, much of the intangible value would relate to the individual as opposed to the enterprise. This is the difference between the client who goes to John Smith, CPA and PricewaterhouseCoopers.

When a business is being sold, the buyer wants to be able to realize as much of the goodwill as possible. This is why covenants not to compete become a crucial part of the transaction. This is intended to provide the buyer with confidence that the intangible value will be transferred and remain with the business. Some of the things that we see in closing documents that are intended to protect the value of transferred personal goodwill include the following:

- Non-competition agreement (covenant not to compete)
- Transition agreement
- Contingent consideration in transaction structure—earnout, note payment; other transaction elements to create shared objectives of the buyer and seller for the success of the entity

A non-competition agreement may represent evidence of personal goodwill for many businesses. For tax valuations, personal goodwill valuations may arise in the context of the sale of the assets of a C corporation. The shifting of value between the corporation and the individual can create a significant tax savings. Two relevant cases that an analyst should read include *Norwalk v. Commissioner*, T.C. Memo 1998-279, and *Martin Ice Cream Company v. Commissioner*, 110 T.C. No. 18. These are really good cases to become familiar with because he or she can assist clients in saving a significant amount of money in the allocation of a purchase price for income tax purposes. An excerpt of a report that we performed allocating personal goodwill as part of a \$7 million transaction is included in exhibit 20.2. I wish that we could have charged what we saved the client!

### EXHIBIT 20.2 Personal Goodwill Report

March 2, 2016

The Law Firm P.A.  
888 Main Avenue  
City, ST 12345  
Attn: Jack Henry, Esq.

Re: Tax allocation of purchase price relating to the acquisition of certain assets of XYZ Corporation

Dear Mr. Henry:

Pursuant to your request, we have performed a tax allocation of the purchase price relating to the acquisition of certain assets of XYZ Corporation as of June 30, 2015. The purpose of this analysis is to determine the fair market value of the transferred assets as a basis for determining the appropriate amount of consideration to be allocated between corporate and personal assets that were part of the transaction.

The scope of work for this assignment was that of a valuation engagement as defined in the SSVS No. 1 promulgated by the AICPA. The report is in summary format (letter report). As such, this report is restricted to the use of the clients (and respective counsel) only and may not be distributed to any other person other than the acquirer so that consistency can be maintained for tax reporting requirements.

(continued)

## EXHIBIT 20.2 Personal Goodwill Report *(continued)*

### DEFINITION OF FAIR MARKET VALUE

The most commonly used definition of fair market value is located in Revenue Ruling 59-60. This revenue ruling defines fair market value as

...the price at which the property would change hands between a willing buyer and a willing seller when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of relevant facts.

We have considered all applicable approaches to value, and found that the income approach is the most applicable in this assignment. We will discuss this in more detail shortly.

### DOCUMENTS REVIEWED IN THIS ASSIGNMENT

Our allocation of purchase price has been based on the following information:

1. Closing documents for the transaction between Big Publishing Company and XYZ Corporation dated August 10, 2015.
2. Form 1120, U.S. Corporation Income Tax Return for XYZ Corporation for 2006–2014.
3. Internally prepared financial statements for XYZ Corporation for the six months ended June 30, 2015 and 2014.
4. Accounts receivable aging report for XYZ Corporation as of June 30, 2015.
5. Credit Agreement and Disclosure between XYZ Corporation and Southwest Capital Bank, N.A. dated November 3, 2013.
6. Promissory Note Agreement between XYZ Corporation and Southwest Capital Bank, N.A. dated November 3, 2013.
7. Change in Terms Agreement between XYZ Corporation and Southwest Capital, Bank, N.A. dated October 13, 2014.
8. Organizational chart for XYZ Corporation.
9. Top two largest suppliers for XYZ Corporation.
10. Top five largest customers for XYZ Corporation.
11. Lease Agreement for Prospect Building between Management Company, Inc. and XYZ Corporation dated August 31, 2014.
12. Lease Agreement for Johnson Commons between Johnson Commons, LLC and XYZ Corporation dated July 11, 2014.
13. Articles of Incorporation of ABCedu.com, Inc. executed on April 27, 2005.
14. Articles of Amendment to the Articles of Incorporation of ABCedu.com, Inc. dated November 15, 2010.
15. Distinct Proposal for e-Learning Course Development Project dated September 11, 2014.
16. Software Development Agreement between XYZ Corporation and Rapid Information Technology, Pvt. Ltd. dated June 19, 2014.
17. Mutual Non-Disclosure Agreement between XYZ Corporation and Rapid Information Technology Pvt. Ltd. dated June 17, 2014.
18. Work Order #2 Technology and Support Partner between XYZ Corporation and Rapid Information Technology Pvt. Ltd. dated October 1, 2014.
19. Work Order #3 Tutor Mobile between XYZ Corporation and Rapid Information Technology Pvt. Ltd. dated April 1, 2014.
20. Value Added Reseller Agreement between XYZ Corporation and Big Publishing Company dated October 1, 2013.
21. Resume and letters of reference for John Smith.
22. Career summary for Robert Smith, PhD.
23. Resume for George Johnson.
24. Tutor Positioning Plan and Justification for a Merger between Tutor and XYZ Corporation prepared by John Smith.
25. XYZ Corporation Contract with Software Co-op for R2D2 Operations.
26. Memorandum of Understanding Between a Co-op and the Arkansas Department of Education.
27. Arkansas Juvenile Education Status and Proposal.
28. Software Co-op Supplemental Educational Services profit and loss information for fiscal years 2013–2014, 2014–2015 and 2015–2016.
29. Software 2 Revenue Model.
30. Answers to various questions provided by management.
31. Other items referenced throughout this report.

In addition to the documentation provided, a management interview took place. Information gathered at this interview became an integral part of this report.

### BRIEF HISTORY OF THE COMPANY

XYZ Corporation (XYZ or The Company), a Florida C Corporation, was formed on March 19, 2005. The Company provides educational software and consulting services to public education organizations. XYZ Corporation was founded by John Smith and his father, Dr. Robert Smith. As of June 30, 2015, ownership of The Company was as follows:

**EXHIBIT 20.2 Personal Goodwill Report**

Shareholder	# Shares	Percent
Robert Smith	1,445,986	53.83%
John Smith	600,000	22.34%
Nancy Smith	600,000	22.34%
George Johnson	10,000	0.37%
Child 1	5,000	0.19%
Child 2	5,000	0.19%
Child 3	10,000	0.37%
Child 4	10,000	0.37%

Prior to the formation of XYZ, Dr. Smith had owned an education software company called SkillsCo, which he co-founded in 1986. Throughout the 1980s and 1990s, SkillsCo earned a reputation as one of the leading basic skills instructional software programs on the market. As a result, Dr. Smith was able to grow SkillsCo and eventually sell it to The Education Company in 1997.

In 2004, The Education Company was purchased by the giant toy maker Mattel. However, this acquisition eventually fell apart, and the SkillsCo source code was purchased by Michael Brown, then Chairman and Chief Executive Officer of The Education Company. Shortly thereafter, a web-based version of the SkillsCo Software called Tutor was developed.

In 2004, John Smith was working on Wall Street as an institutional broker for J.P. Morgan. During this time period, the dot-com era was reaching its peak, and Mr. Smith was looking to capitalize on this growth opportunity. As a result, Mr. Smith returned to his home in City, Florida and formed a company with his father called ABCedu, which later changed its name to XYZ Corporation.

The initial plan for XYZ was a business-to-business model in which The Company would sell educational software over the internet. However, this business model proved to be unsuccessful as school board administrators and officials prefer to buy products from people they know. In 2005, XYZ became a distributor for Tutor, which was still in its initial stages and did not have an inside sales force.

In 2006, the Arkansas special education department decided to pilot software for juvenile detention centers. Mr. Smith was able to capitalize on this opportunity and creatively position Tutor as part of the Arkansas Juvenile Education Initiative (R2D2). The R2D2 model was so successful in the juvenile detention centers that local education agencies (LEA) began to adopt the model. Eventually, XYZ Corporation would account for one-third of the total revenue generated by Tutor.

In 2010, Tutor grew and built an inside sales force. During this process, all Tutor distributors were cut, except for XYZ. However, XYZ's territories were limited to Arkansas, Florida, and Missouri. In May 2011, Tutor was acquired by Big Publishing Company (BPC).

In 2012, Dr. Smith retired and Mr. Smith took over as Chief Executive Officer of The Company. At the time, The Company was heavily in debt and spent much of the year paying down debt principal.

A year later, Mr. Smith approached BPC to see if they were willing to sell its Tutor division. This proposal was turned down around June 2014 as the private equity firm involved in the potential transaction offered too low of a price. However, a few months later, after witnessing the success Mr. Smith had with Tutor, BPC decided to purchase XYZ Corporation in a \$7 million transaction and appoint Mr. Smith as the President of BPC's Tutor division.

*(continued)*

## EXHIBIT 20.2 Personal Goodwill Report *(continued)*

### THE ASSET PURCHASE AGREEMENT

On August 10, 2015, BPC entered into an Asset Purchase Agreement (The Agreement) with XYZ, Mr. Smith, and Dr. Smith. Pertinent sections of The Agreement are discussed below.

### PURCHASED ASSETS

The assets purchased as part of The Agreement are as follows:

- a) To the extent assignable, all contracts used in the operation of the business.
- b) The lease agreement for XYZ's Arkansas office.
- c) All equipment supplies and personal property used or held for use in the business.
- d) All books and records.
- e) All proprietary rights.
- f) All government authorizations.
- g) To the extent assignable, all rights or chose in action relating to XYZ including all rights under express or implied warranties relating to the purchased assets.
- h) All rights and claims under insurance policies with respect to the purchased assets.
- i) All accounts receivable relating to sales made by the business on or after July 1, 2015 ("The Purchaser A/R").
- j) Goodwill.

### EXCLUDED ASSETS

The following assets were not assumed by BPC as part of The Agreement:

- a) all cash on hand and cash equivalents;
- b) all prepaid expenses;
- c) all accounts receivable, with the exception of the Purchaser A/R;
- d) all real property owned or leased by Seller except the Arkansas Lease;
- e) the following assets owned by XYZ:
  1. All minute books, organizational documents, stock registers and such other books and records of Seller as pertain to ownership, organization or existence of Seller and duplicate copies of such records as are necessary to enable Seller to file tax returns and reports.
  2. The name XYZ Corporation and all derivatives thereof.
  3. Proceeds of insurance received or receivable, whether prior to or after the date hereof, in respect of any Excluded Liability.
  4. Tax identification numbers from the Arkansas Department of Revenue and California Department of Revenue.
  5. Any tax refunds: (i) of the Business relating to any taxable periods, or portions thereof, ending or deemed to end on or prior to June 30, 2015 as provided in the Pro Ration Statement; or (ii) relating to the Excluded Assets or Excluded Liabilities.
  6. Any records, documents or other information relating to any Seller Employees who will not be hired by purchaser.
  7. Any materials containing information about any Seller Employees, disclosure of which would violate applicable Law.
  8. Any Seller Benefit Plan or any right, title or interest in any asset of or relating thereto, or any assets relating to Excluded Liabilities.
  9. Any and all life insurance policies on shareholders, officers and directors of Seller.
  10. All of the Contracts that are not part of the assumed Contracts.

### ASSUMPTION OF LIABILITIES

No liabilities were assumed by BPC.

### NON-COMPETITION

According to Section 8.01 of The Agreement:

- (a) For a period commencing on the date hereof and terminating on the date that is five (5) years after the Closing Date, XYZ, J. Smith and R. Smith shall not, and each shall use their reasonable efforts to cause their respective Affiliates to not, without Purchaser's prior written consent, directly or indirectly own, have an interest in (other than as a less than 3% equity owner of any Person traded on any national, international or regional securities exchange or in the over-the-counter market), join or in any manner participate in (including by way of providing consulting services), any Restricted Business (the '**Non-Compete**'). During the Non-Compete Period, the Restricted Persons shall not, and each shall use their reasonable efforts to cause their respective Affiliates to not, directly or indirectly:



## EXHIBIT 20.2 Personal Goodwill Report

- (i) cause, induce or attempt to cause or induce any customer, licensee, licensor, employee, consultant or other business relation of the Business (whether such party did business with Seller as of the Closing Date or does business with Purchaser, or both) to cease doing business with Purchaser, to deal with any competitor of the Business or any Restricted Business or in any way interfere with its relationship with Purchaser; or
- (ii) hire, retain or attempt to hire or retain any employee or former employee of Purchaser (or the Business as of the Closing Date) or in any way interfere with the relationship between Purchaser and any of its employees or independent contractors.

For the avoidance of doubt, the obligations in this Section 8.01 are in addition to and do not in any way diminish, supersede or otherwise affect the non-competition and non-solicitation provisions included in the Letter of Employment.

“Restricted business” means any business or any division of a business that is directly or substantially competitive with the combined business, of BPC and XYZ.

### ALLOCATION OF PURCHASE PRICE

The first step in the allocation of purchase price was to determine the fair market value of XYZ as a stand-alone entity. We began by normalizing XYZ’s historic income statements for the year 2014 and the latest 12-month period ended June 30, 2015. These periods were deemed to be the most pertinent time periods to consider in this valuation due to the vast change that took place in XYZ after 2013. We believe that the earlier periods would not be relevant at the valuation date.

The process of normalization is intended to determine the economic income of The Company that a hypothetical willing buyer can expect The Company to generate on a consistent basis going forward. The income statement adjustments appear in Table 1.

**TABLE 1 Normalization Of Income**

	December 31, 2014	LTM June 30, 2015
Historic Net Income (Schedule 2)	\$ (10,872)	\$ (14,989)
Adjustments		
Officers’ Compensation—Addback <sup>1</sup>	494,046	492,242
Officers’ Compensation—Replacement <sup>2</sup>	(341,800)	(350,345)
Historic Income Taxes <sup>3</sup>	530	(7,536)
<b>Adjusted Pretax Net Income</b>	<b>\$ 141,904</b>	<b>\$ 119,372</b>
Income Taxes <sup>3</sup>	43,353	33,810
<b>Adjusted Historic Net Income</b>	<b>\$ 98,551</b>	<b>\$ 85,562</b>

1. Officers’ compensation was added back as an allowance for replacement compensation was deducted in number 2 below.

2. In order to determine the appropriate level of officers’ compensation, we consulted the Economic Research Institute’s database of executive compensation (ERI). Based on discussions with management, we determined that a Chief Executive Officer would be needed to run The Company.

We searched the ERI database in order to determine the appropriate market level amount of total cash compensation that would be necessary to pay a CEO who would replace Mr. Smith. Our search parameters were as follows:

- SIC 7372: Computer Software Services.
- City, Florida.
- \$4 Million in Revenues.

In selecting the amount of compensation necessary to replace Mr. Smith, we determined that 75th percentile figures were appropriate due to his importance to The Company and his various job responsibilities. Based on our search parameters, the 75th percentile level of total compensation was \$350,345 as of June 30, 2015. This amount was reduced by 2.5 percent in 2014 which approximates historical inflation.

3. Income taxes were recalculated using the federal and state corporate income tax rates that were in effect as of the valuation date.

After normalizing the income statement, XYZ’s adjusted net income was \$98,551 and \$85,562 for 2014 and the latest 12-month period ended June 30, 2015, respectively. We determined that the latest 12-month period was best reflective of the amount of earnings that XYZ can generate on a consistent basis going forward as The Company had increased its research and development spending during this period related to the development of new software programs.

(continued)

**EXHIBIT 20.2 Personal Goodwill Report** *(continued)*

The next step in the analysis is to calculate the fair market value of XYZ as a stand-alone entity. In determining the value of XYZ, we considered each of the three general approaches to valuation. The market approach was eliminated due to the lack of publicly-traded companies and acquisitions of companies that could be used as a surrogate for XYZ. The asset-based approach was eliminated as The Company had a negative net asset value as of June 30, 2015 and this would not capture any intangible value.

The income approach was performed using the capitalization of benefits method. In performing this valuation we performed a debt-free (invested capital) analysis. The reason for this is because XYZ has a large amount of debt in its capital structure compared to industry composite data that we compared The Company to. After normalizing XYZ's income statement for the latest 12-month period, The Company's adjusted net income on an invested capital basis was \$106,448.

Therefore, performing the capitalization of benefits method results in the following estimate of value for XYZ:

**TABLE 2 Capitalization of Latest 12-Month—Net Operating Profit After Tax**

Net Operating Profit After Tax	\$106,448
One Plus the Long-Term Rate of Growth	× 1.025
NOPAT for Capitalization	\$109,109
Capitalization Rate	÷ 15.40%
Market Value of Invested Capital	\$708,500
Less Interest Bearing Debt	(651,302)
<b>Fair Market Value of XYZ</b>	<b>\$ 57,198</b>
<b>Rounded</b>	<b>\$ 57,000</b>

The single period capitalization methodology requires the use of a capitalization rate. This rate is derived from a discount rate that represents the return that an investor would receive from a comparable investment. The appropriate rate at which to capitalize debt-free future earnings is the weighted average cost of debt and equity capital. This incorporates the returns demanded by both debt holders and equity holders because debt-free income is capitalized (i.e., income on which both debt and equity holders have claims). The weighted average cost of capital for XYZ was determined to be 17.90 percent. Subtracting a long-term sustainable growth of 2.5 percent resulted in a capitalization rate of 15.40 percent.

At this stage in the analysis we have calculated the fair market value of XYZ as \$57,000. This represents the fair market value of all of The Company's net tangible and intangible assets as of June 30, 2015. However, not all of The Company's assets and liabilities were transferred to BPC as part of the transaction that took place. Therefore, the next step in the allocation is to determine the fair market value of the assets that were actually transferred. This was accomplished by adding the liabilities and subtracting the assets that were retained by XYZ to the fair market value of The Company as a whole. These represent assets that were not purchased and liabilities that were not assumed by BPC. All related party receivables and Dr. Smith's vehicle were excluded from our conclusion of value of XYZ as these items were considered to be non-operating assets that are not part of XYZ's core operations. The value of the transferred assets is calculated as follows:

**EXHIBIT 20.2 Personal Goodwill Report****TABLE 3 Value of the Transferred Entity**

Fair Market Value—XYZ	\$ 57,000
Plus Retained Liabilities	
Accounts Payable	1,029,197
Notes Payable	651,302
Accrued Expenses	136,415
Income Taxes Payable	129,573
Less Retained Assets	
Cash	(121,619)
Accounts Receivable	(1,387,626)
401K Escrow Account	(2,668)
<b>Value of Transferred Assets</b>	<b>\$ 491,574</b>
<b>Rounded</b>	<b>\$ 490,000</b>

As shown in the calculations in Table 3, the value of the assets that were purchased by BPC was determined to be approximately \$490,000. The next step in the analysis is to allocate this amount across the tangible and identifiable intangible assets that were purchased as part of the transaction.

The assets purchased by BPC were discussed in an earlier section of this report. Based on discussions with management and an analysis of each of these categories of assets, we determined that the only categories of assets that had value were XYZ's fixed assets, contracts and proprietary rights. The amount allocated to each of these categories is as follows:

**FIXED ASSETS**

XYZ's fixed assets consist of furniture and fixtures, computer equipment and other miscellaneous fixed assets. Each of these assets was re depreciated using straight line depreciation over their respective class asset lives to arrive at their estimated fair market values. Salvage values of 15 percent were assumed for each of these assets. Performing these calculations resulted in a total fair market value of \$40,000 for XYZ's fixed assets.

**CONTRACTS**

The contracts assumed by BPC as part of the transaction included the lease agreement to XYZ's Arkansas office, various purchase orders and cancelled purchase orders and software licenses for Microsoft Office and other products. No value was allocated to any of these contracts as they generate no revenue and provide no expense savings.

Additional contracts assumed by BPC included the "Rapid Agreements" and the "Software Cooperative Documents." The Rapid Agreements relate to XYZ's relationship with Rapid Information Technology for the outsourcing of software development and technical support services. No value was allocated to these agreements as they generate no income or significant cost savings, as the outsourcing of these services is necessary in order to price products competitively in the marketplace.

*(continued)*

**EXHIBIT 20.2 Personal Goodwill Report** *(continued)*

The Software Cooperative Documents relate to grants paid by the Arkansas Department of Education to XYZ. These grants can be discontinued at any time and are received due to Mr. Smith's relationship with Arkansas school board officials. Therefore, we determined that these contracts have value due to their cash flow generating nature. However, there is an additional amount of risk, as they can be terminated at any time and are dependent upon John Smith's relationship with the Arkansas school board.

Taking this into consideration, a five-year forecast of the earnings generated by the Software Cooperative Contracts was constructed using the historic revenues and profitability of these contracts. A projection through 2020 was used as Mr. Smith's non-compete agreement with BPC ends in that year, which would allow him to take these cash flows away due to this relationship with Arkansas school officials. In addition, if Mr. Smith were to leave BPC after five years, there is the risk that the Arkansas school officials could discontinue the funding.

The earnings forecast for the Software contracts is presented in Table 4.

**TABLE 4 Software Cooperative Contracts**

	Actuals			Projected			
	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Total Program Income	\$ 60,000	\$ 200,000	\$ 300,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000
Program Expenses:							
Tutors	27,300	\$ 31,500	\$ 52,500	\$ 87,500	\$ 89,688	\$ 91,930	\$ 94,228
Snacks/Supplies	4,830	9,310	11,340	13,813	14,158	14,512	14,875
Equipment	15,000	5,000	250	250	256	263	269
XYZ Direct Svcs	71,250	50,000	58,750	69,031	70,757	72,526	74,339
Software Indirect Svcs	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Travel	8,750	8,750	8,750	8,750	8,750	8,750	8,750
Software	16,500	16,500	16,500	16,500	16,500	16,500	16,500
Total Program Expenses	\$ 168,630	\$ 146,060	\$ 173,090	\$ 220,844	\$ 225,109	\$ 229,480	\$ 233,961
Program Pre-Tax							
Income (Loss)	<u>\$(108,630)</u>	<u>\$ 53,940</u>	<u>\$ 126,910</u>	<u>\$ 179,156</u>	<u>\$ 174,891</u>	<u>\$ 170,520</u>	<u>\$ 166,039</u>
Effective Tax Rate			× 40.0%	× 40.0%	× 40.0%	× 40.0%	× 40.0%
Program Net Income			<u>\$ 76,146</u>	<u>\$ 107,494</u>	<u>\$ 104,935</u>	<u>\$ 102,312</u>	<u>\$ 99,623</u>

The assumptions used for this forecast are as follows:

*Total Program Income:* According to the Software Contract, the \$300,000 payment for the 2015/2016 fiscal year was expected to be paid in September 2015. Therefore, this was the first period included in the projection. Going forward, income was set to \$400,000 based on discussions with management.

## EXHIBIT 20.2 Personal Goodwill Report

*Program Expenses:* In year one of the forecast, tutors, snacks and supplies, equipment and direct services were increased by the same percentage increase as the previous period. This assumes that these expenses will increase again due to the increased amount of funding. After the 2016/2017 fiscal year, these expenses were assumed to increase by 2.5 percent which approximates future inflation. All other expenses were held constant going forward based on their historical trends.

*Tax Rate:* A tax rate of 40 percent was assumed to estimate the combined federal and state tax rates paid on income generated by BPC.

Once the income generated from the Software Contracts has been forecasted, the selection of a proper discount rate becomes necessary. In this instance, a discount rate of 15 percent has been deemed applicable. According to *Cost of Capital Yearbook*, the weighted average cost of capital (WACC) for the 19 companies contained in SIC 27: Printing, Publishing and Allied Industries was 12.60 percent. This 12.60 percent was used to estimate BPC's WACC as the forecast represents expected future cash flows to be generated by BPC.

However, these particular contracts have an additional amount of risk associated with them as the grants can be discontinued at any time and are dependent on Mr. Smith's relationship with the Arkansas school officials. Therefore, a WACC of 15 percent was assumed to account for these additional risk factors. This results in the value estimate of the Software Contracts being calculated as follows:

Fiscal Year	Program Net Income	×	15% Present Value Factors	=	Present Value Future Cash Flows
2015–2016	\$ 76,146		0.9770		\$ 74,935
2016–2017	107,494		0.8109		87,167
2017–2018	104,935		0.7051		73,990
2018–2019	102,312		0.6131		62,727
2019–2020	99,623		0.5332		53,119
Value of Software Contracts					\$351,397
<b>Rounded</b>					<b>\$350,000</b>

### PROPRIETARY RIGHTS

The proprietary rights assumed by BPC as part of the transaction include various domain names and unregistered trademarks. No value was allocated to these items as they do not generate any revenue and the trademarks have no protection.

BPC also assumed various software programs developed by XYZ. These include the following:

- R2D2 Data Analysis and Reporting System
- Ark R2D2
- Software 2
- Tutor Mobile

No value was allocated to the R2D2 Data Analysis and Reporting System or Ark R2D2 as these items do not generate any revenue. In addition, it is our understanding that the buyer had some concern regarding the use of the name "R2D2" due to trademark and branding issues. As a result, we believe that these software programs do not have any brand value.

According to management, the Tutor Mobile program was still in the process of being developed as of June 30, 2015. Therefore, no value was allocated to this item either. Based on these factors, we determined that the only software program that had any value as of June 30, 2015 was the Software 2 module.

(continued)

**EXHIBIT 20.2 Personal Goodwill Report** *(continued)*

We received a five-year revenue forecast for the Software 2 module from management. According to management, this program has a 66.3 percent pretax profit margin and an estimated shelf life of approximately five years. In addition, declining revenues were forecasted over the five-year period as management states that BPC will still have to make a significant amount of capital investment into the program going forward in order to achieve certain revenue targets. Taking this into consideration, a discount rate of 10 percent was used for the Software 2 module as there is a certain amount of risk already built into management's forecast. Therefore, the value of the Software 2 module was calculated as follows:

	2016	2017	2018	2019	2020
Projected Revenues	\$ 32,989	\$ 23,303	\$ 19,589	\$ 11,460	\$ 4,189
Pretax Margin	66.30%	66.30%	66.30%	66.30%	66.30%
Pretax Income	\$ 21,872	\$ 15,450	\$ 12,987	\$ 7,598	\$ 2,778
Effective Tax Rate	40.0%	40.0%	40.0%	40.0%	40.0%
Net Income	\$ 13,123	\$ 9,270	\$ 7,792	\$ 4,559	\$ 1,667
10% Present Value Factors	0.9535	0.8668	0.7880	0.7164	0.6512
Present Value of Cash Flows	\$ 12,513	\$ 8,035	\$ 6,140	\$ 3,266	\$ 1,085
Value—Software 2	\$ 31,039				
<b>Rounded</b>	<b>\$ 30,000</b>				

At this stage in the analysis, we have determined the fair market value of the transferred assets and have valued all of the tangible assets and identifiable intangible assets that were purchased as part of the transaction. Therefore, we can now allocate the fair market value of the transferred assets across these various asset categories and determine the amount of goodwill, if any. This calculation is presented in Table 6.

**TABLE 6 Allocation of Fair Market Value of the Transferred Assets**

Fair Market Value of Transferred Assets	\$490,000
Fair Market Value of Fixed Assets	(40,000)
Value of Software Contracts	(350,000)
Value of Software 2 Module	(30,000)
<b>Goodwill</b>	<b>\$ 70,000</b>

As the calculations in Table 6 indicate, allocating the fair market value of the transferred assets across fixed assets and identifiable intangible assets results in \$70,000 of goodwill. Due to the fact that both Messrs. Smith have all of the relationships with customers and suppliers, have been the driving force behind XYZ's operation, and have no non-compete agreement in place with XYZ, we believe that this \$70,000 consists primarily of personal goodwill and the amount of enterprise goodwill is negligible at best.

**EXHIBIT 20.2 Personal Goodwill Report**

Therefore, thus far in the analysis, the purchase price of \$7 million is allocated as follows:

Purchase Price	\$7,000,000
Fixed Assets	(40,000)
Value of Software Contracts	(350,000)
Value of Software 2 Module	(30,000)
Remaining Unallocated Amount of Purchase Price	<u>\$6,580,000</u>

The final step in the analysis is to allocate the remaining \$6.58 million between the non-compete agreement and personal goodwill. In order to determine the value of the non-compete, we performed a lost sales analysis over a period of five years which is the term of the covenant.

The first step is to determine the level of sales that would be lost if the covenant was not in place. Based on discussions with management, we estimate that if Messrs. Smith were to compete with BPC, The Company would lose between 10 to 20 percent of its revenues during the first year. Thereafter, we assumed that this percentage will increase by 5 percent annually as it will take time for the customers that leave BPC to convert to new software programs.

Once lost revenues were forecasted, they were reduced by the amount of expenses that BPC would save from Mr. Smith's absence. Our assumption is that a breach of the non-compete by either XYZ, Robert or John Smith would result in the same end result, a complete breach of the agreement. Therefore, any competition that would cause lost revenues would result in the same expenses being saved by BPC. These expenses include Mr. Smith's direct expenses, as well as other expenses related to in-service and technical support.

Mr. Smith's direct expenses consist of salary and fringe benefits. Therefore, we estimated Mr. Smith's direct expenses at \$325,000 per year which consists of his base salary of \$250,000, increased by an additional 30 percent to account for other fringe benefits and perquisites paid to him. Expenses related to in-service and technical support were estimated at 10 percent of lost revenues per year, which was determined based on discussions with management, as well as information provided to us by BPC.

The lost sales analysis consists of three separate scenarios:

- lost sales of 10 percent in Year 1.
- lost sales of 15 percent in Year 1.
- lost sales of 20 percent in Year 1.

A summary of each of the lost sales scenarios is presented in Tables 7 through 9.

**TABLE 7 Competition Scenario Assuming 10 Percent Lost Business in Year 1**

	1	2	3	4	5
Revenues	\$3,994,457	\$3,994,457	\$3,994,457	\$3,994,457	\$3,994,457
Percentage of Customer Base Assumed to be Lost	10.00%	15.00%	20.00%	25.00%	30.00%
Revenues Assumed to be Lost	\$ 399,446	\$ 499,169	\$ 498,891	\$ 498,614	\$4,198,337
Direct Expenses	325,000	325,000	325,000	325,000	325,000
Other Expense Savings (10%)	39,945	59,917	79,889	99,861	119,834
Pretax Income	\$ 34,501	\$ 214,252	\$ 394,002	\$ 573,753	\$ 753,503
Marginal Tax Rate	40%	40%	40%	40%	40%
Net Income	<u>\$ 20,701</u>	<u>\$ 128,551</u>	<u>\$ 236,401</u>	<u>\$ 344,252</u>	<u>\$ 452,102</u>

(continued)

**EXHIBIT 20.2 Personal Goodwill Report** *(continued)***TABLE 8 Competition Scenario Assuming 15 Percent Lost Business in Year 1**

	1	2	3	4	5
Revenues	\$3,994,457	\$3,994,457	\$3,994,457	\$3,994,457	\$3,994,457
Percentage of Customer Base Assumed to be Lost	15.00%	20.00%	25.00%	30.00%	35.00%
Revenues Assumed to be Lost	\$ 599,169	\$ 798,891	\$ 998,614	\$1,198,337	\$1,398,060
Direct Expenses	325,000	325,000	325,000	325,000	325,000
Other Expense Savings (10%)	59,917	79,889	99,861	119,834	139,806
Pretax Income	\$ 214,252	\$ 394,002	\$ 573,753	\$ 753,503	\$ 933,254
Marginal Tax Rate	40%	40%	40%	40%	40%
Net Income	\$ 128,551	\$ 236,401	\$ 344,252	\$ 452,102	\$ 559,952

**TABLE 9 Competition Scenario Assuming 20 Percent Lost Business in Year 1**

	1	2	3	4	5
Revenues	\$3,994,457	\$3,994,457	\$3,994,457	\$3,994,457	\$3,994,457
Percentage of Customer Base Assumed to be Lost	20.00%	25.00%	30.00%	35.00%	40.00%
Revenues Assumed to be Lost	\$ 798,891	\$ 998,614	\$1,198,337	\$1,398,060	\$1,597,783
Direct Expenses	325,000	325,000	325,000	325,000	325,000
Other Expense Savings(10%)	79,889	99,861	119,834	139,806	159,778
Pretax Income	\$ 394,002	\$ 573,753	\$ 753,503	\$ 933,254	\$1,113,005
Marginal Tax Rate	40%	40%	40%	40%	40%
Net Income	\$ 236,401	\$ 344,252	\$ 452,102	\$ 559,952	\$667,803

Having presented these analyses, the lost income calculated under each scenario is summarized in Table 10.

**TABLE 10 Summary of Lost Income from Seller Competition**

	2016	2017	2018	2019	2020
10 percent	\$ 20,701	\$128,551	\$236,401	\$344,252	\$452,102
15 percent	128,551	236,401	344,252	452,102	559,952
20 percent	\$236,401	344,252	452,102	559,952	667,803



**EXHIBIT 20.2 Personal Goodwill Report** *(continued)*

As can be seen in Table 10, the greater the loss of sales, the greater the loss of income. The next step in the analysis is to determine the most likely loss of revenue that would result from the competition of XYZ or either of The Smiths. Based on our discussion with management, we believe that a 20 percent loss of revenue would be too high in Year 1 as it would take significant time and investment for the lost customers to learn and adapt to new software programs. Furthermore, since many of the customers have already spent money on the software and licensing agreements, they would not consider making a switch until the term of the license agreement is over. As a result, it is likely that the percentage of lost revenue would be smaller in Year 1, before gradually increasing over the non-compete period.

However, we also believe that a 10 percent loss of revenue would be too low in Year 1 as the relationship with school board officials is the primary driver of XYZ's revenues. These relationships increase the likelihood that a significant portion of the customer base would make efforts to follow The Smiths if they were to compete with BPC.

Taking these factors into consideration, we have selected 15 percent as the percentage of sales that could possibly be diverted from BPC in Year 1. Discounting these lost earnings by BPC's estimated WACC of 12.60 percent results in the value of the non-compete being calculated as follows:

Year	Lost Income	×	12.60% Present Value Factors	=	Present Value Future Cash Flows
1	\$128,551		0.9424		\$ 121,146
2	236,401		0.8369		197,844
3	344,252		0.7433		255,882
4	452,102		0.6601		298,433
5	559,952		0.5862		328,244
<b>Value of Non-Compete</b>					<b>\$1,201,550</b>
<b>Rounded</b>					<b>\$1,200,000</b>

**CONCLUSION**

After accounting for all tangible and identifiable intangible assets, the \$7 million purchase price of XYZ Corporation is allocated as follows:

Fixed Assets	\$ 40,000
Software Contracts	350,000
Software 2 Module	30,000
Non-Compete Value	1,200,000
Personal Goodwill	5,380,000
<b>Price Paid by BPC</b>	<b>\$7,000,000</b>

The schedules and appendices attached to this report are an integral part thereof and should be considered to be part of this report.

## Conclusion

I have tried to provide some basics about intangible asset valuations. Keep in mind that this was really basic. In order to play in this sandbox, get out a big shovel because this is truly an area of specialty. Although techniques used follow traditional business valuation approaches and methods, application can vary in the models and assumptions. Should you choose to undertake these types of assignments, a lot more training and studying is needed beyond this chapter. Hopefully, this will at least be a starting point.

# Chapter 21

# Estate and Gift Valuations

## Learning Objectives

In this chapter, I will attempt to explain the following:

- Valuation rules for estate and gift tax purposes
- Valuing family limited partnerships (and similar entities) for estate and gift tax purposes
- How the valuation analyst should do the job the right way

## Introduction

I started this chapter in the last edition by writing “Although the rumors continue to circulate (and they have for years) that discounts for family limited partnerships (FLPs) and other similar entities are going to be legislated out of existence, the legislation never seems to get too far in Congress.” Toward the end of 2016, there were more hearings, this time, trying to change Section 2704 of the IRC. In English, they are at it again! By the time this edition of the book is published, who knows what these folks will be up to. Therefore, I am going to tell you about this topic as of late 2016/early 2017.

Not much has changed that affects how we perform valuations for estate and gift tax purposes. But with that being said, if the valuation analyst is going to work in this arena, he or she must know the rules. And there are definitely rules.

Business valuation assignments performed for estate and gift tax purposes are subject to the laws found within the IRC and regulations. This is not optional. It is the law. But as with all laws, there always seems to be interpretations that are questioned. Though it is not my intent to turn this book into a tax treatise, the valuation analyst needs to be aware of the rules. If the valuation analyst is not an accountant, he or she should work with an accountant, a tax attorney, or someone who knows the rules. If the valuation analyst is an accountant, find someone who understands the rules.

Besides the IRC and regulations, it is also a pretty good idea for the valuation analyst to be familiar with revenue rulings, private letter rulings, Tax Court decisions, and all types of other stuff that relate to this area. The valuation analyst should also know that there are various penalties included in the tax law that penalize taxpayers and sometimes valuation analysts for substantially understating a tax liability. Besides the malpractice issues that I addressed earlier in this book, the valuation analyst certainly does not want to end up in a position where he or she or the firm is laying out money in the form of penalties.

## Penalties for Undervaluation on Estate and Gift Tax Returns

If the valuation analyst is going to work in this arena, he or she should be aware of the potential penalties that he or she and the client face. IRC Section 6662 provides for penalties against taxpayers for undervaluation of assets on estate and gift tax returns. These penalties are based on the percentage difference between the value reported on the estate or gift tax return and the value finally determined. The client faces the following possible penalties:

Value Per Tax Return as a Percentage of the Final Value	Penalty
More than 65%	0%
More than 40%, but less than 65%	20%
40% or less	40%

So, what does this mean? It means that if the valuation analyst's client gets whacked with a penalty, he or she or his or her insurance carrier may have to write a check. Valuation analysts are subject to IRC Section 6701 penalties when it is determined that the valuation analyst aided and abetted the taxpayer in understating the tax. The maximum penalty that can be assessed against the valuation analyst is \$1,000. However, with the passage of the 2006 Pension Protection Act (PPA), the rules changed. Although this seems to be a long time ago, those who have not worked in this profession before are not familiar with The Act, and so I am going to spend a little time discussing it.

## 2006 Pension Protection Act

One of the provisions of the PPA is that for valuations for charitable contribution purposes, the appraisal<sup>1</sup> has to be a "qualified appraisal" performed by a "qualified appraiser." These definitions were expanded to apply to all fair market valuations for all purposes in the Technical Correction Act of 2007. In IRS Notice 2006-96, the IRS defined these two terms. An appraisal is considered to be a qualified appraisal if

it complies with all of the requirements of Reg. § 1.170A-13(c)—the preexisting regs—(except to the extent the regs are inconsistent with Code Sec. 170(f)(11)), and is conducted by a qualified appraiser in accordance with generally accepted appraisal standards. For example, the appraisal is consistent with the substance and principles of the *Uniform Standards of Professional Appraisal Practice* (USPAP), as developed by the Appraisal Standards Board of the Appraisal Foundation.

A qualified appraiser is an individual who has earned an appraisal designation from a recognized professional organization or has otherwise met minimum education and experience requirements under IRS regs; regularly performs appraisals for compensation; and meets any other such requirements prescribed by the IRS (Code Sec. 170(f)(11)(E)(ii)). An individual won't be considered a qualified appraiser for any specific appraisal unless he demonstrates verifiable education and experience in valuing the type of property subject to the appraisal, and hasn't been prohibited from practicing before IRS at any time during the three-year period ending on date of the appraisal (Code Sec. 170(f)(11)(E)(iii)).

Final regulations have not been issued under IRC Section 170 or any other IRC section relating to these definitions. One thing that the CPA-valuation analyst should note is that *Statement on Standards for Valuation Services* (SSVS) No. 1, Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset (AICPA, *Professional Standards*, VS sec. 100), is considered to be consistent with the substance and principals of the USPAP. Therefore, compliance with SSVS No. 1 would be the same as complying with the USPAP.

One relatively new penalty that is applicable to valuation analysts is the IRC Section 6694 penalty. According to Treasury Department Circular No. 230, appraisers are now considered to be non-signing tax preparers. The analyst is subject to the penalty if the appraisal is a substantial portion of the return or the claim for refund, and the applicable standards of care under IRC Section 6694 are not met. If this penalty is applicable, the valuation analyst is subject to a penalty that is in an amount greater than

- a. \$1,000, or
- b. 50 percent of the income derived (or to be derived) by the tax return preparer with respect to the return or claim.

<sup>1</sup> I am using the term appraisal here because the Pension Protection Act of 2006 uses this language. For this purpose, there is no distinction between an appraisal and a valuation. In addition, a valuation analyst is an appraiser in this discussion.

In addition, under IRC Section 6695A, there are substantial and gross valuation penalty tests for valuation understatements for returns filed after August 17, 2006. A substantial valuation penalty is applicable when the value of the property claimed on an estate or gift tax return is 65 percent or less of the amount determined to be the right amount. A gross valuation misstatement exists when the value of the property is 40 percent or less of the amount determined to be correct. The penalty is based on any additional tax due to an undervaluation exceeding \$5,000.

IRC Section 6695A codifies this appraisal penalty as the lesser of

- a. the greater of \$1,000 or 10 percent of the underpayment, or
- b. 125 percent of the gross income received by the appraiser for the appraisal services.

This penalty is in addition to the existing \$1,000 penalty under IRC Section 6701.

To avoid the IRC Section 6695A penalty, the appraisal must meet a “more likely than not standard,” which has yet to be defined by the IRS. The exception to this rule is that the appraisal was more likely than not the correct appraisal. According to the IRS, appraisers will avoid this penalty if they follow professional standards, perform due diligence, and follow commonly accepted methods. However, this has not been codified in any Treasury regulations.

Finally, valuation analysts may also incur sanctions under Treasury Department Circular No. 230, which governs the right of CPAs and others to practice before the IRS. The IRS can now institute proceedings to disqualify appraisers from practice before the IRS when the appraiser has been assessed a penalty under Sections 6694, 6695A, or 6701, or any other relevant penalty provisions. The IRS has established a standard that provides them with the ability to institute procedures to disqualify an appraiser if it is determined that the appraiser “acted willfully, recklessly or through gross incompetence with respect to the proscribed conduct.” This terminology seems to suggest that unless there is a pattern of negligence, the IRS would probably not start proceedings against an appraiser. However, if a disqualification does occur, the appraiser is barred from presenting evidence or testimony in any administrative proceeding before the IRS, regardless of whether the evidence or testimony would pertain to an appraisal made prior to or after the effective date of the disqualification. This information can also be shared with other government agencies. Now that I have created a sufficient amount of fear, let’s discuss valuations for estate and gift tax purposes.

## Revenue Ruling 59-60

All valuations that are performed for estate and gift tax purposes are guided by Revenue Ruling 59-60. Not only have I discussed this ruling throughout the book, but chapter 16 was devoted solely to it. There is also a copy of it in appendix 6. I am not going to repeat all of that stuff here. Just reread it and follow it for guidance.

## Chapter 14 Guidelines

Chapter 14 of the IRC (Sections 2701–2704) is an important part of the tax law to know if the valuation analyst performs this type of work for family entities. The rules are very complex and confusing. I will try to explain the more important provisions as we go along.

## Case Law

Although a valuation analyst should not necessarily perform his or her role by relying on case law, this is an area of practice in which having knowledge of the law certainly helps. There are plenty of resources available with lists of valuation court cases, as well as the full written decisions. Although the analyst should be familiar with the courts’ findings, he or she should not rely on specific court cases in the valuation analysis or report because more than likely, actual facts and circumstances will be different than those reported in the case law. It is the job of the attorney to make arguments and support them with case law, not the valuation analyst.

## The Valuation Report

Preparing a business valuation report for estate and gift tax purposes should really be no different from preparing a well-written report for other purposes in which fair market value is the standard of value. If the valuation analyst follows the guidance that I have tried to provide throughout this book, he or she should do fine.

Valuations performed for gift tax situations are subject to the *adequate disclosure* rules (see exhibit 21.1 later in this chapter). In fact, if a discount is taken in the valuation report, a box needs to be checked on the gift tax return that effectively says to the IRS “audit me.” In order for the statute of limitations to begin running, a gift tax return must meet the adequate disclosure requirements. These days, one of the most common types of reports is for the valuation of an interest in a family limited partnership. Although there are rumors that the IRS requires detailed reports to be attached to estate tax returns, this is not stated in the IRC or the regulations. However, there must be sufficient information provided in the report about any discounts (valuation adjustments) that are factored into the conclusion, so why not do a detailed report?

## The FLP Valuation

FLPs have grown in popularity as an estate planning tool and a way to reduce transfer tax values. Although this discussion refers to FLPs, many of the concepts discussed also apply to family limited liability companies (LLCs) created primarily as asset-holding companies. Business valuation analysts should be aware of the issues involved in valuing these types of interests and how to prepare a report that is less likely to be challenged by the IRS, or, if challenged, one that will more likely allow the challenge to be resolved in favor of the concluded value.

Valuation analysts need to do more than focus on what discounts they can use to reduce the value of an FLP interest. After all, this is usually the main fight with the IRS (see chapters 14 and 15 for a discussion on discounts). The FLP agreement and other partnership documents must be thoroughly analyzed before the valuation analyst can begin to render an opinion of value. The final report must at least contain certain information about the assignment—the nature of the interest being valued, the terms of the partnership agreement, and the financial condition of the entity.

This discussion is designed as an overview of the FLP valuation process and the items to consider. It is designed to help the valuation analyst prepare valuation reports more effectively and perhaps minimize the opportunity for the IRS to challenge his or her conclusion of value.

### What Is an FLP?<sup>2</sup>

Simply stated, an FLP is a nontaxable entity that is created and governed by statute and whose partners (both general and limited) and assignees consist mainly of family members.

It is nontaxable because, as a partnership, it is a pass-through entity. Unlike a corporation, which is subject to corporate-level income tax, a partnership does not pay any income taxes at the entity level. Partners will be liable for income taxes on their proportionate share of any partnership income, regardless of whether it is distributed in the form of cash.

A limited partnership is created under and governed by the Revised Uniform Limited Partnership Act of the state in which it is formed. Though they are similar in many respects, each state's Limited Partnership Act contains features that are different (although some states' acts are the same).

The FLP is also affected by various sections of the IRC, as is the valuation of interests in an FLP.

Even the term *family member* is carefully defined in IRS regulations. Members of the family are defined as the transferor or the transferor's spouse, the transferor or spouse's lineal descendants, and their spouses. This definition includes adopted children or offspring of the transferor's children but does not include aunts, uncles, cousins, and the like.

<sup>2</sup> Many attorneys are using limited liability companies (LLCs) instead of limited partnerships due to differences in the rights of members versus limited partners. Legally, these entities are different, but there are more similarities in the valuation of these two types of entities than differences. The valuation analyst must be aware of the rights (or lack of rights) that the various ownership interests have in order to prepare the valuation properly.

Many of the issues that arise in appraising FLPs become legal interpretations of the partnership agreement, rather than *pure* valuation issues. Although as valuation analysts it is important that we know and understand the issues, it is imperative that we leave the “lawyering” to the lawyers. I have said this over and over again. If there is any doubt in the valuation analyst’s mind regarding the nature of the assignment or the terms of the partnership agreement, the client’s attorney should be the one to explain it to the valuation analyst, not the other way around.

## Why Are FLPs Attractive?

FLPs are particularly attractive as estate planning tools because, through the creation of an FLP, the following apply:

- Parents or grandparents have the ability to indirectly transfer interests in family-owned assets without losing control of them.
- A high degree of protection against creditors can be achieved. This is because a partner’s creditor is legally unable to gain access to the assets in the partnership.
- The assets can be kept in the family, which is an objective of many families. This can be achieved by placing restrictions on the transfer of partnership interests, especially in the event of divorce, bankruptcy, or death of a partner.
- Problems pertaining to undivided or fractionalized interests when a property is gifted to several individuals can be avoided. This can be especially important in the case of real estate properties.
- When family-owned assets are placed in a partnership, advantages can arise through economies of scale and diversification.
- A great deal of flexibility can be achieved through the partnership agreement, which can provide broad investment and business powers. These can be amended as the family’s needs change, as long as all partners are in agreement.
- The partnership is a pass-through entity and does not pay income taxes.
- The gifting or transfer of an ownership interest in a limited partnership may be made at a lower value than that interest’s pro rata share of net asset value. The reason for this is because a limited partnership interest is likely to be both noncontrolling and nonmarketable.

## What Exactly Is the Assignment?

As stated early in this book, the valuation analyst should enter into a written contract with the client with the purpose of explaining the precise nature of the assignment that the valuation analyst is going to perform. The importance of having a clear understanding of what the valuation assignment is cannot be overemphasized. It is important that the parameters of the assignment found in box 21.1 become a part of the valuation report.

### BOX 21.1 Valuation Assignment Parameters

1. The name of the client (for instance, the person who engaged the valuation analyst). The client is responsible for identifying the nature of the interest to be valued.
2. The nature of the interest being valued (for example, general partner interest, limited partner interest, or assignee interest). It is important to note here that the thing being valued is not a percentage interest in any or all of the assets owned by the partnership but, rather, an interest in the partnership itself.
3. The size of the interest being valued. Size can be represented by a percentage interest amount, the number of units or shares, or even a dollar amount.
4. The valuation date and the purpose for which the valuation is being performed (for instance, whether it is for estate planning [gifting] or estate valuation purposes).
5. The standard of value. The retainer agreement should provide a definition of the standard of value that will be determined in the valuation. These standards are defined in the following tax regulations:

Estate planning (gifting)—Treasury Regulation 25.2512-1

Estate valuation (after death)—Treasury Regulation 20.2031-1(b)

Both of these sections define the standard of fair market value as follows:

The fair market value (of the property being valued) is the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or sell and both having reasonable knowledge of relevant facts.

This definition should appear in the report as well.

## What Documents Are Necessary for Preparing the Valuation Report?

The analyst should obtain the following documents before beginning the assignment:

1. The agreement of partnership (or other type of business agreement depending upon the form of the entity), as well as a copy of the certificate of limited partnership that has been filed with the state where the partnership was created. The certificate is an important document because it gives notice of the formation of the limited partnership and the limited liability of the limited partners and discloses some of the terms of the partnership agreement. Without this document, the possibility exists that the FLP will not be recognized by the IRS. If the valuation analyst is not familiar with the Limited Partnership Act of the state of formation, he or she should also obtain a copy of it.
2. A list of the assets that were initially contributed to the partnership, as well as documentation of any assets that were subsequently contributed.
3. Valuations of real estate and other assets held by the partnership as of the valuation date (for example, market values of marketable securities). If the partnership owns interests in other closely held businesses or partnerships, these interests must be separately appraised before the value of the FLP interest can be determined.
4. Financial statements and tax returns for the partnership for a reasonable number of years or since inception. If it is a new partnership, these will not exist.
5. The general partner's anticipated policies regarding distributions or an IRC Section 754 election. The IRC Section 754 election will be covered later.
6. If the FLP is ongoing, a history of distributions, if any, made to partners. If the entity is new, management's intended policy regarding distributions should be obtained.
7. Information such as minutes of meetings of partners or other documents, if they exist, may give the analyst some insight into the intent of the donor at the time of formation of the partnership.

## How Does Revenue Ruling 59-60 Help?

Revenue Ruling 59-60 provides basic guidelines for valuing shares of closely held corporations. It is also a valuable guide to valuing FLPs. Every valuation report of a family limited partnership interest should closely follow Section 4 of Revenue Ruling 59-60, which enumerates the factors the valuation analyst should consider in his or her valuation.

Most of the information necessary to describe the nature of the FLP and its history can be found in the certificate of partnership and the partnership agreement. This section of the report is often overlooked because many valuation analysts prefer to concentrate on the valuation calculations and the discounts selected. However, it is important to make a thorough review of the partnership agreement and to include a list of the pertinent aspects of it in the report.

Remember, our assignment is to determine the fair market value of an FLP interest, not the fair market value of the underlying assets. That is what the valuation analyst should be concentrating on in his or her report. Provisions in the agreement provide the rights (or lack of rights) of the general and limited partners and should be used, where possible, to support the analysis and quantification of the discounts.

## What Is Chapter 14?

Chapter 14 of the IRC was enacted in October 1990 and outlines the special valuation rules that must be adhered to when valuing interests in closely held companies and partnerships. The basic premise behind this section is that when valuing business interests that are to be transferred between family members, the valuation analyst should ignore restrictions that would not exist if the transaction was between unrelated third parties.

This chapter consists of four sections, three of which actually relate to FLPs. If the partnership does not comply with the provisions of this chapter, the IRS may determine that the partnership does not exist for tax purposes and value the underlying assets directly in calculating the applicable gift or estate tax.



The provisions of the partnership agreement should comply with the sections of Chapter 14. The major items contained in an FLP agreement are listed in box 21.2, along with the applicable sections of Chapter 14.

IRC Section 2701 addresses special valuation rules used for lifetime gifts when a junior equity interest (corporate, partnership, or LLC) is transferred from one family member to another and the transferor retains a senior equity interest in the company. In this instance, *senior* and *junior* interests refer to interests that are not equal economically, such as preferred stock versus common stock. They do not refer to *general* or *limited* partners as such because general and limited partners are often economically the same. Although they have disproportionate liability and management responsibilities, this, alone, does not make a general partner interest *senior* to a limited partner interest.

For this reason, the special valuation rules contained in IRC Section 2701 do not apply to a gift of a partnership interest in which all items of income and loss are shared in the same proportions by all partnership interests. A reading of the partnership agreement will determine whether or not the FLP is a *pro rata* partnership in which the only differences between the general partner interest and the limited partner interest are management rights and the extent of liability exposure. Not only should this provision be included in the agreement, but it should be followed by the entity. On audit, the IRS will request documents related to distributions, including cancelled checks, to see if the entity is complying with this provision.

Section 2703 deals with restrictions placed on the rights of the transferee in the partnership interest. This section provides that the value of any property is to be determined without regard to the following:

- Any option, agreement, or right to acquire or use the property at a price less than fair market value
- Any restriction on the right to sell or use the property

These rules do not apply when the following occurs:

- There is a bona fide business arrangement.
- It is not a device to transfer the property for less than full and adequate consideration.
- Its terms are comparable to similar arrangements entered into by persons in arm's length transactions.

What is the significance of IRC Section 2703? The term *property* in IRC Section 2703 does not mean the assets contributed to the FLP by the partners because those assets are 100 percent owned by the FLP. Once the assets have been contributed to the FLP, no partner or assignee has a right to receive, possess, or use the assets. What they do have is a right to possess their general and limited partner interests. Because it is the interest in the FLP that is the property for purposes of IRC Section 2703, whether this section applies depends upon the restrictions placed on the rights of the transferees in the partnership agreement.

Whether or not IRC Section 2703 applies is for the client or client's attorney to decide, not the valuation analyst. The valuation analyst is retained to determine a conclusion of value for a partnership interest (not a partnership asset). At most, the valuation analyst can be alert for provisions in the agreement and contact the client if anything appears questionable.

Under this IRC section, the IRS will argue that the restrictions in the agreement are more onerous than the restrictions would exist between two unrelated parties, and as a result, the agreement is not valid. If the IRS wins this argument, then a partnership does not exist, and the actual gift made was the underlying assets, rather than an interest in an FLP.

IRC Section 2704 deals with lapsed voting and liquidation rights. IRC Section 2704(a) treats certain lapsed voting or liquidation rights in an FLP as deemed transfers that become subject to gift or estate tax. Generally, this IRC section becomes applicable if there is only one general partner and this partner is an individual. Voting

**BOX 21.2****FLP Agreement Provisions  
with Chapter 14 Compliance**

Provision	Chapter 14 Section
Formation	2703
Purpose	2703
Term	2704(b)
Management	2704(a)
Capital contributions	2703
Allocations of profit and loss	2701
Distributions	2701
Transfer restrictions	2703 and 2704(b)
Dissolution	2703 and 2704(b)

rights lapse if, at the time of death, this general partnership interest becomes a limited partnership interest, and the general partner's rights to liquidate the partnership lapse as a result. The issue becomes how to measure that loss in rights.

Many experts conclude that the best way to avoid triggering IRC Section 2704(a) is to have a general partner that is a corporation or other entity. In the alternative, an FLP could have more than one general partner if the partners are individuals and there is a provision for succession from one to another should one die. These provisions must be spelled out in the partnership agreement.

IRC Section 2704(b) disallows consideration of certain restrictions (called the *applicable restrictions*) on liquidation rights in valuing the transfer of an interest in a family-controlled entity. An applicable restriction is any limitation on the ability to liquidate the entity, in whole or in part, that is more restrictive than the limitations that would apply under state law, if the restriction did not exist in the agreement. If the liquidation restrictions in an agreement are more restrictive than state law, under IRC Section 2704(b), the valuation analyst should value the interest utilizing state law provisions, rather than the more restrictive rights in the agreement.

There are a number of states that have changed their Limited Partnership Act to state that the provisions of the Partnership Agreement control liquidation restrictions; therefore, many LPs have been formed in these states. For this reason, it is imperative for the valuation analyst to understand the appropriate state law.

## How Does All This Affect the Valuation Assignment?

Many valuation analysts are concerned with the size of the discounts taken in an FLP valuation because they believe that this is the biggest concern to the IRS. Although the IRS is concerned with excessive discounts, there is case law that has dealt with the issue of whether the partnership truly exists. The IRS has raised this issue by either attacking the reason for the formation of the partnership or raising Chapter 14 issues, specifically IRC Sections 2703 and 2704.

Remember, if the IRS can win on these issues, then the FLP is not seen as a valid entity; therefore, the gifts become gifts of the underlying assets directly, rather than partnership interests (in other words, no discounts).

Some of the original cases that dealt with these issues are the following:

- *Baine P. Kerr, et ux. v. Commissioner*, 113 TC 449
- *Estate of Albert Strangi v. Commissioner*, 115 TC 35
- *Ina F. Knight v. Commissioner, et vir v. Commissioner*, 115 TC 36
- *Church v. United States*, 85 AFTR 2d 2000-804

This is not intended to be an exhaustive list; it is merely an example of some of the issues that the IRS has brought up on audit that have been decided by the courts. There are other, more recent cases, but in general, the taxpayers have prevailed in these cases because the facts and circumstances have not been egregious. In general, the courts have allowed the entities to stand because the partners understood the agreement when they signed it and the courts have chosen not to override that choice.

## Section 2036

This section of the IRC does not directly relate to valuation but has been used effectively by the IRS in fighting valuations of interests in FLPs that are included on estate tax returns.

The following is a reproduction of IRC Section 2036, "Transfers with Retained Life Estate."

### TRANSFERS WITH RETAINED LIFE ESTATE

**2036(a) General Rule.** The value of the gross estate shall include the value of all property to the extent of any interest therein of which the decedent has at any time made a transfer (except in case of a bona fide sale for an adequate and full consideration in money or money's worth), by trust or otherwise, under which he has retained for his life or for any period not ascertainable without reference to his death or for any period which does not in fact end before his death—

**2036(a)(1)** the possession of enjoyment of, or the right to the income from, the property, or

**2036(a)(2)** the right, either alone or in conjunction with any person, to designate the persons who shall possess or enjoy the property or the income therefrom.

**2036(b) Voting Rights.**

**2036(b)(1) In General.** For purposes of subsection (a)(1), the retention of the right to vote (directly or indirectly) shares of stock of a controlled corporation shall be considered to be a retention of the enjoyment of transferred property.

**2036(b)(2) Controlled Corporation.** For purposes of paragraph (1), a corporation shall be treated as a controlled corporation if, at any time after the transfer of the property and during the 3-year period ending on the date of the decedent's death, the decedent owned (with the application of section 318), or had the right (either alone or in conjunction with any person) to vote, stock possessing a least 20 percent of the total combined voting power of all classes of stock.

**2036(b)(3) Coordination with Section 2035.** For purposes of applying section 2035 with respect to paragraph (1), the relinquishment or cessation of voting rights shall be treated as a transfer of property made by the decedent.

**2036(c) Limitation on Application of General Rule.** This section shall not apply to a transfer made before March 4, 1931; nor to a transfer made after March 3, 1931, and before June 7, 1932, unless the property transferred would have been includible in the decedent's gross estate by reason of the amendatory language of the joint resolution of March 3, 1931 (46 Stat. 1516).

Although the IRS has not won every case on this issue, they have been relatively successful. When the IRS prevails on this issue, the amount of the gift, without discounts, is included in the decedent's estate. Some of the cases that have been decided under IRC Section 2036 are as follows:

- *Estate of Reichardt v. Commission*, 114 TC 144
- *Estate of Harper v. Commissioner*, TC Memo 2002-121
- *Kimbell v. U.S.*, 2003 WL 138081, Doc 2003 2946, 2003 TNT 22-12 (N.D.TX. 2003); vacated and remanded by 5th Circuit Court of Appeals (No. 03-10529)
- *Estate of Strangi v. Commissioner*, 115 TC 478 (2000), affirmed in part and revised in part 293 F.2D 279 (5th Cir. 2002), remand TC Memo 2003-145
- *Estate of Stone v. Commission*, TC Memo 2003-309

This is not an all-inclusive list of the IRC Section 2036 cases that have been ruled on, but these particular cases demonstrate the issues that the IRS is raising in this area. Since this list was compiled, there have been a number of additional cases. Some of the decisions have favored the IRS, whereas others have favored the taxpayer. IRC Section 2036 is a legal and tax argument, not a valuation issue. However, because many of us advise clients on these issues or work with attorneys in setting up or maintaining FLPs, some key things to keep in mind are provided in box 21.3.<sup>3</sup>

**BOX 21.3**

**IRC Section 2036 Considerations**

1. Select FLP assets carefully.
  - a. Do not transfer a personal residence to an FLP.
  - b. To avoid the appearance of an implied agreement, do not transfer substantially all the decedent's assets to the FLP. Make sure the decedent retains, OUTSIDE of the FLP and in the client's own name, sufficient assets to meet his or her own personal needs.
  - c. Transfer business assets to an FLP. A closely held business makes a great asset to contribute to an FLP. The active involvement of the FLP in a legitimate business activity may be the best way to avoid inclusion under IRC Section 2036.

(Box continued)

<sup>3</sup> Adapted from "A Practical Approach to FLPs: It's Not All Gloom and Doom," a presentation made by David Aughtry Esq. at the 2004 AICPA National Business Valuation Conference. Copyright 2008 by David D. Aughtry. Used with Permission.

**BOX 21.3****IRC Section 2036 Considerations** *(continued)*

2. Avoid certain patterns of distributions.
  - a. Avoid timing distributions to coincide with personal expenditures. It makes the FLP look like the decedent's personal pocketbook.
  - b. If possible, do not make distributions and allow the FLP to accumulate its income.
  - c. If distributions are necessary, have the FLP agreement provide for distributions at the same time each period, for example, quarterly distributions can be made. Another option is to determine distributions on the basis of the profitability of the FLP's assets.
  - d. When distributions are made, make sure they are proportionate to the interest owned by the partners.
  - e. Always keep detailed records of distributions—approval process used, reasons, and so on.
3. Avoid giving the client “control” over the contributed assets.
  - a. Avoid placing the client in a position where he or she has control over the partnership distributions.
  - b. Do not make the client general partner or allow the client to have enough power to remove the general partner and place himself or herself or another person in the role of general partner.
  - c. Avoid placing the client in a position where he or she can dissolve the FLP.
  - d. Avoid giving the client's attorney-in-fact management responsibilities.
  - e. Do not waive general partner's fiduciary duties. Do NOT provide that the general partner will be relieved of normal fiduciary responsibilities.
  - f. Consider hiring an unrelated party to handle the day-to-day management of the FLP and the general partner entity. This also supports the legitimate business purposes of the FLP.
4. Structure the FLP to include other interest holders.
  - a. If possible, have other family members contribute property to the FLP to enhance the bona fide status of the FLP. This supports the FLP's legitimate business purpose.
  - b. Include unrelated interest-holders. The inclusion of unrelated interest-holders may help prevent a court from disregarding the general partner's fiduciary duties.
  - c. Always involve other partners and general partner entity owners in negotiation and implementation process. Documenting the involvement of the other interest-holders may help establish the applicability of the bona fide sale exception to IRC Section 2036.
5. Observe formalities.
  - a. Observe all the formalities. Don't just rely on accounting entries. Avoid accruing certain payables; leave a paper trail.
  - b. Get the books made promptly after the FLP is created.
  - c. Open the FLP checking account promptly after FLP formation.
  - d. Retitle assets in FLP's name promptly.
6. Don't treat an FLP like a testamentary arrangement.

Be aware and cautious of setting up an FLP with a widow or widower who is on his or her death bed. This could be problematic because there would only be limited post-transfer history, and it creates the impression that the transaction is testamentary in nature.

## More Court Cases

Because IRC Section 2036 is only effective for estate tax returns, the IRS needed a different mechanism to challenge gift tax returns when the Chapter 14 arguments did not work. The arguments they have raised are indirect gifts of the assets and the step transaction doctrine.

The indirect gift argument arises when a gift is made before the agreement is executed or the assets are transferred to the FLP. In this case, the IRS has been able to argue that the transfer is not a gift of an FLP interest, but a gift of the underlying assets. There have been several cases on this issue, both victories and defeats for the IRS, including the following:

- *Senda v. Commissioner*, T.C. Memo 2004-160 (affirmed by 8th Circuit Court of Appeals, 97 AFTR 2d 2006-419)
- *Linton v. U.S.*, 104 AFTR 2d 2009-5176, 638 F Supp 2d 1277 (DC WA, 2009) (affirmed in part, reversed and remanded in part by 9th Circuit Court of Appeals, 107 AFTR 2d 2011-565, 630 F3d 1211)
- *Holman v. Commissioner*, 130 TC 170 (affirmed by 8th Circuit Court of Appeals, 105 AFTR 2d 2010-1802)
- *Bianca Gross v. Commissioner*, T.C. Memo 2008-221

The step transaction argument arises when the entity is formed and the gifts are made shortly thereafter. The IRS has argued that these are essentially one transaction (formation and transfer) and, therefore, an indirect gift of the underlying assets. This issue was raised in the *Linton* and *Holman* cases referenced previously.

Court cases should probably be reviewed on a fairly regular basis if the valuation analyst is going to work in this area because there are frequently new cases and new issues. The preceding lists of cases are only a brief sample, not an all-inclusive list.

## Things to Consider in the Valuation Process

The basic characteristics of the transferred interest in the FLP, combined with specific provisions in the FLP agreement and state law, form the foundation for the valuation adjustments used in arriving at the fair market value of the transferred interest in the FLP. I have included some of the factors to be considered in determining appropriate valuation adjustments in box 21.4.

### BOX 21.4 Factors to Consider Affecting Valuation

#### Factors to be considered that are found in the partnership agreement:

- A provision (term-of-years provision) in the partnership agreement that the partnership shall continue to exist for a definite term of years, unless it is dissolved or liquidated prior to this date.
- No guarantee by the managing general partner or general partners of the return of any partner's capital contributions, nor any allocations of profits or losses, nor any distributions of distributable cash (not even enough to cover the annual taxes of the partners).
- Approval rights of limited partners required for certain major decisions; otherwise limited partners and assignees are excluded from participation in management.
- How the election of new managing general partners is accomplished.
- A provision that distances the limited partners and assignees from the assets of the FLP.
- The right of the managing general partner(s) or general partner(s) to determine distributable cash.
- Capital call provision obligating partners and assignees.
- Limitations on the voluntary and involuntary transferability of general partner, limited partner, and assignee interests.
- The presence of rights of first refusal.
- Consent of all partners required for a transferee or assignee of an interest in the partnership to become a substituted limited partner.
- Whether the managing general partners or general partners are required to make an IRC Section 754 election.
- Limitations on the right of the general partner to withdraw from the partnership prior to the expiration of its stated term and provision that, should the general partner exercise his or her power to withdraw early, his or her general partner interest shall become a limited partner interest and he or she may also be subject to damages for breach.
- Limitations on the right of a limited partner and assignee to withdraw from the partnership prior to the expiration of its stated term.
- Provisions for dissolution of the partnership mirroring state law.

#### Factors to be considered but may not be found in the partnership agreement:

- The reputation, integrity, and perceived competence of the partnership management and general partner(s)
- The number of investors in the partnership
- The type of assets owned by the partnership
- Whether or not the assets of the partnership are well-diversified
- The amount of financial leverage inherent in the partnership's capital structure
- The caliber of the information flow from the partnership and the general partner(s)
- The current and historical amount of cash actually distributed to partners and assignees
- Underlying cash flow coverage of yearly distributions made to partners and assignees
- The size of the interest
- The universe of interest buyers
- The default rules under state law

## What About Methodology?

What is the best approach for valuing an FLP interest? Which methods can and should be used? Section 4 of Revenue Ruling 59-60 states the following:

(a) ...in general, the appraiser will accord primary consideration to earnings when valuing stocks of companies which sell products or services to the public; conversely, in the investment or holding type of company, the appraiser may accord the greatest weight to the assets underlying the security to be valued.

(b) The value of the stock of a closely held investment or real estate holding company, whether or not family owned, is closely related to the value of the assets underlying the stock. For companies of this type the appraiser should determine the fair market values of the assets of the company. Operating expenses of such a company and the cost of liquidating it, if any, merit consideration when appraising the relative values of the stock and the underlying assets. The market values of the underlying assets give due weight to potential earnings and dividends of the particular items of property underlying the stock, capitalized at rates deemed proper by the investing public at the date of appraisal. A current appraisal by the investing public should be superior to the retrospective opinion of an individual. For these reasons, adjusted net worth should be accorded greater weight in valuing the stock of a closely held investment or real estate holding company, whether or not family owned, than any of the other customary yardsticks of appraisal, such as earnings and dividend paying capacity.

This seems to imply that some type of asset-based approach would be the most appropriate and, indeed, the only approach to valuing an FLP interest. Whereas an asset-based approach might be a frequently used approach to valuing such an interest, it is by no means the only one. Often, an income approach may be used, as well. The approach to be used should be determined based on the underlying assets of the FLP, whether or not there is a history of distributions to the partners, and how extensive and consistent the distributions were. Depending on the assets held by the partnership, a market approach could also be utilized. Depending on the circumstances of the case, more than one method may be appropriate.

In *Estate of Etta H. Weinberg, et al. v. Commissioner* (TC Memo 2000-51), the court accepted both an income approach and an asset-based approach for determining the value of the decedent's minority interest in a limited partnership that owned and operated an apartment complex. The court found that the taxpayer's use of the net asset value method under the asset-based approach was warranted because the property would retain most of its inherent value regardless of rental income production. Furthermore, the court found that the capitalization of the three-year average of distributions under the income approach was also appropriate. The findings of the court illustrate that the reliance on one approach (particularly the asset-based approach) for the valuation of FLPs is not always sufficient or relevant.

In deciding on the methodology to apply to the valuation of partnership interests, the valuation analyst must consider many different facts.

The IRS' argument to disregard the partnership agreement is made easier when the consultant uses only an asset-based approach to value an FLP interest, and the discounts applied by the appraiser are justified solely on the restrictions in the partnership agreement, without comparison to terms in similar arm's length transactions. In addition, the numerous studies on discounts for lack of control and lack of marketability are often cited, but consultants draw vague, if any, comparisons of the subject interest to the averages found in the studies [see *Charles T McCord, et ux v. Commissioner*, 120 TC 358 (2003)]. Although the averages in the studies may be used as a starting point, consultants should determine what, if any, adjustments to the averages are necessary based on the subject FLP interest and thoroughly explain this logic in the valuation report. Ultimately, both the discount for lack of control and the discount for lack of marketability require an appraiser's objective support by demonstrating that the application of a discount increases the rate of return to the investor to offset the risks of lack of control and lack of marketability. Several U.S.

Tax Court cases, such as *Estate of Norman L. Bell v. Commissioner* [TC Memo 1987-576 (1987)] and *Nancy N. Mooneyham v. Commissioner* [TC Memo 1991-178 (1991)], discuss the importance of supporting discounts with applicable evidence.<sup>4</sup>

A more recent case is that of *Estate of Natale B. Giustina v. Commissioner*. This case was originally heard in the Tax Court (T.C. Memo 2011-141) and was ultimately overturned and remanded back to the Tax Court by the 9th Circuit Court of Appeals in 2014 (No. 12-71747). A summary of these cases follows:

At the time of his death, the decedent owned a 41.128 percent interest in Giustina Land and Timber Company Limited Partnership. The estate reported the value of his interest at \$12,678,117 on the estate's tax return, and the Tax Court determined the value to be \$27,454,115.

The decedent's expert used an asset-based approach as well as an income approach. In its final decision, the Tax Court put 25 percent of the weighting on the asset-based approach because it believed that there was only a 25 percent likelihood that the assets would be sold. The remainder of the value was based on the discounted cash flow method (going concern).

On appeal, the Ninth Circuit reviewed the Tax Court's determinations for "clear error." It first looked at the weighting of the methodologies that was used to determine the value and concluded that the Tax Court's weighting of 25 percent on the asset-based approach was incorrect. The Ninth Circuit stated the following:

Although the Tax Court recognized that the owner of the limited interest could not unilaterally force liquidation, it concluded that the owner of that interest could form a two-thirds voting bloc with other limited partners to do so, and assigned a 25% probability to this occurrence. This conclusion is contrary to the evidence in the record. In order for liquidation to occur, we must assume that (1) a hypothetical buyer would somehow obtain admission as a limited partner from the general partners, who have repeatedly emphasized the importance that they place upon continued operation of the partnership; (2) the buyer would then turn around and seek dissolution of the partnership or removal of the general partners who just approved his admission to the partnership; and (3) the buyer would manage to convince at least two (or possibly more) other limited partners to go along, despite the fact that "no limited partner ever asked or ever discussed the sale of an interest." Alternatively, we must assume that the existing limited partners, or their heirs or assigns, owning two-thirds of the partnership, would seek dissolution. We conclude that it was clear error to assign a 25% likelihood to these hypothetical events.

The court went on to state, "the Tax Court engaged in 'imaginary scenarios as to who a purchaser might be, how long the purchaser would be willing to wait without any return on his investment, and what combinations the purchaser might be able to effect' with the existing partners. We therefore remand to the Tax Court to recalculate the value of the Estate based on the partnership's value as a going concern."

## Asset-Based Approach

Obtain the fair market values of all assets and liabilities on the balance sheet and apply appropriate discounts (for lack of control and marketability).

## Income Approach

Determine cash flow available to partners and capitalize or discount as appropriate.<sup>5</sup> If a sale of the underlying assets is contemplated, the sales price might be the applicable terminal value. Apply discount for lack of marketability in most cases (no discount for lack of control necessary because cash flow capitalized or discounted is the amount available to the minority owner and, therefore, the result is a minority value).

<sup>4</sup> Jay E. Fishman *et. al.*, *PPC's Guide to Business Valuations*, 26th ed. (Fort Worth, TX: Thomson Practitioners Publishing Company, 2016): 14–15.

<sup>5</sup> Sources of rates of return include *The Wall Street Journal*, Morningstar, and the National Association of Real Estate Investment Trusts (NAREIT).

## Market Approach

Determine valuation multiples by looking for comparable publicly traded interests. The appropriate multiple could be price to dividends, adjusted for the risks associated with your specific valuation assignment.<sup>6</sup> Because this data is based on dividends or distributions to the minority interests, the result is a minority value. Therefore, only a discount for lack of marketability needs to be applied.

## Valuation Adjustments

Valuation adjustments are supposed to reflect the lack of control inherent in limited partnership interests and the lack of marketability any type of closely held partnership interest endures. These are two separate issues that usually result in two separate adjustments. The courts recognize the necessity for these discounts but often disagree about how much of a discount should be allowed.

Fair market value is determined by the nature of the interest transferred. Unless the partners agree to admit the transferred interest as a partner, it is an *assignee interest*. Therefore, the hypothetical willing buyer might consider whether or not the other partners would admit him or her as a partner with all the rights that go with being a partner as significant.

An assignee interest has only an economic interest in the partnership. That is, he or she has a right to receive distributions, if any, and a right to distributions on liquidation. An assignee interest has fewer rights than a limited partner.

A limited partner, like a minority shareholder, does not have the ability to “get at” the partnership assets to either manage them or dispose of them. A limited partner probably has little or no say in partnership management issues. And, like a minority shareholder, a limited partner does not control distributions. These are all prerogatives of management or, in the case of the limited partnership, the general partner or the general partner who has been designated as the managing partner.

The hypothetical willing buyer most likely would not pay a liquidation price (pro rata of the underlying assets) for a limited partner or assignee interest in a limited partnership. What a willing buyer would pay would be something less than liquidation value in order to receive a return on his or her investment. This is the basis for valuation adjustments or discounts.

The valuation analyst must read the partnership agreement carefully to determine what the rights and duties of both types of partners are. The voting rights of the limited partners should be determined. These are the types of things that will help to support the size of the discount for lack of control.

## Discount for Lack of Control

Although I provided you with some of this stuff in chapter 14, it is important enough to repeat. The types of assets owned by the partnership must be considered when finding a starting point for this discount. As previously discussed, the valuation analyst may not need a discount for lack of control if he or she uses an income or market approach for this type of assignment. Although an FLP could hold almost any type of asset, most FLPs own either marketable securities, real estate, or some combination of both.

## Marketable Securities

A logical reference point when valuing an interest in such an FLP is a closed-end investment fund. It is best to use closed-end investment funds that hold publicly traded securities that are similar to the securities held by the FLP, such as domestic stocks, foreign stocks, specialty funds, corporate bonds, municipal bonds, or government bonds. There are many other types of funds.

<sup>6</sup> Sources for comparable (guideline) data are Closed End Mutual Funds (*The Wall Street Journal* and Morningstar) and *Direct Investment Spectrum* (published by Partnership Profiles Inc.).



Typically, these funds trade at discounts to their net asset values (NAVs). Statistical efforts to determine a definitive explanation for these discounts have failed to reveal a reason for the discounts. In any event, the discounts (and premiums) observed in the marketplace serve as a proxy for the lack of control discount. The reason that they serve as a proxy is that holders of closed-end funds have the same lack of control over the underlying assets that a limited partner in an FLP has. It is presumed that these discounts represent the market's decrease in value for not having access to the assets and not having any control over them.

Whether the valuation analyst adjusts these discounts before applying them to his or her FLP interest is a question of specific facts and circumstances of the particular valuation assignment. If the valuation analyst believes that the interest he or she is valuing has less control, then he or she might increase the discount, and vice versa. Another issue relates to the similarities of the portfolios. The valuation analyst might believe that his or her subject portfolio would trade at a higher or lower discount. Whatever position the valuation analyst takes, the discussion should include all the reasoning behind the adjustments. However, there is at least one Tax Court case that frowned on changing the size of the discount because there was no empirical evidence to support the adjustment.<sup>7</sup>

This discount only pertains to the issue of lack of control. It has nothing to do with marketability factors. The perceived riskiness of any individual security in the FLP's portfolio will be reflected in the market value of that security. Any adjustments the valuation analyst might be tempted to make because the partnership interest is not as easily traded as a share in a closed-end mutual fund should be avoided. That is a different discount.

There are several factors (see box 21.5) that might be considered when adjusting the starting point for the discount for lack of control. Remember that adjustments should be reasonable and reflect the facts of the particular FLP interests.

#### BOX 21.5 Discount for Lack of Control Adjustment Considerations

**Professional management.** Many FLPs do not have professional management, whereas closed-end funds do. This would drive the discount higher.

**Regulation.** Closed-end funds are regulated by the SEC; the FLP investor enjoys no such protection.

**Diversification and size.** The FLP portfolio may not have the same level of diversification as a closed-end fund. One can look at specialized funds that invest in one industry as a comparison. FLPs are often very tiny compared to closed-end funds. This might increase the discount.

**Investment objective.** An FLP portfolio may reflect no defined investment policy or objectives. This may be a lack of professional management.

**Quality.** Speculative versus investment grade. Recall, however, that the security's market price should reflect the market's opinion about its overall quality. Avoid double counting in the discount.

**Performance.** If the FLP has been in existence for a while, its total return might be compared with that of various similar closed-end funds.

**Average maturity.** For fixed income portfolios, average maturity of the bonds will affect their market values. Again, this factor should be addressed in the price of the security.

## Real Estate

Very often, an FLP will hold one or more pieces of real property. These might range from the family home to vacation property, vacant land, a farm, or some income-producing real property, such as apartments, retail, or office space. The valuation analyst should review these assets carefully in order to determine the nature of each because this will affect the selection of discounts.

<sup>7</sup> See *Peter S. Peracchio v. Commissioner*, T.C. Memo 2003-280.

A starting point for determining lack of control discounts for FLPs owning real estate would be real estate limited partnerships (RELPs) and real estate investment trusts (REITs). These partnerships have been in existence for a number of years and a body of data has been accumulated on many aspects of them. A fairly liquid secondary market for RELPs exists. It is nowhere near as liquid as a stock exchange, but enough transactions take place that there is good data on the discounts at which these securities trade to their NAVs.

Data on this market has been gathered by Partnership Profiles, Inc., since 1990.

Partnership Profiles makes its data available through its Minority Interest Database, which is available by subscription at [www.partnershipprofiles.com](http://www.partnershipprofiles.com). In addition, annually, the company publishes an executive summary entitled, xxxx<sup>8</sup> *Executive Summary Report on Partnership Re-Sale Discounts, Special Addendum Covering Real Estate Programs in Executive Summary Report*. This report contains information about some of the partnerships that Partnership Profiles follows, along with information regarding historic summary discounts.

The factors outlined in box 21.6 can influence the price of a RELP in the secondary market. These factors can be considered by the analyst in determining a value for the FLP interest.

According to Partnership Profiles, Inc., the discount derived using this data is primarily a discount for lack of control but also includes some discount for lack of marketability. Be careful not to double count!

Whether or not an FLP has a history of making distributions is an important consideration in determining the discount. Generally, partnerships that make distributions trade at lower discounts to their NAVs, all other things being equal. The amount of debt is important as well. If the FLP that is being valued has no debt, it should be compared to partnerships that have little or no debt, as well.

Consider as many comparable partnerships from this study as possible. Courts have maintained that more comparables are better than fewer, and certainly better than only one.

As with a discount obtained using closed-end funds, this discount for real estate limited partnerships is also a starting point. It may be adjusted—either upward or downward—by factors that differentiate the FLP being valued from the comparable real estate limited partnership. These are similar to the ones enumerated under the marketable securities section.

## Discount for Lack of Marketability

An additional adjustment is often made to account for the fact that there is no secondary market for FLP interests. These interests lack marketability, that is, they cannot be liquidated or converted to cash quickly. If one owns shares of a publicly traded corporation, one may call a broker, sell the shares, and have the cash proceeds within a few business days. Not so with FLP interests, and this is the basis for the discount for lack of marketability (DLOM). In addition to the lack of a secondary market for FLP interests, certain provisions are often written into FLP agreements restricting the transfer of interests, especially to individuals or entities outside of the family circle. These restrictions create an additional lack of marketability factor. Some of them include the following:

### BOX 21.6 RELP Factors for Valuation Consideration

1. The type of real estate assets owned by the partnership
2. The amount of financial leverage inherent in the partnership's capital structure
3. Underlying cash flow coverage of yearly distributions made to partners
4. The caliber of the information flow from the partnership and the general partner
5. Whether or not the assets of the partnership are well-diversified
6. The reputation, integrity, and perceived competence of the management and general partner
7. Liquidity factors such as how often a partnership interest trades, the number of investors in the partnership, the time period until liquidation, the universe of interested buyers, whether the partnership is publicly or privately syndicated, and the presence of rights of first refusal

.....  
8 xxxx = year of study.

- With some exceptions, a general partner, limited partner, or an assignee may not transfer all or any part of his or her interest without the prior written consent of the general partners, which consent may be given or withheld at the discretion of the general partners.
- A transferee of an interest in an FLP shall only be entitled to the rights of an assignee unless the consent of all general partners and a majority in interest of the limited partners is given to make the transferee a substitute limited partner.
- No partner or assignee shall have the right to withdraw from the FLP prior to its dissolution and liquidation.
- No partner or assignee may withdraw or reduce his or her capital contribution or capital account without the consent of the general partner.

### Other Provisions Affecting Marketability

In addition to provisions in the agreement that restrict transfer, a history of little or no dividends or distributions from the FLP to the partners is a factor that affects marketability. A willing buyer might be more inclined to ignore restrictions on the transfer of his or her interest in exchange for a stream of cash benefits. However, little or no distribution history is common with FLPs, which often retain income and gains in order to fulfill the long-term investment goals of the partnership.

Another factor that might affect the marketability of an FLP interest is the *754 election*. This is an election that the partnership might make under IRC Section 754, which provides that the partnership may elect to adjust the inside basis of the partnership's underlying assets. In other words, the partnership can adjust its internal books to show that a new partner paid a higher price for assets that are worth more at the time of the purchase (transfer). This election would not affect the existing partners, but it would have positive tax consequences for a new partner.

If there is nothing in the agreement that addresses the 754 election, it does not mean that the partnership cannot make the election. It still can. However, a willing buyer might wish to have assurance that such an election will be made. This is especially critical if the fair market value of the underlying assets of the partnership have increased in value over their original basis. Because there is considerable record keeping involved once this election is made, an FLP may be reluctant to make the election. However, there is at least one Tax Court case<sup>9</sup> that expressed skepticism when the valuation analyst increased the discount because there was nothing in the agreement guaranteeing that the election would be made. The judge stated that he did not believe that a transaction would take place without the guarantee of a 754 election. However, I've seen many partnership tax returns in which a transfer of an interest takes place without a corresponding election!

When valuing a general partner interest, some consideration may be given to an additional marketability factor reflecting the liability exposure assumed by the general partner and that under many states' partnership statutes, a majority of the limited partners may remove a general partner that assigns all the general partner's interest in an FLP to a third party. Here, the valuation analyst must read the partnership agreement carefully to determine under what circumstances a general partner interest may be transferred or whether, after withdrawal of a general partner, that general partner interest becomes a limited partner interest. In this case, the DLOM might be increased.

An FLP can require additional capital from the partners in order to meet operating expenses and have extra capital for partnership requirements. This type of provision is not included in every FLP agreement, but its presence may warrant an additional lack of marketability factor. Capital calls might require that an interest-holder remain liquid in order to meet them, rather than place funds in a higher yielding, but less liquid, investment. A willing buyer would give this additional liability exposure and potential loss of a more favorable investment rate of interest consideration in determining value and so does the valuation analyst when valuing the interest in the FLP.

<sup>9</sup> See *Estate of W.W. Jones II v. Commissioner*, 116 TC 121.

## Sources of Marketability Discounts

The sources for discounts for lack of marketability for FLP assignments are the same as for all valuation assignments and were discussed in detail in chapter 15. The valuation analyst starts with the restricted stock and pre-initial public offering studies and the quantitative models and then addresses the facts and circumstances of the specific valuation assignment to determine the adjustments to the discount that will be utilized in the assignment at hand. There are several lists of factors to consider that have been published. The first list can be found in box 21.7, which comes from *PPC's Guide to Business Valuations* (pages 14–41 and 42).

The second list comes from an article published by Robert E. Moroney titled, “Why 25% Discount for Nonmarketability in One Valuation, 100% in Another?” I presented this stuff in chapter 15.

### BOX 21.7 Marketability Discount Factors

Some of the factors that would cause an interest to trade at a low marketability discount include the following:

- Minimal volatility in the value of the underlying assets
- Above-average expectations for future yield
- A proven and stabilized history of income
- Certainty of distributions or expectation of capital appreciation
- Limited time period on restriction of ability to sell the interest
- Favorable outlook for future growth of the entity
- Imminent prospect of liquidation of the partnership

Factors that would cause an interest to trade at a higher discount include the following:

- High degree of volatility in the value of the underlying assets
- Questionable ability to generate a satisfactory return on assets
- Inability to generate sufficient earnings for distributions or to support future growth in operations
- Small size in relation to other investments and lack of diversification
- Involvement in industries or activities viewed unfavorably by the investing public

## Other Potential Adjustments

There are several other adjustments that may be included in determining a final value. Some of these adjustments may apply to the value of the underlying assets, rather than to the value of an FLP interest. Some of these discounts are discussed in more detail in other chapters in this book.

## Fractional Interest Adjustment

The fair market value of an undivided ownership interest in real property is worth something less than the percentage of ownership multiplied by the fair market value of the real property as a whole. Fractional interest adjustments should not be limited to undivided interests in real property, but should be considered any time a fractional interest is held in any type of property. Some of the factors considered by the willing buyer at arriving at a fractional interest adjustment are the following:

- Lack of control associated with a minority interest in the property
- Lack of marketability of a fractional interest
- Procedural burdens, possible delays, and costs involved in severance proceedings
- Lack of certainty about what portion of the property would be awarded to each party upon severance
- The nature of the property
- The difficulty of obtaining mortgage financing for the purchase of a fractional interest
- Declining economic conditions
- Loss of a major tenant

Most real estate appraisers will not apply these fractional interest discounts. However, the valuation analyst should check the real estate appraisal, if there is one, to see if this has already been done, in order to avoid double discounting. See *Ludwick v. Commissioner*, TC Memo 2010-104.

A recent case approved a fractional interest discount in artwork. See *Estate of Elkins v. Commissioner*, 140 TC 86 (March 11, 2013) reaffirmed by the 5th Circuit Court of Appeals (No. 60683, September 15, 2014). In this case, a discount of 10 percent was allowed by the Court, but the 5th Circuit ruled that this “nominal” amount was not enough and the appropriate discount was 44.75 percent.

### Portfolio Adjustment

The basis for a portfolio adjustment is an FLP with a non-diversified portfolio of marketable securities. In applying a willing buyer/willing seller test, the valuation analyst must decide if a willing buyer might not be interested in a portfolio with a specific asset mix, rather than a diversified portfolio. A portfolio containing one or two holdings might be considered riskier than one that was well-diversified. See *Estate of Piper v. Commissioner*, 72 TC 1062 (Sept. 13, 1979).

### Restricted Securities Adjustment

Restricted securities are those that are acquired from an issuer in a transaction exempt from registration requirements of federal and state securities laws (known as *private placements*). There are also restrictions imposed by the SEC on resales of these restricted securities. Several court cases have upheld additional discounts to account for restricted securities, but if the price of the security already reflects such a discount, it should not be taken twice.

### Blockage Adjustment

This adjustment accounts for the depressive effect of suddenly placing a large block of stock on the market. This adjustment is expressly recognized by Treasury Regulation Sections 20.2031-2(e) and 25.2512-2(e). Adjustments of this type are limited to blocks of publicly traded stock. It is helpful to fully document trading and volume activity in a stock for a period of time prior to the valuation date in order to justify such an adjustment.

### Market Absorption Adjustment

This is an expansion of the blockage adjustment to take into account other assets besides stock, such as real estate, works of art, sheet music, manuscripts, books, animal mounts, and animal trophies. The basis of this adjustment reflects the lack of time within which to make an orderly disposition of these types of assets. It is possible that the sale of all the property at once or within a short space of time might result in an abrupt increase in supply, which, with no change in demand, might reduce the price the properties might bring. The valuation analyst should consider the number and type of asset being considered and whether or not such an adjustment has been included in any professional valuation of these assets.

### Adjustment for Built-In Capital Gains Tax

Under the willing buyer/willing seller test, an adjustment may be made for the fact that the underlying assets may now have a market value greater than book value and there may be a built-in capital gain with respect to those assets. If so, a willing buyer might become responsible for capital gains tax when the assets are sold. A hypothetical willing buyer would take this into consideration when evaluating an FLP interest. This issue is also related to the IRC Section 754 election.

### The FLP Written Report

Now that there are issues to consider, how does the valuation analyst go about presenting these findings in the report? One useful way is to set up the report following the eight factors of Revenue Ruling 59-60. Remember, the ultimate user of the report is the IRS. By laying out the report in the order of the eight factors, the valuation analyst is showing the IRS that he or she is considering each of the factors that they have laid out in their ruling. In addition, the valuation analyst should include sections relating to capitalization and discount rates, if appropriate, as well as discounts and premiums.

The valuation analyst might also want to consider following the IRS’s adequate disclosure rules as laid out in Regulation Section 301.6501. These have been included as exhibit 21.1. Although these regulations specifically relate to gifts, including the same information in a report for estate tax purposes will aid the valuation analyst in preparing a well-supported report.

## EXHIBIT 21.1 IRS Adequate Disclosure Rules

### REG Section 301.6501(c)-1. Exceptions to general period of limitations on assessment and collection.

**Caution:** The Treasury has not yet amended Regulation Section 301.6501(c)-1 to reflect changes made by PL 105-34.

**301.6501(c)-1(a)** False return. In the case of a false or fraudulent return with intent to evade any tax, the tax may be assessed, or a proceeding in court for the collection of such tax may be begun without assessment, at any time after such false or fraudulent return is filed.

**301.6501(c)-1(b)** Willful attempt to evade tax. In the case of a willful attempt in any manner to defeat or evade any tax imposed by the Code (other than a tax imposed by subtitle A or B, relating to income, estate, or gift taxes), the tax may be assessed, or a proceeding in court for the collection of such tax may be begun without assessment, at any time.

**301.6501(c)-1(c)** No return. In the case of a failure to file a return, the tax may be assessed, or a proceeding in court for the collection of such tax may be begun without assessment, at any time after the date prescribed for filing the return. For special rules relating to filing a return for Chapter 42 and similar taxes, see §301.6501(n)-1, 301.6501(n)-2, and 301.6501(n)-3.

**301.6501(c)-1(d)** Extension by agreement. The time prescribed by section 6501 for the assessment of any tax (other than the estate tax imposed by Chapter 11 of the Code) may, prior to the expiration of such time, be extended for any period of time agreed upon in writing by the taxpayer and the district director or an assistant regional commissioner. The extension shall become effective when the agreement has been executed by both parties. The period agreed upon may be extended by subsequent agreements in writing made before the expiration of the period previously agreed upon.

**301.6501(c)-1(e)** Gifts subject to Chapter 14 of the Internal Revenue Code not adequately disclosed on the return.

**301.6501(c)-1(e)(1)** In general. If any transfer of property subject to the special valuation rules of section 2701 or section 2702, or if the occurrence of any taxable event described in section 25.2701-4 of this Chapter, is not adequately shown on a return of tax imposed by Chapter 12 of subtitle B of the Internal Revenue Code (without regard to section 2503(b)), any tax imposed by Chapter 12 of subtitle B of the Code on the transfer or resulting from the taxable event may be assessed, or a proceeding in court for the collection of the appropriate tax may be begun without assessment, at any time.

**301.6501(c)-1(e)(2)** Adequately shown. A transfer of property valued under the rules of section 2701 or section 2702 or any taxable event described in §25.2701-4 of this Chapter will be considered adequately shown on a return of tax imposed by Chapter 12 of subtitle B of the Internal Revenue Code only if, with respect to the entire transaction or series of transactions (including any transaction that affected the transferred interest) of which the transfer (or taxable event) was a part, the return provides:

**301.6501(c)-1(e)(2)(i)** A description of the transactions, including a description of transferred and retained interests and the method (or methods) used to value each;

**301.6501(c)-1(e)(2)(ii)** The identity of, and relationship between, the transferor, transferee, all other persons participating in the transactions, and all parties related to the transferor holding an equity interest in any entity involved in the transactions; and

**301.6501(c)-1(e)(2)(iii)** A detailed description (including all actuarial factors and discount rates used) of the method used to determine the amount of the gift arising from the transfer (or taxable event), including, in the case of an equity interest that is not actively traded, the financial and other data used in determining value. Financial data should generally include balance sheets and statements of net earnings, operating results, and dividends paid for each of the 5 years immediately before the valuation date.

**301.6501(c)-1(e)(3)** Effective date. The provisions of this paragraph (e) are effective as of January 28, 1992. In determining whether a transfer or taxable event is adequately shown on a gift tax return filed prior to that date, taxpayers may rely on any reasonable interpretation of the statutory provisions. For these purposes, the provisions of the proposed regulations and the final regulations are considered a reasonable interpretation of the statutory provisions.

**301.6501(c)-1(f)** Gifts made after December 31, 1996, not adequately disclosed on the return.

**301.6501(c)-1(f)(1)** In general. If a transfer of property, other than a transfer described in paragraph (e) of this section, is not adequately disclosed on a gift tax return (Form 709, "United States Gift (and Generation-Skipping Transfer) Tax Return"), or in a statement attached to the return, filed for the calendar period in which the transfer occurs, then any gift tax imposed by Chapter 12 of subtitle B of the Internal Revenue Code on the transfer may be assessed, or a proceeding in court for the collection of the appropriate tax may be begun without assessment, at any time.

## EXHIBIT 21.1 IRS Adequate Disclosure Rules

**301.6501(c)-1(f)(2)** Adequate disclosure of transfers of property reported as gifts. A transfer will be adequately disclosed on the return only if it is reported in a manner adequate to apprise the Internal Revenue Service of the nature of the gift and the basis for the value so reported. Transfers reported on the gift tax return as transfers of property by gift will be considered adequately disclosed under this paragraph (f)(2) if the return (or a statement attached to the return) provides the following information—

**301.6501(c)-1(f)(2)(i)** A description of the transferred property and any consideration received by the transferor;

**301.6501(c)-1(f)(2)(ii)** The identity of, and relationship between, the transferor and each transferee;

**301.6501(c)-1(f)(2)(iii)** If the property is transferred in trust, the trust's tax identification number and a brief description of the terms of the trust, or in lieu of a brief description of the trust terms, a copy of the trust instrument;

**301.6501(c)-1(f)(2)(iv)** Except as provided in §301.6501-1(f)(3), a detailed description of the method used to determine the fair market value of property transferred, including any financial data (for example, balance sheets, etc. with explanations of any adjustments) that were utilized in determining the value of the interest, any restrictions on the transferred property that were considered in determining the fair market value of the property, and a description of any discounts, such as discounts for blockage, minority or fractional interests, and lack of marketability, claimed in valuing the property. In the case of a transfer of an interest that is actively traded on an established exchange, such as the New York Stock Exchange, the American Stock Exchange, the NASDAQ National Market, or a regional exchange in which quotations are published on a daily basis, including recognized foreign exchanges, recitation of the exchange where the interest is listed, the CUSIP number of the security, and the mean between the highest and lowest quoted selling prices on the applicable valuation date will satisfy all of the requirements of this paragraph (f)(2)(iv). In the case of the transfer of an interest in an entity (for example, a corporation or partnership) that is not actively traded, a description must be provided of any discount claimed in valuing the interests in the entity or any assets owned by such entity. In addition, if the value of the entity or of the interests in the entity is properly determined based on the net value of the assets held by the entity, a statement must be provided regarding the fair market value of 100 percent of the entity (determined without regard to any discounts in valuing the entity or any assets owned by the entity), the pro rata portion of the entity subject to the transfer, and the fair market value of the transferred interest as reported on the return. If 100 percent of the value of the entity is not disclosed, the taxpayer bears the burden of demonstrating that the fair market value of the entity is properly determined by a method other than a method based on the net value of the assets held by the entity. If the entity that is the subject of the transfer owns an interest in another non-actively traded entity (either directly or through ownership of an entity), the information required in this paragraph (f)(2)(iv) must be provided for each entity if the information is relevant and material in determining the value of the interest; and

**301.6501(c)-1(f)(2)(v)** A statement describing any position taken that is contrary to any proposed, temporary or final Treasury regulations or revenue rulings published at the time of the transfer (see §601.601(d)(2) of this Chapter).

**301.6501(c)-1(f)(3)** Submission of appraisals in lieu of the information required under paragraph (f)(2)(iv) of this section. The requirements of paragraph (f)(2)(iv) of this section will be satisfied if the donor submits an appraisal of the transferred property that meets the following requirements—

**301.6501(c)-1(f)(3)(i)** The appraisal is prepared by an appraiser who satisfies all of the following requirements:

**301.6501(c)-1(f)(3)(i)(A)** The appraiser is an individual who holds himself or herself out to the public as an appraiser or performs appraisals on a regular basis.

**301.6501(c)-1(f)(3)(i)(B)** Because of the appraiser's qualifications, as described in the appraisal that details the appraiser's background, experience, education, and membership, if any, in professional appraisal associations, the appraiser is qualified to make appraisals of the type of property being valued.

**301.6501(c)-1(f)(3)(i)(C)** The appraiser is not the donor or the donee of the property or a member of the family of the donor or donee, as defined in section 2032A(e)(2), or any person employed by the donor, the donee, or a member of the family of either; and

**301.6501(c)-1(f)(3)(ii)** The appraisal contains all of the following:

**301.6501(c)-1(f)(3)(ii)(A)** The date of the transfer, the date on which the transferred property was appraised, and the purpose of the appraisal.

(continued)

**EXHIBIT 21.1 IRS Adequate Disclosure Rules** *(continued)*

**301.6501(c)-1(f)(3)(ii)(B)** A description of the property.

**301.6501(c)-1(f)(3)(ii)(C)** A description of the appraisal process employed.

**301.6501(c)-1(f)(3)(ii)(D)** A description of the assumptions, hypothetical conditions, and any limiting conditions and restrictions on the transferred property that affect the analyses, opinions, and conclusions.

**301.6501(c)-1(f)(3)(ii)(E)** The information considered in determining the appraised value, including in the case of an ownership interest in a business, all financial data that was used in determining the value of the interest that is sufficiently detailed so that another person can replicate the process and arrive at the appraised value.

**301.6501(c)-1(f)(3)(ii)(F)** The appraisal procedures followed, and the reasoning that supports the analyses, opinions, and conclusions.

**301.6501(c)-1(f)(3)(ii)(G)** The valuation method utilized, the rationale for the valuation method, and the procedure used in determining the fair market value of the asset transferred.

**301.6501(c)-1(f)(3)(ii)(H)** The specific basis for the valuation, such as specific comparable sales or transactions, sales of similar interests, asset-based approaches, merger-acquisition transactions, etc.

**301.6501(c)-1(f)(4)** Adequate disclosure of non-gift completed transfers or transactions. Completed transfers to members of the transferor's family, as defined in section 2032A(e)(2), that are made in the ordinary course of operating a business are deemed to be adequately disclosed under paragraph (f)(2) of this section, even if the transfer is not reported on a gift tax return, provided the transfer is properly reported by all parties for income tax purposes.

For example, in the case of salary paid to a family member employed in a family owned business, the transfer will be treated as adequately disclosed for gift tax purposes if the item is properly reported by the business and the family member on their income tax returns. For purposes of this paragraph (f)(4), any other completed transfer that is reported, in its entirety, as not constituting a transfer by gift will be considered adequately disclosed under paragraph (f)(2) of this section only if the following information is provided on, or attached to, the return B 301.6501(c)-1(f)(4)(i) The information required for adequate disclosure under paragraphs (f)(2)(i), (ii), (iii) and (v) of this section; and

**301.6501(c)-1(f)(4)(ii)** An explanation as to why the transfer is not a transfer by gift under Chapter 12 of the Internal Revenue Code.

**301.6501(c)-1(f)(5)** Adequate disclosure of incomplete transfers. Adequate disclosure of a transfer that is reported as a completed gift on the gift tax return will commence the running of the period of limitations for assessment of gift tax on the transfer, even if the transfer is ultimately determined to be an incomplete gift for purposes of §25.2511-2 of this Chapter. For example, if an incomplete gift is reported as a completed gift on the gift tax return and is adequately disclosed, the period for assessment of the gift tax will begin to run when the return is filed, as determined under section 6501(b). Further, once the period of assessment for gift tax expires, the transfer will be subject to inclusion in the donor's gross estate for estate tax purposes only to the extent that a completed gift would be so included. On the other hand, if the transfer is reported as an incomplete gift whether or not adequately disclosed, the period for assessing a gift tax with respect to the transfer will not commence to run even if the transfer is ultimately determined to be a completed gift. In that situation, the gift tax with respect to the transfer may be assessed at any time, up until three years after the donor files a return reporting the transfer as a completed gift with adequate disclosure.

**301.6501(c)-1(f)(6)** Treatment of split gifts. If a husband and wife elect under section 2513 to treat a gift made to a third party as made one-half by each spouse, the requirements of this paragraph (f) will be satisfied with respect to the gift deemed made by the consenting spouse if the return filed by the donor spouse (the spouse that transferred the property) satisfies the requirements of this paragraph (f) with respect to that gift.

**301.6501(c)-1(f)(7)** Examples. The following examples illustrate the rules of this paragraph (f):

Example (1). (i) Facts. In 2001, A transfers 100 shares of common stock of XYZ Corporation to A's child. The common stock of XYZ Corporation is actively traded on a major stock exchange. For gift tax purposes, the fair market value of one share of XYZ common stock on the date of the transfer, determined in accordance with §25.2512-2(b) of this Chapter (based on the mean between the highest and lowest quoted selling prices), is \$150.00. On A's Federal gift tax return, Form 709, for the 2001 calendar year, A reports the gift to A's child of 100 shares of common stock of XYZ Corporation with a value for gift tax purposes of \$15,000. A specifies the date of the transfer, recites that the stock is publicly traded, identifies the stock exchange on which the stock is traded, lists the stock's CUSIP number, and lists the mean between the highest and lowest quoted selling prices for the date of transfer.



**EXHIBIT 21.1 IRS Adequate Disclosure Rules**

(ii) Application of the adequate disclosure standard. A has adequately disclosed the transfer. Therefore, the period of assessment for the transfer under section 6501 will run from the time the return is filed (as determined under section 6501(b)).

Example (2). (i) Facts. On December 30, 2001, A transfers closely-held stock to B, A's child. A determined that the value of the transferred stock, on December 30, 2001, was \$9,000. A made no other transfers to B, or any other donee, during 2001. On A's Federal gift tax return, Form 709, for the 2001 calendar year, A provides the information required under paragraph (f)(2) of this section such that the transfer is adequately disclosed. A claims an annual exclusion under section 2503(b) for the transfer.

(ii) Application of the adequate disclosure standard. Because the transfer is adequately disclosed under paragraph (f)(2) of this section, the period of assessment for the transfer will expire as prescribed by section 6501(b), notwithstanding that if A's valuation of the closely-held stock was correct, A was not required to file a gift tax return reporting the transfer under section 6019. After the period of assessment has expired on the transfer, the Internal Revenue Service is precluded from redetermining the amount of the gift for purposes of assessing gift tax or for purposes of determining the estate tax liability. Therefore, the amount of the gift as reported on A's 2001 Federal gift tax return may not be redetermined for purposes of determining A's prior taxable gifts (for gift tax purposes) or A's adjusted taxable gifts (for estate tax purposes).

Example (3). (i) Facts. A owns 100 percent of the common stock of X, a closely-held corporation. X does not hold an interest in any other entity that is not actively traded. In 2001, A transfers 20 percent of the X stock to B and C, A's children, in a transfer that is not subject to the special valuation rules of section 2701. The transfer is made outright with no restrictions on ownership rights, including voting rights and the right to transfer the stock. Based on generally applicable valuation principles, the value of X would be determined based on the net value of the assets owned by X. The reported value of the transferred stock incorporates the use of minority discounts and lack of marketability discounts. No other discounts were used in arriving at the fair market value of the transferred stock or any assets owned by X. On A's Federal gift tax return, Form 709, for the 2001 calendar year, A provides the information required under paragraph (f)(2) of this section including a statement reporting the fair market value of 100 percent of X (before taking into account any discounts), the pro rata portion of X subject to the transfer, and the reported value of the transfer. A also attaches a statement regarding the determination of value that includes a discussion of the discounts claimed and how the discounts were determined.

(ii) Application of the adequate disclosure standard. A has provided sufficient information such that the transfer will be considered adequately disclosed and the period of assessment for the transfer under section 6501 will run from the time the return is filed (as determined under section 6501(b)).

Example (4). (i) Facts. A owns a 70 percent limited partnership interest in PS. PS owns 40 percent of the stock in X, a closely-held corporation. The assets of X include a 50 percent general partnership interest in PB. PB owns an interest in commercial real property. None of the entities (PS, X, or PB) is actively traded and, based on generally applicable valuation principles, the value of each entity would be determined based on the net value of the assets owned by each entity. In 2001, A transfers a 25 percent limited partnership interest in PS to B, A's child. On the Federal gift tax return, Form 709, for the 2001 calendar year, A reports the transfer of the 25 percent limited partnership interest in PS and that the fair market value of 100 percent of PS is \$y and that the value of 25 percent of PS is \$z, reflecting marketability and minority discounts with respect to the 25 percent interest. However, A does not disclose that PS owns 40 percent of X, and that X owns 50 percent of PB and that, in arriving at the \$y fair market value of 100 percent of PS, discounts were claimed in valuing PS's interest in X, X's interest in PB, and PB's interest in the commercial real property.

(ii) Application of the adequate disclosure standard. The information on the lower tiered entities is relevant and material in determining the value of the transferred interest in PS. Accordingly, because A has failed to comply with requirements of paragraph (f)(2)(iv) of this section regarding PS's interest in X, X's interest in PB, and PB's interest in the commercial real property, the transfer will not be considered adequately disclosed and the period of assessment for the transfer under section 6501 will remain open indefinitely.

Example (5). The facts are the same as in Example 4 except that A submits, with the Federal tax return, an appraisal of the 25 percent limited partnership interest in PS that satisfies the requirements of paragraph (f)(3) of this section in lieu of the information required in paragraph (f)(2)(iv) of this section. Assuming the other requirements of paragraph (f)(2) of this section are satisfied, the transfer is considered adequately disclosed and the period for assessment for the transfer under section 6501 will run from the time the return is filed (as determined under section 6501(b) of this Chapter).

*(continued)*

### EXHIBIT 21.1 IRS Adequate Disclosure Rules *(continued)*

Example (6). A owns 100 percent of the stock of X Corporation, a company actively engaged in a manufacturing business. B, A's child, is an employee of X and receives an annual salary paid in the ordinary course of operating X Corporation. B reports the annual salary as income on B's income tax returns. In 2001, A transfers property to family members and files a Federal gift tax return reporting the transfers. However, A does not disclose the 2001 salary payments made to B. Because the salary payments were reported as income on B's income tax return, the salary payments are deemed to be adequately disclosed. The transfer of property to family members, other than the salary payments to B, reported on the gift tax return must satisfy the adequate disclosure requirements under paragraph (f)(2) of this section in order for the period of assessment under section 6501 to commence to run with respect to those transfers.

**301.6501(c)-1(f)(8)** Effective date. This paragraph (f) is applicable to gifts made after December 31, 1996, for which the gift tax return for such calendar year is filed after December 3, 1999.

Essentially, the IRS is telling the valuation analyst that to “pass muster,” we must present a fully supported and documented report. This is not substantially different from all the standards discussed earlier in this book: Do the work and report it properly.

The valuation analyst should not have the reader of the report have to guess about his or her methodology, discounts, or conclusions. For example, the valuation analyst does not want to state: “the studies indicate 25 to 45 percent; therefore, we selected 35 percent.” This is not supported. There are numerous court cases that disallow discounts strictly because the valuation analyst did something similar to this. The valuation analyst should select a benchmark discount and then adjust it (up or down) based on specific items that he or she discussed in detail in the report and, if necessary, use quantitative methods along with the other studies. A sample FLP report is located in cyberspace for download with all of the other goodies that come with this book.

## As Valuation Analysts, Do We Go for the Big Discounts?

You should now have a better idea about our role as valuation analysts. It is important that the valuation analyst not cross the line from being an independent, objective valuation analyst to being an advocate of bigger and bigger discounts. This can happen, especially if a client requests that we review a partnership document with an eye to adding restrictions and provisions that might increase the discounts. This is not our role as valuation analysts because we must be unbiased and not lose our objectivity. In addition, by acquiescing in such requests, we move beyond the realm of our own expertise. This does not excuse valuation analysts from being aware of the law, especially state laws regarding limited partnerships and LLCs. Key questions to review with the partnership's attorney might include the following:

- What restrictions in the partnership documents are more restrictive than state law?
- What is the state law? Get a copy of the state's Limited Partnership Act and read it thoroughly.
- Does a limited partner have a right of withdrawal from the partnership and on what basis?

As we have seen, these issues can affect the valuation conclusion. It is important for the valuation analyst to remember that his or her assignment is the determination of fair market value. This means the consideration of both a hypothetical willing buyer as well as a hypothetical willing seller. The valuation analyst's final conclusion of value must be reasonable. Remember, the buyer might buy for that low a price, but an independent analyst must also ask the question, if I were the seller, would I sell that low?

## Conclusion

In addition to the valuation of interests in FLPs for estate and gift tax purposes, the valuation analyst will also value operating entities. The issues that were discussed in earlier chapters in this book regarding valuation are applicable for estate and gift tax valuations as well. The IRS also looks at issues such as built in gains (chapter 14), pass-through entity tax affecting (chapter 18), quantification and support of normalization adjustments (chapter 6), and quantification and support of discounts and premiums (chapters 14 and 15). This is in addition to the proper application of the various valuation approaches and methods, as well as the quantification and support of discount and capitalization rates (chapter 13). This book is definitely worth it.

If I have done my job, there should now be a much better understanding of estate and gift tax valuations and recognition that the valuation analyst deals with many of the same issues in these valuations as he or she does in all other valuations.



# Chapter 22

## Divorce Valuations

### Learning Objectives

In this chapter, I will attempt to explain the following:

- The role of the valuation analyst
- Standards of value and their unique aspects in divorce assignments
- Different valuation dates used in these assignments
- How the normalization process differs in divorce assignments
- Valuing professional practices for divorce assignments
- Personal versus enterprise goodwill
- How non-compete agreements affect values in the distribution of marital property

### Introduction

Many valuation assignments are performed for divorce purposes. Regardless of whether the jurisdiction falls under the equitable distribution rules or the community property rules, a marital business will usually have to be valued so the parties can allocate the value along with the other marital property. Business valuation assignments related to divorce proceedings have become a growing part of the valuation analyst's business. Because closely held businesses are considered to be marital assets subject to distribution, there is a need to value these assets as part of the marital estate. For the purpose of this chapter, I am going to include professional practices within the discussion of closely held businesses. However, the unique aspects of valuing professional practices are covered in chapter 23.

Performing a business valuation for divorce purposes is unlike any other type of business valuation assignment that the valuation analyst may get involved in. Because the proceeding takes place in a court of equity, the rules of the game may be different than what we are trained to do as valuation analysts. The trier of fact is charged with being fair to both parties in the overall divorce; therefore, he or she will attempt to make the end result come out in a manner that makes the distribution of the marital estate fair to both parties, even if it means that the valuation of the business or business interest is changed from what the valuation analyst thought was the correct value. There have been times that I have seen a judge listen to expert testimony, take a little of this and a little of that, and mysteriously come up with a value that permitted one spouse to keep the marital business and the other spouse to keep the marital home. And we thought that we were good with numbers! Some of these judges, who were history majors in college, move the numbers around better than I ever could.

In addition to understanding the many nuances of business valuation, case law in the jurisdiction of the divorce must be considered. The valuation analyst must be aware of the local case law in order to avoid fatal errors in the valuation. For example, in certain jurisdictions, the valuation analyst cannot consider any income that extends beyond the valuation date. Using a discounted cash flow methodology, which requires a forecast to be used to estimate value, may be a futile exercise because the court may not allow the subsequent figures to be used. This makes the divorce valuation even more challenging because we are sometimes being asked to value a company without considering the future (who buys history?).

I cannot emphasize strongly enough the need to be aware of the pertinent case law in the jurisdiction of the divorce. The valuation analyst must speak with the client's attorney and get the cases that will be relied upon. I have seen valuation analysts come into a jurisdiction where he or she is unfamiliar with the case law, and the

end result ends up being pretty ugly for the analyst. In several instances, the judge not only put no weight on the expert's testimony, but he or she was criticized in the judge's legal opinion. That never bodes well for the expert.

## The Role of the Valuation Analyst

The valuation analyst may be engaged to perform business valuation services for a variety of clients. These clients may be any of the following:

- The husband
- The wife
- Both spouses
- An attorney
- The Court

Frequently, the valuation analyst will be engaged by one of the parties to the divorce, although, not always. We usually set up our engagement letter so that the attorney is our client and the attorney's client is the responsible party for our fees. We do this so that there is attorney-client privilege, meaning that until the attorney approves of my opinion and formally names me as the expert, I can be fired without my work becoming discoverable in the litigation. This is a strategy that the valuation analyst should discuss with the client's attorney. Sometimes, we cannot come up with the value that the client or the attorney is looking for and we get fired. I am okay with that because I would rather be fired than have the attorney try to put pressure on me to breach my ethical responsibilities of not becoming an advocate. Keep in mind that the client's emotions run very high in this type of assignment. In fact, I have often said that this would not be a bad business if it were not for the client!

More and more, litigants are finding that the cost of the divorce has become so prohibitively expensive that they are seeking to retain only one valuation analyst. However, when the valuation analyst is hired by only one party, the other party may also engage a valuation analyst. Sometimes, each party may pick a valuation analyst, and the two valuation analysts may choose a third valuation analyst to act as a neutral valuation analyst for both parties.

The valuation analyst may also be court-appointed. Certain jurisdictions will appoint a valuation analyst in order to avoid a battle of the experts. This will not always work, however, because each party will continue to have the right to hire his or her own expert to challenge the court-appointed valuation analyst. The court-appointed valuation analyst will generally be looked upon by The Court as the only neutral party in the entire process, besides The Court itself. In my experience, unless one party can show that the court-appointed valuation analyst really messed up, it is very difficult to convince The Court that a different valuation should be accepted.

## Definition of Value

Early in the valuation process, a valuation analyst must determine what the definition of value will be for the assignment at hand. As a review, reread the portion of chapter 4 where the different standards (definitions) of value were defined. In the divorce arena, these definitions are frequently twisted, mangled, commingled, and redefined (and that is the easy part of the assignment).

Valuation analysts are accustomed to the concept of fair market value because of their experience in working with the income tax laws and regulations. However, in divorce-related valuations, the definition of value is usually dictated by The Court that has jurisdiction over the matter. The problem is that even the same standard of value is applied inconsistently by the courts. Another problem is that frequently the standard of value must



### Author's Note

Let me provide you with a practice pointer here. If you are mutually retained as an expert in a litigation assignment, be very careful. Frequently, valuation analysts, particularly in divorce assignments, are also asked to perform forensic procedures with respect to either unreported income or personal expenses that are buried in the financial statements. When the valuation analyst does this type of work, he or she is actually working against one of the parties that is his or her client. Unless the engagement letter provides for some form of a waiver, it might be considered to be a conflict of interest. Please be careful!

be interpreted from the case law because it is not clearly stated. The valuation analyst can assist the client's attorney in the interpretation of the case law, but it is advisable not to be the party making the judgment call concerning the standard of value. This is a legal determination and, therefore, should be left to the attorney to make. I already explained this when I discussed engagement letters in chapter 3.

In *Standards of Value: Theory and Applications*, the authors provide a really good breakdown of their analysis of all the jurisdictions where this matter comes into play. They explain that “when it comes to divorce, only two states, Arkansas and Louisiana, provide any statutory guidance as to the standard of value.”<sup>1</sup>

We found that only Arkansas and Louisiana provide direction in their statutes. We then moved to the case law in each jurisdiction, and through this review, we found clearer guidance in 24 additional states. Including Arkansas and Louisiana, 25 states direct the use of fair market value in their case law, and one state, Alabama, uses the term *fair value*.<sup>2</sup>

They continue by stating “most states do not recommend or require any particular standard with which to value assets upon the dissolution of marriage.”<sup>3</sup> In other words, good luck. It is for this reason that valuation analysts must work closely with the attorneys so that the correct standard of value is used by the valuation analyst to further the legal argument that will be raised by the attorney. We do not make case law but, rather, we perform the number-crunching under the direction from legal counsel about the standard of value, and then, they make the case law.

The standard of value in the other jurisdictions is not as easily determined. The case law must be reviewed in order to properly categorize the standard into what the valuation profession has called *value in exchange* or *value to the holder*. This is the difference between valuing an asset as if it was being sold in the open market versus valuing it as if it is kept by the owner (fair market value versus investment value—sound familiar?). What this really means is that the valuation analyst must use the principles that are used in the valuation profession to make them fit into the jurisdiction's mandate (through case law) concerning what should happen. For example, Florida is a fair market value state. Not only does *Christians v. Christians*<sup>4</sup> refer to fair market value, but *Thompson v. Thompson*<sup>5</sup> specifically states that

[t]he clearest method would be the fair market value approach, which is best described as what would a willing buyer pay, and what would a willing seller accept, neither acting under duress for a sale of the business.<sup>6</sup>

This application of fair market value, which also requires the exclusion of personal goodwill (which will be discussed later in this chapter), interprets this standard of value to be fair market value in exchange, as opposed to value to the holder.

The two most common definitions of value used by the courts seem to be fair market value and intrinsic (investment) value.<sup>7</sup> However, fair value has also shown up.

1 Jay E. Fishman, Shannon P. Pratt, and William J. Morrison, *Standards of Value: Theory and Applications*, 2nd ed. (Hoboken, NJ: John Wiley & Sons Inc, 2013); 259.

2 *Ibid*, 265.

3 *Ibid*, 259.

4 *Christians v Christians*, 732 So. 2d 47; 1999 Fla. App. LEXIS 6687; 24 Fla. L Weekly D 1218.

5 *Thompson v. Thompson*, 576 So. 2nd. 267, 1991 Fla. LEXIS 69.

6 *Ibid*.

7 Intrinsic value and investment value, in a divorce context, are frequently described as the value to the owner of the business. Conventional valuation definitions treat these differently.

## Fair Market Value

Fair market value is, by far, the most commonly used definition of value in the business valuation arena. However, fair market value seems to vary by jurisdiction. Frequently, the definition of fair market value is quoted from Revenue Ruling 59-60 as

the amount at which the property would change hands between a willing buyer and a willing seller when the former is not under compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of the relevant facts.

This definition assumes a hypothetical arm's length sale without regard to a specific buyer or seller.

## Intrinsic Value

"Beauty is in the eye of the beholder." This is probably the easiest way to describe intrinsic value. Although certain jurisdictions use this concept, and momentum is actually building in many others to use this concept, the term is ambiguous. Intrinsic value is frequently referred to as *investment value* to the owner of the business.

Intrinsic value recognizes that the business owner who is going through a divorce will not be selling the business; therefore, there will be no hypothetical transaction, as in a fair market value assignment. Instead, the owner will continue to receive the benefits of ownership into the future. In this instance, the value of the business may be worth more or less to the owner than the market as a whole.

## Fair Value

The first fair value case seen in the matrimonial arena came out of New Jersey in *Brown v. Brown*.<sup>8</sup> Following the thought process in the principles employed by the New Jersey Supreme Court in shareholder litigation, the family court judge determined that when a business that was being run harmoniously by three brothers was the subject of a marital estate, discounts for lack of control and marketability would be inappropriate because the nonbusiness owner spouse would receive less than an equitable share of the business because, if the business was to be sold, each of the brothers would receive a pro rata share of the whole. Although this may not be the *true* fair value of the one-third interest, it was the first time that the New Jersey courts moved away from fair market value.

According to *Standards of Value*, the Virginia case of *Howell v. Howell*<sup>9</sup> and the Alabama case of *Grelier v. Grelier*<sup>10</sup> join Brown in the fair value arena. Many valuation analysts think of *Howell* as a "value to the holder" case. Again, if the valuation analyst is going to participate in this arena, he or she needs to read these cases before doing the work.

## What Do the Definitions Really Mean in a Divorce Context?

If there was a written definition of what the different value concepts mean in a divorce engagement, many of us would have considerably less work to do. Much of the litigation that takes place arises because of the various interpretations of the value concepts. Although fair market value, intrinsic value, and fair value are not strangers to the experienced business valuation professional, case law and state statutes govern the division of property between the parties in a divorce. Unfortunately, most of the state statutes use the term *value* without any precise definition.

The valuation analyst using the fair market value concept generally assumes a hypothetical transaction. This also means that the valuation of a minority interest should probably include a discount for lack of control. However, this may not work in every jurisdiction. The valuation analyst must be familiar with the local case law. He or she should look for assistance from the client's attorney. Don't be surprised, however, if the attorney asks the valuation analyst for his or her opinion. The valuation analyst must be careful not to practice law without a license!

<sup>8</sup> *Ellen Brown, v. James Brown, A-985-00T5* (2002 N.J. Super. LEXIS 105).

<sup>9</sup> 523 S.E.2d 514 (Va. App. 2000).

<sup>10</sup> 2009 WL 5149267 (Ala Civ. App.) (Dec. 30, 2009).



Intrinsic value, rather than fair market value, is sometimes used in the valuation of professional practices for divorce purposes. Shannon Pratt discussed the California case of *Lopez v. Lopez*<sup>11</sup> in an early edition of *Valuing a Business*. In valuing professional goodwill, the court indicated that the following factors should be considered:

- The age and health of the professional
- The professional's demonstrated past earning power
- The professional's reputation in the community for judgment, skill, and knowledge
- The professional's comparative business success
- The nature and duration of the professional's practice, either as a sole proprietor or as a contributing member of a partnership or professional corporation

Some authors feel that a professional's age, health, judgment, skill, and other factors mentioned by the court are indications of intrinsic value. However, many of these factors may also be considered in a fair market value assignment. The intrinsic value argument takes the position that because the professional will be staying with the practice, it is important to consider the personal attributes of the individual. Because fair market value assumes a hypothetical willing buyer, rather than a specific buyer or the owner, consideration of personal attributes violates the spirit of fair market value. The fair market value argument states that the willing buyer must be able to carry on the practice in a similar manner as the willing seller, and as such, must have a similar level of ability (judgment and skill, or in the case of a surgeon, the hands) to maintain the practice in a manner that has value. Clearly, this can be argued both ways.

Intrinsic value may also be applied to other types of closely held businesses. In a Wyoming case, *Neuman v. Neuman*,<sup>12</sup> one of the highly contested issues involved whether a discount for lack of marketability should be applied to the business value because the owner would not be selling the business. Fair market value assumes a sale; therefore, a discount would have to be taken, if appropriate. The trial court, and later the Supreme Court of Wyoming, found in favor of not applying a discount, creating a difference between the value of a business to a willing buyer and the value of a business to the owner for purposes of divorce.

Another major issue arises as a result of each jurisdiction's determination of how these concepts should be applied. One of the controversial issues that should be considered by the valuation analyst is whether a covenant not to compete is to be included as part of a valuation using the fair market value standard of value. Although many valuation analysts have interpreted fair market value to have an implied covenant, not all do. Logically, a willing buyer would not buy a practice, particularly the goodwill, if the seller has the right to open up across the street. However, in the *Thelien*<sup>13</sup> case in Missouri, the court assigned no value to the intangibles because there was no evidence presented that indicated that Dr. Thelien could sell his share of the dental practice without a covenant not to compete and receive an amount greater than his share of the tangible assets.

Carrying some of these value concepts to an extreme, court cases have expanded accepted standards of value, for example, New Jersey case law used to refer to fair market value, and more recently, fair value. However, in an attempt to bring fairness to the litigation, a judge followed the intrinsic standard of value and ruled that celebrity goodwill was a marital asset.<sup>14</sup> In *Piscopo*, entertainer Joe Piscopo was found to have celebrity goodwill. When was the last time that anyone saw Joe Piscopo? So much for his celebrity goodwill.

## Valuation Dates

Valuation dates in business valuations for divorce purposes should be provided to the valuation analyst by the clients and their attorneys, preferably the attorneys. The correct valuation date may depend on numerous factors, and as a result, the client's attorney will usually be in the best position to provide the date or dates that should be used. Business interests and business assets may be valued at numerous dates. This will frequently

11 *In Re: Marriage of Lopez* 113 California Reporter 58 (38 Cal App. 3rd 1044 [1974]).

12 *Neuman v. Neuman*, 842 P2d580 (Wyo. 1992).

13 *Thelien v. Thelien*, 847 SW2d116 (MO App WD 1992).

14 *Piscopo v. Piscopo*, 231 NJ Super 576.

depend on the jurisdiction, whether the asset is considered active or passive, particular case sensitive factors, or the like. Therefore, the valuation date in a divorce engagement may be one or more of the following dates:

- Date of the marriage
- Date of a gift or inheritance
- Date of the separation
- Date of the divorce complaint (petition)
- Date agreed to by the parties
- Date of the trial

## Date of the Marriage

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The date of the marriage will generally not be used for valuing the marital business unless there is a claim that part or all of the business is premarital and, therefore, separate property. Business assets that are acquired or commingled during the marriage become marital property in most, if not all, jurisdictions. This may require the business to be valued at the date of the marriage, as well as a subsequent date, to measure any incremental appreciation that is considered to be subject to distribution.

## Date of a Gift or Inheritance

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Property acquired by gift or inheritance frequently is considered to be separate property. When this is the case, valuation may not be necessary because it is to be excluded from distribution. However, many arguments have been raised that the separate property becomes commingled into marital property. Sometimes, only some of the business ownership was inherited or gifted, making the balance subject to distribution. Also, the value of the gift or inheritance is often understated for tax purposes. When this occurs, the valuation analyst may wish to examine estate or gift tax returns to determine the manner in which the values were derived. This assumes, of course, that estate or gift tax returns were filed. It also assumes that the adequate disclosure rules (discussed in chapter 21) were followed so that you can figure out what was done to determine value. Guidance may be required from the attorney concerning the extent of the valuation services to be provided in these cases.

## Date of the Separation

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In certain jurisdictions, the date of the separation of the parties is considered to be the presumptive date that the marriage is considered to be over. Other jurisdictions consider the date of separation as the start of the time period that each party no longer contributes to the marital estate, but not necessarily the date to be used for the valuation. In other jurisdictions, everything is includible until a divorce complaint is filed. If the date of separation is the applicable date, a business valuation may be necessary as of that date.

## Date of the Divorce Complaint (or Petition)

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For those jurisdictions that consider the filing date of the divorce to be the applicable date, a business will generally be valued at that date. Many jurisdictions start off with this date, but provide the judge with the latitude to change the date if the facts and circumstances warrant it. Sometimes, the parties separate and no formal complaint is filed with the court for many years. Some attorneys may argue that the marriage really ended when the parties separated. In certain jurisdictions, this could require two valuations to be performed, one at separation and one at the complaint date. The valuation analyst should speak to the client's attorney for proper direction.

## Date Agreed to by the Parties

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On occasion, the parties, with the help of their attorneys, may agree to a date to be used for the business valuation. Circumstances surrounding the particular divorce may encourage agreeing to the date. For example, a fairly well-known individual is going to be divorced. As soon as a divorce complaint is filed, it becomes public record subject to media attention. The attorneys and the clients may agree to value all the assets, come to a written settlement, and take care of all aspects of the divorce before filing the actual complaint. After everything is taken care of, a complaint is filed, but the parties are immediately divorced in an uncontested

action. This saves the media harassment during the months or years that it takes to get divorced under normal circumstances.

## Date of the Trial

This is always tricky for the business valuation analyst. Because we all know that it takes quite a bit of time to accumulate the information and analyze it in order to properly value a business, valuing the asset at the time of trial becomes difficult, particularly because trial dates are frequently postponed, and we won't always know the actual date until the last minute. However, many courts are specifying that assets in a marital dissolution be valued as of the date of the divorce trial. This not only makes it difficult for the valuation analyst to value the asset, but it makes an early settlement of the case even more difficult for the parties. This requires valuing a potentially moving target. Frequently, a date may be agreed upon by the parties so that the process does not have to be held up until trial. The good part of using this date is that the valuation analyst may have to go through numerous iterations of the valuation as it gets closer to trial. If there are many postponements, this could be like the full employment act for valuation analysts.

## Valuation Methods

In most business valuation assignments, multiple valuation methods will be used. Valuation standards tell us to consider whichever methods may be applicable to a particular assignment. The number of methods, as well as which methods, depends on the purpose of the assignment, the standard of value to be used, the type of business, and the availability of information. The valuation analyst should apply similar criteria in divorce assignments as in other types of assignments unless the local jurisdiction provides otherwise (in the statute or case law). You also should be aware of any methods that the judge likes or dislikes. If the judge likes the excess earnings method, you really should do everything possible to include it in your valuation. Oh, by the way, there is one method that I have seen used by the courts that has not been mentioned in the book as of yet. It is the HFB method. This is the valuation method in which the judge hears how much the marital house is worth, and because the nonbusiness owner spouse will get the house, the value of the business ends up coming in around the same amount. HFB stands for *house for business*. Only kidding! (Well, maybe not.)

## Valuation as of a Specific Date

A business valuation is similar to a balance sheet: It is “as of” a specific date in time. Values change as factors around the business change. This is especially evidenced in the public stock market. As such, the information used in performing a business valuation should be only that information that was known or knowable as of the valuation date. This can best be illustrated by a real situation that I encountered many years ago. A valuation of a bicycle shop was to be performed as of June 10, 1992, the date of the divorce complaint. The business burned down on March 14, 1993. In this instance, the value as of June 10, 1992 was the real issue. A valuation analyst cannot forecast a fire nine months after the valuation date. Two other issues, however, may come to light with this example:

- If the business was over-insured, and the owner collected a large settlement, which increased the worth of the business, should the court take this into consideration in awarding distribution of the marital estate?
- If the business was under-insured, or co-insured, and the owner collected less than the inventory and business was worth, should the court take this into consideration in awarding distribution of the marital estate?

Because most divorce proceedings take place in a court of equity, the concept of fairness will often be the driving factor for the court. The valuation analyst will have to get guidance from the client's attorney concerning the valuation date, as well as what information can be considered based on the litigation position that will be taken in court. This type of situation may call for the valuation analyst to provide the court with the value as of a particular date but also an updated value so that the court can consider the equities of the situation. Before doing this, however, the valuation analyst should check with the client's attorney. In my real example, it turned out that the business owner was over-insured, and the owner received an unbelievable insurance settlement that allowed him to rebuild a mega-store that was worth far more than the previous store. However,

the court required the valuation to be as of the earlier date, ignoring the insurance settlement—because the nonowner spouse was convicted of arson. You have to love this business!

## Data Gathering and Analysis

The data gathering and analysis phase of a business valuation assignment is very important in providing the valuation analyst with the information needed to render a meaningful and well informed conclusion of value for a business. The procedures and information will be the same regardless of the purpose of the assignment. However, a divorce valuation frequently requires additional documentation to be gathered and analyzed. Also, there may be other procedures that will be applied for divorce assignments.

Depending on the methods being used, the valuation analyst should gather sufficient information about the company being valued, including, but not limited to, financial data, economic data, industry data, market data, as well as information about the history and nature of the company, its legal status, and its management.

Some practitioners send out massive document requests asking for the sun, the moon, and the stars. Although we would like to obtain as much of this information as possible, some of this data may not exist. If missing data is important to the assignment, the valuation analyst may need to use alternative procedures to obtain this information. For example, if an accounts payable listing is requested as of March 4, 2016, and the business does not maintain one, the valuation analyst can discuss the payment terms for vendor invoices with management and perform a review of the checkbook to create such a listing based on the checks that were written after that date. This is one instance when being an accountant as well as a valuation analyst really pays off. The valuation analyst must be aware of the difference between information that is not available versus information that is intentionally not provided by the business owner. The latter happens frequently in litigation assignments, divorce or otherwise. If information is being intentionally withheld, the valuation analyst or a forensic accountant can try to perform forensic procedures to work around the missing data, but often, the client's attorney will have to get involved by petitioning the court to compel cooperation. This situation happens all too often and makes it very difficult for the valuation analyst to complete the assignment on a timely basis, if at all.

Because data gathering is such an important part of the valuation process and because the nature of a litigation assignment is such that the valuation analyst may not get everything that is requested, the valuation analyst must keep good records regarding the documents that have been requested. The initial document request is frequently accomplished by having the client's attorney send the valuation analyst's document request to the other attorney. The valuation analyst will generally send written communications to the client's attorney regarding missing information. If the attorney decides to take appropriate legal action, it can be accomplished by attaching the letters received from the valuation analyst.

## Gathering Financial Data

Most valuation analysts ask for about five years of financial information when performing a business valuation. However, there is no magic to the five-year period. Sometimes more information is needed, sometimes less. Rarely will the valuation date for most divorce valuations be on the year-end of the company being valued. Accordingly, the valuation analyst should request interim financial statements. Other financial information such as tax returns, forecasts, or budgets maintained by the company should also be requested. Analyses of the underlying assets, liabilities, and income and expense accounts may also be needed. These items should not be anything unusual for the valuation analyst who performs other types of business valuations.

## The Valuation Process

The balance of the valuation process is the same as it would be for other types of valuation assignments. However, the nature of divorce litigation makes it more difficult to follow all the normal steps that would be performed in a typical assignment. For example, if the nonclient spouse is actively involved in managing the business, he or she may be reluctant to allow the valuation analyst to visit the company's facilities. This individual may be trying to hide information from the valuation analyst that could be discovered during a site inspection

(like expensive artwork on the walls). Alternatively, confidentiality may be the concern; that individual may not want the employees to know that a divorce is in progress. Sometimes, the business owner is just afraid that the employees will think that the business is going to be sold and they may leave unnecessarily. The valuation analyst should always request a site visit. If a site visit cannot be arranged, the valuation analyst should assess the impact of this on the valuation engagement. A qualification should also be put in the report, such as the following:

We requested the opportunity to perform a physical inspection of the business premises but were denied access. Information gathered during such an inspection may have had an impact on the outcome of our analysis. Had we been allowed to inspect the premises, our conclusions may have been different.

If possible, the valuation analyst should conduct management interviews during the site inspection. The valuation analyst should ask all the questions that are necessary to supplement the written documentation received, as well as to obtain a further understanding of the company's history, customer base, product mix, and financial results. If the valuation analyst has also been hired to perform a forensic examination of the company's records, any additional questions that are important to that examination should also be asked during these interviews.

## Normalizing the Financial Statements

The normalization process is intended to restate the reported earnings of the business to an economic basis that a prospective purchaser would receive. In divorce valuations, the restating of the reported income is also considered in the business owner's ability to pay support (or amount of support needed). These adjustments become even more important for that reason. Adjustments are generally made pertaining to generally accepted accounting principles (GAAP), nonrecurring items, non-operating items, or discretionary items that are under the control of management. Frequently, the discretionary items become part of the business owner's ability to pay support or reduce the need to receive support. In Connecticut, for example, the amount of reasonable compensation used by the valuation analyst in the valuation of the marital business is often used as the amount that will be considered in the support part of the litigation. This eliminates the situation in which the business owner gets double-dipped from the value and support. Double-dipping is what happens when the valuation analyst adds back excess compensation, creating a higher valuation, and support is based on the actual level of compensation. The double-dipping occurs due to the higher valuation and the higher amount of income available to pay support. Another way to say this is the poor person gets whacked twice, once during the valuation and the other in the support payments.

Normalization adjustments are generally made to the income statement to present the results of the company's operations as they might be in the hands of the prospective buyer of the company. Discretionary income statement adjustments are normally made only if a controlling interest is being valued. This is because a minority stockholder is generally unable to influence operations and, therefore, would not receive the adjusted income as dividends. However, in most divorce valuations, a minority interest in a family-owned business may be treated as if the minority stockholder has control. The normalization adjustments are the same ones that were discussed previously.

## Unreported Revenues

In an attempt to hide income from the government and the business owner's spouse, the issue of unreported income frequently arises in divorce valuations. This is especially true when support is an issue. Valuation analysts with proper training can perform these types of forensic procedures. This book, however, is not intended to teach you how to play hide and seek.

When unreported revenues are located, the valuation analyst should advise the client's attorney immediately. The attorney may want to use this information to help negotiate a settlement before a report is written and a trial becomes necessary. In many states, the judge has a responsibility to turn over income tax fraud to the IRS or the local prosecutor, if evidence is presented in the courtroom that supports the allegation. If a

settlement is not reached, and it becomes necessary to complete the valuation, most valuation analysts agree that the unreported revenue should be treated as a normalization or GAAP adjustment. The valuation analyst does not do his or her client a true service if the analyst kills the goose that lays the golden egg. If the spouse goes to jail, where do you think the support will come from? However, as a valuation analyst, we cannot merely “turn the other cheek.”

Sometimes, no matter how the valuation analyst tries to help his or her client(s), the client(s) may not be rational when going through a divorce. I was court-appointed a number of years ago to value a jewelry store. The husband owned the business and the wife, an accountant, provided me with the real set of books. I tried like crazy to get these people to settle the valuation issue. I dragged my feet in issuing a report, but finally, the judge told me I needed to issue a report. He knew the allegations from the wife about unreported income and also knew that I was trying to help these people. To make a long story short, I testified to the unreported income and in the gallery of the courtroom were two invited guests of the judge, the IRS and the Division of Taxation of New Jersey.

## Stockholder Loans

A common balance sheet normalization adjustment involves the treatment of stockholder loans. Very often, an asset may appear on the books representing monies taken by the owner in lieu of compensation. The treatment of this asset will depend on the collectibility of the loan. Because most businesses will be valued based on cash flow or earnings capacity, the valuation analyst should treat this balance sheet item as a non-operating asset. If this item is going to be considered as part of the individual's current earnings for support purposes, it may be unfair to also treat it as an asset of the business. Chances are that it will not be repaid in the future. If the balance has been accumulated over many years, only the current increment may end up being treated as income available for support purposes. Therefore, part of this asset *may* be considered as a non-operating asset of the business.

When stockholder loans are recorded as liabilities of the company, the valuation analyst should assess whether the loan is for legitimate business purposes. For example, if the business owner has sufficient capital to act as a bank for the business and adequate capitalization of the business is demonstrated, the stockholder loan should be treated as a true business liability. This is especially true when the business could have borrowed from a bank and repayment terms, notes, and other indications of an obligation are present.

Stockholder loans that do not meet the previously mentioned conditions should be treated as capital of the business. Undercapitalized businesses are set up frequently. The owner treats the infusion of monies as loans so that the money can be repaid, with or without interest, at the discretion of the owner. In most instances, these loans are paid in capital and should be treated as such. For cash-type businesses, the valuation analyst should investigate the source of these loans because they may come from unreported revenues.

## Income Taxes

Income taxes are probably one of the most confusing adjustments that arise in divorce, and all valuation assignments. Some valuation analysts prefer to value a company on a pretax basis, whereas others prefer an after-tax basis. Regardless of which is used, the answer should be the same. Whether the valuation analyst uses a pretax basis or an after-tax basis, the discount or capitalization rates will change accordingly. At this point, this is likely obvious.

When valuation analysts are engaged to value sole proprietorships, partnerships, S corporations, or limited liability companies (pass-through entities), a pretax or an after-tax earnings stream can be used. There is no definitive rule about these entities. Many valuation analysts will use corporate tax rates, others will use individual rates. Individual rates get a little bit cloudy because of itemized deductions, personal exemptions, and self-employment taxes. The valuation analyst can use either set of rates but should be prepared to discuss the merits of the rates used.

Pass-through entities have given many state court judges a serious headache. The argument of “to tax or not to tax” keeps coming up in their courtrooms. In the Massachusetts case *Bernier*,<sup>15</sup> the court followed the guidance from *Delaware Open MRI v. Kessler*.

## Explaining the Valuation

Unless prohibited by local statute or case law, the methods used in a divorce engagement are the same methods used in other types of valuation assignments. Since the nature of divorce valuations is adversarial, the valuation report will often become a source of controversy and come under attack by the opposition. An experienced valuation analyst will always assume that expert testimony will become necessary. For that reason, it is imperative that the judge understands the valuation process and how the estimate of value was determined.

Frequently, the opposing attorney will attempt to destroy an expert’s credibility by attacking the contents of the valuation report. It is not uncommon to have an attorney ask an expert an abundance of questions in an attempt to confuse the judge and jury. Because most judges do not have a background in business valuation, it sometimes becomes easy to confuse them. Another favorite tactic used by attorneys is to attack forecasts by sticking a copy of a subsequent financial statement in front of the expert and saying “isn’t it true that your forecast was wrong?” Of course, the forecast is different than the actual results. All that an expert can say to this type of question is that “at the time the forecast was prepared, we used all of the information that was available to us. This is the same information that a willing buyer would have known about, as well. I really cannot say why the actual results were different. I would have to perform an extensive analysis to figure it out. This would take far more time than we have available right now.”

## Reaching a Conclusion of Value

After applying various methods of valuation to the subject company, the valuation analyst will have to determine the appropriate estimate of value. This is accomplished in the same fashion as every other type of valuation. However, different jurisdictions vary greatly when it comes to applying valuation premiums and discounts. The valuation analyst should speak with the client’s attorney about local case law.

## Divorce Valuations of Professional Practices

Professional practices are generally valued in the same manner as other types of businesses. However, there are definite distinctions between other types of businesses and professional practices. Some of the unique characteristics of the professional practice make them subject to special considerations in valuations, particularly for divorce.

### Professional Practices Differ From Regular Business Enterprises

Professional practices are generally service businesses. Most of the value in a professional practice will be intangible in nature. The composition of the typical professional practice is that it does not have a significant investment in tangible assets as compared to its investment in people. However, some professional practices may have a sizeable investment in equipment. For example, a radiology practice may own MRI and X-ray equipment. Professional practices generally provide specialized services, which require the owners, and frequently their employees, to possess special levels of knowledge.

Professionals, such as doctors, lawyers, accountants, and in some cases, valuation analysts and others, are generally licensed by a state licensing body. Therefore, in most circumstances, professional practices can only be sold to similarly licensed professionals. Professional licenses are not transferable between individuals. Therefore, the market value of a license is nonexistent, if consideration is given to the true definition of that

15 *Bernier v. Bernier* 449 Mass. 774 – (2007) Also see 82 Mass. App. Ct. 81 and 147 US 242 - 1893. This case was appealed and also when to the Massachusetts Supreme Court.

concept. Logic states that it cannot have value if it cannot be sold. However, a license provides the professional with the ability to make a living; therefore, it has intrinsic value to the individual licensee. In New York, the value of a license is a marital asset. I'm surprised that they don't value "green cards" because they provide the opportunity for a non-USA resident to earn a living! New York is a funny place—they will value almost anything.

Because of the nature of a professional practice, the value of the practice is highly dependent on the skills, reputation, and efforts of individual professionals. Therefore, some of the value of the practice is attributable to the personal reputation or skill of the owner and may not be transferable to a buyer. For example, a skilled heart surgeon cannot transfer his or her skilled hands to a willing buyer. This is known as *professional goodwill*. In some instances, *professional goodwill* has no value to a prospective purchaser. *Practice goodwill*, or the commercial goodwill of the practice, is generally a component of most professional practice valuation estimates.

Because professional practices are built on specialized services, the nature of the particular practice being valued needs to be considered. This means that one type of medical practice will be valued differently than another type of practice. For example, the nature of a general practice would be that referrals come from numerous sources, including existing patients. The patients also tend to be repetitive. A brain surgeon, however, probably gets most of his or her referrals from other doctors. Hopefully, for the sake of the patient, this type of practice does not have many recurring patients.

## Divorce Valuations and the Market Can Be Very Different

The divorce courts have created many precedents regarding the valuation of professional practices. The precedents, however, vary from jurisdiction to jurisdiction, and they do not always make sense from a valuation point of view. The valuation analyst must become familiar with the case law in this area. For example, in New Jersey, attorneys were prohibited from selling their law practices. However, in *Dugan v. Dugan*,<sup>16</sup> the court found that the attorney's goodwill was a marital asset subject to equitable distribution. This case is cited in many other states. Therefore, for divorce purposes in some states, we need to value that which cannot be sold. Now, let's look at how a law practice could be sold.

What if Joe Lawyer brought in an associate who worked with him for two or three years? Joe retired and the associate takes over the practice and pays Joe a "retirement pension." This type of sale can, and does, take place in other professions pretty regularly. From a valuation standpoint, the valuation analyst should consider a discounted cash flow analysis to include the additional expense of having the associate work (an added expense) for the period of time that it may take to transition the practice over to him or her. An income stream expected to be generated by the associate should also be considered, but the point is that the transition may take a number of years.

Sometimes, government regulation affects professional practices. For example, through Medicare and Medicaid, health care services become subject to price schedules. When valuing a medical practice, the valuation analyst should be familiar with the government's regulatory role in the practice's specialty.

## Financial Information

Most professional practices maintain their books and records using the cash basis of accounting. Therefore, the valuation analyst should investigate whether an accrual basis of accounting would affect the valuation. For accountants who perform valuations, this may be easier than for other categories of valuation analysts. For a mature practice that is consistent from year to year, the method of accounting may not make that much difference. However, some practices can be greatly affected by growth, decline, or timing of receipts. This can be true for a personal injury law practice.

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<sup>16</sup> *Dugan v. Dugan*, 92 N.J. 423 (1983).



## Adjustments to Financial Information

Financial statements of professional practices must usually be adjusted for all the GAAP and normalization items of other types of businesses. In addition, the following items are often important when valuing professional practices:

- Cash versus accrual accounting
- Work in process
- Contingent work in process
- Deferred revenues
- Contingencies

## Professional Versus Practice Goodwill

The distinction between *professional goodwill* (sometimes called *personal goodwill*) and *practice goodwill* (sometimes called *business or enterprise goodwill*) is that professional goodwill is the goodwill that is associated primarily with the individual, versus practice goodwill, which is the goodwill associated primarily with the entity. This can be demonstrated by assuming John Smith, CPA, is a partner at Deloitte. If a new client calls the firm specifically requesting John Smith, then there may be personal goodwill associated with the individual. However, if the client wants a “big four” name on the financial statements and contacts Deloitte and ends up with John Smith, there is probably practice goodwill. Sometimes, the two types of goodwill will overlap.

The existence of professional goodwill is based on the fact that clients come to the individual, as opposed to the firm. This may be based on the individual’s skills, knowledge, reputation, personality, and other factors. The implied assumption is that if this individual moved to another firm, the clients would go with him or her. Professional goodwill is more difficult to transfer to a new owner, but not impossible. Generally, the professional will assist in a smooth transition to a new owner in order to obtain the maximum price for the practice.

## Goodwill in a Professional Practice

The issue of personal versus professional goodwill arises most often during a divorce valuation of a professional practice. In most instances, there is little reason to separate the two concepts. However, some courts have determined that sole practitioners in any profession can only have personal goodwill because he or she is the practice. However, a sole practitioner’s practice can easily have both forms of goodwill, not to mention other forms of intangible assets.

To illustrate this point, let’s assume that Sarah Jackson, attorney at law, is a personal injury specialist. Her trial skills have allowed her clients to get jury verdicts that begin at \$1,000,000. Her law practice has a book value of \$85,000 and contingent work in progress of \$700,000. Gross revenues for the firm are \$8,000,000. Ms. Jackson draws a salary of \$3,000,000 annually (she’s my hero!). The question becomes whether Ms. Jackson’s goodwill—her reputation and trial skills—can be transferred to another lawyer. If so, we might have many lawyers earning a lot of money. This illustrates personal goodwill.

Let’s illustrate practice goodwill. Now assume that Mary Brown, attorney at law, belongs to a prepaid legal services plan, from which she gets client referrals. Because the law firm is signed up with the legal services plan, referrals come to the practice regardless of her reputation and skills. This is practice goodwill. However, assuming that Ms. Brown does a good job for these clients, referrals may come to her in the future, which would be an element of personal goodwill.

The standard of value to be applied and the case law regarding goodwill will vary depending on the jurisdiction of the trial. The valuation analyst should ask the client’s attorney early in the process about the proper standard of value to be used. In fact, it is a good practice to have the standard of value spelled out in the engagement letter with the client. The valuation analyst should also make certain that the case law regarding goodwill in the jurisdiction of the divorce is understood.

Many courts have found that goodwill is an asset to be included in the marital estate of a professional for divorce purposes. In some states, professional goodwill is considered to be marital property even though it is

not transferable. In such cases, the standard of value is not fair market value but, rather, intrinsic value to the owner. Since the last edition of this book was published, many more states have joined the band wagon and have taken the position that professional goodwill is not a marital asset subject to division. However, practice goodwill is a marital asset subject to division.<sup>17</sup>

As I pointed out before, one of the most widely cited cases detailing the factors to consider when valuing professional goodwill in a divorce is the California case *Lopez v. Lopez*.<sup>18</sup> The factors listed in that case that are worth repeating include the following:

- The age and health of the professional
- The professional's demonstrated past earning power
- The professional's reputation in the community for judgment, skill, and knowledge
- The professional's comparative professional success
- The nature and duration of the professional's practice, either as a sole proprietor or as a contributing member of a partnership or professional corporation

As illustrated previously, it is frequently difficult to distinguish between professional goodwill and practice goodwill. In the Florida case, *Williams v. Williams*,<sup>19</sup> the trial court ruled that the value of Mr. Williams' accounting practice included \$43,200 in practice goodwill. On appeal, the trial court's finding was reversed. In its opinion, the appellate court stated that

the goodwill of [a] professional practice can be a marital asset subject to division in a dissolution proceeding, if it exists and if it was developed during the marriage . . . . However, for goodwill to be a marital asset, it must exist separate and apart from the reputation or continued presence of the marital litigant . . . . When attempting to determine whether goodwill exists in a practice such as this, the evidence should show recent actual sales of a similarly situated practice, or expert testimony as to the existence of goodwill in a similar practice in the relevant market. . . . Moreover, the husband's expert, who testified the practice had no goodwill, stated that no one would buy the practice without a noncompete clause. This is telling evidence of a lack of goodwill.

Clearly, the non-compete clause was the issue in the court's strict interpretation of fair market value. The inconsistency of the various cases throughout the country makes this a challenging field. In a little while, you can read an exhibit that deals with the valuation of a non-compete clause.

Probably because of the number of divorces each year, it should be little surprise that California has more reported cases dealing with the valuation of professional practices than any other state. State courts will frequently look to other courts when they do not have a precedent of their own. The valuation analyst can be helpful to the attorney by being familiar with the cases, but it is the attorney's job to determine what case law should be followed.

The ongoing problem of the different court rulings can be further demonstrated in *Beasley v. Beasley*<sup>20</sup> and *Dugan v. Dugan*.<sup>21</sup> In *Beasley*, the court ruled that the sole proprietorship law practice cannot have goodwill because goodwill constitutes the present value of future earnings, which stem from the future post-marital efforts of the attorney spouse. In this situation, the court basically felt that the cut-off date for the valuation is the date of the divorce. By using the future earnings of the attorney to calculate goodwill, the same dollars would be used to calculate both value and support. This would be double-dipping.

17 Some of the cases dealing with personal goodwill around the country include *Nail v. Nail*, 486 S.W. 2d 761 (Texas Supreme Court 1972); *Geesbreght v. Geesbreght*, 570 S.W. 2d 427 (Texas Civil Appeals Court 1978); *Prahinsky v. Prahinsky*, 540 A.2d 833 (Md. App. 1988) and 582 A.2d 784 (Md. 1990); *Thompson v. Thompson*, 546 So.2d 99 (Fla. App. 4 Dist. 1989); *Hollbrook v. Hollbrook*, 103 Wis. 2d 327, 309 N.W. 2d 343; *Zells v. Zells*, 157 Ill. Dec. 480, 572 N.E. 2d 944 (111.1991); and *DeMasi v. DeMasi*, 366 Pa. Super. 19, 530 A. 2d 871,883.

18 In *Re: Marriage of Lopez*, 113 California Reporter 58 (38 Cal. App. 3d 1044 [1974]).

19 *Williams v. Williams*, No. 95-00577, 1996 WL 47675 (Fla.App.2 Dist. Feb. 7, 1996).

20 *Beasley v. Beasley*, 518 A.2d 545 (Pa. Super. 1986).

21 *Dugan v. Dugan*, 92 N.J. 423 (1983).

In *Dugan*, it was decided that an individual's law practice, even though it was a professional corporation, could have goodwill that is transferable. The court stated that

[g]oodwill is to be differentiated from earnings capacity. It reflects not simply a possibility of future earnings, but a probability based on existing circumstances. . . . Moreover, unlike the license and the degree, goodwill is transferable and marketable. . . . An individual practitioner's inability to sell a law practice does not eliminate the existence of goodwill and its value as an asset to be considered in equitable distribution. Obviously, equitable distribution does not require conveyance or transfer of any particular asset.

The irony of the *Dugan* case is that the same Supreme Court in New Jersey found that earnings capacity is not a marital asset in *Stern v. Stern*.<sup>22</sup> Earnings capacity was not a marital asset subject to distribution, but now, probable future earnings is a factor in determining whether there is goodwill that is subject to distribution. The words are so subtle that it would be easy for the untrained individual to misinterpret these cases. This is just one more reason for the valuation analyst to rely on the client's attorney for guidance with these matters. By the way, have you noticed that many of the really contested divorce cases involve attorneys as one of the litigants? They are the only ones who are crazy enough to take these issues all the way to the top court in the state. This is a very expensive process.

## Non-Compete Agreements

Many valuation analysts believe that implicit in the definition of *fair market value* is a covenant not to compete. If the seller has a right to open up next door, why would a willing buyer ever purchase a business or professional practice? Separating the value of the intangible assets (goodwill) from the value of the non-compete agreement is frequently a difficult task. In *Monaghan v. Monaghan*,<sup>23</sup> the business under scrutiny was a dental practice. The court determined that if the practice was sold, the nonbusiness owner spouse would receive 50 percent of the gross proceeds received in excess of \$80,000.

The practice was subsequently sold for \$160,000. The sales contract allocated the purchase price as follows:

Inventory and supplies	\$ 20,000
Patient list	15,000
Goodwill	16,000
Covenant not to compete	109,000
<b>Total</b>	<b>\$160,000</b>

A claim was made in this case that the practice actually sold for less than \$80,000 and the nonbusiness owner was not entitled to a share in the proceeds. The claim was based on the premise that the non-compete covenant was a personal asset and not part of the practice. Obviously, the opposite position was that the covenant was part of the goodwill of the practice.

The Washington appellate court did not have case law of its own to use regarding the treatment of a non-compete covenant in a divorce case. Relying on other jurisdictions, the appellate court cited cases from other western states. In these jurisdictions, the covenant not to compete was considered personal property belonging to the professional. These other courts reviewed the relationship of the non-compete as compared to the other assets to rule whether or not it seemed fair (like \$109,000 out of \$160,000). If the allocation was unreasonable in relation to the other assets, then a more fair and objective allocation would be required.

22 *Stern v. Stern*, 66 NJ Super. 1975.

23 *In Re: Delores A. Monaghan and Robert D. Monaghan*, 78 Wash. App. 918, 899 P.2d 841 (Aug. 9, 1995).

The appellate court remanded the case to the trial court to separate the value of the practice from the value of the covenant not to compete based on all the evidence. Different jurisdictions treat non-compete agreements differently. Before the valuation analyst can address issues involving a non-compete agreement, advice should be obtained from the client's attorney concerning how the courts in that particular jurisdiction treat this issue. An illustration of the valuation issues dealing with a covenant not to compete can be found in exhibit 22.1. This is a really long exhibit, but be patient. It is intended to cover a lot of points about valuing covenants, personal goodwill, intangible assets, and how to document all of this stuff in a litigation report. Also, do not worry about the dates. I would have liked to use a more recent example, but examples this good do not come along regularly.

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

**Description of the Assignment.** Trugman Valuation Associates, Inc. was retained by Joan Carnes to determine the equitable distribution value of Carnes Respiratory Services, Inc. (CRS or the company) as of March 9, 1995, as well as to determine the value of the covenant not to compete that was part of an actual transaction involving certain assets of the company. We have also been requested to opine on whether the value ascribed to the covenant not to compete is corporate, personal, or a combination of both.

In order to accomplish the assignment at hand, the following steps were taken by the valuation analyst:

1. Determine the fair market value of CRS.
2. Determine the fair market value of the tangible assets of CRS.
3. Determine the fair market value of the identifiable intangible assets of CRS.
4. Subtract the fair market value of the tangible and identifiable intangible assets of CRS from the fair market value of the total enterprise.

The result of this process will be to determine the residual, or unidentifiable, intangible value that makes up the balance of the fair market value of the enterprise.

**Definition of Equitable Distribution Value.** For this matter, equitable distribution value of the equity of CRS has been determined as a result of an actual transaction involving certain assets of the company. Other assets were kept by the sole shareholder. The equitable distribution value has been determined and is referenced in the "Order on Motion to Vacate Final Judgment of Dissolution of Marriage" signed by the Honorable John L. Brown on July 24, 1996. The value established in paragraph (8) of this order is \$16,900,000.

#### Author's Note

By the way, I forgot to explain what happened here. Mr. Carnes went to his wife during the divorce process and said "Sweetheart, let's not fight. My business is worth \$5 million and I am prepared to give you half of the value along with the other assets that you are entitled to. I just don't want to fight with you." Nice guy, right? Wrong!!! Two weeks after the divorce was put through by the court, Mrs. Carnes found out that Mr. Carnes had sold his company for \$15+ million. When she called him with not so nice things to say, he said "tough luck." The court found that fraud was committed and reopened up the issue of equitable distribution. Mr. Carnes hired a valuation analyst who determined that out of the almost \$17 million (sales price plus assets not part of the deal), \$5 million was a personal covenant not to compete and should not be considered as a marital asset for equitable distribution purposes. In comes Trugman Valuation Associates to the rescue!!!

**Nature and History of the Company.** Carnes Respiratory Services, Inc. was incorporated on June 10, 1981. The company began operations in City A, State, providing durable medical equipment and respiratory therapy products to patients referred to the company by their doctors. Products were sold primarily to elderly patients through Medicare, Medicaid, or private insurance.

As time went on, CRS opened three additional locations, in City B, City C, and City D, State. Each of these locations was opened after Mr. Carnes and his marketing team determined that the location was viable, based on its demographics. Each of the CRS facilities was owned by Mr. Carnes personally and leased to the company.

At the valuation date, CRS was operating in various counties, selling items such as beds, wheelchairs, walkers, and respiratory therapy products. Sixty percent of CRS' sales came from respiratory therapy products, 30 percent from durable medical equipment, and 10 percent from miscellaneous products. Management estimated that 70 percent of its revenues resulted from rentals and 30 percent from sales.

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

CRS developed a reputation for delivering high quality service to its patients. Services included guaranteed 1-hour delivery, 24 hours a day service, and educating patients in the use of their equipment. This was very important in differentiating CRS from the rest of the market. Other companies in the durable medical equipment market competed with CRS. In City A, competitors included Respitch, Inc. and Lincare. In City B, CRS' competition included MediHealth, Inc., Lincare, Americare, Inc., and State Oxygen, Inc. Competition in City C consisted of Coast, Inc., and Lincare. In City D, Lincare, Sunshine, Inc., Medicaid, Inc., and Homedco, Inc. competed with CRS. As will be discussed later in this report, although these companies participated in the same markets as CRS, Mr. Carnes did not believe that any of these companies offered a significant, competitive threat to CRS.

As of the valuation date, the company had approximately 50 employees. Responsibility for overall management was shared between Mr. Carnes and Ms. Lori Rodgers. Their duties included day-to-day operations, training, marketing, and ensuring that whatever needed to be done was accomplished. They also shared the responsibilities for managing the City A facility, which was both a retail and billing operation. Each of the other three stores had a manager responsible for the store's operations. The company had four marketing representatives whose primary responsibilities were to maintain existing referral sources and establish new ones. CRS also had a delivery manager, who was responsible for coordinating drivers and the delivery of products to patients. Additional employees included customer service representatives, drivers, accounts receivable clerks, office staff, warehouse staff, and a dispatcher.

**Excess Assets.** From our analysis of CRS' financial statements, it appears that CRS has excess assets. Excess assets, sometimes referred to as non-operating assets, are assets that a business owns, that are not necessary for the operations of the business.

CRS had two categories of assets that are considered to be excess, current assets, and fixed assets. At the valuation date, CRS' balance sheet indicates that the company had \$1,136,933 of current assets and \$9,977 of current liabilities. This does not include the \$550,000 of accounts receivable sold to Public Company Purchaser. The reason for this is that CRS' financial statements are prepared on a cash basis, which does not include accounts receivable. Taking this into consideration, CRS had current assets of \$1,686,933. Subtracting CRS' current liabilities from this figure results in the calculation of CRS' working capital of \$1,676,956 (\$1,686,933 – \$9,977 = \$1,676,956).

To check the reasonableness of this position, we reviewed Integra's Business Profiler for working capital industry norms for durable medical equipment providers. For 1995, Integra reported that median working capital, as a percentage of sales, was 7 percent. Applying this to CRS' revenues for the 12 months ended February 28, 1995 results in the following calculation of working capital:

Revenues	\$ 5,930,480
Integra Working Capital as a Percent of Revenues	× 7%
Required Working Capital	\$ 415,134

This indicates that CRS had excess current assets of \$1,261,822.

Public Company Purchaser and CRS allocated \$550,000 of the purchase price to accounts receivable. Public Company Purchaser assumed no other current assets, and \$35,000 of accrued current liabilities were not recorded as of February 28, 1995. This results in working capital of \$515,000. This represents 8.68 percent of CRS' revenues in the latest 12 months. Although slightly above the median, this figure is still within industry norms. As a result, we have determined that CRS has excess current assets of \$1,136,933. This figure represents all of CRS' current assets other than the accounts receivable.

CRS owned certain vehicles that we believe were non-operating assets. These vehicles were as follows:

1992 Mercedes	\$125,603
1992 Mercedes	61,158
1989 Jaguar	58,332
1993 Jeep	17,176
	\$262,269

(continued)

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

In our opinion, these vehicles were not necessary for the operation of CRS. They are luxury automobiles that represented perquisites to Mr. Carnes. In addition, Mr. Carnes retained these vehicles after the asset sale to Public Company Purchaser. As a result, we have determined these vehicles are non-operating assets. Their value has been estimated to be approximately \$200,000.

**Valuation of Carnes Respiratory Services, Inc.** As indicated previously, the valuation of a closely held company can be accomplished using the three approaches to value. One might ask why the transaction that transpired could not be used as the best indication of fair market value? Our analysis indicates that the price that was paid by Public Company Purchaser, Inc. represents a value that was greater than the fair market value of CRS.

In the actual transaction that took place, Public Company Purchaser purchased certain net assets of CRS at a price of \$15,035,000. According to the allocation included in the Asset Purchase Agreement dated March 9, 1995, the following was purchased:

Accounts receivable	\$ 550,000
Inventory	40,000
Fixed assets	712,000
Covenants	100,000
Goodwill/customer list	13,633,000
<b>Total</b>	<b>\$15,035,000</b>

The price paid is greater than the fair market value of the assets purchased. Since the definition of fair market value is based on the most probable price, a review of other factors brought to our attention in this matter, make us believe that the most probable price is lower than this amount. In addition, we believe that Public Company Purchaser had special motivations in consummating this deal that would cause the definition of fair market value to be violated.

In the deposition transcript of Steve Rice, a principal of Richard Associates, the business broker engaged by Mr. Carnes to assist in the sale of CRS, several statements are made that assist us in substantiating our position. Mr. Rice's responses are relevant in that they reflect the knowledge and expectations of the seller. In the course of Mr. Rice's deposition, he asserts that Public Company Purchaser overpaid for CRS, supporting his opinion with several pieces of information. Other than Public Company Purchaser, Mr. Rice indicated there were four offers made to purchase CRS. The companies and their offers are as follows:

Home Medical	\$11 million
Abey Home Healthcare	12 million
Homedco	11 million
Continuem Care	Undisclosed

Mr. Rice was then asked about the first Public Company Purchaser offer of \$13.5 million for CRS. This was an all cash offer, and Mr. Rice thought after presenting the offer to Mr. Carnes “. . . our deal was done.” Mr. Rice's opinion is explained in the ensuing dialogue:

“I felt that no one would turn that down and we just felt it was—at the time we believed it to be the highest price Public Company Purchaser had ever paid for a company. In fact, we could almost assure that it was the highest price they ever paid for a company.” Mr. Rice was then asked, “the highest price in dollar amount or the highest price compared to profits?” To this, Mr. Rice responded,

It's the highest price compared to gross revenues. Public Company Purchaser's never—they pay between 1.75 and 1.2 times gross revenue and that's just—we thought that was outstanding.

That offer we took to Mr. Carnes, to John, and it never hit his desk before he threw it back at us and I'm telling you the truth. This thing never hit his desk. He wouldn't even look at it. He wouldn't talk to us.

Q. Did he say why he was turning it down?

A. Yes.

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

Q. Why?

A. Two provisions that we told him about, that most of his employees would be fired and he had no tenant for two of his properties. So, after that point we let Public Company Purchaser sit out on a fence and I took that offer to all the other players and they all said let Public Company Purchaser buy it. That went on for about a month and we never had—we probably had some contact, but most of the contact with Public Company Purchaser was coming in the front door. They were calling us, what's going on?

Finally, the last player who hadn't given up was Continuum Care. Continuum Care kept fooling around, fooling around. Public Company Purchaser was getting nervous. They thought they were going to lose the deal. And we went back to them and said, make—give it one best shot. Go ahead. You're still way off the mark. We never told them what the other offers were. We just said, you're way off the mark. With the suggestion that they keep all the employees in the billing center and take all the leases on the property and it did. I mean, I had really nothing to—well, I guess it had a lot to do with me. I pushed it.

Q. You persuaded Public Company Purchaser?

A. I held their hand to the fire because they thought they were going to lose this deal in their own backyard and it would look very, very bad for a public company to do that.

It is clear Mr. Carnes's advisors thought this was a tremendous deal, and it exceeded their expectations. The offer was not rejected by Mr. Carnes because of the price. According to Mr. Rice, the offer was rejected by Mr. Carnes because most of CRS' employees would be fired, and he would not have a tenant for two of his properties. It was Mr. Rice who obtained the higher offer from Public Company Purchaser, along with the accommodation of Mr. Carnes' concerns. He did this by letting Public Company Purchaser "sit out on a fence" and by telling Public Company Purchaser that they were "way off the mark," even though it was by far the best offer he had received for CRS. What allowed Mr. Rice to do this was a nonfinancial concern on the part of Public Company Purchaser, namely that the deal was in Public Company Purchaser's "own backyard" and losing it would be embarrassing to Public Company Purchaser. From Mr. Rice's statements, it appears that Mr. Carnes would have accepted the \$13.5 million dollar offer if his two conditions regarding his employees and tenancy had been met.

In fact, the dialogue comes back to this issue:

Q. All right. Did Mr. Carnes ever tell you what changed his mind regarding deciding to sell his business? He kept turning you down and later he—

A. The key issue was that as soon as we locked the employees in place and no one was to be terminated is when he said that's worth all the money in the world to me and that's exactly what he said, it's worth all the money in the world, these people having a job.

Again, according to Mr. Rice, Mr. Carnes's issues were not related to price, but other nonprice factors. Mr. Rice further explains the actions of Public Company Purchaser by stating:

A. They're buying earnings. Earnings drive the price of their stock. John had a lot of earnings for the size of business that he had. And whether they paid 15 million dollars or 12 million dollars or 13 million dollars, at that time it didn't matter. They got rid of a competitor and they got the best—and they got people there that they don't—that are better than any people that they have, so they took everything into—I'd like to say we had a lot to do with getting 15 million dollars for this company.

This further highlights his beliefs that Public Company Purchaser's motivation was beyond financial, and that Mr. Carnes' reasons for rejecting the first Public Company Purchaser offer were unrelated to the purchase price. Mr. Rice's comments raise the issue of whether Public Company Purchaser paid fair market value for CRS, or paid above fair market value for synergistic and public image reasons. As discussed earlier in this report, fair market value is established between a willing buyer and willing seller, neither party being under compulsion and both having reasonable knowledge of the relevant facts. It appears from the comments of Mr. Rice that he believed that Public Company Purchaser was under compulsion, and that he could exploit that compulsion to the advantage of John Carnes.

This brings about the possibility of a buyer's premium. A buyer's premium is concerned with elements of investment value. According to Pratt, investment value is defined "as value to a particular investor based on individual investment requirements, as distinguished from the concept of market value, which is impersonal and detached."

(continued)

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

As Pratt states, investment value is different for different buyers. There are many factors that can influence investment value such as estimates of earning capacity, perceptions of risk, tax statutes, and synergies. Stated differently, the investment value of a closely held company is the value to a particular buyer, as compared to the population of willing buyers, as is the case in fair market value. This value definition would be applicable when an investor might have specific investment criteria that must be fulfilled in an acquisition.

A valuation analyst will frequently use this standard of value when he or she represents a buyer who wants to know, "How much is the business worth to me?" The fact that the buyer is specific about the business value to him or her changes the standard of value to investment value, as opposed to fair market value, which may be the value to everyone else.

Under such a definition of investment value, certain elements can be quantified numerically in an income stream, and differences between fair market value and investment value can be calculated. Others, like Public Company Purchaser's desire not to let other major competitors into its "backyard," cannot be calculated from an income stream. Typical market data does not allow us to calculate such a premium.

However, one study has provided us with an insight into this type of a premium by comparing the multiples of earnings before interest and tax (EBIT) paid by financial buyers and strategic buyers. The study consisted of a poll of 35 professional investment bankers, lenders, and the managing partners of buy-out firms, and covered the manufacturing, retail, communications, services, and health care industries, in particular.

As discussed previously, hard data is difficult to obtain for such a survey. Accordingly, the study is based on the respondents "feel for the industry based on their experiences in both proprietary deals and auction settings. At times, their answers were categorized as a broad interpretation of the diversity within a sector." The multiples obtained by the survey for 1989, 1993, and 1995 and that calculate the premium that strategic buyers are paying over financial buyers are presented in table 1.

**TABLE 1 Trends in Acquisition Multiples**

	1989	1993	1995
Strategic Buyers	7.76	6.11	7.24
Financial Buyers	7.41	5.40	6.50
Premium	4.72%	13.15%	11.38%

(Source: Jennifer Lea Reed, "Purchase Multiple Press to Rarefield Heights," Buyouts, February 20, 1995, p.1.)

As can be seen in the data in table 2, the premium for 1995 was 11.38 percent. To apply a buyer's premium to the sale of CRS, the premium is applied to Public Company Purchaser's initial offer of \$13.5 million. The justification for this is two-fold. First, Public Company Purchaser's offer appears to already have included some elements of investment value because it was significantly greater than the other offers for CRS. Second, Mr. Carnes's reasons for not accepting the offer were unrelated to the purchase price but, rather, were related to the nonfinancial terms of the agreement.

We have applied this premium to Public Company Purchaser's \$13.5 million offer to test to our hypothesis. The results are presented in table 2.

**TABLE 2 Application of a Buyer's Premium**

Initial Offer From Public Company Purchaser	\$ 13,500,000
Times One Plus Strategic Premium	× 1.1138
Price With Buyer's Premium	\$ 15,036,300
Final Purchase Price	\$ 15,035,000
Difference	\$ 1,300



### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

This strongly supports the assertion that Public Company Purchaser was a strategic buyer in its acquisition of CRS, and the assertions made by Mr. Rice in his deposition. To verify this against other known data, we relied on the deposition of Mr. Davidson, Public Company Purchaser's national acquisition program manager. Mr. Davidson indicated that Public Company Purchaser's acquisitions typically occur at 3.5 to 4.0 times free cash flow for the trailing 12 months. Based on Public Company Purchaser's estimate of free cash flow for the trailing 12 months of \$3.5 million, the price –to-free-cash-flow multiple paid for CRS using a value of \$13,500,000 was 3.86 ( $\$13,500,000 \div \$3,500,000 = 3.8571$  or 3.86 rounded). Based on this data and the information presented in Mr. Rice's deposition, we conclude that the fair market value of the operating business of Carnes Respiratory Services was \$13,500,000 at March 9, 1995, based on the actual market transaction that was consummated.

In order to test the conclusion reached in the market approach, we then applied an income approach methodology in our analysis. To implement the income approach, we have selected the discounted future benefits method. The discounted future benefits method is one of the most theoretically correct methods of appraisal. It is premised on the concept that value is based on the present value of all future benefits that flow to an owner of a property. These future benefits can consist of current income distributions, appreciation in the property, or a combination of both.

In order to apply this methodology, we began the analysis with a forecast of expected future operating cash flows for CRS. The forecasted income statement for CRS for the years ended March 9, 1996 through 2000 is presented in table 3.

**TABLE 3 Forecasted Income Statement and Cash Flow for the Years Ended March 9**

	1996	1997	1998	1999	2000
Net Sales <sup>1</sup>	\$ 6,500,000	\$ 7,345,000	\$ 8,299,850	\$ 9,378,830	\$ 10,504,290
Less: Cost of Sales <sup>2</sup>	916,500	1,035,645	1,170,279	1,322,415	1,481,105
Equals: Gross Profit	\$ 5,583,500	\$ 6,309,355	\$ 7,129,571	\$ 8,056,415	\$ 9,023,185
Less: Operating Expenses <sup>3</sup>	2,723,500	3,077,555	3,477,637	3,929,730	4,401,297
Equals: Net Operating Income	\$ 2,860,000	\$ 3,231,800	\$ 3,651,934	\$ 4,126,685	\$ 4,621,888
Less: Taxes <sup>4</sup>	1,144,000	1,292,720	1,460,774	1,650,674	1,848,755
<b>Net income</b>	<b>\$ 1,716,000</b>	<b>\$ 1,939,080</b>	<b>\$ 2,191,160</b>	<b>\$ 2,476,011</b>	<b>\$ 2,773,133</b>

1 Revenues for the trailing 12 months in 1995 are based on the Public Company Purchaser pro forma included in this report as exhibit 2. Revenues are grown thereafter to generate a compound annual growth rate for the entire forecast period of 12.7 percent. This is the approximate rate of growth projected for the industry, as previously discussed.

2 Cost of sales is forecasted as 14.1 percent of sales for each year in the forecast period. This is based on the historical average for the period analyzed.

3 The historic average operating expenses for the period ended May 30, 1991 through May 30, 1994 and the latest 12 months ended December 31, 1994 were 45.1 percent of sales. For fiscal 1994, operating expenses were 41.9 percent of sales, which we used in each year of the forecast period. The most recent fiscal year's figure was selected over the average, based on the downward trend in operating expenses as a percentage of sales during the historic period analyzed.

4 We have assumed a combined federal and state tax rate of 40 percent.

(continued)

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

Using the forecasted income statements presented in table 3, combined with an analysis of the balance sheet of CRS, we have prepared a forecast of the net cash flow for the years ended March 9, 1996 through 2000. This appears in table 4.

**TABLE 4 Forecasted Net Cash Flow for the Years Ended March 9**

	1996	1997	1998	1999	2000
Net Income (Table 14)	\$1,716,000	\$1,939,080	\$2,191,160	\$2,476,011	\$2,773,133
Add: Depreciation <sup>1</sup>	548,422	743,589	964,128	1,213,337	1,492,451
Gross Cash Flow	\$2,264,422	\$2,682,669	\$3,155,288	\$3,689,348	\$4,265,584
Less: Capital Expenditures <sup>2</sup>	1,209,000	1,366,170	1,543,772	1,744,462	1,953,798
Less: Increase in Net Working Capital <sup>3</sup>	43,506	59,150	66,839	75,529	78,782
Net cash flow	\$1,011,916	\$1,257,349	\$1,544,677	\$1,869,357	\$2,233,004

1 Depreciation is based on two factors: First, depreciating the existing fixed assets as of February 28, 1995 of \$1,878,538 over a remaining useful life of five years, and second, depreciating future fixed asset additions over a useful life of seven years.

2 Capital expenditures are calculated as 18.6 percent of sales. This is based on capital expenditures as a percentage of sales in fiscal 1994. The calculation is as follows:

Net Fixed Assets at May 31, 1995	\$1,771,669
Less: Net Fixed Assets at May 31, 1994	(1,214,949)
Plus: 1994 Depreciation Expense	375,715
1994 Fixed Asset Additions	\$ 932,435
Divided by 1994 Sales	\$5,018,896
1994 Fixed Assets as a Percent of Sales	18.6%

Our review of prior years' capital expenditures revealed 15.9 percent and 19.3 percent, for 1992 and 1993, respectively. We felt that the 1994 capital expenditures were reasonable under the circumstances.

3 The increase in working capital is based on the median for medical equipment rental and leasing companies with three to five million dollars in sales, which was seven percent. Therefore, we have used this figure multiplied by the increase in sales to estimate increases in working capital for each year in the projection period.

Once the cash flow has been forecast, the selection of a proper discount rate becomes necessary. Because the benefit stream being estimated will not occur until sometime in the future, the future benefits must be discounted to their present value. In this instance, a discount rate of 19.2 percent has been deemed applicable. This results in the value estimate of CRS being calculated as follows:

Year	Forecasted Cash Flow	×	19.2% Present Value Factors	=	Present Value Future Cash Flow
1996	\$1,011,916		0.8389		\$ 848,896
1997	1,257,349		0.7038		884,922
1998	1,544,677		0.5904		911,977
1999	1,869,357		0.4953		925,893
2000	2,233,004		0.4155		927,813
TV	21,636,450		0.4155		8,989,945
<b>Total</b>					<b>\$13,489,446</b>

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

In this instance, the terminal value is determined by growing the last year's forecasted net income by a stabilized growth rate. Net income is then converted to cash flow as follows:

Terminal Value Net Income	\$2,939,521
Plus: Depreciation <sup>1</sup>	2,000,000
Less: Capital Expenditures <sup>1</sup>	(2,000,000)
Less: Increase in Working Capital <sup>2</sup>	(83,509)
<b>Terminal value cash flow</b>	<b>\$2,856,011</b>

1 Depreciation and capital expenditures are set equal in the terminal year.

2 The increase in working capital is calculated as the increase in 2000, multiplied by one plus the long-term growth rate of 6 percent.

Adding the terminal value to the present value of the anticipated interim benefit stream results in the present value of the future benefits of CRS to be \$13,496,690, or \$13,500,000 rounded.

Another reasonableness check was performed based on the deposition transcript of Howard Davidson, Executive Vice President and General Counsel of Public Company Purchaser. As he states in his deposition, Mr. Davidson managed "the acquisition function for the company nationwide." The following excerpt from his deposition gives an overview of how Public Company Purchaser analyzes potential acquisitions, including CRS.

Q. Okay. Could you tell me what criteria was used by Public Company Purchaser for the purpose of establishing this \$13,500,000 value?

A. When we value businesses, we typically look at a number of elements, some financial related, others not specifically financial related. We look at the sales revenue. We look at the earnings on a historical basis of the business. We look at the earnings of what we believe to be a pro forma basis after acquisition. We look at the geographic area that the business serves. We look at the product mix that business has in terms of its respiratory and nonrespiratory components. We look at the scope of their business in terms of geography and referral sources. Those would be the principal criteria that we look at.

Q. Well, is there a rule of thumb that you apply to earnings for the purpose of getting some preliminary feeling as to what a company would be worth to Public Company Purchaser in connection with an acquisition?

A. It's flexible. And those criteria determine whether or not our interest level is higher or lower and our valuation level is higher or lower with respect to a particular business. If it's got a better geographic situation for us, if there are more synergies, if it's a higher respiratory mix, those would be conditions which would put the value at the higher end of the spectrum. If those situations either singularly or in combination are less desirable compared to what we're looking for, then the business (then a particular business is at the lower end of the spectrum).

Mr. Davidson further describes the process and the interest Public Company Purchaser had in CRS:

A. Well, as I said earlier, we look at the financial performance both historically and what it would be on a go-forward basis. And we then look at other elements to determine, you know, whether or not our interest level is at the higher end of the spectrum or the lower end of the spectrum. In this particular case, because of the locations because of the respiratory content, because of the reputation that the company had in the community it was at the higher end of the spectrum.

The key element of this statement is the reasons for Public Company Purchaser's interest in CRS: good locations, high respiratory therapy content, and good company reputation. Mr. Davidson indicates that Mr. Byrnes put together a pro forma income statement based on what he believed Public Company Purchaser would expect to occur at the CRS locations in the 12 months after acquisition by Public Company Purchaser. Mr. Davidson then used this pro forma to derive a value for CRS. Mr. Davidson describes the valuation:

(continued)

## EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

A. The only thing I can tell is that if you look across the broad range of acquisitions we've done, that based on a pro forma basis, the cash flow and reconciling that with historical performance, and looking at it at our operating center level, not at the corporate level on a consolidated basis, but at that center level, businesses typically tend to fall at about the three and a half to four times cash flow basis depending upon various and intangible factors, some higher and some lower.

Q. And some of them you've described here earlier today. And you've also indicated that because of the mix of product, the particular area where respiratory—Carnes Respiratory was operating, the reputation of the company, using the higher end of the spectrum to the extent that that rule of thumb has applicability at all would have been what was—would have been Public Company Purchaser's approach in this situation.

A. I don't have specific recall as to what the pro forma, if any, was done for this reflected. So I don't know what the multiple is in this particular case. But based on the quality of the business and its size and its location, I think it's a fair statement to say that this is at the very high end of the spectrum.

Although Mr. Davidson did not recall the exact pro forma in his deposition, we have been provided a copy of it and it is presented as exhibit 2 to this report. The pro forma indicated that Public Company Purchaser expected \$6.5 million in revenues, earnings before interest, tax, depreciation, and amortization (EBITDA) of \$3.75 million, and free cash flow of \$3.5 million. Free cash flow is defined as EBITDA less capital expenditures. Dividing the purchase price of \$15,035,000 by \$3,500,000 results in a multiple of price-to-free-cash-flow of 4.30. Following Mr. Davidson's testimony, if we divide \$13,500,000 by free cash flow of \$3,500,000, the result is a multiple of 3.86. This is very much in line with the range of 3.5 to 4.0 times cash flow testified to by Mr. Davidson.

This confirms the reasonableness of establishing the fair market value of the operating assets of CRS at \$13.5 million.

**Valuation of the Tangible Assets.** The next step in our analysis is to value the tangible assets of CRS to be used in the allocation of the purchase price. As previously discussed, Public Company Purchaser and CRS negotiated a transaction that included an allocation of the price to different classes of assets. In this instance, we are accepting the allocation of the tangible assets as being reasonable. This results in the tangible assets being valued as follows:

Accounts receivable	\$ 550,000
Inventory	40,000
Fixed assets	712,000
<b>Total</b>	<b>\$1,302,000</b>

**Valuation of the Identifiable Intangible Assets.** The approaches to the valuation of intangible assets are similar to the approaches used to value a business enterprise: market, asset-based, and income. Each of these approaches is discussed briefly below.

**The Market Approach.** The market approach, also referred to as the *sales comparison approach*, entails researching and identifying similar intangible assets to the subject intangibles that have been transacted in the marketplace. These transactions are then used as guidelines in developing the value of the subject intangible asset.

**The Asset-Based Approach.** The asset-based or cost approach attempts to ascertain the value of the asset by determining its cost. Cost typically can have several definitions. The most common definitions of cost are, reproduction cost, the cost to reproduce an exact copy of the asset; replacement cost, the cost to purchase an identical asset, or the cost to replace the functionality or utility of the asset; creation cost, the original cost to create the asset; and recreation cost, what it would cost to recreate, or duplicate an existing asset. In many circumstances, the definition of cost also includes the concept of obsolescence, or deterioration in value. Obsolescence can result from physical deterioration of the asset, functional obsolescence, technical obsolescence, or economic obsolescence. Although not all intangible assets suffer from obsolescence, the identification of obsolescence is important to the cost approach.

**The Income Approach.** As in the case of the valuation of the business enterprise, the income approach for intangible asset valuation determines the present value of the future benefits that will accrue to the owner of the asset. This is generally accomplished by either capitalizing a single period income stream or discounting a series of income streams, based on a multiperiod forecast.

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

**Identifiable Intangible Assets.** In this appraisal, several intangible assets could be separately identified and valued. These assets include the following:

- Trademark
- Patient records
- Covenant not-to-compete

Although other intangible assets could be identified as existing in CRS, namely trained employee workforce, procedure manuals, and so on, they could not be separately valued. Therefore, these assets are valued under the residual method in the next section of this report.

**The Income Approach.** To value the identifiable intangible assets and the goodwill of CRS, we have used the income approach. To implement the income approach, we have used the residual cash flow methodology. The residual method allocates the cash flows of the business to its component assets. This includes both tangible and identifiable intangible assets. This is accomplished for assets whose values are known by calculating returns to those assets and subtracting the returns from the forecasted cash flows of the business. The cash flow of a business is the product of combining all of the assets of the business in their productive capacities to generate returns to the shareholders. The cash flow that remains after returns to all of the identified assets are subtracted is the cash flow attributable to the unidentified intangible assets.

We started by analyzing the returns being generated by the tangible assets of the business. Because we have previously determined that excess assets existed in CRS at the valuation date, returns to these assets have not been computed because this analysis focuses on the operating assets of the business. At the valuation date, the tangible operating assets have been valued in addendum 3.4 to the asset purchase and sale agreement between Public Company Purchaser and CRS. The addendum has been attached as exhibit 3 to this report. As per exhibit 3, the value of the tangible assets at the valuation date was as follows:

Accounts receivable	\$ 550,000
Inventory	40,000
Fixed assets	712,000
<b>Total</b>	<b>\$ 1,302,000</b>

To compute returns from these assets, we have developed rates of returns for each and applied them to the asset values. The starting point to estimate returns on these assets is the prime rate that banks charged at the valuation date. According to the Federal Reserve Board, the average prime rate for all U.S. commercial banks was 9 percent on March 9, 1995. The prime rate represents the rate of interest banks charge their best customers on the most secure types of loans.

For this analysis, we have added a premium to the prime rate for each of the different classes of assets to arrive at the following rates of return:

Asset Class	Return	After-Tax Return
Accounts Receivable	11%	6.6%
Inventory	12%	7.2%
Fixed Assets	14%	8.4%

(continued)

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

Accounts receivable are the most liquid of the three asset classes, making them less risky than the inventory or fixed assets. Yet banks would still charge CRS a premium to lend against the receivables because it still presents risk to the bank. The inventory is less liquid than the accounts receivable and thus presents more risk to the bank. Therefore, we have added an additional 1 percent premium to the inventory rate. The fixed assets of the business are even less liquid than the inventory and present a greater risk to a bank that is considering lending against the fixed assets of a business. As such, we have added an additional 2 percent over and above the return to inventory.

All of the returns calculated are pretax returns. Because our objective is to allocate after-tax cash flow to these assets, we need to tax effect the returns to put them on an after-tax basis. To accomplish this, we have assumed the tax rate to be 40 percent and multiplied the pretax returns by one minus the tax rate, or 60 percent ( $1 - 40\% = 60\%$ ). It should be noted that the returns calculated here are minimum returns. The premise used here is that companies would require a rate of return equal to the cost to finance the asset. In fact, companies want to make profits on their assets and would want to earn an incremental return over and above their financing cost.

To calculate the cash flow that is allocable to each asset, the value of the asset is multiplied by the after-tax return. The calculations are presented in table 5.

**TABLE 5 Calculation of Returns to Tangible Assets**

Asset	Value	After-Tax Rate of Return	Return
Accounts Receivable	\$550,000	6.6%	\$36,600
Inventory	40,000	7.2%	2,880
Fixed Assets	712,000	8.4%	59,808

Once the returns from the tangible assets have been determined, we can subtract these returns from the cash flow of the business to obtain the cash flow allocable to all of the intangible assets. This is shown in table 6.

**TABLE 6 Cash Flows from Intangible Assets**

	1996	1997	1998	1999	2000
Cash Flow (Table 15)	\$ 1,011,916	\$ 1,257,349	\$ 1,544,677	\$ 1,869,357	\$ 2,233,004
Less Returns On:					
Accounts Receivable (Table 16)	36,300	36,300	36,300	36,300	36,300
Inventory (Table 16)	2,880	2,880	2,880	2,880	2,880
Fixed Assets (Table 16)	59,808	59,808	59,808	59,808	59,808
Cash Flows From Intangible Assets	<u>\$ 912,928</u>	<u>\$ 1,158,361</u>	<u>\$ 1,445,689</u>	<u>\$ 1,770,369</u>	<u>\$ 2,134,016</u>

**Trademark.** A *trademark*, or *trade name* as it is sometimes referred to, is one of the most common types of intangible assets. The trademark is the name that the company is recognized by in the market place. This is the reason trademarks have value because they are recognized by customers and referral sources. Typically, in an acquisition, the use of the trademark by the seller is prohibited to protect the value of the assets purchased by the buyer.

The valuation of a trademark is based on the present value of a stream of royalties that would be paid for the use of the trademark. Royalty rates for such purposes are typically defined as a percentage of sales. To obtain the actual rates, one must observe similar transactions in the marketplace.

A few companies keep databases of royalty rate data. For the purposes of this assignment, we used the database of ASU Consulting and Trademark Licensing Associates. These databases were searched for companies in the medical equipment and respiratory therapy industries and related fields. The searches did not identify any transaction that would be appropriate to the valuation of CRS' trademark.

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Our research and discussions with individuals at ASU Consulting and Trademark Licensing Associates leads us to believe that royalty rates typically range between 1 percent and 10 percent across markets and industries. Considering the low level of technology involved in CRS, as well as the company's strength and reputation, we have selected a royalty rate of 4 percent.

Estimating that the trademark has a relatively long-term holding period, we have calculated the cash flow for a 25-year life. The strength of the CRS name becomes more and more apparent when the historic sales growth is examined. Our calculation is shown in table 7.

**TABLE 7 Cash Flow Allocable to Trademark**

Year	Sales	Rate	Cash Flow
1996	\$6,500,000	4.0%	\$260,000
1997	7,345,000	4.0%	293,800
1998	8,299,850	4.0%	331,994
1999	9,378,831	4.0%	375,153
2000	10,504,290	4.0%	420,172
2001	11,134,548	4.0%	445,382
2002	11,802,620	4.0%	472,105
2003	12,510,778	4.0%	500,431
2004	13,261,424	4.0%	530,457
2005	14,057,110	4.0%	562,284
2006	14,900,536	4.0%	596,021
2007	15,794,569	4.0%	631,783
2008	16,742,243	4.0%	669,690
2009	17,746,777	4.0%	709,871
2010	18,811,584	4.0%	752,463
2011	19,940,279	4.0%	797,611
2012	21,136,696	4.0%	845,468
2013	22,404,897	4.0%	896,196
2014	23,749,191	4.0%	949,968
2015	25,174,143	4.0%	1,006,966
2016	26,684,591	4.0%	1,067,384
2017	28,285,667	4.0%	1,131,427
2018	29,982,807	4.0%	1,199,312
2019	31,781,775	4.0%	1,271,271
2020	33,688,682	4.0%	1,347,547

(continued)

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

Once the cash flow has been forecast, the selection of a proper discount rate becomes necessary. Because the cash flow stream being estimated will not occur until sometime in the future, the future cash flow must be discounted to its present value.

The CRS trademark is well-established in its local markets. The company had an excellent reputation for service and integrity. As Mr. Carnes has said, he did not spend money on advertising, but let CRS' reputation build by word of mouth, from satisfied patient to doctor, and from doctor to doctor. These events have gone a long way in strengthening the trademark of CRS in its marketplaces. CRS had the predominant market position in each of its markets and continually maintained and upgraded its position with diligent marketing efforts. These positive qualities provide value to a trademark and reduce the risk associated with it. As a result, we have selected a 20 percent discount rate.

This results in the value estimate of the trademark being calculated as follows:

Year	Forecasted Cash Flow	×	20% Present Value Factors	=	Present Value Future Cash Flow
1996	\$260,000		0.8333		\$ 216,658
1997	293,800		0.6944		204,015
1998	331,994		0.5787		192,125
1999	375,153		0.4823		180,936
2000	420,172		0.4019		168,867
2001	445,382		0.3349		149,158
2002	472,105		0.2791		131,764
2003	500,431		0.2326		116,400
2004	530,457		0.1938		102,803
2005	562,284		0.1615		90,809
2006	596,021		0.1346		80,224
2007	631,783		0.1122		70,886
2008	669,690		0.0935		62,616
2009	709,871		0.0779		55,299
2010	752,463		0.0649		8,835
2011	797,611		0.0541		43,151
2012	845,468		0.0451		38,131
2013	896,196		0.0376		3,697
2014	949,968		0.0313		29,734
2015	1,006,966		0.0261		26,282
2016	1,067,384		0.0217		23,162
2017	1,131,427		0.0181		20,479
2018	1,199,312		0.0151		18,110
2019	1,271,271		0.0126		16,018
2020	1,347,547		0.0105		14,149
<b>TOTAL</b>					<b>\$ 2,134,308</b>



### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

The indicated fair market value of CRS' trademark is \$2,134,308, or \$2,134,000 rounded.

**Patient Records.** One of the important intangible assets of a business such as CRS, is the patient records or customer list. These records are important to a potential purchaser because it is this very patient base that generates immediate cash flow to the company. This type of asset is generally valued by reviewing the expected life of the patient relationship and applying some factor to the sales in order to estimate the cash flow that would be expected to be generated from this relationship. Before applying factors to the cash flow of the company, we must first determine the cash flow available from the patient records and the remaining assets. This is calculated in table 8.

**TABLE 8 Cash Flows Available to Patient Records**

Year	Cash Flow	Accts. Rec.	Inventory	Fixed Assets	Trademark	Cash Flow to Other Intangibles
1996	\$1,011,916	36,300	2,880	59,808	260,000	\$ 652,928
1997	1,257,349	36,300	2,880	59,808	293,800	864,561
1998	1,544,677	36,300	2,880	59,808	331,994	1,113,695
1999	1,869,357	36,300	2,880	59,808	375,153	1,395,216
2000	2,233,003	36,300	2,880	59,808	420,172	1,713,843
2001	2,366,983	36,300	2,880	59,808	445,382	1,822,613
2002	2,509,002	36,300	2,880	59,808	472,105	1,937,909

Using Iowa curves, we have calculated the following survivorship rates for the life of the patient relationships:

Year	Survivorship %
1	83.88
2	62.43
3	47.22
4	34.57
5	23.13
6	12.32
7	1.87

(continued)

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

Therefore, projected cash flows from the existing patient base are estimated in table 9.

**Table 9**

Year	Cash Flow to the Residual	×	Survivorship Rate	=	Cash Flow to Patient Records
1996	\$ 652,928		0.8388		\$547,676
1997	864,561		0.6243		539,745
1998	1,113,695		0.4722		525,887
1999	1,395,216		0.3457		482,326
2000	1,713,843		0.2313		396,412
2001	1,822,613		0.1232		224,546
2002	1,937,909		0.0187		36,236

After calculating the cash flow attributable to the patient records, the next step is to discount these amounts to their present values to determine an estimate of the value of the patient records. In our opinion, the least risky of the identified intangible assets are the patient records because they are actual physical documents. Possessing these documents allows a buyer to continue servicing the existing patients. The remaining life of these records can and has been estimated. In addition, buyers such as Public Company Purchaser and other large companies in the industry have their own experiences with how long a patient will remain with the company. Because these patients are currently availing themselves of CRS' services, they are generating cash flows and will generate a material and predictable portion of CRS' cash flows over the following months and years. This makes the risk of receiving these cash flows low. Therefore, we have applied a 14 percent discount rate to the patient records. This results in an estimate of value as calculated in table 10.

**TABLE 10 Cash Flows Allocable to Patient Records**

Year	Cash Flow to Patient Records	×	Present Value Factors	=	Present Value
1996	\$547,676		0.8782		\$ 480,421
1997	539,745		0.7695		415,334
1998	525,887		0.6750		354,973
1999	482,326		0.5921		285,585
2000	396,412		0.5194		205,896
2001	224,546		0.4556		102,303
2002	36,239		0.3996		14,481
<b>TOTAL</b>					<b>\$1,858,995</b>

Therefore, based on our analysis, the value of the patient records is estimated to be \$1,858,995, or \$1,859,000 rounded.

## EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

**Covenant Not-To-Compete.** A covenant not-to-compete (non-compete agreement) is an intangible asset-based on a contractual agreement. Typically, the seller of a business, the covenantor, agrees not-to-compete with the buyer of the business, the covenantee, in a defined industry or market for a specific period of time, in a geographically defined area. A non-compete agreement has value to the buyer to the degree that it protects the assets (tangible and intangible) from loss of value by restricting competitive actions of the seller. From an economic perspective, the value of a non-compete agreement is dependent on several factors, including the ability of the seller to compete, the derivation of the non-compete agreement, and the losses the company would suffer if the seller competed.

In the instance in which the seller has the ability to compete, the relevant question becomes, what impact would competition from the seller have on the business? The answer to this question depends on a myriad of factors. Chief among them are: (1) the seller being in possession of relationships that could redirect business from the company to a new company established or invested into by the seller, and (2) the seller having either sufficient knowledge or technology to allow him or her to bring competitive services to market.

The single most important source document in determining the value of a covenant not-to-compete is the agreement in which the covenant is made. For this reason, we have performed a detailed review of the asset purchase agreement between Public Company Purchaser, CRS, and John W. Carnes, dated March 9, 1995 (the agreement).

The following discussion highlights items in the agreement that affect the value of the covenant not-to-compete.

Article 1.1(b) defines business as it applies to the agreement:

*“Business”* shall mean the entire business of Company [CRS], including, but not limited to, the business of marketing, advertising, selling, leasing, renting, distributing or otherwise providing oxygen, oxygen equipment, aerosol inhalation therapy equipment and respiratory medications, nasal continuous positive airway pressure devices, infant monitoring equipment and services, home sleep studies and related therapy equipment, and other respiratory therapy and durable medical equipment, products, supplies and services to customers in their homes or other alternative site care facilities.

Article 1.1(f) defines territory as:

[T]he State of State and a radius of one hundred fifty (150) miles from any of Company’s current operating centers, regardless of which states such radius may include.

Section 3.4 of the agreement pertains to the allocation of the purchase price and states:

The parties agree to allocate the Purchase Price among the Assets as set forth in Addendum 3.4. The values assigned to the Assets as set forth Addendum 3.4 were separately established by the parties in good faith and each party agrees to report the transaction contemplated by this Agreement to the Internal Revenue Service as required by Section 1060 of the Internal Revenue Code in accordance with Addendum 3.4, subject to the approval of Public Company Purchaser’s and Company’s independent auditors.

An important statement in this section is the discussion of the values being “separately established by the parties in good faith.” This indicates that the parties discussed each of the values and negotiated them separately, including the covenant not-to-compete. Addendum 3.4 has been attached to this report as exhibit 3.

Article 8.2 contains a no solicitation clause which states:

- a. From and after the Closing, neither Company nor the Shareholder [John W. Carnes] shall:
  - iv. directly or indirectly, hire, offer to hire, or entice away, or in any other manner persuade or attempt to persuade, any officer, employee or agent of Public Company Purchaser (including, but not limited to, any former officer, employee or agent of Company), or in any manner persuade or attempt to persuade, any officer, employee or agent of Public Company Purchaser (including, but not limited to, any former officer, employee or agent of Company) to discontinue his or her relationship with Public Company Purchaser. It is understood and agreed that the prohibitions contained in this Section 8.2 (i) shall apply to all current and future officers, employees and agents of Public Company Purchaser (including, but not limited to, any former officer, employee or agent of Company), whether or not any such person is then currently an officer, employee or agent of Public Company Purchaser or whether any such prohibited activity is in connection with employment, an offer of employment or other action within or outside the Territory; or
  - v. directly or indirectly solicit, divert or take away, or attempt to solicit, divert or take away any business Company had enjoyed or solicited prior to the date hereof or which Public Company Purchaser may enjoy or solicit in the Territory after the date hereof.

(continued)

## EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

- b. It is expressly understood and agreed by the parties hereto that it shall be a breach hereof for Company or the Shareholder to assist in any way any member of his or her family, any business associate, or any other person, firm, corporation, partnership, joint venture, association, trust or other entity, to engage in any activity which is prohibited by this Section 8.2.

Notice that this article deals with the existing customers and employees being acquired at the time of the agreement. This article acts as protection for Public Company Purchaser with respect to the customers and human capital it is acquiring.

Article 9 is the covenant not-to-compete and is presented in its entirety.

### 9.1 *Covenant.*

- a) In consideration of the purchase by Public Company Purchaser of the Assets and the Business pursuant to the terms and conditions of this Agreement, and for other good and valuable consideration, the company and Shareholder, (each hereinafter referred to individually as a "Covenantor" and collectively as the "Covenantors") hereby represent, warrant, covenant and agree, jointly and severally, that commencing on the date hereof and continuing for a period of five (5) years thereafter, none of the Covenantors will, directly or indirectly, engage in the business of marketing, advertising, selling, leasing, renting, distributing, or otherwise providing oxygen, oxygen equipment, aerosol inhalation therapy equipment and respiratory medications, nasal continuous positive airway pressure devices, infant monitoring equipment and services, home sleep studies and related therapy equipment, or any other respiratory therapy or durable medical equipment, products, supplies and services to customers in their homes or other alternative site care facilities within the Territory.
- b) Without limiting the generality of the provisions of Section 9.1 (a) hereof, this Covenant Not-to-compete shall be construed so that Covenantors shall also be in breach hereof if any of them is an employee, officer, director, shareholder, investor, trustee, agent, principal or partner of, or a consultant or advisor to or for, or a subcontractor or manager for, a person, firm, corporation, partnership, joint venture, association, trust or other entity which is engaged in such business in the Territory, or if any of them receives any compensation or remuneration from or owns, directly or indirectly, any outstanding stock or shares or has a beneficial or other financial interest in the stock or assets of any such person, firm, corporation, partnership, joint venture, association, trust or other entity engaged in such business in the Territory. Notwithstanding anything to the contrary contained in this Section 9.1 (b), no Covenantor shall be deemed to be in breach of this Covenant Not-to-compete solely by reason of owning an interest of less than one percent (1%) of the shares of any company traded on a national securities exchange or in the over the counter market.
- c) It is expressly understood and agreed by Covenantors that it shall be a breach of this Covenant Not-to-compete for any Covenantor to assist in any way any family member, any business associate, or any other person, firm, corporation, partnership, joint venture, association, trust or other entity, to engage in any activity which a Covenantor is prohibited from engaging in by this Covenant Not-to-compete.

### 9.2 *Remedies.*

Covenantors agree that the remedy at law for any breach of obligation under this Covenant Not-to-compete will be inadequate and that in addition to any other rights and remedies to which it may be entitled hereunder, at law or in equity, Public Company Purchaser shall be entitled to injunctive relief, and reimbursement for all reasonable attorneys' fees and other expenses incurred in connection with the enforcement hereof. It is the intention of Covenantors and Public Company Purchaser that this Covenant Not-to-compete be fully enforceable in accordance with its terms and that the provisions hereof be interpreted so as to be enforceable to the maximum extent permitted by applicable law. To the extent that any obligation to refrain from competing within an area for a period of time as provided in this Covenant Not-to-compete is held invalid or unenforceable, it shall, to the extent that it is invalid or unenforceable, be deemed void ab initio. The remaining obligations imposed by the provisions of this Covenant Not-to-compete shall be fully enforceable as if such invalid or unenforceable provisions had not been included herein and shall be construed to the extent possible, such that the purpose of this Covenant Not-to-compete, as intended by Covenantors and Public Company Purchaser, can be achieved in a lawful manner.

The key elements of the covenant not-to-compete are as follows:

- The covenant is for a term of five years.
- The covenant covers what the Agreement defines as "business."
- The covenant relates to the geographic region defined in the Agreement as the "territory."
- Prohibits partaking in the "business" in the "territory" for the five-year period.
- The covenant defines remedies for Public Company Purchaser if the covenant is violated.

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

The valuation of the covenant not-to-compete is highly dependent on the impact of the seller's ability to compete in the marketplace with the buyer. Therefore, in order to estimate the potential impact of CRS competing with Public Company Purchaser, after the sale, we have performed a lost sales analysis.

A lost sales analysis entails estimating the potential losses to the covenantee from competition from the covenantor. The analysis is used as part of a residual method valuation of a non-compete. As part of a residual method of valuation, the lost sales analysis determines the cash flow that is allocable to the covenant not-to-compete. The cash flow is then valued directly in the residual valuation analysis.

Lost sales analysis can be used to value the subject business' cash flow for the period of the covenant, first assuming the covenant is in place and then a second time without the covenant. The difference in the values in these two scenarios is the value of the non-compete agreement.

Regardless of how it is to be used, there are several steps involved in preparing a lost sales analysis. The first step is to prepare a forecast of the company's income statement and cash flow assuming the covenant is in place, and the covenantor is not in violation of the agreement. This has previously been done to value the entire operating enterprise.

The next step is to ascertain what level of sales would be lost if the covenant was not in place. The impact of the lost sales on the company's income statement and cash flow must then be analyzed and forecasted. Determining the likely level of lost sales is a highly intricate process that typically involves in-depth discussions with management of the acquiring company. The closest information we have to interviews in this case are the depositions of the Public Company Purchaser officials and of Mr. Carnes. Based on our review of the various deposition transcripts provided to us, we determined that the possible range of lost sales would be between 1 and 25 percent. Our analyses follow in tables 11 and 12.

A general rule that is applied to these scenarios is that we have not reduced sales in any one year by more than 10 percent. This has been done to reflect that transferring revenues to a new entity would take Mr. Carnes time to accomplish.

Each of these tables includes the same assumptions regarding to cost of sales, operating expenses, and income taxes. They are:

1. Cost of sales is forecasted at 14.1 percent of sales based on the historic cost of sales.
2. Operating expenses are forecasted as 41.9 percent of sales.
3. We have assumed a combined federal and state tax rate of 40 percent.

The forecasted income statements of CRS for the years ended March 9, 1996 through 2000 assuming a one percent loss of revenues due to competition from Mr. Carnes are presented in table 11.

	1996	1997	1998	1999	2000
Net Sales*	\$6,435,000	\$7,271,550	\$8,216,852	\$9,285,042	\$10,399,247
Less: Cost of Sales	907,335	1,025,289	1,158,576	1,309,191	1,466,294
Equals: Gross Profit	\$5,527,665	\$6,246,261	\$7,058,275	\$7,975,851	\$8,932,953
Less: Operating Expenses	2,696,265	3,046,779	3,442,861	3,890,433	4,357,285
Equals: Net Operating Income	\$2,831,400	\$3,199,482	\$3,615,415	\$4,085,419	\$4,575,669
Less: Taxes	1,132,560	1,279,793	1,446,166	1,634,167	1,830,268
<b>Net income</b>	<b>\$1,698,840</b>	<b>\$1,919,689</b>	<b>\$2,169,249</b>	<b>\$2,451,251</b>	<b>\$ 2,745,401</b>

Note: Figures may be off due to rounding.

\* Sales in 1996 have been multiplied by 99 percent of the \$6,500,000 figure used in the noncompetition forecast analysis (\$6,500,000 × .99 = \$6,435,000). Thereafter sales have been grown at the rates used in the non-competition forecast analysis.

(continued)

## EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

### Author's Note

The next several tables have been omitted from this exhibit, but they were based on a 5-, 10-, 15-, 20-, and 25-year analysis similar to this one.

Having presented these analyses, the lost income calculated under each scenario is summarized in table 12.

**TABLE 12 Summary of Lost Income from Seller Competition**

Lost Revenue	1996	1997	1998	1999	2000
1 Percent	\$ 17,160	\$ 19,391	\$ 21,912	\$ 24,760	\$ 27,731
5 Percent	85,800	96,964	109,558	123,801	138,657
10 Percent	171,600	193,908	219,116	247,601	277,313
15 Percent	171,600	281,167	317,718	359,022	402,104
20 Percent	171,600	368,425	416,320	470,442	526,895
25 Percent	171,600	368,425	505,062	570,721	639,207

As can be seen in table 12, the greater the loss of sales, the greater the loss of income, and as a result, loss of cash flow. The question that needs to be answered after an analysis like this is, what is the most likely loss of revenue that would result from the competition of the seller? In order to answer this question, we reviewed numerous documents relating to this matter. We have highlighted that which we consider to be most relevant to our analysis.

The deposition of John Byrnes provided us with a significant amount of relevant information. Mr. Byrnes is, and was at the time of the CRS acquisition, Chief Operating Officer of Public Company Purchaser. From his deposition, it is clear that he is highly experienced in the respiratory therapy business as an industry insider.

On page 4 of his deposition, Mr. Byrnes explained his involvement in the acquisition of CRS by Public Company Purchaser. Mr. Byrnes indicated that he reviewed a book from Mr. Carnes' business brokers and then attended a meeting with the brokers, John Carnes and Lori Rodgers. Mr. Byrnes indicated the reason he went to the meeting was "to see if Lori was capable of running the business herself." This is significant because it demonstrates that Public Company Purchaser believed Ms. Rodgers to be a key individual in the operations of CRS.

When asked if he knew of CRS and Mr. Carnes prior to their meeting in December 1994, he said "we knew who they were and we knew that they're at four locations and were a good competitor." Later Mr. Byrnes was asked "Why were you concerned about whether or not Ms. Rodgers would be able to run the company after the acquisition?" His response was "Because the feeling I got was that Mr. Carnes wasn't coming in the acquisition." Mr. Byrnes was asked "Did Public Company Purchaser have an interest in having Mr. Carnes continue on with the business in some capacity, if you recall." Mr. Byrnes' reply was "No," "we did not have an interest." This is a very clear statement that Public Company Purchaser's interest was in Lori Rodgers and not in John Carnes.

Mr. Byrnes was asked what Ms. Rodgers's role has been from the acquisition forward. His response was "Her title is an area manager. She runs the four Carnes locations. We opened up a City E office. She also runs several other locations for us now. She has several locations that report to her." Clearly, Ms. Rodgers has shown the capabilities, not only to effectively run what was CRS, but also the ability to take on these new locations, as well.

When asked about the source of referrals that generate revenues for his company, Mr. Byrnes indicated that half come from doctors and half come from hospitals. Mr. Byrnes was asked how these referral relationships were maintained. He replied, "In Carnes' case, we continued to do exactly the same things that they were doing. They had four or five sales reps who called on hospitals, the doctors, the nursing agencies, who were willing to service their indigent patients who provided a high level of service." Mr. Byrnes was then asked, "Did you attempt to ascertain as part of the due diligence who had been responsible for generating the doctors, hospitals, and nurse referrals that Carnes Respiratory had?"

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

Mr. Byrnes responded that Public Company Purchaser had ascertained that information and “that it was the sales people who brought in the business.” Mr. Byrnes was then asked “Did you have any reason to believe that the relationships that existed with the doctors, nurses, and hospitals had been of long standing, namely initiated and started by Mr. Carnes himself?” Mr. Byrnes responded “There’s probably some in City A. But for the other locations outside of City A, I think it was the salespeople he hired.” Mr. Byrnes was then asked a series of questions regarding the percentage of business CRS derived from each of its locations. His response indicated the following:

City A	25%
City D	15%
City B	40%
Total	80%

In regard to the City B store, Mr. Byrnes was asked “did you attempt to ascertain or did you ascertain the role that Mr. Carnes individually had in initially establishing and having continuity in terms of the referral relationship?”

Mr. Byrnes answered “It was Judy Clark that got the business there.” Mr. Byrnes was asked how he was aware of this and he responded “because when he opened in City B, I was the center manager there [For Public Company Purchaser].” Mr. Byrnes further commented that he “knew who was out calling on the docs.”

From all of these questions and answers, it is clear that Mr. Byrnes is well versed in the local markets where CRS operated, and how the company was generating its referrals. Mr. Byrnes’ concerns were about the abilities of Lori Rodgers, as discussed above. Mr. Byrnes was later asked what his determination of Ms. Rodgers’s abilities to run the locations was. He responded “I thought she could.” When asked why, Mr. Byrnes said, “She knew what was going on. She knew where the business was coming from. She knew what was going on in all four markets. And I just felt confident that she was on top of the business.”

Another deposition that was helpful was that of Mr. Davidson, who was specifically asked about the non-compete agreement and how the value was derived. He responded as follows:

A As you know, we’ve been on a fairly active acquisition program for a number of years. From the beginning of 1991 through today, we’ve closed more than 70 acquisitions.

Working with our independent auditors, we have determined that during 1995, we were basically allocating \$50,000 per shareholder to the covenant. Because of the size of this transaction, which was the business was larger than the normal business in the industry and larger than our normal acquisition, we felt it appropriate to increase that from 50,000 to 100,000 in terms of allocation of the purchase price to the covenant. So it was a standard calculation adjusted for the size of the business that we arrived at working with our outside auditors.

Although one could construe this statement as indicating that Public Company Purchaser applies a blind rule of thumb to the allocation of purchase price for a non-compete, we do not believe that is the case. As Mr. Davidson indicated, his company is very experienced in acquiring other companies. Their method of allocating to a non-compete is based on this experience, and as he mentioned, from working with Public Company Purchaser’s independent auditors. At some point in this process, Public Company Purchaser, with its outside accountants’ assistance, determined this to be an appropriate measure. This should also be held up against Public Company Purchaser’s tax and accounting incentives. An allocation of purchase price to a non-compete agreement can be amortized over the life of the agreement. Goodwill on the other hand, is amortizable for financial statement purposes over 40 years. In prior years, goodwill was not at all deductible for income tax purposes. Now, it can be amortized over 15 years.

In addition, Public Company Purchaser is required by law to submit its financial statements to the SEC because of its status as a publicly traded company. These financial statements must fairly represent the financial condition of the company and have been audited by the company’s outside accountant. In recording the allocation of purchase price, the company has a duty to fairly report it to its shareholders and the independent accountant has opined to its fairness. Given these facts and circumstances, we do not believe that Public Company Purchaser’s methodology is without merit.

(continued)

## EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

The third Public Company Purchaser deponent was Robert G. Abbott, whose deposition pointed out two issues relevant to our analysis. The first issue is the importance of Lori Rodgers to Public Company Purchaser in the transaction.

Q. Now, in that regard, is that instrument or Ms. Rodgers's Employment Agreement with Public Company Purchaser pursuant to the terms of the agreement? Because I don't know why, but I was of the impression that Ms. Rodgers did not have a written Employment Agreement with Carnes Respiratory.

A. No. This is an Employment Agreement between Ms. Rodgers and Public Company Purchaser as a condition precedent to closing the acquisition.

The key is that her employment agreement with Public Company Purchaser was a precondition to the acquisition. Public Company Purchaser was concerned with locking her into the deal from the very beginning. The second issue is over the negotiation of the individual asset values.

Q. And did Mr. Gonzales or anyone on behalf of Mr. Carnes make any suggestion as to what the allocation should be or was the allocation something that was the product of Public Company Purchaser?

A. I do not believe anyone representing the seller or the seller himself made any suggestions as to what the allocation should be. I believe the process was we presented our good faith estimate of what the allocation should be and it was accepted by the seller after their review.

The importance of this response is that neither Mr. Carnes nor his representatives commented on the allocation of the asset values. This issue will be taken up again later in this report. The fourth and final Public Company Purchaser official deposed in this matter was Phillip Phillips. Mr. Phillips is Public Company Purchaser's controller. Mr. Phillips was deposed for the purposes of understanding more about Public Company Purchaser's acquisition process and how Public Company Purchaser values individual assets, particularly covenants not-to-compete.

Mr. Phillips established that Public Company Purchaser does have a written policy as to how it allocates purchase prices. In establishing this, he stated:

We have—using the term protocol or methodologies as to how we—how we come up with the end product of a purchase price allocation. That is, from the inception of the early—late 1990, '91 and '92 when we started acquiring businesses with our outside auditors, we developed that methodology.

And it's been applied over that entire span of our acquisition program with very minor adjustments, very few in form and very few in substance. It's primarily the same methodologies from the time I started with the company in 1993.

The important points in this statement are that the methodology has been developed with Public Company Purchaser's outside auditor and that it has been applied over time with very little modification. Mr. Phillips goes on further to discuss how covenants are valued, and what the trend has been over time.

A. And the covenant, which is the second item—ready to go to the next one?—if you're in an asset and stock purchase, in each of those transactions, there is normally—with an asset purchase, there is one or more persons that are the influential persons in that business.

In a stock purchase, certainly there are shareholders that are oftentimes participants in the business in our industry, and they are the significant influencing persons involved in the business.

We value covenant based on the same methodology, the number of persons that are involved times an amount. And the amount in the case of March 9th of 1995 was \$100,000 for the significant person involved in the Carnes Respiratory acquisition.

The methodology of using a number of persons involved times a dollar amount has been in place for 1994 through today. The only variation is that the dollar amount that we have assigned to each of those significant persons in the business has changed. It's continued to slide on a downward scale.

In 1994, we were valuing—when we were developing purchase price allocations, we were looking at businesses and saying—and we were buying from a different pool of sellers.

In this case, I don't think Mr. Carnes is a doctor. But in '94, we were buying many physician-owned practices. And you would often be buying for more than one person, and there's a—there's 12 shareholders. We were valuing those in that time frame from 50 to \$100,000 per person.

Through the middle of '95, then we started to change the valuation to more in the \$25,000 per person; in 1996, more in the 10,000, where today and for the last 12 to 18 months, we've been valuing each covenant based on the number of persons at \$5,000 per person.



### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

Q. Since that is truly the focus of our litigation, let me address that for a few moments.

A. Sure.

Q. The \$100,000 number or \$50,000 number, or whatever number may be used, where does that number come from?

A. It is purely an estimate based on management's ability to estimate what this covenant is valued to us internally.

There are two factors in this statement. First, that the dollar amount assigned to each shareholder has decreased through time. This indicates that Public Company Purchaser has seen what it believes to be trends in the value of non-compete agreements and has adjusted its valuations accordingly. This further supports the notion that Public Company Purchaser's allocation is not arbitrary. Second, the value of the covenant is Public Company Purchaser's perception. This indicates that as an active participant in this market Public Company Purchaser does not believe that the owning individual is highly valuable to the success of the business.

A review of the deposition transcript of John Carnes also provides us with important information regarding the covenant not-to-compete. From reviewing Mr. Carnes's deposition transcript, we feel Mr. Carnes was very knowledgeable about his business and his industry. It appears that Mr. Carnes has good marketing skills and is a very effective teacher. These are both important skills in developing and growing a successful business in this industry. In addition, Mr. Carnes describes the importance of his employees and the level of service provided to customers in the success of CRS. The deposition covers topics from opening new locations, competition, and key employees, to marketing and referral development.

Mr. Carnes was asked about and discussed how CRS decided to open new locations. Key factors appeared to be a geographic area with an elderly population and a sufficient potential referral base. In answering a question about how the actual decision process went, Mr. Carnes said:

We'd take all my marketing people and I would think I'd see an area I thought would be good. I would visit it myself or I would have some kind of contact. And I would send all those marketing reps into the area, and they would talk with doctors about who they were using or how they were doing or how they could be, you know, handled better by a company. If we saw there was potential, then we would go there and open a facility.

Mr. Carnes was asked why he opened the City D location. He responded:

A. Carnes Respiratory continued to expand yearly looking for places that we thought we had potential business. And I had looked at purchasing a company down there one time and didn't. And then I thought it would be a good opportunity for Carnes to expand.

So I expanded down there because I thought there would be some additional business, which, in that business, as always, you look for an older population of people that had some problems. That's why we moved there.

Mr. Carnes later discussed how City C differed in respect to why it was opened.

A. No sir. We did that a little bit different than that. We had some doctors in City A that also covered City C.

And so they were looking for some additional people. They wanted better coverage up there. So that helped make— There's more than just one reason you would decide to go there, but that was one of the major reasons to look at City C.

And, again, it's an older population of people, which is what we were. We were government, Medicare—you needed older people—older sick people.

Training is a very important part of CRS' business. Employees who typically are not highly skilled when they began their employment at CRS must be trained to deliver a high level of service to CRS' patients. CRS' employees were trained in how to educate patients in using oxygen and other equipment. Mr. Carnes discussed the training of these individuals in-depth.

A. It would be delivered to the patient's home, and they would educate the patient in how the doctor prescribed the oxygen for him, and how the equipment worked.

Q. Okay. Would this be someone that had been trained in your operation to do this?

A. Yes, sir.

Q. This wouldn't be someone out of the labor pool—

A. No.

(continued)

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

Q. —in City F or City B, would it?

A. No.

Q. This would be someone that you would recognize as having the degree of skill necessary to—

A. We had constant education programs at the company to educate everybody that came onboard. They all had to go through a training period or a training phase to do anything that was related to our company, whether it would be install a bedside commode or a walker. And we were governed by the joint commissions, which said that we were doing it in a proper safe manner for the patient.

Q. They were skilled people?

A. Well, you know, you don't hire them skilled. You hire them and then, you know, train them to do the job. So you weren't respiratory therapists or, you know, physical therapists or nurses, no, sir.

Q. Was there a difference between the truck driver and the person who actually took the tank to the patient?

A. No.

Q. Would that person that was trained by you—of course, he'd already know how to drive a truck, but, obviously, that person be trained by you, then, to take the tank inside and help the patient?

A. Yes, sir. Me or my staff trained them. Ninety percent of them I have trained myself.

Q. Was there some sort of formalized training you gave them? In other words, did you have some sort of brochure you followed or was it just based on your experience in the business?

A. Well, initially when we first did it, it was, you know, based around our experience the way—but when we became JCO certified or joint commissioned, then we had protocol that you had to follow, and it was a written procedure. We had a policy and procedure manual that we—Lori Rodgers, matter of fact, wrote our policy and procedure manual that joint commissions came in and inspected us and said, yes, we're following proper procedure with all the safety precautions and everything that should be done to maintain the health and safety for the patients with the equipment.

The quality of the services provided by CRS differentiated the company from its competition. In discussing the quality of the services provided compared to its competition, Mr. Carnes felt that CRS was superior in all respects.

A. Not a chance.

Q. Is this because of the better training you provided your people?

A. I think it was better training and just simply the way we maintained, you know, our equipment. And there was just never a question just from the physicians and the patients themselves and the referrals from social services workers at hospitals, nurses at hospitals. Your patients and word-of-mouth back to the physicians is what built Carnes Respiratory Services.

Q. And that's what I was going to ask you. Is it this quality of services that you—to which you attribute the obvious success of Carnes Respiratory Services in these areas?

A. I think we gave the best out there, yes, sir. Public Company Purchaser must think we gave pretty good, too, because they still carry our name in several of the locations. Even though they bought my company they still have my name on it.

Mr. Carnes answered a series of questions relating to competition from other companies in the oxygen business. Through his responses, he indicated that he did not believe any of the independent companies in his industry offered any significant competition to CRS. Mr. Carnes described CRS' competitive advantage as taking care of patients.

And so you got business based around what your ability—the physician, he wanted his patients taken care of. I mean, that's what he was looking for. So whoever gave the best care to his patients is, you know, who he's normally going to use. And so it was a combination of a lot of things, and it was years. We didn't do it overnight. It took us, you know, 13 years to build that business.

In addition to providing high quality service to patients, Mr. Carnes believed it was crucial to market these services to potential referral sources. When asked, Mr. Carnes discussed the importance of marketing and the marketing staff to CRS.

A. My marketing people met with me, not just—We had a meeting every week. There is no question about it. But it was daily that my marketing people would get on their radio or they had mobile phones in their car, that I talked to them constantly about, you know, this position, you need to do this. You need to do this. You need to do this hospital.

So my marketing people were in constant contact with me every day. My marketing people are the backbone and center of this whole thing. So did I spend the majority of my time with my marketing people? There is no question about that.

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

Q. How many marketing people did you meet with when you would meet weekly?

A. Whatever number we had. So what was it? Five maybe.

Q. That's what I'm asking. I don't know.

A. Yes, sir.

Q. Would that include Lori Rodgers or was she in addition to the marketing people that you're referring to?

A. Lori was a business director. That was her title. But it was not unusual for me to send Lori. If I had a big luncheon somewhere, if I had a special deal going on with a doctor, would I send Lori into one of the doctor's offices with the marketing person? Yes. That wasn't unusual for her to do that. It wasn't unusual for me to go to one myself.

The key to referrals is developing relationships with doctors, nurses, social workers, and certain hospital personnel. Mr. Carnes was asked about how significant referral sources were developed. His response to that question was:

A. How you develop it was, it's a combination of a lot of things, but a lot of it depends on your reputation when you first did what you said you were going to do back in 1981, when Carnes Respiratory first started. You had to do what you said you were going to do.

And one of the things that helped us more than anything is, we went out and we said, "We will have equipment in a patient's home within the hour." And so it was a reputation that you built over years of doing exactly what you said you were going to do and taking care of patients better than anybody else could take care of it. And that reputation rested, honest to God, with John Carnes, because it was Carnes Respiratory.

Referral development was discussed further with Mr. Carnes.

Q. When you—your sales personnel would call on a physician or a hospital, did you regard them as engaging in referral development at that point?

A. That was their job. So anything that they did—They might do a talk for a nursing service. They might go to a nursing service and put on a demonstration. They would take a driver with them and they would do, you know, a demonstration of how oxygen equipment would work, or if a nursing service, you know, wasn't sure where the low air loss mattress how it worked, we would use our marketing people to go put on a demonstration for a nursing service.

Mr. Carnes clearly believed that marketing was the key to his business because he said "Everything that you do is a marketing tool. Anything that you do good is going to be considered a marketing tool. So everything that we did is geared around making sure that we get referrals."

The discussion moved on to the subject of key personnel. One of the key individuals at CRS was Lori Rodgers. When asked to describe her role at CRS, Mr. Carnes responded:

A. Lori Rodgers started to work for me in City B for \$5 an hour as a person to run the City B store. And from there she developed and was trained and aggressive about, and she ended up being the director for the business. She ran the businesses just like I would have done from years and years of training.

How good she is. She just was promoted this week to regional manager for Public Company Purchaser. She has the highest job, other than the CEO, here in State. She covers all of the State operations for them, which is their largest, by far, dollar volume dollar-wise in their company. So how good is she? That's how good she is.

Q. What were her duties with CRS, Carnes Respiratory Services?

A. Yes, sir. Well, she started out, like I said, as a customer service person, and then, you know, from there, for different jobs, in charge of billing. And just finally, her title—I let her call herself whatever she wanted to— was director of business.

Q. Was that her title as of December of 1994?

A. Yes, sir.

(continued)

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

Q. Okay. And what were her duties as of December 31st, 1994?

A. She had, you know, combination of everything, to make sure that—you know, same as I would do. The drivers did what they were supposed to, the marketing people did what they were supposed to, billing, that we collected our money.

She met with—Every time we had a marketing meeting, she was part of that. If I had a meeting with drivers, she was part of that. Many a times I would send her to—if I couldn't go to run one of the operations that I had problems, I would send her to City D or send her to City B or send her to City C to handle a situation that, you know, I didn't have time to get to.

So she did the same kind of things that I would have done if I couldn't get to them, or she was a part of what I wanted done. Like any CEO would do, that they would pass down to a president or someone under them to do things that, you know, needed to be done.

So did she—One of the biggest things she ever did for Carnes Respiratory, she wrote a manual—policies and procedures manual which was for joint commissions when we decided that we needed to be joint commissioned. Lori actually gathered the information and put this policy and procedure manual together that I would have had to spend \$25,000 to get done. She did it for me in addition to her job. She did it on the weekends and at night and other times. So what did she do? She did everything.

Q. Did she have any responsibilities concerning the referral development?

A. Absolutely.

Q. What were those?

A. Again, you know, if we had a marketing—if one of the marketing people needed her to help support them in some way, did Lori go from the office into physicians' offices and take care of whatever needed to be done? Yes.

Q. What was—

A. That wasn't her major—That was not her major job, no.

Q. What was her major job?

A. All of it. But the marketing part would have just been one of the 10 other things that she did. Her job was to make sure that everything there—that she was part of everything that went on. Somebody that you can count on if you're not there, that you know is going to do everything that you would do, and make sure that if you did go on vacation or you did go skiing or you did something, that you knew it was going to get done right.

Mr. Carnes felt that there were several key people at CRS in addition to Ms. Rodgers, as indicated in the following discussion.

Q. Who did you regard as the management personnel of Carnes Respiratory Services in December of '94, other than yourself, obviously?

A. The key people?

Q. Yeah.

A. Key people at that point was Lori Rodgers, all of my marketing people. Judy Clark was really important. No question. She had tremendous—

Q. She is one of those four or five marketing people?

A. Yes. And Janie Wey; tremendously important.

Q. Another one of the marketing people?

A. Caroline Hanken; tremendously important. My other marketing person, Kathy Elston, at that time was fairly new.

Wasn't near as effective because she didn't have the time under her belt. She had a really tough territory. God. Then, you know, my supervisor of my drivers was Johnie Goodson, my brother, a young lady by the name of Brenda Harrell, who ran my billing department for me, Cindy Jacobi.

From the deposition transcript, it is apparent that CRS' success is derived from the collaboration of several key individuals. As Mr. Carnes stated, the marketing representatives are the "backbone" of the company. It also appears that Ms. Rodgers was very important to the business because she worked in all facets of the business and was essentially interchangeable with Mr. Carnes. It appears that Mr. Carnes's skills lay in marketing and training. Mr. Carnes said that he performed over 90 percent of the training of all employees. This developed the employees' skills, making them proficient at their jobs.

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

In addition to the Public Company Purchaser executives and John Carnes depositions, we also searched for other authoritative sources to assist in the valuation of the covenant not-to-compete. The value of non-compete agreements in the purchase and sale of a company has been the subject of numerous court cases involving the IRS and taxpayers. According to Neil C. Kelly, ASA, CFA, the IRS maintains a theory called the “mass asset” rule. Prior to tax reform, this theory held that certain intangible assets were “non-depreciable as a matter of law, because such intangible properties are part of a single mass asset, which, in the aggregate, has no determinable useful life and is either inextricably linked to goodwill or self-regenerating.” According to Mr. Kelly, for a non-compete agreement to not fall under the mass asset rule, it must have the following components:

1. A recital to the effect that it is the intent of the parties that the Covenant not-to-compete is separate and distinct from any goodwill the seller may be selling.
2. That the subject covenant is not merely for the purpose of protecting the purchase goodwill.
3. That the Covenant has an independent basis-value.
4. That the Covenant was expressly bargained for—separate and distinct from the goodwill of the seller.
5. That a specific monetary sum is being paid for the Covenant.
6. That the Covenant is for a specified period of time—which goes to the permissible amortized period.
7. That the Covenant to compete restrains a key individual from competing with the purchaser, and if same is not accomplished, that the purchaser will suffer an economic detriment because of the key person’s ability and competitive activities.
8. That even in the event of the death of the grantor of the Covenant, such will not entitle the purchaser to depreciate or recover the cost of such Covenant over a period shorter than the term of such a Covenant.
9. The amount the purchaser is paying for the Covenant not-to-compete is depreciable over the life of the Covenant regardless of whether the purchaser makes payments for such Covenant over a period shorter than the life of the Covenant.
10. A recital to the effect that the value allocated to the Covenant has economic reality or substance.

In addition, guidance can be found in the four tests that the courts have historically applied to non-compete agreements in determining whether it could be amortized for federal income taxes. The four tests were summarized in *Forward Communications Corp. v. U.S.*, 78-2 USTC Para. 9542, as follows:

1. Whether the compensation paid for the covenant is severable from the price paid for the acquired goodwill.
2. Whether either party to the contract is attempting to repudiate an amount knowingly fixed by both the buyer and seller as allocable to the covenant.
3. Whether there is proof that both parties actually intended, when they signed the sale agreement, that some portion of the price be assigned to the covenant.
4. Whether the covenant is economically real and meaningful.

The first test was effectively established in *Marsh & McLennan, Inc. v. Commissioner*, 51 T.C. 56 (1968). *aff’d* on other grounds, 420 F.2d 667 (3d Cir. 1969). In this case, the court looked at whether the compensation paid for the covenant is separable from the price for goodwill. Where goodwill and the covenant not-to-compete are closely related, the benefits of the elimination of competition may be permanent or of indefinite duration and, hence, the value of the covenant is not exhaustible or a wasting asset to be amortized over a limited period.

In *Commissioner v. Danielson*, 378 F.2d 771 (3d Cir.) cert. Denied 389 US 358 (1967), the courts looked at whether either party was attempting to repudiate an amount knowingly fixed by both as allocable to the covenant, the calculable tax benefit of which may fairly be assumed to have been a factor in determining the final price.

In *Annabelle Candy Co. v. Commissioner*, the courts looked at whether the covenant played a real part in the negotiations.

Although the valuation of a non-compete agreement is not concerned with whether or not the value is amortizable, these tests do provide meaningful guidance in the valuation process. In reviewing Mr. Kelly’s points, we have determined the following:

1. Based on the asset purchase agreement, the parties intended for the covenant not-to-compete to have value separate and distinct from the value of goodwill.
2. It appears that Mr. Carnes was skilled in his business and would have the ability to compete with Public Company Purchaser. This does not indicate what level of competition Mr. Carnes might provide.
3. Based on our review, the covenant does have independent basis value as presented in addendum 3.4 to the agreement.
4. The agreement clearly lays out the allocation of purchase price. A series of documents dated between March 1 and March 9, 1995, between Robert G. Abbott, a member of Public Company Purchaser’s acquisition group and Associate Corporate Counsel, and Mr. Carnes’ attorney, Larry Gonzales, indicates that the asset purchase agreement and lease had been negotiated, as well as the value of the accounts receivable. In fact, Mr. Carnes appears to have been personally involved in this negotiation. In a fax transmittal dated March 1, 1995, from Rick Stevens of Richards & Associates, Inc. to Mr. Abbott, regarding the accounts receivable, Mr. Stevens writes “John believes a fair resolution would be additional consideration of \$332,516. The excess over \$600,000 as of stopping billing on February 28, 1995.”

(continued)

## EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

Although there is no indication that Mr. Carnes or his representatives expressly bargained for the value of the covenant not-to-compete, they did negotiate the terms of the deal, as well as particular asset values. From this, we must conclude that Mr. Carnes and his advisors implicitly approved of the value of the covenant not-to-compete.

5. The agreement clearly states that \$100,000 is being paid for the covenant not-to-compete.
6. The covenant is for a period of five years after which it expires.
7. The covenant does constrain Mr. Carnes from competing and the same stated in 2 above holds here, as well.
8. We are unaware of the impact the death of Mr. Carnes would have on Public Company Purchaser's ability to recover the cost over a shorter period of time.
9. The value of the covenant is depreciable over the life of the covenant even though payments for the covenant were made over a shorter period.
10. No recital of the economic reality of the covenant was found.

In reviewing the four tests put forth in *Forward Communications Corp. v. U.S.*, we found the following in regard to the agreement.

1. The compensation paid is separable from goodwill because it was expressly laid out in the agreement.
2. We have found no evidence that Mr. Carnes repudiated or attempted to repudiate the allocation to the covenant offered by Public Company Purchaser.
3. Both parties clearly intended an allocation to be made to the covenant not-to-compete because it is expressly laid out in the agreement.
4. Based on Mr. Carnes's apparent skills and abilities, he appears to have an ability to compete. However, this is in no way an indication of the level of competition he could provide. Therefore, the covenant is economically real and meaningful.

Of particular importance is whether the covenant was at issue in the negotiation process. This relates to the economic reality of the covenant and its economic significance. According to Kelly, the following are factors which are important in determining the economic reality of a non-compete agreement.

- a. The presence of a grantor of the covenant not-to-compete having business expertise evidencing a formidable capability to compete.
- b. Grantor's ownership of technology and machinery necessary to compete.
- c. Grantor's possession of sufficient economic resources to compete.
- d. Legal enforceability of the covenant for the term of the particular covenant under state law.
- e. Grantor's legal capacity to compete.
- f. Covenant having sufficient scope to assure non-competition without overreaching.
- g. Not too advanced age of grantor.
- h. Good health of grantor.
- i. Payments for covenant that are not pro-rata to the grantor's stock ownership in the seller.
- j. Purchaser's policing of the covenant not-to-compete.
- k. Structuring payments under the covenant to occur over time and to cease upon breach of such covenant.
- l. Vigorous negotiations over the covenant and negotiations over its value should be recited in the agreement.
- m. Detailed, specific, and carefully drafted covenant not-to-compete.
- n. Independent appraisal of the value of the covenant not-to-compete.
- o. Some degree of reasonableness in the percentage of the considerations allocated to the covenant and other items.

The importance of the covenant not-to-compete having economic substance was further delineated by a Bureau of National Affairs' paper on the subject published in 1992. The paper stated:

The most important factor is whether the covenant is economically real, that is, whether the covenant is the product of bona fide bargaining rather than a sham. The economic reality theory is primarily concerned with business realities which would cause reasonable persons, genuinely concerned with their economic future, to bargain for the covenant not-to-compete.

Among the facts to be considered are whether the seller could actually compete with the purchaser—where the seller is, objectively, likely to be a competitor. The paper states that courts have also looked at the actual contract negotiations to determine if the parties' intentions were for the covenant not-to-compete to have value.

**EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)**

In addition, the amount allocated to the covenant not-to-compete may not reflect economic reality. The tax-payer has the burden of proving that he is entitled to the deduction. *Welch v. Helvering*, 290 U.S. 111 (1933). Courts have frequently found that covenants have no value or, at least, substantially less value than the purchaser attributes to them. The same factors as above have been considered for this purpose. Further, courts have looked at the actual contract negotiations to determine if the parties intended the covenant to have any value. For example, if the parties agreed to pay a certain amount for the assets of the seller and the purchase price is not altered when a covenant not-to-compete is later added, the covenant has no or minimal value.

Other guidance on determining the value of a covenant not-to-compete is given in Revenue Ruling 77-403. The ruling states that the relevant factors for determining the value of a non-compete agreement include:

- 1) Whether in the absence of the covenant the covenantor would desire to compete with the covenantee;
- 2) the ability of the covenantor to compete effectively with the covenantee in the activity in question; and 3) the feasibility, in view of the activity and market in question, of effective competition by the covenantor within the time and area specified in the covenant.

Based on the issues presented by Kelly in regard to the mass asset rule, the covenant is a distinguishable asset that can be valued separately from goodwill. Further, the covenant in the Public Company Purchaser-CRS deal appears to pass the four tests from *Forward Communication Corporation v. U.S.* Tests two and three are of particular importance here. The importance of test two is that after Public Company Purchaser proposed the allocation to the covenant, Mr. Carnes and his advisor did not attempt to repudiate or negotiate it, although they did negotiate several other items in the agreement. As a result, we believe the covenant is economically real. Test three is significant because the allocation to the covenant is clearly made in the agreement.

From the deposition of various Public Company Purchaser executives, we learned that Public Company Purchaser has developed a methodology for allocating a portion of the acquisition price to covenants with the assistance of its outside accountant. In addition, we know that Public Company Purchaser is a major player in the industry and has been undergoing a major acquisition program. Therefore, Public Company Purchaser's actions appear to be reflective of market conditions.

As Mr. Davidson states, "Public Company Purchaser's interest in CRS was due to its good locations, respiratory therapy control, and good reputation." According to Mr. Byrnes, he did not believe that Mr. Carnes held many of the referral relationships personally. In fact, Mr. Byrnes knew first hand that in City B, Judy Clarke was generating the referrals. Mr. Byrnes believed that Mr. Carnes may have originally held some of the relationships in City A. This puts Mr. Carnes's control of the referral base at less than 25 percent.

As we know from Mr. Carnes, additional relationships were developed by the marketing representative in that territory. It was also the marketing person's responsibility to maintain existing relationships. In addition, from Mr. Carnes's deposition, we understand that the marketing people are critical to the success of CRS.

We also learned from Mr. Carnes that he was responsible for over 90 percent of the training of these individuals, as well as the other employees of the company. Mr. Carnes has imparted a great deal of his knowledge and expertise to these individuals. It appears this has occurred to a large extent with Ms. Rodgers, who did everything Mr. Carnes did for the company.

Ms. Rodgers's talents were recognized by Public Company Purchaser, who ensured she was part of the acquisition, by making an employment agreement with her a prerequisite to the acquisition closing. According to Mr. Byrnes, Public Company Purchaser's interest was always in Ms. Rodgers, and Public Company Purchaser had no interest in retaining the services of Mr. Carnes. We believe Mr. Byrnes to be credible on this issue because Public Company Purchaser did not offer Mr. Carnes an employment contract prior to the closing of the acquisition.

If Public Company Purchaser felt that Mr. Carnes was essential to the business because he held many personal relationships, then it would be a prudent business decision to bring Mr. Carnes along with the acquisition and lock him into an employment contract for a period of time that allows for a transfer of these relationships. In this type of a situation, a buyer needs to ensure the transferability of what it is purchasing. Relationships take time to develop. They cannot be transferred overnight.

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### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

An employment contract is typically used to retain the services of the seller as an employee of the acquirer for a specified period of time. Typical time periods range from six months to two years. During the term of the employment contract, the business seller assists the buyer in the transitioning of the business. Prudence dictates that such an agreement should be in place before closing, as was the agreement with Lori Rodgers. Yet Public Company Purchaser had no interest in such an arrangement with Mr. Carnes. From this position, one can reasonably infer that Public Company Purchaser did not believe that Mr. Carnes was important to the successful transition of the customers and referral sources to Public Company Purchaser.

Using all of this information, we have determined that Mr. Carnes would be able to provide a minimal loss of business to the CRS locations acquired by Public Company Purchaser. Mr. Carnes created a company of highly skilled individuals and significantly reduced CRS' reliance on himself. In addition, Lori Rodgers, the person who was most crucial to the deal taking place has been tied up in an employment contract by Public Company Purchaser. As a result, we believe that only a small portion of the sales could be diverted if CRS continued to compete with Public Company Purchaser. Therefore, we have selected 10 percent as the percentage of sales that CRS could divert from Public Company Purchaser.

Based on a lost sales analysis of 10 percent, we have determined that the lost income attributable to the covenant not-to-compete is as follows:

1996	1997	1998	1999	2000
\$171,600	\$193,908	\$219,116	\$247,601	\$277,313

The estimated cash flow attributable to the lost income, calculated in a manner similar to what we calculated previously, is as follows:

1996	1997	1998	1999	2000
\$22,471	\$88,164	\$116,897	\$149,365	\$185,730

The major difference between the lost net income and the cash flow is the level of capital expenditures, which far outpaces depreciation expense. These items were treated in a consistent manner when the valuation of CRS was previously performed. However, since management of the company can change the level of capital expenditures, we believe that it would be more prudent to discount the lost earnings, rather than cash flow, in valuing the covenant.

The value of the covenant not-to-compete is the present value of the lost income to the buyer. Using a discount rate of 24 percent, this equates to the value of the covenant being \$578,766, or \$579,000 rounded. The discount rate used is based on a discount rate applicable to cash flow of 18 percent, with a 6 percent premium due to the increased risk of earnings over cash flow.

The covenant not-to-compete is a less predictable asset and has several risk factors associated with it. In reviewing Kelly's factors pertaining to the economic reality of the covenant, we find the following:

1. Mr. Carnes has the expertise necessary to compete. Mr. Carnes has proven to be quite knowledgeable about his business, and by all accounts has been very successful.
2. Mr. Carnes has the financial resources necessary to compete. Given the low cost of doing business and Mr. Carnes's financial assets, Mr. Carnes reasonably has the economic capacity to compete.
3. Mr. Carnes is not advanced in age nor is he of diminished health that would keep him from competing.
4. Very little of the purchase price was structured over time. Only \$500,000 was not paid at closing and this was for accounts receivable. Several of Kelly's factors also serve to reduce the risk associated with the covenant.
5. The covenant has sufficient scope to insure non-competition. This reduces the risks associated with violation of the covenant.
6. There is no technology or machinery that Mr. Carnes owns that would enable him to compete. In addition, CRS is a marketing-based business, and individuals other than Mr. Carnes are in control of many of the relationships.

As a result of these factors, we have selected an 18 percent discount rate for the covenant not-to-compete. It was increased by 6 percent to reflect the earnings premium. It should be noted that this rate does not reflect the level of competition that could be put forth by Mr. Carnes, but only the risk associated with Mr. Carnes competing.

As a test for reasonableness of the amount allocated to the covenant not-to-compete, we examined information available in the public domain. As a result of the respiratory therapy industry's current consolidation mode, we have reviewed the SEC's filings of publicly-traded companies in the respiratory product and medical equipment sales and rental industry to gain some insight into their acquisition practices and how they allocate purchase price to intangible assets and non-compete agreements, in particular.



### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

We reviewed the 1995 10-K filings for Apria Healthcare Group, American Home Patient, Inc., Complete Management, Inc., Interwest Home Medical, Inc., Public Company Purchaser, Pediatric Services of America, Inc., and Rotech Medical Corp. From these documents, we attempted to isolate information relating to how they allocated the purchase prices of their acquisitions. Although all of these companies discuss their acquisition in one form or another, only Public Company Purchaser and Pediatric Services of America (PSA) provided enough detail to be meaningful to our analysis. As a result, we analyzed Public Company Purchaser's 10-Ks for 1993–1995, and PSA's 1995 filings.

In the notes to its consolidated financial statements, Public Company Purchaser discloses the purchase price of its acquisitions for the year and the allocation of the total purchase. Public Company Purchaser divides the allocation between current assets, fixed assets, identified intangibles, and goodwill. This data for 1993–1995 is presented in table 13, and each item as a percentage of the year's total acquisition purchase price is presented in table 14.

**TABLE 13 Breakdown of Public Company Purchaser, Inc.'s Total Acquisitions by Year, 1993–1995**

	1993	1994	1995	Average
Current Assets	\$ 1,704	\$ 2,915	\$ 8,097	\$ 6,358
Property and Equipment	2,828	4,024	4,731	3,861
Intangible Assets	7,277	11,613	12,056	10,315
Goodwill	14,195	43,000	46,050	34,415
	<b>\$26,004</b>	<b>\$61,552</b>	<b>\$70,934</b>	<b>\$54,949</b>

**TABLE 14 Breakdown of Public Company Purchaser, Inc.'s Total Acquisitions by Year as a Percentage of Total Acquisitions, 1993–1995**

	1993	1994	1995	Average
Current Assets	6.6%	4.7%	11.4%	11.6%
Property and Equipment	10.9%	6.5%	6.7%	7.0%
Intangible Assets	28.0%	18.9%	17.0%	18.8%
Goodwill	54.6%	69.9%	64.9%	62.6%
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

From table 13, it is clearly seen that the largest component of the acquisition costs for each year was goodwill, followed by identified intangibles. Of particular importance to this analysis is the allocation to identifiable intangible assets. Public Company Purchaser, as we will show later in this report, typically only identifies patient records and non-compete agreements. Therefore, we have made the assumption that the identified intangible assets line in table 14 contains only these two types of assets. As can be seen in the data, these assets represented 28, 18.9, and 17 percent of the total purchase prices in 1993, 1994, and 1995, respectively.

(continued)

## EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space) *(continued)*

As a major player in this industry, Public Company Purchaser's economic decisions are reflective of market conditions. Total acquisition purchase price for 1995 was \$70,934,000. This represented the accumulation of 20 separate and distinct transactions. Each of these was negotiated with an arm's-length (nonrelated) party. Most of these businesses were much smaller than CRS because total revenues for the acquired companies, excluding CRS, was \$38.4 million, or an average of approximately \$2 million. In 1993, Public Company Purchaser acquired 15 companies with revenues of \$18 million or \$1.2 million each. In 1994, Public Company Purchaser acquired 24 companies with \$35 million in revenues, or \$1.46 million each. As a result, the data taken from Public Company Purchaser's 10-Ks provide us with a guide from the marketplace for the combined values of a non-compete agreement and a customer list. This guide indicates that on a combined basis, these assets should constitute 17.0 to 18.8 percent of the purchase price, based on Public Company Purchaser's 1995 acquisitions and the 3-year weighted average, respectively.

On October 3, 1994, PSA bought Oxygen Specialties, Inc. (OSI) for \$4.9 million. OSI was a medical equipment company located in New Orleans. According to PSA's Form 10-K, \$200,000 of the purchase price was paid for the non-compete agreement. This represents approximately 4.1 percent of the purchase price.

In our valuation, we determined the value of the covenant not-to-compete and the patient records (customer list) to be \$2,450,000, and the covenant to be \$579,000. Based on a total value of \$13,500,000, the total of the covenant plus the patient records amounts to 18.06 percent of the total, and the covenant alone amounts to 4.3 percent of the total. This demonstrates the reasonableness of our calculations.

**Allocation of the Covenant Not-To-Compete Between CRS and John Carnes, Individually.** In addition to the issue of the economic reality of the covenant, the allocation of the covenant is significant in determining personal goodwill. A common practice in asset purchases is for the non-compete agreement to name the selling company, and its shareholders, as being subject to the non-compete. This is exactly the case in the sale of assets to Public Company Purchaser. The agreement was between Public Company Purchaser as the purchaser and CRS and John W. Carnes as the sellers. The issue becomes one of allocating the non-compete between the company, which results in corporate goodwill, and John Carnes, resulting in personal goodwill.

Carnes Respiratory Services developed an excellent reputation for the services it provided to clients. This reputation is, in large part, the corporation's, and not Mr. Carnes's. Mr. Carnes has done an excellent job over the years in training personnel, teaching his marketing people, and transferring his importance to other members of the company. Earlier in the business' formation, there can be no doubt that John Carnes was CRS. However, over the years there has been a clear transition to other members of the company. In fact, it was Lori Rodgers, and not John Carnes, who Public Company Purchaser insisted sign an employment contract with the firm as a prerequisite to a deal.

Recognizing the fact that Mr. Carnes is no longer required to provide a personal service to the patients, referral sources and others, we do not see there being any economic reason to allocate any of the covenant not-to-compete to Mr. Carnes personally. We further believe that the deposition transcripts reviewed and cited throughout our report justify our position.

**Summary.** The fair market value of Carnes Respiratory Services as of March 9, 1995 was \$13,500,000. The allocation of the purchase price of the company as of the same date is as follows:

Accounts Receivable	\$ 550,000
Inventory	40,000
Fixed Assets	712,000
Trademark	2,134,000
Patient Records	1,859,000
Covenant Not-to-compete—CRS	579,000
Covenant Not-to-compete—John W. Carnes	0
Goodwill	7,626,000
<b>Fair Market Value</b>	<b>\$13,500,000</b>
Buyer's Premium	1,535,000
<b>Price Paid by Public Company Purchaser</b>	<b>\$15,035,000</b>

### EXHIBIT 22.1 Valuing the Covenant Not to Compete (Many Sections of the Actual Report Omitted for Space)

The equitable distribution value of Carnes Respiratory Services Inc. as of March 9, 1995 was \$16,900,000, consisting of the following:

Price Paid by Public Company Purchaser	\$15,035,000
Retained Assets	1,900,000
<b>Total</b>	<b>\$16,935,000</b>
<b>Rounded</b>	<b>\$16,900,000</b>

I really like this last exhibit because not only does it address issues surrounding personal goodwill, but it also addresses the valuation of a covenant not to compete. If you really think about it, what is the covenant really protecting? More often than not, the covenant is protecting the intangible assets that the seller is transferring to the buyer. Therefore, probably the most valid methodology to determine the value of the personal goodwill is to perform an allocation of value similar to what would be done under an allocation of purchase price assignment. Allocate the tangibles, the identifiable intangibles, and then what is left is the unidentifiable intangibles that are to be allocated between personal and enterprise goodwill.

Before we get off this subject, let's look at another example involving personal goodwill. There are other ways to address personal goodwill, and a valuation analyst should be prepared to use them if the situation calls for it. A section from a divorce valuation of a dental practice is shown in exhibit 22.2. This report not only addressed personal goodwill, but it also had to address an incremental value for the marital estate because the dental practice was a premarital asset.

### EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space)

**Description of the Assignment.** Trugman Valuation Associates, Inc. was retained by Alan Jones, Esquire, on behalf of Jones & Holtz P.A. to value the common stock of Scott M. Smith DDS P.A., a Florida corporation, as of March 23, 2000 and November 28, 1987. In addition, Trugman Valuation Associates was requested to address the issue of how much of the value relates to the personal goodwill associated with Dr. Scott Smith.

The purpose of this valuation is to determine the fair market value of this common stock interest as the basis for equitable distribution in the matter of *Scott M. Smith v. Cynthia Smith*.

**History and Background of the Practice.** Scott M. Smith DDS, P.A., trading as The Dental Group (hereafter referred to as The Dental Group or the practice) was incorporated in the state of Florida on October 11, 1993. Prior to that time, the practice operated as a sole proprietorship, owned and operated by Dr. Scott Smith.

The practice was purchased in or about November 1983 and has operated at the same location since the time of purchase. The Dental Group is located at 1234 Main Street, Some City, Florida. As the practice grew, The Dental Group occupied more space in its location. Originally, it rented approximately 1,200 square feet, and in 1984, it added an additional 1,600 square feet. In 1986, it added an additional 1,600 square feet. In or about August 1994, Dr. Smith began a dental lab, which began to service the dental practice. This dental lab is not part of this appraisal. In addition to the Some City practice, Dr. Smith operated a second location as The Dental Group in Second City, Florida. On October 3, 1989, this practice was sold to Dr. Mark Brown. Dr. Smith informed us that he spent approximately one day every two weeks at this location and Mrs. Smith worked there one day per week, or less.

(continued)

## EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space) *(continued)*

The Dental Group is considered to be a general dentistry practice. However, since about 1987, Dr. Smith has added implants to the services that the practice offers. In addition to Dr. Smith performing implants, he also does endodonture, bone grafting, periodonture, and wisdom teeth surgery. He is the only one in the practice that provides these treatments. The patient base is considered to be average, and the only marketing activities that the firm carries is Yellow Page advertising. According to the County Areawide Telephone Directory, covering the time period August 1999–2000, there were slightly more than 200 dentists listed. In 1983, the practice consisted of Dr. Smith and four office personnel. At the current date of the valuation, there are approximately 20 people employed, including three dentists.

**Smith to Brown Transaction.** In July 1989, an Asset Purchase Agreement was entered into between Dr. Scott Smith and Dr. Mark Brown. As mentioned previously, the Second City location was sold at this time. According to the agreement, the following assets were sold: equipment, office furniture and fixtures, office and clinical supplies, leasehold improvements, miscellaneous assets (which included the present telephone numbers of the practice, a list of current suppliers of the practice, and the goodwill of the practice), and patient records. In addition, the purchase price included a restrictive covenant. The Asset Purchase Agreement indicates:

This covenant is conveyed by Dr. Smith individually, pursuant to the terms and conditions outlined in this agreement; the parties hereby acknowledge that a portion of the total purchase price, as hereinafter set forth, is compensation to Dr. Smith for this covenant.

The total purchase price was \$366,000. The purchase price was allocated as follows:

Equipment	\$ 73,200
Office Furniture and Fixtures	18,300
Office and Clinical Supplies	21,960
Leasehold Improvements	29,280
Miscellaneous Assets	10,980
Patient Records	131,760
Restrictive Covenant	80,520
<b>Total</b>	<b>\$366,000</b>

The restrictive covenant covered a three-mile radius from the business premises for a three-year period. The location of the current office is in the central city of Some City, which has a relatively stable population. Most of the patients come from a five-mile radius, primarily from the north of the existing location. It is our understanding that the more affluent section of Some City is to the south and east of the current location. This does not tend to be the area that this practice draws from. The demographics of the practice can best be described as retirees and working class people, nonunion laborers, but relatively stable. Many of the patients are older, but there is primarily a mix of patients within the practice.

**Referrals.** Referrals to the practice tend to come to a particular doctor. Dr. Smith described his practice as “almost like running three private practices.” Each dentist has his own responsibility regarding patients and the costs are reduced due to all of them operating under one roof. However, the other two dentists are, in fact, employees of the corporation, as is Dr. Smith. In many instances, Dr. Smith will perform the higher end services that the other dentists are unable to perform, and in many instances, Dr. Smith refers new patients to the other doctors.

Less than 10 percent of the practice relates to DMOs (Dental Maintenance Organizations); most of the services are fee-for-service. The current location has reached its capacity and there is no additional room to expand. Major competition exists within a two-block location from this practice. The Dental Group is one of the largest dental practices in the community. A physical examination of the practice's equipment indicates that much of the equipment is at least 15 years old or older. Although it is in good condition, much of it was bought in the late 1980s. A refurbishment had taken place at around the valuation date, therefore, other than normal maintenance, it is not anticipated that there should be any major repairs on the existing facilities.

### EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space)

**Employees and Office Setup.** The two main professional employees of the practice are Dr. Scott M. Smith and Dr. Paul Rogers. Dr. Smith is a graduate of Case Western Reserve University and his employment history includes The Dental Group at the current location and the Second City location. Dr. Rogers graduated from the University of Iowa, including the University of Iowa Dental School, and has been with the practice since December 1998. Turnover in the practice has been very low at 10 to 15 percent per year. Dr. Smith belongs to the American Society of Osseointegration and the International Congress of Oral Implantologists.

The office is normally staffed from 8:00 a.m. to 5:00 p.m. Monday through Friday, and 8:00 a.m. to 4:00 p.m. on Saturday. Doctors are generally available at the office during these hours as well. Nonowner professionals generally work a 40-hour week, and the other individuals employed by the firm work about the same hours. This includes 3½ hygienists, 7–8 dental assistants, 4 secretarial/office clerical individuals, and 1 office manager.

Fees charged tend to be relatively modest; a typical new patient fee is \$53, including an exam and a single x-ray. Recall fees for adults and children are \$50 and \$37, respectively. The practice has approximately 6,000 active patient files and sees approximately 125 new patients per month. Overall, this is a well-established, mature practice.

**Financial Analysis.** A valuation is a “prophecy of the future.” Although a willing buyer looks at the historical results of a business, he or she will be using these results to determine what the business prospects are in the future. In order to begin our analysis, we analyzed the historic financial statements presented as Schedules 1 and 2 at the back of this report. In addition, the practice provided the appraiser with a balance sheet as of March 23, 2000, one of the valuation dates.

In order to assist in comparing The Dental Group to its industry peer group, we used the database maintained by Integra Information Inc. for Standard Industrial Classification Code 8021, Services-Offices and Clinics of Dentists. In order to have our comparison be as relevant as possible, we only reviewed data for practices with a revenue range from \$1 million to \$2.5 million. Included in this data was 2,558 practices.

Before a proper comparison to industry data can be performed, certain adjustments are required related to the historic financial statements of the practice. These adjustments are intended to “normalize” the financial statements. The process of normalization involves restating the balance sheet or income statement to reflect the economic values included in these statements. The normalization of the balance sheet is reflected in table 7.

**TABLE 7 Balance Sheet Normalization**

	December 1999	Adjustments	March 23, 2000
<b>Current Assets</b>			
Cash <sup>1</sup>	\$ (20,834)	\$ 6,339	\$ (14,495)
Accounts Receivable <sup>2</sup>	688,022	(377,093)	310,929
Inventories <sup>3</sup>	—	16,155	16,155
Loan Receivable Costa Rica Lab <sup>4</sup>	32,175	(32,175)	—
<b>Total Current Assets</b>	<b>\$ 699,363</b>	<b>\$ (386,774)</b>	<b>\$ 312,589</b>
<b>Fixed Assets</b>			
Machinery and Equipment	\$ 23,286	\$ —	\$ 23,286
Office Equipment	61,910	—	61,910
Furniture and Fixtures	14,805	—	14,805
Leasehold Improvements	80,370	—	80,370
Other Fixed Assets <sup>5</sup>	—	(72,943)	(72,943)
<b>Gross Fixed Assets</b>	<b>\$ 180,371</b>	<b>\$ (72,943)</b>	<b>\$ 107,428</b>
Accumulated Depreciation <sup>6</sup>	147,280	(147,280)	—
<b>Net Fixed Assets</b>	<b>\$ 33,091</b>	<b>\$ 74,337</b>	<b>\$ 107,428</b>
Total Other Assets	\$ 729	\$ —	\$ 729
<b>Total Assets</b>	<b>\$ 733,183</b>	<b>\$ (312,437)</b>	<b>\$ 420,746</b>

(Table continued)

**EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space) (continued)**
**TABLE 7 Balance Sheet Normalization (continued)**

	December 1999	Adjustments	March 23, 2000
<b>Current Liabilities</b>			
Accounts Payable <sup>7</sup>	\$ 5,269	\$ 38,227	\$ 43,496
Long-Term Debt—Current Portion	9,123	—	9,123
Payroll Taxes Payable <sup>8</sup>	7,052	(330)	6,722
<b>Total Current Liabilities</b>	<b>\$ 21,444</b>	<b>\$ 37,897</b>	<b>\$ 59,341</b>
<b>Long-Term Liabilities</b>			
Notes Payable <sup>9</sup>	\$ 180,587	\$ (26,716)	\$ 153,871
Loans From Stockholders <sup>10</sup>	64,136	(64,136)	—
Notes Payable (A. Smith) <sup>11</sup>	9,479	(9,479)	—
<b>Total Long-Term Liabilities</b>	<b>\$ 254,202</b>	<b>\$ (100,331)</b>	<b>\$ 153,871</b>
<b>Total Liabilities</b>	<b>\$ 275,646</b>	<b>\$ (62,434)</b>	<b>\$ 213,212</b>
<b>Stockholder's Equity</b>			
Common Stock	\$ 1,000	\$ —	\$ 1,000
Paid—In Capital	27,712	27,712	—
Retained Earnings <sup>12</sup>	428,825	(250,003)	178,822
<b>Total Stockholder's Equity</b>	<b>\$ 457,537</b>	<b>\$ (250,003)</b>	<b>\$ 207,534</b>
<b>Total Liabilities and Stockholder's Equity</b>	<b>\$ 733,183</b>	<b>\$ (312,437)</b>	<b>\$ 420,746</b>

1 Cash was adjusted to reflect the overdraft in existence at March 23, 2000.

2 Several adjustments were made to accounts receivable. Because the practice reports on a cash basis, it normally does not reflect patients' accounts receivable on its balance sheet. The monies reflected were categorized as accounts receivable from Smith Sterling, an affiliated laboratory that is owned by Dr. Smith. In reality, these monies were a capital contribution made by Dr. Smith to this other venture and have nothing to do with the operations of The Dental Group. Therefore, we have removed these items as non-operating. It is our understanding that this item would not be subject to equitable distribution, so removing it from the balance sheet provides a cleaner analysis relating to the value of The Dental Group. The amount removed at March 23, 2000 was \$688,022.

At the valuation analyst's request we were provided with accounts receivable from the patients as of March 23, 2000. This amounted to \$519,565. Included in this amount were various accounts receivable turned over to the Coast Collection Bureau. According to a historic analysis dated January 10, 2003, the amount of accounts receivable turned over to the collection agency amounted to \$125,456. We performed an analysis of this report and determined that the amount of receivables turned over to the collection agency at March 2000 was \$45,792. Based on collection history, we estimated that only 10 percent of this amount would be collected and deducted 90 percent of the outstanding amount (\$41,213) from accounts receivable. The balance of collectable accounts receivable is \$478,352.

One additional adjustment is required in order to reflect accounts receivable at its net realizable value. Because the practice reports on a cash basis, it does not pay income taxes, nor would the shareholder pay income taxes on the receivables until these monies are collected. Therefore, in order to properly reflect the true value of these receivables, a provision for income taxes has been subtracted at 35 percent. Therefore, accounts receivable at March 23, 2000 is estimated to be \$310,929.

3 An adjustment was made to reflect supply inventory, which is typically expensed as these items are paid for. At the valuation analyst's request, an inventory was provided to us, which amounts to \$16,155 of supplies.

(Notes continued)

## EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space)

(Notes continued)

- 4 A loan receivable for a laboratory owned by Dr. Smith in Costa Rica has been removed from the balance sheet. This item is also considered to be a capital contribution and does not have any bearing on the value of The Dental Group. Therefore, it has been removed.
- 5 Fixed assets have been adjusted to reflect straight line depreciation based on the class life depreciable lives as permitted under the IRS regulations. This adjustment is consistent with the normalization adjustment that was made to the income statement for depreciation expense. The value of the fixed assets has been estimated at \$107,428.
- 6 Accumulated depreciation has been removed in its entirety since the fixed assets were estimated to reflect current value.
- 7 Similar to accounts receivable, accounts payable are normally not reflected on the balance sheet of the practice because it reports using the cash method of accounting. In this instance, there was a small balance being carried on the books in the amount of \$5,269. We were provided with an accounts payable aging detail schedule as of March 23, 2000, which reflected total accounts payable at the appraisal date of \$56,917. Once again, to be consistent with our treatment of accounts receivable, there would be a tax benefit received when these items are paid. Therefore, we have reduced the accounts payable by the same 35 percent tax rate as before. Therefore, accounts payable is reflected as being \$43,496 at the appraisal date.
- 8 Payroll taxes payable was adjusted to reflect the balance per the March 23, 2000 balance sheet.
- 9 Notes payable were adjusted to reflect the balance as of the March 23, 2000 balance sheet. These notes are all to various lending institutions.
- 10 Loans from stockholders have been removed from the balance sheet because we considered these items to be capital contributions.
- 11 There has been a note payable to "A. Smith" for a number of years. We have removed this item as not being applicable to the dental practice.
- 12 The net of the adjustments has been posted to retained earnings to reflect the market value of the net tangible assets of the practice.

As a result of our analysis, the adjusted book value of the net assets of the practice, excluding any intangible value, amounts to \$207,534. The next step in the valuation process is to normalize the income statement. This normalization is shown in table 8.

**TABLE 8 Income Statement Normalization**

	December 31,				
	1995	1996	1997	1998	1999
Historic Net Income (Schedule 2)	\$ 134,906	\$ 208,815	\$ 338,175	\$ 385,025	\$ 330,466
Adjustments					
Depreciation/Amortization Expense <sup>1</sup>	10,392	3,592	4,308	16,043	13,655
Officer's Compensation—Addback <sup>2</sup>	110,000	125,467	78,436	51,820	33,328
Officer's Compensation—Reasonable <sup>3</sup>	(177,059)	(182,535)	(188,180)	(194,000)	(200,000)
<b>Adjusted Pretax Net Income</b>	<b>\$ 78,239</b>	<b>\$ 155,339</b>	<b>\$ 232,739</b>	<b>\$ 258,888</b>	<b>\$ 177,449</b>
Income Taxes <sup>4</sup>	17,787	49,044	81,827	92,902	58,409
<b>Adjusted Historic Net Income</b>	<b>\$ 60,452</b>	<b>\$ 106,295</b>	<b>\$ 150,912</b>	<b>\$ 165,986</b>	<b>\$ 119,040</b>

- 1 Depreciation expense has been adjusted to reflect the same useful lives as were used to calculate the estimate of fair market value of the fixed assets. Therefore, an add back was in order as the depreciation allowed was considered to be greater than the economic depreciation necessary to reflect the value of these assets.
- 2 Officer's compensation has been added back in its entirety as Dr. Smith does not always take salary but, rather, sometimes takes distributions of profits, which are not considered in the determination of the net income of the practice. Reasonable compensation will be deducted in item number 3 below.

(Notes continued)

## EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space) *(continued)*

*(Notes continued)*

3 In order to estimate reasonable compensation, we consulted the 1999 Survey of Dental Practice, published by the American Dental Association. We analyzed the average net income from primary practice several different ways in order to estimate reasonable compensation. First, we looked at general practitioners with 20–24 years of experience. The mean compensation was \$159,760, whereas the median for this group was \$140,000. We also looked at specialists because Dr. Smith performs endodonture, periodonture, and some surgical and implant procedures. Therefore, we considered his compensation as possibly being comparable to specialists. Specialists with 20–24 years' experience had a mean compensation of \$262,470 and a median of \$256,530. We considered the fact that Dr. Smith spends part of his time performing general dentistry and other times performing services that might be considered to be a specialty. Therefore, we weighted the median 50 percent each in estimating compensation based on this factor, at \$198,265. This equates to the third quartile of general practitioners with 20–24 years of experience as the amount reflected in the survey is \$200,500.

We then considered data by region. Using the South Atlantic Region, we found that general practitioners had a mean net income of \$165,960 and a median of \$120,000, with the third quartile being \$180,000. Specialists in this area had a mean net income of \$244,470 and a median of \$206,000. Using the same weighting of the medians amounted to \$163,000.

As an additional source for officer's compensation, we reviewed the information in the Integra Database. Using the 2,558 practices included in this data, having an average revenue in 1999 of \$1,112,000, officer's compensation as a percent of revenue amounted to 20 percent. We considered using this amount, but as a practice gets larger, the percent of officer's compensation generally declines. Even if we reduced this amount to 15 percent of revenues, the 1999 compensation would equal an amount greater than \$286,000. We believe that this amount was too high for a practice of this type.

Therefore, we have estimated reasonable compensation to be approximately \$200,000, an amount similar to the average of the practitioners with Dr. Smith's experience. Prior years were deflated by a 3 percent cost-of-living factor.

4 Income taxes were estimated based on a graduated tax structure using C-corporation income tax rates. Although The Dental Group operates as an S corporation, taxes must be considered due to the economic impact of this item. Whether the taxes are paid by the corporation or the individual, enough profit must be passed through to the shareholder to allow personal income taxes to be paid. Therefore, these monies would not be available for reinvestment by the practice and can be considered to be the equivalent of a C corporation income tax.

As a result of our analysis, it appears that the adjusted historic net income rose from 1995–1998 and then declined in 1999.

**Valuation Calculations.** As indicated previously in this report, the three approaches of valuation to be considered in an appraisal are (1) the Market Approach, (2) the Asset-Based Approach, and (3) the Income Approach. The narrative that follows discusses the valuation methods employed within each approach.

### THE MARKET APPROACH

**Transaction Method.** In order to determine the value of The Dental Group using the market approach, an attempt was made by the valuation analyst to gather information regarding guideline practices bought and sold in the open market. In order to accomplish this, we researched several sources, including the IBA, BizComps®, Pratt's Stats, and Done Deals databases to obtain information regarding comparable transactions.

**IBA Database.** The information located is maintained in a market data file compiled by the Institute of Business Appraisers, Inc., a professional appraisal organization that maintains a proprietary database of actual transactions of closely held businesses and professional practices all over the United States. As a result of our search, 2,426 such transactions were located under Standard Industrial Classification Code 8021, Services-Offices and Clinics of Dentists. Of these 2,426 transactions, 2,014 were eliminated. A portion of these were eliminated based on the description of the practice because they appeared to be something other than a general practice of dentistry; for example, some were engaged in oral surgery and others in orthodontics. All transactions that took place prior to 1996 were also eliminated because financial, as well as technological changes, have affected the practice of dentistry. The remaining transactions more adequately reflect The Dental Group's practice. They are presented in table 10.



**EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space)**

**TABLE 10 IBA Data for Market Comparison**

Business Type	Annual Gross \$000's	Discret. Earnings \$000's	Owner's Comp. \$000's	Sales Price \$000's	Price/Gross	Price/Earnings	Geographic	Yr/Mo of Sale
Dentistry	300			210	0.70		FL	95/01
Dentistry	300			175	0.58		VT	96/01
Dentistry	300			52	0.17		FL	96/01
Dentistry	300			70	0.23		LA	97/01
<b>Hundreds of transactions have been omitted from this exhibit to save space.</b>								
Dentistry	1139			565	0.50		CA	96/01
Dentistry	1180			790	0.67		WA	98/01
Dentistry	1300			1025	0.79		FL	98/01
Dentistry	1319			760	0.58		OH	98/01
Dentistry	1416	285	157	1200	0.85	4.21	FL	99/08
Dentistry	1428			1250	0.88		NC	99/01
Dentistry	1607			1000	0.62		NC	95/01
Dental Practice	1659			1500	0.90			98/04
General Dentistry	3534	186	58	297	0.08	1.60	CO	97/08

An analysis of the data was performed to see if there was any statistical significance inside this data set. The selected IBA data reflects the following:

**TABLE 11 IBA Market Data Base Transaction Analysis**

	Price to Revenues					Price to Earnings				
	Size of Revenues					Size of Revenues				
	\$100k to \$250k	\$250k to \$500k	\$500k to \$750k	\$750k to \$1M	\$1M<	\$100k to \$250k	\$250k to \$500k	\$500k to \$750k	\$750k to \$1M	\$1M<
Count	412	248	129	23	12	56	34	15	3	4
Mean	0.62	0.62	0.62	0.55	0.66	3.18	1.91	6.56	1.49	2.58
Standard Deviation	0.13	0.13	0.12	0.17	0.22	9.67	2.21	18.39	0.18	1.32
Coefficient of Variation	0.22	0.21	0.19	0.32	0.33	3.04	1.16	2.80	0.12	0.51
90th Percentile	0.76	0.76	0.76	0.71	0.88	3.05	2.21	3.21	1.64	3.88
75th Percentile	0.70	0.70	0.70	0.69	0.81	1.75	1.66	2.34	1.57	3.38
Median	0.62	0.62	0.63	0.59	0.68	1.47	1.46	1.61	1.45	2.35
25th Percentile	0.55	0.55	0.56	0.47	0.61	1.32	1.30	1.31	1.39	1.55
10th Percentile	0.45	0.46	0.47	0.30	0.51	1.21	1.13	1.26	1.35	1.47

(continued)

## EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space) *(continued)*

A statistical analysis indicated an  $R^2$  of 0.48 and 0.30 for the price-to-revenues and price-to-earnings multiples, respectively. A linear regression with an  $R^2$  below 0.50 reflects poor correlation of the data. However, the standard deviation for the price-to-revenue multiple was only 0.13 with a coefficient of variation of 0.22. This means that some degree of confidence can be had in using this data, as long as it is not used alone. The earnings multiples have poor statistical representations and cannot be used.

**Pratt's Stats.** The next database used in our analysis was Pratt's Stats. This database recorded 97 transactions. From this amount, we eliminated 48 transactions for the same reasons as explained previously. The transactions considered are included in table 12.

**TABLE 12 Pratt's Stats Asset Transactions**

Business Name	Revenues	Sale Date	Selling Price	Deal Price	Discretionary Earnings	Equity Price to	
						Revenues	Discretionary Earnings
Brown DDS	540,912	1/22/1999	619,433	619,433	271,386	1.15	2.28
Dental Centers of Ind	3,572,107	8/1/1997	4,249,020	4,249,020	—	1.19	—
N/A	61,263	11/2/1999	25,000	25,000	—	0.41	—
N/A	430,000	4/1/1999	270,000	270,000	202,300	0.63	1.33
<b>Many Transactions Have Been Removed to Save Space</b>							
Gary Provost, DDS	424,208	9/8/1999	296,000	296,000	202,429	0.70	1.46
Kent C. Loo, DDS	393,619	4/12/1999	245,000	245,000	180,296	0.62	1.36
Maryvale Dental Assoc	226,961	3/18/1999	200,000	200,000	—	0.88	—
Prime Dental Care, PC	246,366	7/9/1999	250,180	250,180	—	1.02	—
Douglas Mougey, DDS	486,866	1/26/1999	646,031	646,031	—	1.33	—
Peter E. Labadie, DDS	182,390	10/22/1999	169,600	169,600	102,355	0.93	1.66

A more detailed statistical analysis was performed on the data included in the results (including data not presented in table 12). It is shown in table 13.

Based on these results, only two multiples can be used with any degree of confidence: Equity Price to Revenues, Equity Price to Discretionary Earnings.<sup>1</sup>

**Other Databases.** Although we looked for transactions in the other databases, an insufficient amount of data was located.

**Value Estimates—Transaction Method.** Once the pricing multiples have been chosen, the next step is to choose the appropriate multiple to value The Dental Group. Using the available data, we further analyzed these transactions against the performance of The Dental Group.

First we looked at the geographic region. Of the 412 transactions in the IBA data, 27 transactions were specifically in Florida. Seventy-six transactions were in the Southeast. The medians of these transactions were 0.65 and 0.66, respectively.

<sup>1</sup> Deal price to revenues and equity price to revenues are the same; therefore, only equity price to revenues was utilized.

**EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space)**

**TABLE 13 Pratt's Stats Statistical Analysis**

	Equity Price to						Deal Price to			
	Revenues	Gross Cash Flow	Earnings Before Taxes	Net Income	Total Assets	Discretionary Earnings	Revenues	EBITDA	EBIT	Total Assets
Statistical Analysis:										
Count	49	29	29	29	49	21	49	33	33	49
Mean	0.76	4.93	4.91	5.17	1.76	1.75	0.76	5.76	7.35	1.76
Standard Deviation	0.23	3.65	3.76	4.40	1.29	0.36	0.23	7.24	14.37	1.29
Coefficient of Variation	0.31	0.74	0.77	0.85	0.73	0.21	0.31	1.26	1.95	0.73
90th Percentile	1.06	10.21	10.09	10.21	3.37	2.23	1.06	11.20	12.32	3.37
75th Percentile	0.88	6.31	6.07	6.31	1.67	2.02	0.88	6.30	6.30	1.67
Median	0.76	3.91	3.86	4.03	1.19	1.71	0.76	3.82	3.82	1.19
25th Percentile	0.62	2.11	2.11	2.11	1.10	1.46	0.62	1.92	1.92	1.10
10th Percentile	0.48	1.51	1.51	1.51	1.06	1.36	0.48	1.49	1.49	1.06
Linear Regression:										
Slope	1.21	9.40	9.27	8.33	2.67	2.12	1.21	7.08	6.47	2.67
Intercept	(126,975)	(328,400)	(319,509)	(219,947)	(165,935)	(56,499)	(126,975)	(197,219)	(126,316)	(165,935)
R <sup>2</sup>	0.99	0.49	0.43	0.28	0.42	0.87	0.99	0.46	0.30	0.42

(continued)

## EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space) *(continued)*

Additionally, we performed a ratio analysis from the data included in the Pratt's Stats database, which is reflected in table 14.

**TABLE 14 Pratt's Stats Asset Transaction Ratio Analysis**

	Net Profit Margin	Operating Profit Margin
Count	29	33
Mean	24.04%	24.47%
Standard Deviation	13.96%	14.42%
Coefficient of Variation	58.06%	58.94%
90th Percentile	44.20%	45.20%
75th Percentile	37.99%	37.99%
Median	18.74%	21.08%
25th Percentile	13.41%	13.64%
10th Percentile	9.79%	7.52%
<b>The Dental Group</b>	<b>6.23%</b>	<b>10.61%</b>

The table indicates that The Dental Group underperformed compared to the lowest 10th percentile with respect to net profit and between the 10th and 25th percentile for operating profit. This means that The Dental Group would not sell as favorably as many of the practices included in the transaction data.

Therefore, for those multiples used, we have chosen the equivalent of the 10th percentile. Our value indications are as follows:

**TABLE 15 IBA Database Value Estimate**

	Price to Revenues
Selected Multiple	0.45
Subject Company Earnings Stream	\$1,911,743
Indication of Value	\$ 860,284
Calculation of Retained Assets	
Cash	\$ (14,495)
Accounts Receivable	310,929
Inventories	16,155
Other Assets	729
Total Liabilities	(213,212)
Add: Net Retained Assets	\$ 100,106
Indication of Value—Control, Non-Marketable	\$ 960,390
Rounded	\$ 960,000

**EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space)**
**TABLE 16 Pratt's Stats Value Estimate**

	Equity Price to Revenues	Equity Price to Discretionary Earnings
Selected Multiple	0.48	1.36
Subject Company Earnings Stream	\$ 1,911,743	\$ 422,062
Indication of Value	\$ 917,637	\$ 574,004
Calculation of Retained Assets		
Cash	\$ (14,495)	\$ (14,495)
Accounts Receivable	310,929	310,929
Other Assets	729	729
Total Liabilities	(213,212)	(213,212)
Plus Net Retained Assets	\$ 83,951	\$ 83,951
Estimate of Value (Equity or Invested Capital)	\$ 1,001,587	\$ 657,955
Less: Interest-Bearing Debt	—	—
Indication of Value—Control, Non-Marketable	\$ 1,001,587	\$ 657,995
Rounded	\$ 1,000,000	\$ 658,000

One further explanation is required of the data included in tables 15 and 16. The data presented in the IBA database, as well as the data used from the Pratt's Stats database, are asset sales. This means only those assets that are typically sold as part of a transaction would be included in the estimate of value. Therefore, additional assets and liabilities must be taken into consideration. In this report, we call them *retained assets*. These would be the items that would typically be retained by the seller or paid for above and beyond the estimate of value that is calculated from the various transactions.

Based on the IBA database, the estimate of The Dental Group as of March 23, 2000 would be approximately \$960,000. Based on the data included in Pratt's Stats, the equity price to revenues results in an estimate of approximately \$1 million, whereas the equity price to discretionary earnings reflects only a value of \$658,000.

**INCOME APPROACH**

**Capitalization of Earnings Method.** The capitalization of earnings method is premised on the concept that value is based on a stabilized income stream that is capitalized by an appropriate capitalization rate to reflect the risk associated with the income stream. Mathematically, this is presented in the following formula.

$$V = \frac{I}{R}$$

V = Value  
I = Income Stream  
R = Capitalization Rate

(continued)

## EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space) *(continued)*

The use of this formula requires an estimate of income to be made for the subject practice. The next portion of the application of this method requires the determination of the appropriate capitalization rate to be used for this level of income.

The Dental Group is a mature practice that has reached its maximum capacity at its present location. Revenues have grown marginally from \$1.8 million to \$1.9 million from 1997–1999. A review of the adjusted profitability during this period reflects an up-and-down scenario. Therefore, we believe that a simple average of the past three years is most representative of the future earnings of the practice.

Applying an inflationary growth rate to the earnings and capitalizing the result by 24 percent (see discussion of discount and capitalization rates) yields the following estimate of value:

**TABLE 17 Capitalization of 3-Year Average Net Income**

	1997	1998	1999
Net Income	\$150,912	\$165,986	\$ 119,040
3-Year Average Net Income			\$ 145,313
One Plus the Long-Term Rate of Growth			× 1.03
Net Income for Capitalization			\$ 149,672
Capitalization Rate			÷ 24.00%
Indication of Value—Control, Marketable			\$ 623,633
Less: Discount for Lack of Marketability		10.00%	(62,363)
<b>Indication of value—Control, Non-marketable</b>			<b>\$ 561,270</b>
<b>Rounded</b>			<b>\$ 561,000</b>

In estimating the value of The Dental Group using the income approach, a 10 percent discount for lack of marketability has been subtracted. The discount, explained further later in this report, is intended to reflect the closely held nature of the practice after applying a capitalization rate that was derived from the public market. This method results in an estimate of value of \$561,000.

### ASSET APPROACH

**Excess Earning Method.** The adjusted book value of The Dental Group, without intangible value, was previously determined to be \$207,534 (see balance sheet normalization). In addition to the value of the tangible assets of The Dental Group, it is necessary to determine whether any goodwill exists and, if so, what value to place on that goodwill.

Revenue Ruling 59-60, the IRS training manual, and Revenue Ruling 68-609, which the IRS has been using in conjunction with Revenue Ruling 59-60 concerning earnings of an entity to be valued, all stress that potential future income is a major factor in valuing an entity. These sources further state that a review of prior earnings is necessary to predict the future. This is known as the “formula approach.”

This approach is described in Revenue Ruling 68-609 as follows:

The percentage return on the average annual value of the tangible assets used in the business is determined using a period of years (preferably not less than five) immediately prior to the valuation date. The amount of the percentage return on tangible assets thus determined is deducted from the average earnings of the business for such period and the remainder, if any, is considered to be the amount of the average annual earnings from the intangible assets of the business for the period. This amount (considered as the average annual earnings from intangibles) capitalized at a percentage of say fifteen percent to twenty percent is the value of the intangible assets of the business determined under the “formula approach.”

### EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space)

Revenue Ruling 59-60 also suggests that comparative income statements for a period of five or more years should be used in valuing a closely held business.

The average annual earnings of The Dental Group should be reduced by a reasonable return on the net tangible assets of the practice, which, if placed in the bank or in a different investment, would generate revenue. This return on investment should be subtracted from the average annual earnings of the practice.

The sources previously mentioned indicate that the formula approach should be used only if no other valuation approach for measuring intangibles can be determined. Caution must be exercised when this approach is utilized. It cannot be employed without taking into account outside influences, such as the general economic condition of the industry and whether earnings are increasing or decreasing.

The growth adjusted, normalized net income of the practice has previously been determined to be \$149,672. A weighted average return on tangible assets of 6.92 percent has been calculated based on the composition of the balance sheet yielding a return on tangible assets of \$14,358. Capitalizing the excess earnings by a capitalization rate of 33 percent (see discussion the “Discount and Capitalization Rates”) results in an estimate of value using this methodology as follows:

**TABLE 18 Excess Earning Method 3-Year Average Net Income**

Normalized Net Income	\$ 149,672
Less: Return on Tangible Assets	(14,358)
Excess Earnings	\$ 135,314
Capitalization Rate	÷ 33.0%
Value of Intangibles	\$ 410,042
Adjusted Tangible Book Value	207,534
Indication of Value—Control, Marketable	\$ 617,576
Less: Discount for Lack of Marketability (10%)	(61,758)
<b>Indication of Value—Control, Non-Marketable</b>	<b>\$ 555,818</b>
<b>Rounded</b>	<b>\$ 556,000</b>

Once again, a 10 percent discount for lack of marketability has been subtracted to take into consideration the fact that The Dental Group is a closely held dental practice. As a result of our computations, the value using this method is approximately \$556,000.

**Reconciliation of Values.** During the valuation, several methods were used to determine the value of the equity of The Dental Group. The values derived in this valuation are as follows:

(continued)

### EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space) *(continued)*

<b>Market Approach</b>	
Transaction Method	
IBA Database	
Price to Revenues	\$ 960,000
Pratt's Stats	
Equity Price to Revenues	1,000,000
Equity Price to Discretionary Earnings	658,000
<b>Income Approach</b>	
Capitalization of Income	561,000
<b>Asset Approach</b>	
Excess Earnings	556,000

The market approach is normally afforded the greatest amount of weight for a going concern because fair market value is determined by the market, and it is the valuation analyst's role to interpret the market. In this instance, the transaction method was used providing three indications of value. Those indications that utilized a multiple of revenue resulted in a considerably higher value than the method that utilized a multiple that relied on The Dental Group's earnings. The fact is that The Dental Group's earnings were inferior to the target practices based on our analysis of the data included in the Pratt's Stats database. Therefore, we put slightly more weight on the multiple involving earnings than those that involved revenues. Forty-five percent of the total weight in this valuation has been applied to the market approach.

The income approach utilizes the earnings of the company to arrive at a value. This value is based on the earnings of the practice and looks at the practice from an investment point of view for an owner or operator purchasing the entire operation. Once again, because of low earnings, the result is a lower indication than the market approach. In this instance, we assigned a 30 percent weight to the income approach because it truly values the practice and does not subject the valuation analyst to as many assumptions as those based on the limited data included in the transaction method.

The asset-based approach was utilized using the excess earnings method, which is a commonly used method for valuing professional practices. In this instance, the results are very similar to the income approach, and we have put 25 percent of the weight on this approach.

Revenue Ruling 59-60 suggests that a valuation analyst not arbitrarily weight different methodologies, but that the true intent of the revenue ruling is for the valuation analyst to consider the advantages and disadvantages of each of the methodologies and to develop an informed opinion using judgment, common sense, and the facts and circumstances available to determine how each method should be weighted in the process. As a result of the various weightings, an opinion of value for The Dental Group, which is predicated on Dr. Smith issuing a restrictive covenant to a purchaser of The Dental Group, is as follows:



**EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space)**

Approach	Value	Weight	Weighted Value
<b>Market Approach</b>			
Transaction Method			
IBA Price to Revenue	\$ 960,000	10%	\$ 96,000
Pratt's Stats Equity Price to Revenue	1,000,000	20%	200,000
Pratt's Stats Equity Price to Discretionary Earnings	658,000	15%	98,700
<b>Income Approach</b>			
Capitalization of Income	561,000	30%	168,300
<b>Asset Approach</b>			
Excess Earnings	556,000	25%	139,000
Estimated Value of The Dental Group		100%	\$702,000

**Justification for Purchase Test.** Valuation is not the process of developing capitalization rates or multiples. It is, however, the process of providing the user of the valuation with an estimate of value within a reasonable range. Recognizing that valuation is not an exact science, a test was performed to substantiate the amount of indebtedness that could be undertaken, using a four-year payback period, based on the normalized economic income that would be available to a willing buyer.

Assuming typical terms for a business transaction of this kind, a purchaser would use approximately 33.33 percent equity, with the balance being debt, to acquire a business of this type. This means that the pretax income would have to carry debt service and taxes. The valuation analyst used the average adjusted pretax income from 1997 to 1999 as indicative of future pretax income that would be available to service the debt incurred by the prospective buyer when purchasing the practice. This is the same income stream that was used to value the practice. The tax rate has been assumed at 35 percent. Using an 11.0 percent interest rate (prime rate as of the valuation date plus 2 percent), and a \$702,000 purchase price results in the following:

	Year 1	Year 2	Year 3	Year 4
Annual Payments	\$ 145,156	\$ 145,156	\$ 145,156	\$ 145,156
Interest	46,612	35,207	22,485	8,292
Principal	\$ 98,544	\$ 109,949	\$ 122,671	\$ 136,864
Cash Flow				
Pretax Income	\$ 229,716	\$ 236,607	\$ 243,706	\$ 251,017
Interest Expense	46,612	35,207	22,485	8,292
Taxable Income	\$ 183,104	\$ 201,400	\$ 221,221	\$ 242,725
Tax	64,086	70,490	77,427	84,954
Net Income	\$ 119,018	\$ 130,910	\$ 143,794	\$ 157,771
Principal Payments	98,544	109,949	122,671	136,864
<b>Cash Flow</b>	<b>\$ 20,474</b>	<b>\$ 20,961</b>	<b>\$ 21,123</b>	<b>\$ 20,907</b>
<b>Return on Down Payment</b>	<b>8.75%</b>	<b>8.96%</b>	<b>9.03%</b>	<b>8.94%</b>

(continued)

## EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space) *(continued)*

The preceding calculations indicate that a purchaser of this practice could pay \$702,000 and satisfy the debt obligations that would result from the acquisition.

**Personal Goodwill.** The majority of states have ruled that goodwill should be factored into determining a professional practice's value for the purposes of equitable distribution. The courts that choose to include goodwill do so because they consider it to be an asset, whereas the courts that choose not to include it state that it is because it is too speculative. Trugman Valuation Associates has been requested to address the issue of personal goodwill as it relates to The Dental Group. Before attempting to quantify the issue of personal goodwill, it is important to understand what this concept means.

**Professional Versus Practice Goodwill.** The distinction between professional goodwill (sometimes called *personal goodwill*) and practice goodwill (sometimes called *business* or *commercial goodwill*) is that professional goodwill is the goodwill that is associated primarily with the individual versus practice goodwill, which is the goodwill associated primarily with the entity. This can be demonstrated by assuming John Smith CPA is a partner at PricewaterhouseCoopers. If a new client calls the firm specifically requesting John Smith, then there may be personal goodwill associated with the individual. However, if the client wants a "big four" name on the financial statements and contacts PricewaterhouseCoopers and ends up with John Smith, there is probably practice goodwill. Sometimes, the two types of goodwill will overlap.

The existence of professional goodwill is based on the fact that clients come to the individual, as opposed to the firm. This may be based on the individual's skills, knowledge, reputation, personality, and other factors. The implied assumption is that if this individual moved to another firm, the clients would go with him or her. Professional goodwill is more difficult to transfer to a new owner, but not impossible. Generally, the professional will assist in a smooth transition to a new owner in order to obtain the maximum price for the practice.

**Goodwill in a Professional Practice.** The issue of personal versus practice goodwill arises most often during the divorce valuation of professional practices. In most instances, there is little reason to separate the two concepts. However, some courts have determined that sole practitioners in any profession can only have personal goodwill because he or she is the practice. A sole practitioner's practice can easily have both forms of goodwill.

To illustrate this point, let's assume that Sarah Jackson, attorney at law, is a personal injury specialist. Her trial skills have allowed her clients to get jury verdicts that begin at \$1,000,000. Her law practice has a book value of \$85,000 and contingent work in progress of \$700,000. Gross revenues for the firm are \$8,000,000. Ms. Jackson draws a salary of \$3,000,000 annually. The question becomes whether Ms. Jackson's goodwill—her reputation and trial skills—can be transferred to another lawyer. If so, we might have many lawyers earning a lot of money. This illustrates personal goodwill.

Let's illustrate practice goodwill. Now assume that Mary Brown, attorney at law, belongs to a prepaid legal services plan, from which she gets client referrals. The fact that the law firm is signed up with the legal services plan, referrals come to the practice regardless of her reputation and skills. This is practice goodwill. However, assuming that Ms. Brown does a good job for these clients, referrals may come to her in the future, which would be an element of personal goodwill.

Most courts have found that goodwill is an asset to be included in the marital estate of a professional for divorce purposes. In many states, professional goodwill is considered to be marital property even though it is not transferable. In such cases, the standard of value is not truly fair market value but, rather, intrinsic value to the owner. Several states have taken the position that professional goodwill is not a marital asset subject to division, but practice goodwill is.<sup>2</sup>

One of the most widely cited cases detailing the factors to consider when valuing professional goodwill in a divorce is a California case, *Lopez v. Lopez*.<sup>3</sup> The factors listed in that case include the following:

- The age and health of the professional
- The professional's demonstrated past earning power
- The professional's reputation in the community for judgment, skill, and knowledge
- The professional's comparative professional success
- The nature and duration of the professional's practice, either as a sole proprietor or as a contributing member of a partnership or professional corporation

As illustrated previously, it is frequently difficult to distinguish between professional goodwill and practice goodwill. In a Florida case, *Williams v. Williams*,<sup>4</sup> the trial court ruled that the value of Mr. Williams' accounting practice included \$43,200 in practice goodwill. On appeal, the trial court's finding was reversed. In its opinion, the appellate court stated:

<sup>2</sup> Some of the cases dealing with personal goodwill around the country include *Nail v. Nail*, 486 S.W. 2d 761 (Texas Supreme Court 1972); *Geesbreght v. Geesbreght*, 570 S.W. 2d 427 (Texas Civil Appeals Court 1978); *Prahinsky v. Prahinsky*, 540 A.2d 833 (Md. App. 1988) and 582 A.2d 784 (Md. 1990); *Thompson v. Thompson*, 546 So.2d 99 (Fla. App. 4 Dist. 1989); *Hollbrook v. Hollbrook*, 103 Wis. 2d 327, 309 N.W. 2d 343; *Zells v. Zells*, 157 Ill. Dec. 480, 572 N.E. 2d 944 (111.1991); and *DeMasi v. DeMasi*, 366 Pa. Super. 19, 530 A. 2d 871,883.

<sup>3</sup> In re: *Marriage of Lopez*, 113 Cal. Rptr. 58 (38 Cal. App. 3d 1044 (1974))

<sup>4</sup> *Williams v. Williams*, No. 95-00577, 1996 WL 47675 (Fla.App.2 Dist. Feb. 7, 1996)

## EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space)

the goodwill of [a] professional practice can be a marital asset subject to division in a dissolution proceeding, if it exists and if it was developed during the marriage .... However... for goodwill to be a marital asset, it must exist separate and apart from the reputation or continued presence of the marital litigant. . . . When attempting to determine whether goodwill exists in a practice such as this, the evidence should show recent actual sales of a similarly situated practice, or expert testimony as to the existence of goodwill in a similar practice in the relevant market .... Moreover, the husband's expert, who testified the practice had no goodwill, stated that no one would buy the practice without a noncompete clause. This is telling evidence of a lack of goodwill.

Clearly, the non-compete clause was the issue in the court's strict interpretation of fair market value. The fact that the expert testified that without a covenant not-to-compete, no one would buy the practice is an indication that the goodwill was associated with the grantor of the covenant.

**Non-compete Agreements.** (This is the same verbiage as in exhibit 17.1, so I am leaving it out here.)

In essence, a covenant not-to-compete is used to protect the goodwill that is associated with the practitioner that would allow that individual to compete with the purchaser of the practice. In the valuation performed in this matter, the indicated value of \$702,000 can be broken down between tangible and intangible value as follows:

Tangible Value	\$208,000
Intangible Value	494,000
Total Value	<u>\$702,000</u>

The normalized balance sheet was used to derive the value of the net tangible assets. Therefore, by subtraction, any remaining value would be attributable to intangible assets. This would be the maximum amount that a willing buyer would be looking to protect in an acquisition of The Dental Group. In order to estimate the amount of personal goodwill associated with The Dental Group, the appraiser looked for two separate factors that would provide market evidence as to the value of a non-compete agreement.

**Contract for Sale Between Dr. Scott Smith and Dr. Mark Brown (July 1989).** As indicated earlier in this report, the asset purchase agreement that involved Dr. Smith included a restrictive covenant. In fact, according to the allocation on page three of this agreement, the \$366,000 purchase price was allocated between tangible and intangible assets as follows:

Tangible Assets	\$153,720
Intangible Assets	212,280
Total	<u>\$366,000</u>

The intangible assets were broken down between patient records and restrictive covenant as follows:

Patient Records	\$131,760
Restrictive Covenant	80,520
Total	<u>\$212,280</u>

This indicates that approximately 22 percent of the purchase price was allocated to a restrictive covenant ( $\$80,520 \div \$366,000$ ).

**Market Evidence from the Pratt's Stats Database.** Included in the detail of the Pratt's Stats database is information relating to whether or not a covenant not-to-compete was granted, and if so, how much of the sale price was allocable to this covenant. An analysis was performed of the transactions resulting in the information provided in table 19.

(continued)

**EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space) (continued)**
**TABLE 19 Pratt's Stats Transactions with Non-Compete Information**

Business Description	Sale Date	Sell Price	Liabilities Assumed	Employ Agree Value	Price Liabilities & Employment Agreement	Non-compete Value	Non-compete to Selling Price
Dental Practice	1/22/1999	443,500			443,500	175,933	39.67%
Dental Practice	11/2/1999	20,000			20,000	5,000	25.00%
Dental Practice— General Family	9/7/1999	314,262			314,262	10,000	3.18%
Dental Practice— General Family	10/5/1999	222,500			222,500	10,000	4.49%
Dentist	10/24/1997	287,000			287,000	1,000	0.35%
Dentist, General	5/1/1997	482,000			482,000	33,000	6.85%
Dentist, General	4/1/1998	150,000			150,000	15,000	10.00%
Dentist, General	4/1/1998	120,000			120,000	20,000	16.67%
Dentist, General	1/1/1998	210,000			210,000	20,000	9.52%
Dentist, General	2/1/1998	210,000			210,000	40,000	19.05%
Dentist, General	4/1/1997	173,000			173,000	20,000	11.56%
Dentist, General	1/1/1998	137,000			137,000	10,000	7.30%
Dentist, General	10/1/1997	147,000			147,000	12,000	8.16%
Dentist, General	2/1/1998	60,000			60,000	20,000	33.33%
Dentist, General	10/1/1997	28,000			28,000	3,000	10.71%
Dentist: Orthodontist	10/15/1998	119,000			119,000	10,000	8.40%
Dentist: Orthodontist	6/15/1999	342,000			342,000	11,000	3.22%
Family Dentistry	5/28/1998	176,677			176,677	5,000	2.83%
Family Dentistry	9/15/1998	105,500			105,500	10,000	9.48%
<b>Many transactions have been omitted from this exhibit to save space</b>							
Orthodontia	7/15/1999	200,000			200,000	20,000	10.00%
Orthodontist	4/1/1998	400,000			400,000	25,000	6.25%
Orthodontist	2/1/1998	175,000			175,000	20,000	11.43%
Pediatric Dentistry	3/1/1998	375,000			375,000	40,000	10.67%
Periodontal Practice	1/5/1998	265,000			265,000	50,000	18.87%
<b>Average</b>							<b>14.29%</b>

### EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space)

The selling price of the practice minus any liabilities assumed and employment agreement values that were specifically allocated as part of the selling price in order to determine the price of the practice, net of the liabilities and of the employment agreement, are included in table 19. We then compared this amount to the result that was allocated to the value of the non-compete agreement. The average non-compete agreement value to the net selling price amounted to 14.29 percent. We further analyzed this data and removed all specialty practices to see what impact, if any, these had on the average. The average went up to 14.74 percent. Therefore, the market evidence indicates that of these transactions, between 14 and 15 percent is indicative of the non-compete values.

**Conclusion.** Clearly, the best indication of the value of a non-compete agreement would be using market data involving Dr. Smith himself. Although the transaction was from 1989, clearly, it is within the range of reasonableness (22 percent versus 14.74 percent) based on the other market evidence. Therefore, it appears that approximately 20 percent of the purchase price, or \$140,400 (\$702,000 × 20 percent) would be a reasonable indication of the value of the non-compete. Therefore, in our opinion the value of The Dental Group that should be subject to equitable distribution as of March 23, 2000 would be \$561,600.

#### VALUE—DATE OF MARRIAGE—NOVEMBER 28, 1987

Trugman Valuation Associates was also asked to estimate the value of the practice as of the date of the marriage, November 28, 1987. We requested financial statements or tax returns, or both, at around that date, including prior years, but the only information that still existed were financial statements for 1989 and 1990. Not anticipating that these records would ever be needed, they were discarded and are no longer available. Therefore, we are attempting to estimate the value based on the information that we have.

For the year ended December 31, 1989, net professional revenues were \$1,564,551 from the practice. Included in this amount is income from not only the Main Street location, but also from the Second City office. That practice was sold under contract dated July 1989 and was effective October 3, 1989. Our review of the 1990 financial statements reflects net professional fees in the amount of \$1,102,408. During this year, the Second City location was no longer in existence. Therefore, with the exception of any possible growth in the practice, the difference between these years could be attributable to the portion of the practice that was sold. The difference in revenue between 1989 and 1990 was \$462,143. Annualizing this amount, one could estimate that the annual difference (again excluding growth) would be \$616,191. Therefore, revenues for the entire 1989 year, including the equivalent full year for Second City, that would have existed in previous years can be calculated as follows:

1989 Reported Revenues	\$1,564,551
Less: Difference From 1989 to 1990	462,143
Sub Total	\$1,102,408
Add: Annualized Difference	616,191
Total Restated Annualized Revenues for 1989	\$1,718,599

In order to estimate the 1987 revenues, we applied a deflation factor of 5 percent consisting of 3 percent inflation and 2 percent real growth to the restated 1989 revenues. This would approximate 1987 revenues as \$1,551,036. This indicates that the entire practice was generating 81.13 percent of the annual revenues just prior to the divorce (\$1,551,036 ÷ \$1,911,743). Using the relationship of revenues as a proxy for the change in value, an estimate of the value of the practice in 1987 can be performed as follows:

Value—March 23, 2000	\$ 702,000
Revenue Relationship	× 81.13%
Value—1987	\$ 569,533
Rounded	\$ 570,000

(continued)

## EXHIBIT 22.2 Personal Goodwill—Dental Practice (Some Sections Have Been Omitted for Space) *(continued)*

Based on these figures, we estimated that the value of the practice at November 28, 1987 was approximately \$570,000. In order to be consistent with the treatment of personal goodwill from the latter date, we estimated that 20 percent of this amount, or \$114,000, should be considered nonmarital, personal goodwill. Therefore, the value that should be used as the base to calculate an incremental value would be \$456,000.

## Valuation of Other Marital Assets

Over the past several decades, new assets are being included in the cadre of items that are considered to be part of the marital estate. Once again, the courts are trying to be fair to the nonprofessional spouse. Rather than treating certain items as part of the ability to pay additional support, the courts have found these items to be marital assets. Some of the items included in this group are professional licenses and celebrity goodwill.

### Professional Licenses

The value of a professional license is frequently considered to be part of professional goodwill. In New York, the *O'Brien*<sup>24</sup> case provided that a professional license had value, even when there was no professional goodwill. In fact, the professional practice had not yet been started. In this case, Mrs. O'Brien worked so that Dr. O'Brien could attend medical school. About two months after Dr. O'Brien received his medical license and was serving a residency in general surgery, he filed for a divorce.

Clearly, there could be no professional goodwill in this case because Dr. O'Brien had not started his practice yet. However, Mrs. O'Brien's expert valued the professional license on the basis that it had value due to the enhanced earning capacity provided to Dr. O'Brien. A comparison was made between the average income of a college graduate to the average income of a general surgeon. This difference was capitalized over Dr. O'Brien's expected working life and adjusted for factors such as the time value of money and mortality.

Because New York started treating professional licenses as marital assets subject to distribution, additional issues have arisen. Arguments have now been raised that when the license holder has maintained a professional practice for a long period of time, the license has merged with the practice and no value should be assigned to the professional license. This concept was challenged in *McSparron v. McSparron*.<sup>25</sup>

In *McSparron*, the court stated the following:

Application of the merger doctrine is particularly inimical to the statutory purposes because it generally favors the non-licensed spouse in a shorter marriage over the non-licensed spouse who is faced with rebuilding his or her economic life after the break-up of a long-term marriage. . . . In view of these logical and practical difficulties, we conclude that the letter and spirit of our holding in *O'Brien* is best served by eliminating the concept of "merger" from the inquiry. The merger doctrine should be discarded in favor of a common-sense approach that recognizes the ongoing independent vitality that a professional license may have and focuses solely on the problem of valuing that asset in a way that avoids duplicative awards. . . . Care must be taken to ensure that the monetary value assigned to the license does not overlap with the value assigned to other marital assets that are derived from the license such as the licensed spouse's professional practice.

### Celebrity Goodwill

New Jersey was always famous for its turnpike. In fact, whenever I told someone that I lived in the Garden State, I was asked "near what exit on the turnpike?" New Jersey is also on the map as the home of *The Sopranos* and the infamous *Bridgeway* in which the governor's staff was accused of creating chaos at the

<sup>24</sup> *O'Brien v. O'Brien*, 66 NY 2d 576 (1985).

<sup>25</sup> *McSparron v. McSparron*, No. 260, 1995 WL 722880 (N.Y. App. Dec 7, 1995).

George Washington Bridge to get even with a political rival. But New Jersey also started a trend that may be nothing to be proud of. Joe Piscopo, comedian and entertainer, probably did not find it funny or entertaining when the New Jersey Superior Court found that he had a marital asset, with value, called *celebrity goodwill*.<sup>26</sup> The concept of celebrity goodwill is based on the premise that the enhanced earnings capacity of a celebrity is marital property. The determination of value in this case was made by applying a percentage to gross revenues for three of the last five years. New York, once again, not wanting to be too far behind, ended up with two cases of its own, *Golub v. Golub*<sup>27</sup> and *Elkus v. Elkus*.<sup>28</sup> This craziness is catching on like wild fire.

## Conclusion

If the valuation analyst plans to do divorce valuations, he or she needs to make sure that he or she becomes familiar with the law of the land. The valuation analyst should not get caught up in the craziness of the litigation or the clients will most likely make him or her nuts. Do the valuation with the integrity and objectivity that is expected in any professional engagement.

If I did my job right, this chapter should have provided some of the nuances of the divorce valuation process and a lesson on valuing a covenant not to compete. Remember that really long exhibit? It wasn't that long ago. Because we have had so much fun, let's move on.

.....  
<sup>26</sup> *Piscopo v. Piscopo*, 231 NJ Super 576.

<sup>27</sup> *Golub v. Golub*, 527 NYS2d.

<sup>28</sup> *Elkus v. Elkus*, 572 NYS2d 901 (App Div 1991, Review Denied 588 NE2d99 [NY 1992]).





# Chapter 23

# Professional Practice Valuations

## Learning Objectives

In this chapter, I will attempt to do the following:

- Discuss the reasons for valuing professional practices
- Discuss the characteristics of a professional practice
- Distinguish between professional practice valuations and other types of businesses
- Discuss engagement-specific matters

## Introduction

Valuations of professional practices frequently have unique aspects associated with them. Professional practices, by their very nature, are different than most businesses. As such, the valuation analyst must truly understand the attributes of each type of practice that may be valued. These professional practices, whether they are an accounting practice, a medical practice, an engineering practice, and so on, will all be similar, but different. Yes, it is contradictory.

Before the valuation analyst can value a professional practice, a good starting point is to understand what is meant by a profession. The term *profession* means

a vocation or occupation requiring special, usually advanced, education, knowledge, and skill—for example, law or medical professions. Also refers to whole body of such profession. The labor and skill involved in a profession predominantly mental or intellectual, rather than physical or manual. The term originally contemplated only theology, law, and medicine, but as applications of science and learning are extended to other departments or affairs, other vocations also receive the name, which implies professed attainments in special knowledge as distinguished from mere skill.<sup>1</sup>

The valuation of professional practices will have many common aspects to the valuation of professional service firms. For example, the valuation techniques used to value a medical practice may be similar to the valuation of a tax preparation business. Clearly, there will be differences between these two types of firms. Hopefully, by the end of this chapter, we'll be in agreement.

## Why Are Professional Practices Valued?

Remember a long time ago, back in chapter 1, I provided a box with a list of business valuation engagement considerations (box 1.1)? Well, guess what? Most of these same reasons apply here. The most common reasons for valuing professional practices are as follows:

- Mergers and acquisitions
- Estate and gift taxes
- Marital dissolution
- Buy-sell agreements
- Ownership disputes
- Damages litigation

<sup>1</sup> Henry C. Black, *Black's Law Dictionary* (St. Paul, MN: West Publishing Co., 1997): 1210.

Like all other valuations, the purpose and function of the valuation will affect the manner in which the valuation analyst will proceed.

## Characteristics of the Professional Practice

The professional practice differs from other types of businesses because of its unique characteristics. These include the following:

- It is a service business in which there are generally fewer tangible assets than intangible assets.
- There is a strong relationship between the professional and the client or patient, which is based on the professional's reputation.
- The professional practice, more often than not, depends on a strong referral system to get new clients or patients.
- The professional is frequently licensed, regulated, or certified by a governmental or regulatory agency or professional organization.
- In order to get licensed or accredited, most professionals are required to obtain an undergraduate degree, as well as maintain some level of continuing education to keep his or her license or certification.

Each of these aspects is pretty self-explanatory, so there is little need to expand on them.

## Professional Practice Versus Other Business Valuations

Valuing professional practices will require the valuation analyst to follow the same general guidelines as with other types of business enterprises. Obviously, with most of the value being in the intangible assets, the professional practice valuation will be much more oriented toward a market or income approach. An asset-based approach could be used, but the valuation analyst would have to find a suitable manner in which to value the intangible assets. There is the excess earnings method, but I said suitable! All kidding aside, the excess earnings method should result in the same value as with the income approach because the tangible assets are relatively small. Whether the analyst is capitalizing the entire earnings stream or the majority of the earnings stream (the excess earnings), using the proper capitalization rates will get you to the same place. An example appears in exhibit 23.1.

### EXHIBIT 23.1 Capitalization of Earnings Versus Excess Earnings

**ADJUSTED BOOK VALUE.** As of the valuation date, the adjusted book value of the tangible assets of Dental Associates was as follows:

Total Assets	\$309,703
Total Liabilities	51,118
<b>ADJUSTED BOOK VALUE</b>	<b>\$258,585</b>
<b>ROUNDED</b>	<b>\$259,000</b>

**GOODWILL—EXCESS EARNINGS METHOD.** In addition to the value of the physical assets of Dental Associates, it is necessary to determine whether any goodwill exists and, if so, what value to place on that goodwill.

Now that normalized earnings have been determined, a calculation must be performed to determine a reasonable return on the tangible net assets of the practice. This must be subtracted from the economic net income to determine the excess earnings to be capitalized.

### EXHIBIT 23.1 Capitalization of Earnings Versus Excess Earnings

The adjusted tangible net assets of the practice have previously been determined to be approximately \$259,000. If this amount was placed in an investment with similar risk as the components of these net assets, a certain amount of income would be generated, regardless of whether the business was operating. For this reason, the goodwill calculation requires the return on the net assets to be removed because the income that would be generated from an alternative investment would not be part of the intangible value of the practice.

According to our research at the valuation date, corporate bonds (Aaa) were paying 7.96 percent, on average. A reasonable rate of return on the net assets would be 12 percent, in light of the fact that the net assets are not highly risky, but are riskier than Aaa corporate bonds. This results in excess earnings being calculated as follows:

Normalized Economic Income	\$148,135
Return on Net Assets (\$259,000 × 12%)	31,080
<b>EXCESS EARNINGS</b>	<b>\$117,055</b>

Capitalizing excess earnings (pretax) at a rate of 30 percent results in an intangible value (goodwill) of \$390,183 for this practice.

Combining the tangible and intangible assets and liabilities yields the following result:

Assets Other Than Goodwill	\$309,703
Goodwill	390,183
<b>Total Assets</b>	<b>\$699,886</b>
Less: Liabilities	51,118
<b>ESTIMATE OF VALUE</b>	<b>\$648,768</b>
<b>ROUNDED</b>	<b>\$649,000</b>

**CAPITALIZATION OF HISTORIC EARNINGS.** Another method of valuation, which places an emphasis on the earnings stream of the practice, is the capitalization of historic earnings method. This method capitalizes the entire income stream based on the earnings power of the net assets. As such, an appropriate capitalization rate must be selected that would be appropriate for this income stream.

The normalized economic income for the practice was determined to be \$148,135. Capitalizing this amount by 23 percent results in the value of this practice being \$644,065, or \$644,000 rounded.

The example in exhibit 23.1 reflects the fact that there should not be a major difference between the conclusion of value that is derived when using the excess earnings method when compared with the capitalization of earnings method. You should already be familiar with that from previous chapters. However, because most professional practices do not have substantial amounts of assets, most of the income stream will be attributable to the intangible assets of the practice. In these situations, the excess earnings will be very similar to the earnings stream being capitalized in a single period capitalization model. This means that the capitalization rate for the income stream and the excess earnings should be relatively close. In fact, the capitalization rate must be high enough to reflect the risk associated with the income stream being predominantly derived from the intangible assets. They are clearly riskier than the tangible assets.

## Buy-Sell Agreements

Many professional practices have buy-sell agreements in place to avoid fighting over value in the event that a buyout must occur. Many of these agreements contain formulas that have nothing to do with the economic reality of the situation. This frequently causes fights among the owners. The valuation analyst should always read the agreement to determine if there is a mandatory provision regarding the determination of value. He or she must be careful, however, because many times these agreements specify provisions applicable to only certain types of departures by an owner, such as in case of death. In those circumstances, this will have to be the valuation methodology that the valuation analyst will follow. However, in other circumstances, that may not be the case. Also, in certain jurisdictions, these types of agreements will not be considered indicative of value, for example, in a marital dissolution case.

Sometimes, the buy-sell agreement may be the manner in which partners, members, or stockholders come and go on a regular basis from a firm, thereby creating internal transactions or a market for the interest. Revenue Ruling 59-60 tells us to consider (factor number 7) the “sales of the stock and the size of the block of stock to be valued.” Internal transactions may be the best indication of fair market value. However, the valuation analyst must be careful to properly understand the formula contained in these agreements. Many times, they are established to be punitive to owners who leave before retirement, disability, or death. The owners all agree that they do not want to finance each other if they choose to leave the practice and compete with the old firm.

A simple calculation pursuant to a buy-sell agreement is demonstrated in table 23.1. In this example, three owners signed a stockholders’ agreement that included a formula to calculate the value of the dental practice in the event one of the shareholders was bought out.

**TABLE 23.1 Buy-Sell Formula: Value of Dental Associates**

50% gross receipts	\$618,700
Plus:	
Fair market value of furniture and equipment	60,175
Inventory	3,500
95% of accounts receivable	186,909
Less:	
Liabilities	(51,118)
Value of Class A Common Stock	\$818,166
Plus:	
Class B Common Stock*	3,500
<b>VALUE OF PRACTICE</b>	<b>\$821,666</b>
<b>ROUNDED</b>	<b>\$822,000</b>

\* According to the agreement, the Class B stock is to be valued at the price of \$1,000 per share. At the date of the valuation, three and a half shares were outstanding.

## Internal Transactions

The nature of professional practices is such that there are many times when internal transactions can be used to determine the value of a fractional interest in the firm. Many firms have buy-sell agreements that outline how owners will come and go. In certain types of valuations (for instance, divorce), these may not be considered. The valuation analyst should check with the client's attorney about the case law in the jurisdiction where the case is pending. Sometimes, a review of prior transactions can also assist the valuation analyst in estimating the value of the firm, or at least, an interest in the firm. Let's look at an example in which there was a transaction. What happened is illustrated in exhibit 23.2.

### EXHIBIT 23.2 Internal Transaction

**PRIOR TRANSACTION.** As discussed in the "History of the Dental Practice," on January 1, 2016, Dr. Black signed an agreement with Drs. Brown and Green to purchase one third of the dental practice. The terms of the purchase were that Dr. Black would receive a reduced salary (\$85,000 in comparison to \$160,000) for a 7.5 year period. At the end of this period, Dr. Black would own 50 shares of the Class A common stock, or one third of the stock.

In order to determine the value of the dental practice at the time of the buy in, it is necessary to discount the payments (the \$75,000 salary differential) back to the date of the original transaction. At the time of the transaction, low grade corporate bonds (Baa) were paying 6.22%. This transaction is considerably riskier than corporate bonds, so the discount rate used was 10 percent.

The value of a one-third interest in Dental Associates at January 1, 2016 is calculated as follows:

Year	Amount	Discounted at 10 Percent
2016	\$75,000	\$ 71,510
2017	75,000	65,009
2018	75,000	59,099
2019	75,000	53,726
2020	75,000	48,842
2021	75,000	44,402
2022	75,000	40,365
2023	37,500	21,168
Value of one-third interest as of January 1, 2016		<u>\$404,121</u>

The previous exhibit contains a calculation of a one-third interest in the dental practice. The problem that the valuation analyst might face is when using this information to estimate the value of a controlling interest in the practice. In theory, the valuation analyst could add a control premium to the minority result determined, but practically speaking, where would he or she get empirical evidence to support the size of the premium? Years ago, we went to *Mergerstat Review*<sup>®</sup> as a basis of the premium. Today, I would not touch that with a 10-foot pole! Clearly, the public market strategic premiums cannot offer even a little assistance in determining the correct premium for a local dental practice. The valuation analyst has no choice but to be subjective and reasonable.

## External Transactions

Sometimes, instead of there being an internal transaction, the practice may have acquired another practice, or a portion of one, that can be used to determine some formula that can be applied to the entire practice. The valuation analyst should obtain as much information about the acquisition as possible. At a minimum, get the contract, closing documents, financial disclosures made by the seller, and any due diligence performed by the acquirer or the acquirer's accountant. This can assist the valuation analyst in using this data. An example of an acquisition in which there was only limited data supplied by the doctor (nonclient) in a divorce litigation is provided in exhibit 23.3.

### EXHIBIT 23.3 External Transaction

**PURCHASE OF JOHNSON PRACTICE.** In the history section of this report, we discussed Dr. Peters' purchase of Dr. Johnson's practice. Although Dr. Peters did not gain many new patients as a result of this transaction, the transaction itself can be used as a methodology for valuing Dr. Peters' practice.

Dr. Peters bought Dr. Johnson's patient list for \$80 per patient. This did not include any of the other assets of the practice.

Utilizing this methodology results in a calculation of value as follows:

Patient List (\$80 × 4,109)	\$328,720
Other Assets (Net)	41,000
<b>Value</b>	<b>\$369,720</b>
<b>Rounded</b>	<b>\$370,000</b>

## Subsequent Events

This section does not only pertain to professional practices. However, I put it here because I have an example of how it applied in the valuation of a professional practice. In reality, it could have been any kind of business. I have discussed subsequent events in several different places throughout this book. Although valuation, for the most part, is performed based on the events that were *known* or *knowable* by the willing buyer and willing seller, there are many times that subsequent events can act as either the valuation analyst's friend or foe. The Tax Court has been known to look at transactions after the valuation date to test the reasonableness of what the valuation analyst has done. Although I do not agree with the notion of playing Monday morning quarterback, sometimes it is necessary. For example, getting away from the pure standard of fair market value, sometimes the courts are concerned with doing what is *fair and equitable*. If a subsequent event will assist in that regard, the courts have taken advantage of the information. This does not mean that the valuation analyst can bend the rules to fit his or her valuation into the actual results. All I am saying is that in some circumstances, it may be appropriate to consider the subsequent event, and in other circumstances, although the valuation analyst may not choose to rely on it, he or she may want to present it to the court. The valuation analyst should be prepared to discuss the factors that might have caused the subsequent event, like a transaction, to be more or less because of other factors that may have affected the subsequent price that was reached between the parties. Sometimes, we just don't know!

Keep in mind that while there are some court cases that rely on subsequent events, the court has used this information in the spirit of determining whether the valuation analyst should have known that the subsequent event would have taken place. The court has tried to determine whether there was information that should have been *known* or *knowable* by the valuation analyst.

A section from a report where we were court-appointed in a divorce case is contained in exhibit 23.4.

### EXHIBIT 23.4 Subsequent Events

After the date of the filing of the divorce (the effective date of the valuation), Dr. Black decided to leave Dental Associates and open his own practice. The effective date of this dissolution was December 31, 2015.

Under the terms of the dissolution agreement, Dr. Black would open his own office by the end of June 2016. He was permitted to continue seeing his patients at Dental Associates' offices at no cost to him until May 15, 2016. When Dr. Black left, he took approximately 1,100 patient files with him, consisting of approximately \$331,000 of annual revenues. In addition, his assistant followed him to his new offices, and he can pay the periodontist as an independent contractor to come to his office to treat patients, if he wishes.

In return, Dr. Black tendered his stock back to the corporation. No monies exchanged hands as a result of this transaction. Clearly, losing approximately one third of the revenues will have an effect on the value of the practice. This is discussed in more detail below.

**ADJUSTED BOOK VALUE.** Per the terms of the dissolution agreement, Dr. Black will not take any of the assets of the practice with him. Therefore, the adjusted book value remains at \$258,585 or \$259,000 rounded.

**CAPITALIZATION OF HISTORIC EARNINGS.** An analysis was done showing the financial effect of Dr. Black leaving the practice. This new income level was then normalized in a manner consistent with what was done in the "Valuation Calculations" section of this report. This analysis is shown as follows:

2015 Taxable Income	\$ 3,031
Adjustments to 2015 Taxable Income	
Income generated by Dr. Black <sup>1</sup>	(330,810)
Dr. Black's salary	120,027
Assistant's salary	21,368
Supplies <sup>2</sup>	29,800
Lab fees <sup>2</sup>	43,453
Payroll taxes and benefits	14,140
Consulting services <sup>2</sup>	14,453
2015 Income without Dr. Black	\$ (84,538)
Normalization adjustments	
Interest and dividends	(718)
Insurance	8,675
Rent	7,520
Depreciation	8,294
Legal and accounting	10,624
Officers' compensation <sup>3</sup>	75,962
Contributions	263
Normalized Net Income	\$ 26,082

(1) Income as reported on Dental Associates' internal Procedure Analysis Report.

(2) The assumption was made that Dr. Black accounted for approximately one third of these expenses.

(3) Because Dr. Black's salary was added in above, only Dr. Brown's and Dr. Green's salaries were adjusted.

(continued)

**EXHIBIT 23.4 Subsequent Events** *(continued)*

Using the same methodology as used previously in this report, capitalizing normalized net income results in a value of \$113,400.

**VALUE OF THE 50 PERCENT INTEREST OWNED BY DR. GREEN.** After Dr. Black left, Dr. Green then owned 50 percent of the practice, rather than 44 percent. As a result, his interest in the practice is valued at \$129,500 (one-half of \$259,000).

**Author's Note**

The original report also contained a market approach, which was ultimately used in the reconciliation of the values. By removing a chunk of the gross receipts of the practice, an asset-based approach ended up being the highest value. Go figure!

## More About Professional Practice Versus Other Business Valuations

One of the key ingredients to a successful professional practice is the ability of the professional to service and keep the clients or patients happy. There tends to be much more dependence on the professional than in other types of businesses. In that regard, the professional is a *key* person. This does not necessarily mean that there should be a discount associated with that professional, but the importance of this individual to the practice must be considered. During the valuation process, the attributes of the professional must be identified, and there should be a determination about whether or not others in the practice could step in and fill his or her role. Unusual skills, long work hours, large referral base, and other similar factors will certainly affect the valuation, whether it ends up as part of reasonable compensation or built into the discount or capitalization rates.

Another factor that differentiates the professional practice from other types of businesses is the fact that the professional, and in some cases, the firm, must be licensed or accredited. In most instances, the professional practice is subject to standards and possibly ethics that an operating business may not be subject to. For example, as CPAs, we are subject to the rules promulgated by the board of accountancy, or its equivalent, in our state.

One other distinction between professional practices and other types of businesses immediately comes to mind—that is, the method of accounting used to keep the books and records. Most smaller professional practices use the cash method of accounting. This will require the valuation analyst to obtain additional information that may normally be available for other types of businesses directly in the financial statements, for example, accounts receivable or work in progress.

## The Valuation Process

In chapter 3, I gave a general checklist that can be used to assist the valuation analyst in gathering information about general types of businesses. The valuation analyst can adapt that checklist to request items that are more specific to the valuation of different types of professional practices. For example, a document request for a medical practice may request the following items:

- List of items comprising medical supplies inventory (quantity, description, and cost) as of the valuation date.
- Information relating to accounts receivable submitted to a collection agency or law firm.
- List of all personnel broken down by status with the firm and department, among others. For professionals, please indicate specialization, board certifications, and medical school where internship and residency were performed and fellowships were received.
- Appointment books for the past three years.
- List of all hospital affiliations.
- List of all specialties or subspecialties, or both.



For a law firm, the valuation analyst may want to add the following items to the checklist:

- List of all unbilled work-in-process as of the valuation date.
- Schedule of fees billed and collected, broken down by specialty (for example, criminal, municipal, real estate, and matrimonial) for the past three years.
- A schedule of all contingent fees received since the valuation date, for all matters started prior to that date.
- A list of all contingent matters that have not been finalized but that were started on or prior to the valuation date.
- A schedule of all contingent litigation matters for the past three years, indicating fees received, professional hours billed, and costs associated with each suit.
- A schedule of all attorney time written off over the past three years.
- List of all personnel, broken down by status within the firm and department, among others. For professionals, please indicate specialization and the year they were admitted to the bar.

The general checklist can be modified for accounting firms to include the following:

- Schedule of unbilled work-in-process as of December 31, 2011.
- Breakdown of fees billed and collected over the past three years between audit, tax, compilation and review, management advisory services, and all others.

In this chapter, I will demonstrate some of the unique aspects of professional practice reports by showing you sections of reports that contain different types of analyses. Before we get there, however, let's consider the questions that the valuation analyst probably wants to ask at a management interview. A checklist that we have adapted from *PPC's Guide to Business Valuations* is included in exhibit 23.5.

You can tell from the information in exhibit 23.5 that many questions asked in a professional practice valuation are similar, if not the same, as those that are asked in other types of business valuation assignments. However, there are some differences. The balance of this chapter is going to concentrate on those differences. Some of the issues that will be covered include the following:

- History of the practice
- Economy and industry analysis
- Cash versus accrual accounting
- Accounts receivable
- Work-in-process
- Prepaid insurance
- Supplies
- Library costs
- Reasonable compensation

### EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information

Practice Name: \_\_\_\_\_

Completed by: \_\_\_\_\_ Date: \_\_\_\_\_

**INSTRUCTIONS:** This form is designed to be used in place of TVA-4 when valuing a professional practice. It covers the data typically needed to obtain an understanding of the professional practice being valued. This information should be obtained through reviewing practice documents and interviewing practice personnel. Many of these questions are general in nature and will not necessarily apply to all professional practices. Answer only the questions that apply to the practice being valued. Some of these questions may be duplicative if a medical or dental profile was filled out (see form TVA-5a).

Document the requested information in the space provided. Attach additional sheets if necessary. If the information is not relevant, write N/A in that space.

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(continued)

**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information** *(continued)*

**PRACTICE BACKGROUND**

1. Describe the practice's legal structure.

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Practice's legal name:

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Type of entity (professional corporation, partnership, proprietorship): Date of incorporation or formation:

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2. List the major stockholders, partners, or owners of the practice and their percentage of ownership or number of shares owned.

Name	% Ownership or Number of Shares Owned
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

3. List all known related parties (that is, subsidiaries, affiliates, or relatives) that the practice does business with.

Name	Relationship
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

4. List each location maintained by the practice and the primary activity at each, that is, executive office, practice office, laboratory, and so on.

Location	Activity
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

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**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information**

5. Discuss evolution of

(a) Services

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(b) Customer Base

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(c) Locations

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(d) Marketing Activities

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(e) Employees

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(f) Acquisitions

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(g) Ownership

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6. Other key dates or events in practice history.

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(continued)

**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information** *(continued)*

7. Has the practice ever had any offers to merge with another practice?

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**SERVICE MIX**

8. Description of the practice’s service mix (that is, types of engagements, or services performed):

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9. Breakdown of revenue by service (major services).

Service	% of Revenue	% of Recurring Clients and Patients

10. How diversified is the service mix?

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11. Do all revenues depend on the same factors?

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12. Which service area is growing faster? \_\_\_\_\_

The slowest? \_\_\_\_\_

13. Has the practice developed any proprietary products?

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**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information**

14. Does the practice have patents, technology, or expertise that prevent others from copying the services offered?

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15. Discuss the practice's research and development efforts, the importance of new products or services, and the annual cost of research and development activities.

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16. Are revenues cyclical?

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17. What economic factors (inflation, interest rates, and so on) affect revenue?

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18. Are revenues seasonal?

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19. Describe the practice's client base.

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20. How many clients or patients are seen per week, on average?

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21. What percentage are seen in the practice office?

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22. Describe the geographic area that client and patients come from (that is, the approximate mile radius from the office).

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(continued)

**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information** *(continued)*

23. How would the geographic area be described (that is, urban or rural, growing or declining, affluent or blue collar, stable or transient)?

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24. Are there any special demographic factors that should be considered such as the age of clients or patients?

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25. How does the practice obtain clients or patients?

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26. What percentage of total clients or patients are the result of referrals?

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27. Of this percentage, how many referrals were from other professionals?

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28. How many referrals were from other clients or patients?

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29. Are referrals to a specific professional or doctor, or to the firm in general?

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30. Does any one referral source account for 10 percent or more of the practice revenue? \_\_\_\_\_

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31. Does any referral source account for 5 percent or more? \_\_\_\_\_

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32. Are there any contractual relationships that provide the practice with access to facilities or client referrals?

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33. Briefly describe the relationship and the percentage of revenues provided by the relationship.

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**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information**

34. Does the practice maintain records to track the source of client or patients?

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35. Does the practice advertise? Describe marketing methods, if any.

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36. What is the annual cost of marketing and practice development efforts, including travel and entertainment costs relating to entertaining referral sources or potential clients?

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**COMPETITION**

37. Who are the practice's major competitors? Where are they located? How big are they? How diversified are they?

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38. How does the practice compare in size to its competitors?

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39. How easy is it to enter the profession? What are the barriers to entry?

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40. What are the practice's competitive strengths and weaknesses?

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(continued)

**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information** *(continued)*

**OPERATIONS**

41. Describe the practice's organization structure. (Attach organization chart, if available.)

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42. As of the valuation date, what are the weekly business hours for the practice?

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43. How often does the practice bill? Describe the basis for fees, that is, hourly charge, fixed fee, cost plus, fee schedule, and so on. Provide a copy of the fee schedule, if available.

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44. What is the balance of unbilled work in process? How much of this balance is collectible?

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45. Does any of the work in process represent contingent fees? If so, what percentage?

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46. Complete the following if the information is available:

Service	Gross Fees	Write Down	Net Fee	Paid by Insurance	Paid by Client or Patient	Write Down
<b>TOTAL</b>						

47. What is the practice's percentage of collectibility for accounts receivable?

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**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information**

48. How are fees paid (that is, check, cash, credit cards)?

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49. Are buildings and equipment owned or leased?

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50. Provide details about the facilities. What is the square footage?

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51. How many stories is the building?

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52. Is the current facility adequate for the level of business being projected?

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53. If leased, are the leases renewable and on what terms? Are leases between the practice and related parties?

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54. What is the overall condition of the practice's equipment?

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55. Is there any inefficient or obsolete equipment?

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56. When is the equipment likely to be replaced?

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57. What is the likelihood of major repairs?

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58. Please provide a listing and approximate value of the drugs and supplies on hand.

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(continued)

**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information** *(continued)*

59. Discuss technology trends that affect the profession.

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60. Does the practice have any foreign clients?

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61. If so, does the company have any problems with any foreign governments?

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62. Discuss the effects of any federal or state regulation or subsidies on the practice's operations.

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**MANAGEMENT AND EMPLOYEES**

63. List key members of management.

Name	Title

64. Discuss the practice's key management members (get curriculum vitae for each).

Member	Age	Health

65. List the primary administrative employees.

Employee	Age	Qualifications	Experience	Duties

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**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information**

66. Discuss basis of compensation. Also, describe employee benefits (insurance, profit sharing, and so on).

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67. Discuss any employment contracts.

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68. Briefly describe past and current employee relations (that is, contentious, harmonious, and so on). Also discuss employee turnover.

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69. What is the number of employees on the payroll at the valuation date?

Full-Time \_\_\_\_\_

Part-Time \_\_\_\_\_

70. How has the number of employees changed over the past five years?

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71. What are the immediate needs of the company with respect to hiring additional personnel?

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72. Are there any nonworking relatives or friends on the payroll? If so, what are the names and levels of compensation for the years being analyzed?

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73. How extensively are independent contractors used?

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74. Discuss the current labor market. How easy is it to attract qualified employees?

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(continued)

**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information** *(continued)*

75. As of the last firm fiscal year (or more recent 12-month period, if available) summarize the time spent by the key management personnel identified in question 60:

Name	-----HOURS-----			Total
	Charged to Clients/Patients	Administrative and Other	Vacations and Holidays	

76. How easily can key employees be replaced (that is, is there one or a few key officers on which the success of the company depends that cannot be easily replaced)?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

77. Have the key employees executed non-compete agreements preventing them from taking practice clients without compensation?

\_\_\_\_\_

\_\_\_\_\_

**MEDICAL PRACTICES**

78. How many surgical procedures are performed each week?

\_\_\_\_\_

\_\_\_\_\_

79. Which hospitals are used for surgery?

\_\_\_\_\_

\_\_\_\_\_

80. How is the choice of hospitals determined?

\_\_\_\_\_

\_\_\_\_\_

81. Does any one type of surgery dominate the others?

\_\_\_\_\_

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**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information**

82. Is a surgical diary maintained? If so, please provide a copy.

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83. Are there any types of procedures that the practice will not perform? If so, what and why?

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84. Does the practice maintain a statistical report that reflects the frequency of services provided by Current Procedural Terminology (CPT) code? If so, please provide a copy for the last 12 months of operations.

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85. What are the top 10 outpatient procedures performed by the practice?

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86. Is the amount of reimbursement received for those procedures declining because of recently negotiated managed care contracts?

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87. Does the practice maintain a detailed appointment book for each physician? If so, please provide copies of the appointment books for the last 12 months.

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88. What percentage of referrals are from patients?

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(continued)

**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information** *(continued)*

89. What percentage are from other doctors?

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90. Are patients referred to the practice or to a specific doctor?

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91. How many active patients are seen by the practice?

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92. How many patients are seen in a day, week, and month?

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93. How many new patients are seen in a month?

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94. Are patients seen by the practice once, or are follow-up visits regularly scheduled?

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95. Does the practice primarily treat children, adults, or both?

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96. For nonsurgical procedures, are patients required to pay at the time the procedure is performed?

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97. Is the practice affiliated with any insurance companies as a preferred provider?

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98. Does the practice serve any HMOs?

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99. List company names, describe the fee arrangements, and note the percentage of gross fees that comes from such arrangements.

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**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information**

100. What is the time frame for reimbursement from insurance companies, HMOs, PPOs, and Medicare and Medicaid?

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101. What percentage of gross fees is received from Medicare or Medicaid?

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102. Discuss the practice's payor mix and how that mix has changed in recent years. For example, has the practice been adversely affected by the shift from reimbursement on a fee-for-service basis to discounted managed care contracts with HMOs, PPOs, and others?

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103. If so, is that adverse trend continuing, or has the practice negotiated contracts that increase both revenue and profits?

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104. Does the practice have any global capitalization contracts with managed care companies?

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105. If so, does the practice have the expertise to properly manage the risk of providing patient care in return for fixed monthly payments?

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106. Does the practice have any exclusive contracts with the dominant managed care company in its market?

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107. If so, has the practice received satisfactory patient survey results in connection with such contracts?

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(continued)

**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information** *(continued)*

108. How many of the practice's managed care contracts are currently up for renewal?

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109. How significant is the risk that the provider will be unable to renew those contracts?

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110. Does the practice periodically update its patient fee schedule?

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111. When was the last time the fee schedule was updated? Please provide a copy of the current fee schedule.

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112. Has the practice entered into managed care contracts with HMOs, PPOs, or the Medicare program? If so, please provide copies of all managed care contracts.

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113. Has the practice ever had any associates?

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114. Were they offered the chance to buy into the practice?

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115. If so, why didn't they buy in?

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**VETERINARY PRACTICES**

116. What types of animals does the practice treat (that is, small animal, large animal, mixed, or equine)? Give the estimated percentage of each type of animal treated.

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117. Does the practice board animals?

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118. Does the practice make house calls?

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**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information**

119. How many animals does the practice see in a day?

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**ACCOUNTING AND LEGAL PRACTICES**

120. Have any new partners or owners been admitted in the last several years? If so, describe the admission process.

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121. Will any of the staff be admitted into the partnership in the near future?

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122. Has any partner or owner been bought out?

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123. Describe the terms of any recent transactions involving partner or owner admissions or departures.

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124. Describe the nature of any financial statement qualifications or unusual matters noted in reviewing the practice's financial statements that may affect the engagement.

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125. Has there been any change in accounting principles during the past five years (for example, cash to accrual) or similar changes that might affect the comparability of the financial statements?

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126. Describe any relevant specialized accounting practices or principles followed by the profession.

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127. Have there been any nonrecurring or extraordinary income or expenses during the financial review period?

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(continued)

**EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information** *(continued)*

128. What are the main discretionary expenses (such as bonus, profit sharing, advertising, and research and development)?

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129. How have the levels of those expenses changed during the last five years?

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130. Describe short-term sources of credit and how they were used during the last five years.

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131. Describe long-term sources of credit and how they were used during the last five years.

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132. Discuss plans for major capital expenditures, how they will be financed, and how much represents expansion versus replacement of existing assets.

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133. Discuss any contingent liabilities, including lawsuits and pending or threatened litigation.

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134. Describe any nonoperating assets, such as aircraft, boats, and real estate investments.

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**FUTURE EXPECTATIONS**

135. Describe relevant past and expected future trends for the practice, such as growth patterns; expansion or cutbacks of business segments; and possible spinoffs, mergers, or acquisitions.

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### EXHIBIT 23.5 Professional Practice Questionnaire—Professional Practice Company and Industry Background Information

136. Describe the practice's future expectations, goals, objectives, and long-range plans in the following areas:

Service mix. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Marketing and customers base.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Research and development and technology.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

137. Is there anything else that we should know in order to perform this valuation?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### COMMENTS AND OBSERVATIONS

138. Describe any matters to be considered in applying the valuation methods selected. Factors to consider include the following:

- a. Growth expectations
- b. Financial condition
- c. Management depth and competence
- d. Customer and service diversification

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## History of the Practice

A well-written, comprehensive valuation report will generally contain a lot of information in it. I discussed the features that should be in a report in chapter 17. In a professional practice valuation assignment, there is frequently information about the type of profession that is not only important to demonstrate an understanding about the firm but can also substantially affect the value conclusion. Let's highlight some history sections that would be different depending upon the type of practice being valued. The purpose of the following exhibits is to demonstrate some of the important information that the valuation analyst needs to be concerned with for various professional groups.

Let's start with an accounting practice. In addition to obtaining the normal stuff for inclusion in the history of the company section, accounting practices need to be distinguished from other types of businesses based on the types of services that they provide to their clients. A firm with traditional accounting services will more often be sold at a higher rate than a firm that does more management consulting, or one-shot engagements. Several excerpts from the history sections of various reports are included in exhibit 23.6.

### EXHIBIT 23.6 History Section—Accounting Practice

#### Excerpt 1

All the clients of the firm came from relationships developed by the principals of John Smith & Company. Many times, the relationship was established long before any services were provided. Although the senior Mr. Smith was responsible for many of these personal relationships, both Mr. Jones and Mr. Smith Jr. (Bob) had taken over client development and relationship building over the several years prior to the valuation date. Much of this relationship building has been through community affairs in which the firm's principals are involved.

By 2016, the firm's revenues were broken down as follows:

Audit	\$450,971	44.2%
Tax	303,915	29.8%
Compilation and Review	147,055	14.4%
Other Services	117,539	11.6%
	<b>\$1,019,480</b>	<b>100.0%</b>

A detailed analysis was conducted by the valuation analyst, on a client-by-client basis, indicating that approximately 70 percent of the firm's revenues came from 30 clients in 2016. Many of these clients have been, and continue to be, served primarily by Bob Smith and Michael Jones. These relationships are key to the generation of revenues.

#### Author's Note

Not only did we address the breakdown of the services, but we also addressed who services the clients and how the relationships were built. We also looked at the risk of concentration of the client base. In another valuation, the same information looked like this:

#### Excerpt 2

The practice is a conventional accounting firm whose net revenues over the last three years have been derived from the following services:

	2014	%	2015	%	2016	%
Audit	\$ 37,385	10.9	\$ 27,956	8.0	\$ 39,737	11.2
Review	4,866	1.4	5,129	1.5	4,982	1.4
Compilation	52,391	15.3	56,890	16.3	55,628	15.7
Tax	244,492	71.4	254,794	73.1	251,603	70.8
Other	3,372	1.0	3,732	1.1	3,268	0.9
<b>TOTAL</b>	<b>\$342,506</b>	<b>100.0</b>	<b>\$348,501</b>	<b>100.0</b>	<b>\$355,218</b>	<b>100.0</b>

The importance of the information contained in exhibit 23.6 should be self-explanatory to the accountants reading this book who have bought or sold an accounting practice. The type of services offered to clients makes a big difference. Not only are different amounts paid for different types of clients, but the risk profile regarding the transferability of the clients also needs to be considered.

Just as the various types of services are important to an accounting practice, a medical practice has certain attributes that are important, as well. Some examples of these are included in exhibit 23.7.

### EXHIBIT 23.7 History Section—Medical Practice

#### Excerpt 1

One of the services historically offered by the practice has been x-rays. However, in 2015, two events occurred that will eliminate this revenue stream. First, many of the insurance companies have stated that specialists other than approved radiologists will not be reimbursed for these services.\* Second, the x-ray machine is located in a medical office down the hall from the practice. This other medical practice has notified Dr. Smith that as of May 2015, they will no longer have space available for the x-ray equipment. Dr. Smith has determined that it does not make financial sense to attempt to relocate the x-ray machine in light of the lack of future reimbursements from the insurance companies; therefore, it is discontinuing this service. Collections from x-ray services were \$74,145 and \$67,593 in 2013 and 2014, respectively.

\* This was confirmed by the valuation analyst by making phone calls to various health maintenance organizations.



#### Author's Note

Another item of importance in a medical practice is the hours that the office is open, the hours that the doctor works, and the hours that the doctor sees patients. This information will allow the valuation analyst to compare this practice to other practices based on the studies published by the American Medical Association (AMA).

#### Excerpt 2

Dr. Smith typically sees patients during the following hours:

Monday	8:00 a.m.–5:00 p.m.
Tuesday	8:00 a.m.–7:00 p.m.
Wednesday	8:00 a.m.–5:00 p.m.
Thursday	8:00 a.m.–5:00 p.m.
Friday	8:00 a.m.–5:00 p.m.
Saturday	8:00 a.m.–12:00 p.m.
	(every third Saturday)

(continued)

**EXHIBIT 23.7 History Section—Medical Practice** *(continued)*

Dr. Smith's hours often start earlier than his patient hours for paperwork and other administrative activities. On average, Dr. Smith sees approximately 20 patients per day. However, the number of patients seen per day varies with respect to the type of patient (new versus return). Appointments with new patients, on average, last approximately 45–60 minutes, whereas appointments with return patients last approximately 15 minutes. The fees for new patients range from approximately \$100–\$150. According to an estimate by Dr. Smith, the practice currently has between 750 and 800 active individual patient files.

 **Author's Note**

No medical practice valuation would be considered complete without a discussion about health maintenance organizations (HMOs). Managed care is an important part of a medical practice valuation because it can severely affect the future cash flows. The valuation analyst should find out about the different types of contracts in place at the valuation date. Are they capitation plans (the doctor is paid so much per month per patient, regardless of whether they come in for an appointment) or are they fee-for-service (pay as you go type practice)? Let's look at what we found out.

*Excerpt 3*

According to Dr. Smith, the practice maintains approximately 10 health maintenance organization (HMO) contracts. Dr. Smith's practice primarily consists of Medicare patients, many in HMOs, with the balance consisting mostly of patients who are enrolled in HMOs. Given the nature of the practice, Medicare and HMO reimbursement rates are a critical factor in its financial performance. According to Dr. Smith, these contracts can be canceled with 30 days' notice, and most of the practice's new patients are as a result of Dr. Smith being listed as a specialist in the HMO provider books. This can be problematic though because many internists also provide rheumatology services, and they are generally listed as primary care providers in the HMO books. This makes the practice reliant on referrals from these primary care physicians who can often treat these patients, as well.

 **Author's Note**

In another medical practice valuation, we were able to get more information about managed care. This is how it was presented.

*Excerpt 4*

We requested a list of the managed care companies that Dr. Peters had contracts with as of the valuation date, but this information was not available. Instead, we were provided with an assortment of lists and contracts for various times during 2016. We were informed that this information is not substantially different than what existed as of the valuation date. A summary of this data appears in table 1.

**EXHIBIT 23.7 History Section—Medical Practice****TABLE 1 Managed Care Contracts**

Company	Date	Type of Contract	Number of Patients	Capitation Amount
Blue Cross/Blue Shield of NJ	Oct. 2015	Fee for Service	495	N/A
Mercy Health Plan	Nov. 2015	Capitation	57	\$ 942.96
The Prudential	Oct. 2015	Capitation	233	3,122.45
Aetna U.S. Healthcare	Nov. 2015	Capitation	326	Not Provided
NY/Care	Oct. 2015	Capitation	48	412.02
Keystone	Nov. 2015	Capitation	15	261.95
Amerihealth	Nov. 2015	Capitation	2	24.20
Cigna—NJ	Nov. 2015	Capitation	15	156.65
Cigna—NY	Nov. 2015	Capitation	140	1,571.58
Cigna	Nov. 2015	Capitation	53	731.55
Americaid	Nov. 2015	Capitation	33	293.00
Healthplans of America	Sept. 2014	Fee for Service	21	N/A
Health Network America	Oct. 2014	Capitation	4	Not Provided
American Preferred	Nov. 2015	Capitation	3	71.40
Physicians Healthcare	Oct. 2014	Unknown	4	N/A
Cannot Read	Nov. 2015	Capitation	44	413.27
United Healthcare	Nov. 2015	Both	71	Not Provided
FPA Medical Management	May 2014	Capitation	372	5,033.61

In addition, Dr. Peters has submitted applications to the following companies over the last few years:

- First Option Health Plan of New Jersey
- Seton Health Network Inc./Quality Pediatric Network
- Medicochoice Network Inc.
- First Option Health Plan/Medicaid
- Better Health Advantage
- Consumer Health Network
- Sanus Health Plan/New York Life
- Liberty Health Plan
- Metrahealth
- International Union of Operating Engineers
- QualCare
- Harmony Health Plan

The applications and contracts we reviewed for these companies do not provide enough detail to determine the type of contract it is, the reimbursement rates, the number of patients, or if Dr. Peters was participating in the plan as of the valuation date. What it shows is that the list provided in table 1 is probably not complete.

Unfortunately, because of the litigation process, we do not always get all the information that we ask for. The last excerpt in exhibit 23.7 demonstrates that. In situations like this, the valuation analyst has to make a judgment call concerning whether the missing information will have a material effect on the outcome of the valuation. If it does, DO NOT ISSUE A REPORT! Have I made my point? If the valuation analyst does not have enough information to provide a reasonable indication of value and he or she does not care about his or her reputation, the valuation analyst can issue a report. If the information is not material, the valuation analyst can use his or her judgment by adjusting the risk associated with the practice. In the example presented, we lowered the discount rate slightly to reflect the fact that the practice probably had contracts that we were not told about. This would have the impact of reducing the risk and raising the value (slightly).

Before we change topics, let's also discuss a situation that valuation analysts face on a regular basis if they are preparing a valuation report for a divorce. This could have gone in the divorce chapter, but because my example relates to a medical practice, it's here. Imagine valuing a pain management practice in which the doctor claims that his income has gone way down because of Medicare cuts that have eaten away at his ability to make a living (poor, poor doctor!). We call this *RAIDS* (Recently Acquired Income Deficiency Syndrome). A portion of the report of this poor doctor's practice is shown in exhibit 23.8.

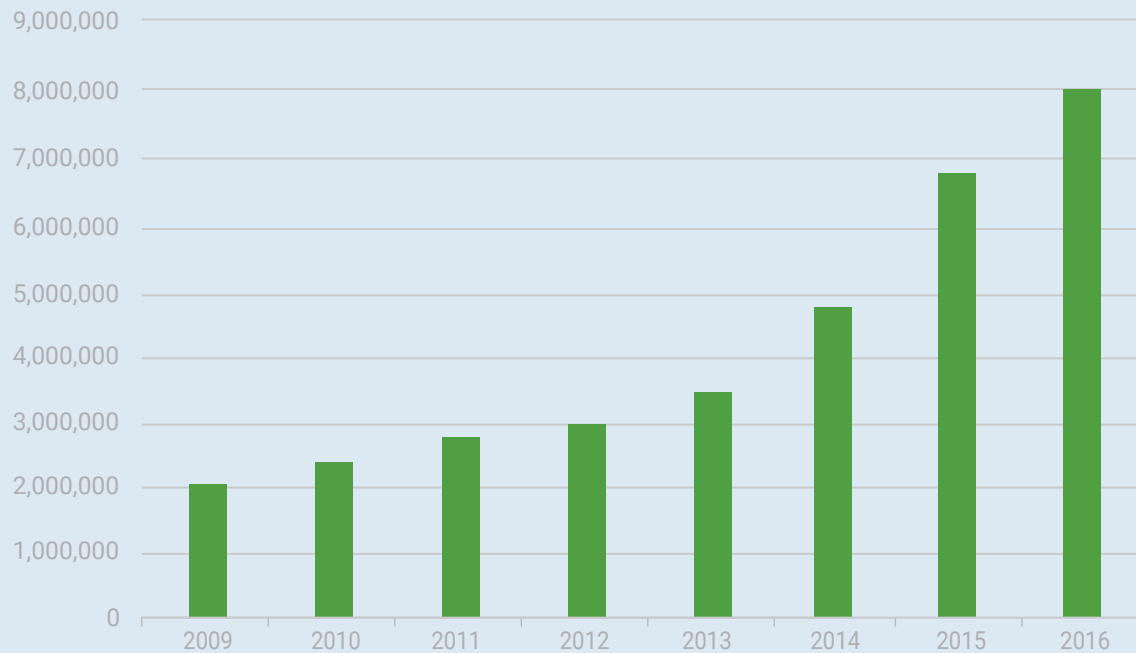
### EXHIBIT 23.8 The Poor Doctor Who Was Hurt By Medicare

Historical revenues for the practice have been as follows:

Year	Revenue	Growth
2009	\$2,013,836	
2010	2,437,418	+21.0%
2011	2,767,860	+13.6%
2012	2,998,560	+8.3%
2013	3,508,022	+17.0%
2014	4,759,452	+35.7%
2015	6,723,193	+41.3%
2016	7,891,141	+17.4%
<b>Simple Average</b>		<b>22.0%</b>
<b>Compound Annual Growth Rate</b>		<b>21.5%</b>

The practice has experienced dramatic growth over this seven-year period. After analyzing the annual growth, it does not appear that growth came solely from adding doctors. Even before Dr. Jackson joined the practice in mid-2013, the growth in revenues was still in the double digits. After all four doctors were in place in 2014, the practice experienced a staggering 41 percent increase in 2015. Historical revenues are depicted graphically in figure 1.



**EXHIBIT 23.8 The Poor Doctor Who Was Hurt By Medicare** *(continued)***Figure 1 Revenues**

In Dr. Brown's deposition, the topic of Medicare reimbursement was discussed numerous times.<sup>1</sup> In every instance, Medicare reimbursements were described as going down. In fact, Dr. Brown stated that "we've seen a drop everywhere from Medicare" for "every code we do" and "there's been cuts every year." As for health insurance reimbursements, Dr. Brown states "every time Medicare drops, they drop."

The practice provided us with the list of CPT codes that it uses. In order to analyze the impact on the practice of the reimbursement rates, we reviewed the reimbursement rates for these codes since 2011.

This analysis is reflected in table 5 on the following page.

<sup>1</sup> Deposition of Dr. Brown January 3, 2017, pgs. 7, 37, 41,42, 51; February 14, 2017, pgs. 202, 203, 204.

*(continued)*

### EXHIBIT 23.8 The Poor Doctor Who Was Hurt By Medicare (continued)

#### TABLE 5 Medicare Reimbursement Analysis 2011-2017

CPT Code	2011	2012	2013	2014	2015	2016	2017	2012 Change	2013 Change	2014 Change	2015 Change	2016 Change	2017 Change
10140	118.85	127.84	127.79	131.43	145.03	145.59	145.00	7.56%	-0.04%	2.85%	10.35%	0.39%	-0.41%
10160	106.29	80.42	83	83.08	122.77	122.92	121.70	-24.34%	3.21%	0.10%	47.77%	0.12%	-0.99%
10180	161.40	157.45	158.73	238.94	231.62	233.02	227.91	-2.45%	0.81%	50.53%	-3.06%	0.60%	-2.19%
11900	49.25	52.69	52.69	49.14	50.25	49.96	51.14	6.98%	0.00%	-6.74%	2.26%	-0.58%	2.36%
11901	66.66	68.70	62.58	61.24	61.76	61.76	62.64	3.06%	-8.91%	-2.14%	0.85%	0.00%	1.42%
20550	106.75	70.36	63.42	62.49	63.70	64.05	60.03	-34.09%	-9.86%	-1.47%	1.94%	0.55%	-6.28%
20552		67.43	55.69	59.82	59.55	59.59	55.53		-17.41%	7.42%	-0.45%	0.07%	-6.81%
20553		67.43	62.99	68.10	67.52	67.23	62.34		-6.58%	8.11%	-0.85%	-0.43%	-7.27%
20600	79.57	55.22	55.69	55.94	57.49	57.51	55.21	-30.60%	0.85%	0.45%	2.77%	0.03%	-4.00%
Data was omitted from this table to save space													
62264			665.69	516.44	524.78	526.72	485.42			-22.42%	1.61%	0.37%	-7.84%
62270	172.80	215.78	206.52	179.68	179.22	180.20	176.32	24.87%	-4.29%	-13.00%	-0.26%	0.55%	-2.15%
62273	149.14	152.31	206.66	208.04	209.28	209.61	189.11	2.13%	35.68%	0.67%	0.60%	0.16%	-9.78%
62284	224.65	293.44	278.63	275.19	283.98	285.38	264.25	30.62%	-5.05%	-1.23%	3.19%	0.49%	-7.40%
99211	22.35	22.71	23.08	23.85	24.26	24.32	22.67	1.61%	1.63%	3.34%	1.72%	0.25%	-6.78%
99212	39.76	39.98	40.2	41.65	42.63	42.67	40.73	0.55%	0.55%	3.61%	2.35%	0.09%	-4.55%
99213	55.66	55.39	56.29	57.87	57.94	57.97	65.19	-0.49%	1.62%	2.81%	0.12%	0.05%	12.45%
<b>AVERAGE</b>								<b>-3.96%</b>	<b>6.86%</b>	<b>7.20%</b>	<b>6.51%</b>	<b>1.12%</b>	<b>-4.28%</b>

The dates in this exhibit have been altered.

(Source: CMS Centers for Medicare & Medicaid Services.)

**EXHIBIT 23.8 The Poor Doctor Who Was Hurt By Medicare** *(continued)*

The data in table 5 reflects the year-to-year volatility of the reimbursement rates from Medicare.

During Dr. Brown's deposition (January 3, 2017), he indicated that there are a number of CPT codes that are the most commonly used by the practice. We had requested a breakdown of the number of procedures broken down by CPT code, but we were told that the practice's computer systems could not generate the requested report. This is fairly unusual because we generally get this report from almost every practice we value. Despite not having the report, we used the CPT codes that Dr. Brown testified about to test the reimbursement rates for those items. This appears in table 6.

**TABLE 6 Commonly Used CPT Codes Per Dr. Brown**

CPT Code	2011	2012	2013	2014	2015	2016	2017	2012 Change	2013 Change	2014 Change	2015 Change	2016 Change	2017 Change
20552	—	67.43	55.69	59.82	59.55	59.59	55.53		-17.41%	7.42%	-0.45%	0.07%	-6.81%
20553	—	67.43	62.99	68.10	67.52	67.23	62.34		-6.58%	8.11%	-0.85%	-0.43%	-7.27%
62311	238.06	238.27	276.15	276.13	281.19	282.25	250.91	0.09%	15.90%	-0.01%	1.83%	0.38%	-11.10%
62318	249.49	242.01	318.22	322.68	337.25	338.85	302.09	-3.00%	31.49%	1.40%	4.52%	0.47%	-10.85%
64470	254.34	242.74	287.92	287.17	396.29	397.99	351.92	-4.56%	18.61%	-0.26%	38.00%	0.43%	-11.58%
64472	216.90	215.38	137.65	138.14	156.80	157.23	139.37	-0.70%	-36.09%	0.36%	13.51%	0.27%	-11.36%
64475	227.95	216.59	255.40	255.93	362.77	364.82	322.92	-4.98%	17.92%	0.21%	41.75%	0.57%	-11.49%
64476	226.90	200.87	119.08	119.41	134.60	135.38	119.58	-11.47%	-40.72%	0.28%	12.72%	0.58%	-11.67%
64483	255.45	262.21	407.21	404.38	427.02	429.22	375.65	2.65%	55.30%	-0.69%	5.60%	0.52%	-12.48%
<b>AVERAGE</b>								<b>-3.14%</b>	<b>4.27%</b>	<b>1.87%</b>	<b>12.96%</b>	<b>0.32%</b>	<b>-10.51%</b>

*(continued)*

**EXHIBIT 23.8 The Poor Doctor Who Was Hurt By Medicare** *(continued)*

The volatility reflected in these CPT codes is even greater than what was shown in the previous table. However, despite the changes in the reimbursement rates, the practice has experienced extraordinary revenue growth over the past five years. The comparison is shown in table 7.

**TABLE 7 Year-To-Year Change**

Year	CPT Code Reimbursement	Most Used CPT Code Reimbursement	Actual Revenues
2012	-4.0%	-3.1%	+8.3%
2013	+6.9%	+4.3%	+17.0%
2014	+7.2%	+1.9%	+35.7%
2015	+6.5%	+13.0%	+41.3%
2016	+1.1%	+0.3%	+17.4%

The year-to-year percentage change for both revenues and reimbursements are depicted graphically in figure 2.

**Figure 2: Year-To-Year Change****Economy and Industry Information**

Besides the normal economy and industry stuff, sometimes there may be provisions in state laws that are unique to a professional practice. Sometimes it may be regulatory issues that the valuation analyst would not even think about in the normal course of his or her research. One of those cases is illustrated in box 23.1.

**BOX 23.1** Economy and Industry Section—Accounting Practice

In the state of Arkansas, there are two major acts that affect an accounting practice. The Arkansas Professional Corporation Act, which was passed in 1963, provides regulations that are designed for those who provide *professional services*, which includes CPAs. This act states that the officers, directors and shareholders of a corporation must be licensed in their profession. In addition, the act includes regulations for the purchase of stock in a corporation. The act states:

If the articles of incorporation or bylaws of a corporation subject to this subchapter fail to state a price or method of determining a fixed price at which the corporation or its shareholders may purchase the shares of a deceased shareholder or a shareholder no longer qualified to own shares in the corporation, then the price for the shares shall be the book value as of the end of the month immediately preceding the death or disqualification of the shareholder. Book value shall be determined from the books and records of the corporation in accordance with the regular method of accounting used by the corporation.

In addition, the Arkansas Public Accountancy Act of 1975 presents other regulations for the accounting industry. The purpose of this act was to “promote the dependability of information...” that is provided by the financial and accounting sectors regarding the financial condition of business enterprises. In other words, this act is intended to set standards for those providing accounting and financial services to the public, and to ensure the public that the information is fair, reliable, and that the service was performed by a competent individual. This act also states:

Each shareholder of the corporation must be a certified public accountant or a public accountant of this state in good standing and must be principally employed by the corporation or actively engaged in its business.

 **Author's Note**

The importance of these provisions was that the law required individuals to be licensed and actively engaged in the business. It also provided a formula to determine value under certain conditions. These are the types of provisions that a valuation analyst should locate or the valuation may be performed in contradiction to the law.

## Cash Versus Accrual Accounting

As an accountant, I would like to have all financial statements presented to me in accordance with generally accepted accounting principles. I would like to have these statements prepared on an accrual basis of accounting. I would also like to see Santa Claus come down my chimney! Life is not always that simple, and I frequently do not get what I want. Most professional practices report their financial results on a cash basis. If you are reading this book, I hope it is because you consider yourself to be a valuation analyst (or at least a wannabe). Having financial statements prepared on a cash basis, in many circumstances, should not be too upsetting. Be practical, and unless it is really called for, do not try to restate all the prior years on an accrual basis. There is a good chance that the information does not exist to allow this to be done easily and in a cost-effective manner. Think about the effect on these statements.

Not that I want to give a lesson in accounting, but I think I better explain where I am going with this stuff. First of all, as I hope the valuation analyst already knows, the concept behind the accrual method of accounting is to provide an appropriate matching of revenues and expenses to the time period in which they belong. For example, under the accrual method of accounting I would record revenues in the period that I provide the service (and bill my client), rather than when I collect the fees. This is just simply a method to make sure that the revenues are recorded when earned, rather than when collected, and expenses are recorded when incurred, rather than when paid.

Now, with that said, many professional practices do not use the accrual method of accounting because they do not want to pay income taxes on revenues that they have yet to collect. Therefore, the financial statements will exclude uncollected revenues. The expenses are frequently not as much of a problem, particularly at the end of a fiscal year, because most professional practices will accelerate the payment of every expense that can be found so that it can take advantage of the tax deduction for those expenses. There may be some

unpaid bills during an interim valuation date, but generally, they are not material (materiality is another accounting concept—I love speaking accounting speak!). If the revenues (and expenses) are omitted from the financial statements of the professional practice, there could be a misstatement of the *true* net income for the period. Many valuation analysts, particularly accountants, try to restate all the financial statements on an accrual basis to gain better accuracy. What I am really saying is that it just may not matter. If the valuation subject is a relatively mature practice, the impact of the change between the beginning and ending accounts receivable and accounts payable may be so insignificant that adjusting these items may result in higher fees being charged to the client than the impact on the valuation.

Clearly, the balance sheet should be restated to an accrual basis as of the valuation date in order to capture all the assets and liabilities of the practice. You can use the same techniques that I discussed in chapter 11 to adjust the balances to fair market value. The income statement may or may not be adjusted. If there is a consistent trend in the practice, cash basis probably is a good reflection of the cash-generating capabilities of the practice. This is the basis on which these practices are frequently sold. The accrual assets and liabilities are not usually part of the selling price of the practice. The seller keeps the accounts receivable and the liabilities are also his or her responsibility. Therefore, the buyers are really buying the cash flow stream based on collections. Let's face it—this is all we really care about anyway: How much do I expect to collect? An alternative to converting the financial statements to an accrual basis is to treat the accrual assets and liabilities as non-operating assets and liabilities (not in the traditional definition of non-operating but, rather, as *excess or omitted* assets and liabilities), and add or subtract the values from the income or market approach determination of value based on the cash basis figures.

Because the valuation analyst wants to ensure that his or her valuation is reasonably accurate, he or she can make sure to review the billing records of the practice to ensure that the future cash flows will not suddenly change dramatically. The most current time period before the valuation date is most important. Let's say the valuation analyst is valuing an accounting practice. Look at billings and work-in-process to determine the future. In a mature practice with a steady number of staff, these figures should not change materially from year to year. A staff person can only work so many hours each year. Therefore, the billing should be consistent, other than a possible change in billing rates.

Looking at a medical practice, however, is a totally different thing. Billings may be great, but it is really collections that are important. It is not uncommon to see certain types of medical practices collecting only a small fraction of what they bill. Insurance companies, Medicare, and Medicaid love to beat up doctors. The valuation analyst must be aware of any potential changes to the reimbursement policy that will have a large impact on future cash flows.

Because the balance sheet is probably more important than the income statement for these additional assets and liabilities, let's discuss what to do with several types of assets and liabilities for different types of professional practices.

## Accounts Receivable

The nature of most professional practices is that accounts receivable can be fairly high. The valuation analyst must spend an appropriate amount of time in this area because of its magnitude. In most smaller practices, the record keeping may require the valuation analyst to use some accounting skills to figure out how much is outstanding. How we dealt with accounts receivable in the valuation of a psychology practice is shown in exhibit 23.9.

### EXHIBIT 23.9 Accounts Receivable—Psychology Practice

Dr. Lewis submits insurance claims to insurance companies once each calendar quarter. By the time he submits these claims, it is not uncommon for an additional three to four weeks to go by, resulting in accounts receivable and unbilled work-in-process equaling four months of revenue.

In order to estimate the value of this asset as of October 29, 2016, a review of patient charts and appointment books indicated that billing for the period July 1, 2016 through September 30, 2016 was submitted to insurance companies in October 2016 and billing was not done for the period October 1, 2016 through October 29, 2016 until January 2017.

Accounts receivable and unbilled work-in-process has been estimated by the valuation analyst as follows:

Number of Patient	Visits
July	177
August	194
September	182
October 1–29	191
<b>Total Visits</b>	<b>744</b>
<b>Average Fee</b>	<b>× 85</b>
<b>Accounts Receivable and Unbilled Work in Process</b>	<b>\$ 63,240</b>

Most patients are billed at \$100 per hour, but Dr. Lewis's practice has generally accepted insurance assignment without pursuing the balance. A review of the patient files indicates some patients are billed as low as \$45 per hour and others at \$80 to \$90 per hour. Most patients who have insurance (which is the majority of the patients) are covered after their deductible at 50 percent, 80 percent, or 100 percent with the majority being covered at 80 percent.

Therefore, in order to compensate for the monies that will not be received by Dr. Lewis, the normal hourly rate of \$100 was reduced by 15 percent.

The information in exhibit 23.9 shows the manner in which the records were used to estimate the accounts receivable. Under normal circumstances, this balance sheet item would have been tax affected to recognize that upon receipt, the value will be less because taxes would have to be paid.

The example in exhibit 23.10 illustrates accounts receivable with tax affecting for a law firm valuation.

### EXHIBIT 23.10 Accounts Receivable With Tax Affecting For A Law Firm

As of the valuation date, total accounts receivable is reflected in XYZ's records as follows:

0–30 days	\$ 637,577	39.31%
31–60 days	184,070	11.35%
61–90 days	152,984	9.43%
91–120 days	70,074	4.32%
121 + days	577,184	35.59%
<b>Total</b>	<b>\$1,621,890</b>	<b>100.00%</b>

(continued)

### EXHIBIT 23.10 Accounts Receivable With Tax Affecting For a Law Firm *(continued)*

As with any professional practice, accounts receivable is rarely 100 percent collectible. In fact, over 35 percent of XYZ's accounts receivable have been due for more than 120 days. Because fairness is the desired result of this valuation, we requested that an analysis be performed to determine how much of the total amount has not been collected. To date, this amount is \$321,438. Therefore, collectable accounts receivable is deemed to be \$1,300,452.

Once the accounts receivable are collected, the partners will have to pay income taxes because these accounts represent future revenues of the firm. Therefore, a reduction by an estimated federal and New Jersey tax of 40 percent is deemed appropriate. Therefore, accounts receivable, at net realizable value, amounts to \$780,271.

### Work-in-Process

Probably one of the most difficult assets to value on the balance sheet of a professional practice is work-in-process. Unless the firm keeps really good records, this can be pretty tricky. The worst type of practice for valuing work-in-process is a contingent fee law firm. Many law firms that perform personal injury services or other services where they are paid a percentage of what they collect for the client do not keep time records to support the number of hours worked. After all, they feel that because their fee is based on a percentage of collection, instead of hourly billings, they do not have to account to the client for the hours spent on the client's matter.

If the law firm does not keep adequate records, the valuation analyst can estimate the work in process by using comparative data published by such companies as Altman Weil Pensa, which publishes the *Survey of Law Firm Economics* on an annual basis. The best that the valuation analyst can do in these circumstances is to use an industry average as a percent of revenues or billings. However, when records do exist, the valuation analyst may be able to perform some detailed analysis. Sometimes, 20-20 hindsight may have to be used even though the valuation analyst is not supposed to use subsequent information. Sometimes the parties to a litigation will agree, for the sake of accuracy, to allow both sides to use data after the valuation date. The alternative would be to hire an experienced attorney to review all open cases and estimate the value of these files. This is impractical for a firm that has more than just a few cases, not to mention The Court might consider this approach to be speculative and disregard it.

Part of the valuation of a contingency fee law firm is contained in exhibit 23.11.

### EXHIBIT 23.11 Work-in-Process—Contingent Fee Law Firm

One component that is normally part of the balance sheet of a law practice is work-in-process. Work-in-process is an estimate of the future profit (revenues less direct expenses) anticipated to be earned on cases that are pending, but not completed, as of the balance sheet date.

In order to value work-in-process, the services of an experienced personal injury attorney would normally be required so that each file could be reviewed to answer at least the following questions:

1. How much will the case be worth?
2. What stage of completion is the case in?
3. What expenses will be incurred to complete the case (direct and indirect)?
4. How long will the case take to go to trial?
5. If it is a large case, what is the probability of the judgment being appealed?

Fair market value generally requires the valuation analyst to only consider information that would be available to the willing buyer at the valuation date. This date is the assumed date of a transaction; therefore, subsequent knowledge would not be available.



**EXHIBIT 23.11 Work-in-Process—Contingent Fee Law Firm**

However, this valuation is being performed for a marital dissolution. As such, the notion of fairness must enter into the valuation analyst's analysis so that The Court can be assisted in effectuating equitable distribution. Because we have the benefit of 20-20 hindsight in this matter, the valuation analyst has reviewed subsequent information to get a more accurate value of the work-in-process. This procedure is not only more equitable, but it is also more cost effective than bringing in a personal injury attorney to go through hundreds of files.

In order to determine the value of work-in-process, we were provided with records pertaining to the practice's clients, including case logs, case files, client ledger cards, closing statements and records of trust account cash receipts, and cash disbursements. The starting point was to review the case logs maintained by the practice. The law firm maintains a list of cases retained by the practice, which includes, among other information, the client's name and case number. We obtained the case logs for all cases retained from 2003 through May 10, 2008. Because this case log includes all cases opened by the practice during this time period, it was necessary to determine which cases were closed as of May 10, 2008, and which cases remained open as of this date, which need to be included as part of work-in-process. In order to determine the closing date of each individual case, we traced the client's name and case number to client ledger cards and case files. All cases remaining open as of May 10, 2008 were included in our schedule of work-in-process.

The next step was to trace all the open cases to the corresponding closing statements. As cases are settled, a closing statement is prepared by the practice that indicates the date the gross settlement was received, the total costs to be reimbursed out of the settlement, and the attorney's fees to be deducted from the settlement, resulting in the net amount payable to the plaintiff. Closing statements are prepared for every case settled by the practice, with the exception of workman's compensation and personal injury protection cases. As of the date of our field work, which was completed on February 29, 2011, many of the cases that were open as of May 10, 2008 had been closed. For all the cases that were closed and that had closing statements prepared, we traced the gross fee earned by the practice, the total costs reimbursed out of the gross settlement on the case, the date the gross settlement was received and the case closed, and the type of case. Recording the type of case enabled us to segregate work-in-process by major case types.

In several of the cases included in work-in-process, the law firm was required to split the gross fee earned with co-counsel. Because the actual fee earned by the law firm only represents a portion of the gross fee earned on a case, these co-counsel fees must be deducted in determining the fee that the law firm will ultimately collect. In addition, certain costs reimbursed to the practice were required to be split with co-counsel. A summary of the co-counsel fees and costs that were deducted from the gross fees and costs in the calculation of gross fees and reimbursed costs of the practice is provided in table 5.

**TABLE 5 Co-Counsel Fees and Costs Deducted from Work-in-Process**

Case #	Party Name	Co-Counsel Fees and Costs
200568	Singer, Z	\$ 12,422
200585	Jones-Gilmore, L.	1,727
200538	Carr, M.	693
200540	Iannou, P.	99,247
<b>TOTAL</b>		<b>\$114,089</b>

(continued)

**EXHIBIT 23.11 Work-in-Process—Contingent Fee Law Firm** *(continued)*

The total fees earned by the law firm and costs reimbursed to the practice on cases open as of May 10, 2008, and closed as of February 29, 2011, are summarized in table 6.

**TABLE 6 Cases Closed as of February 29, 2011**

Case Type	# of Cases	Actual		Average	
		Fees	Costs	Fees	Costs
Auto	160	\$1,492,745	\$112,827	\$ 9,330	\$ 705
PIP	36	33,080	5,592	919	155
Premises	52	479,910	87,206	9,229	1,677
Worker's Comp.	32	24,939	668	779	21
Environmental	2	290,055	100,500	145,028	50,250
Other	15	72,618	5,438	4,841	363
<b>TOTALS</b>		<b>\$2,393,347</b>	<b>\$312,231</b>		

The data in table 6 indicates that the majority of the fees earned by the practice are from automobile liability cases. We have calculated the average fees and costs per case for each of the major categories of cases conducted by the practice. It can be seen that both automobile and premises cases\* make up approximately two-thirds of the total cases in work-in-process and average approximately \$9,000 per case in fees earned.

The next largest portion of cases handled by the practice are personal injury protection and worker's compensation cases. These cases are much less profitable, averaging under \$1,000 per case. Environmental cases, by far, earn the largest fees, however, these cases generally take a much longer amount of time to complete.

This data in table 6 provides a starting point for valuing the work-in-process for cases that have been closed subsequent to May 10, 2008. However, there are additional factors that must be considered before the fair market value can be determined.

The more difficult part of the assignment is to value the cases that remain open as of the end of our field work on February 29, 2011. This was accomplished based on our analysis of the cases which have been closed, reviewing open case files, and discussions with management. A summary of the cases still open as of February 29, 2011 is provided in table 7.

\*These cases are also referred to as "slip and fall" cases.

**EXHIBIT 23.11 Work-in-Process—Contingent Fee Law Firm****TABLE 7 Cases Still Open as of February 29, 2011**

Case #	Party Name	Type	Estimated	
			Fees	Costs
200637	Brooks, J.	A	\$ 9,330 <sup>5</sup>	\$ 705
200360	Rencevicz, D.	MISC	12,500 <sup>1</sup>	—
200186	Anderson, L.	A	— <sup>2</sup>	—
200183	Hart, T.	A	— <sup>2</sup>	—
200335	Huff, S.	A	3,500 <sup>3</sup>	710
200428	McFadden, M.	A	4,000 <sup>3</sup>	710
200650	Ramsey, J.	A	9,330 <sup>5</sup>	705
200659	Patrick, A.	WC	779 <sup>5</sup>	21
200686	Earl, J.	A	3,750 <sup>4</sup>	705
200701	Rogers, L.	PRM	9,229 <sup>5</sup>	1,677
200708	Best, N.	PRM	9,229 <sup>5</sup>	1,677
E-999	Flood	ENV	— <sup>6</sup>	—
E-343	Gormley	ENV	— <sup>7</sup>	—
<b>TOTALS</b>			<b>\$61,647</b>	<b>\$6,910</b>

- The average fee earned on a worker's compensation case is only \$779. According to Mr. Gravitz, this case is likely to settle for an amount substantially more than the average. Mr. Gravitz has estimated that the fee earned on this case could be as high as \$14,000. Of this amount, \$1,500 is expected to be paid to co-counsel.
- According to Mr. Gravitz, both of these cases are likely to be limited by the lawsuit threshold. Because these cases are below the lawsuit threshold, it is highly unlikely that a fee will be earned.
- These cases have been settled as of February 29, 2011, however, closing statements were unavailable. Based on our discussions with Mr. Gravitz and a review of correspondence pertaining to the cases, we believe that these fees will be earned by the law firm.
- According to Mr. Gravitz, a tentative settlement has been reached in this case for \$15,000, of which the law firm will get 25 percent.
- For each of these cases, this valuation analyst has used the average fees earned per case type in order to determine an approximate fee that will be earned by the practice. Mr. Gravitz provided us with his estimate of the fees that could be earned on each of these cases. For each case, the expected fee was in line with the average fees indicated in table 6.
- This environmental case was substantially complete as of May 10, 2008, however, remained open, pending further litigation. Per discussions with Michael Gravitz and a review of case documents, it appears unlikely that any additional fees will be earned. All other fees earned in this case were collected prior to May 10, 2008.
- An inquiry was made to Michael Gravitz about this case in the beginning of 2008. It was eventually sent to another law firm. Per discussions with Michael Gravitz and a review of the case files, it appears likely that there may not be a fee earned on this case. It would be highly speculative to estimate a fee at this point in time.

The costs associated with each of the cases in table 7 were estimated based on the average cost per case type provided in our analysis in table 6.

In order to determine the completeness of work-in-process, we performed several additional procedures. The first procedure was to review the cash receipts and cash disbursements records from the practice's trust accounts to determine if any cases appeared on those records that were not included in the case logs.

(continued)

**EXHIBIT 23.11 Work-in-Process—Contingent Fee Law Firm** *(continued)*

All cases appearing on the cash receipts and cash disbursements ledgers were found in the case logs.

We also reviewed all the 2008–2010 closing statements, looking for cases that were closed after May 10, 2008 that may have been left off of work-in-process. Several cases were identified, which were not included on our schedule; however, upon further review of case records, it was determined that all of these cases were not started until after May 10, 2008. Therefore, they were properly excluded from our schedule of work-in-process.

As a final test, we reviewed subsequent cash receipts records for the practice's trust account. On a test basis, we selected cash receipts subsequent to May 10, 2008 and traced the receipt amounts, case number, and client name to our work-in-process list in order to ensure that no receipts came into the practice for cases that were not included in our schedule. For all receipts that could not be traced into our schedule of work-in-process, we reviewed the corresponding closing statements in order to verify that the cases were not started until after May 10, 2008, and were properly excluded from our schedule of work-in-process.

Once the preliminary work-in-process figures were derived, three additional steps were necessary to reach the fair market value. These steps were as follows:

1. Apply an overhead factor. Because ongoing overhead would be required after the appraisal date to allow the firm to generate the ultimate fees collected, consideration should be given to the costs associated with the collection process. This included direct out-of-pocket expenses for experts, salaries for lawyers to bring the case to trial, and other overhead costs associated with keeping the practice running.
2. Tax affect the work-in-process. Because the work in process will ultimately turn into profit for the firm, taxes should be calculated because they will ultimately be paid (either by the firm or by the individuals in the form of extra compensation).
3. Calculate the present value of the net profit after taxes. Because the work-in-process will not be collected for a period of time after the valuation date, the time value of money should be considered.

In order to apply the preceding three steps to this assignment, we started with the determination of an appropriate overhead rate to apply to the work-in-process. Previously, we calculated the normalized net income before taxes for the practice. These figures were \$52,187 and \$103,216, for 2006 and 2007, respectively. To determine the value of work-in-process, we have to determine the total overhead that is attributable to work-in-process. Our review of Schedule 2, in the back of the report, indicates that only two items require further adjustment for this purpose. Eliminating advertising expense, which is a prospective type of expense, and meals and entertainment, which may or may not relate to the work-in-process, results in a revised normalized net income attributable to work-in-process of \$106,320 and \$147,577 for these two years.

Applying a weighted average to the most recent year indicates that the law firm's normalized overhead rate is approximately 88.7 percent. This means that for every \$1 of revenue, it costs the firm 88.7 cents. Historically, the law firm has been considerably less profitable than other law firms. However, the reality is that the firm does not generate extraordinary profits.

The next consideration is the manner in which to apply the overhead factor. We have performed an analysis based on the amount of time that each file was open. Based on our discussions with not only Mr. Gravitz, but also our past experiences with other attorneys regarding similar matters, we have applied the overhead based on the allocation that 50 percent of the expenses are incurred in the last six months of the case; 25 percent of the expenses are incurred during the period between six months and one year of the end of the case; and the balance of the expenses are spread evenly during the remainder of the time that the case stayed open.

In order to perform the necessary calculations, we set up a computer model based on the parameters discussed previously. The results appear as schedule 3 at the back of the report. Using a burden rate of 88.7 percent results in an estimate of the expenses incurred after the valuation date to be \$1,298,994. This results in the profit portion of work-in-process attributable after the business valuation date to be \$975,301.

Applying a 35 percent tax rate and taking the present value of the net income from the date the file was closed to the valuation date results in the value of this portion of the work-in-process to be \$592,993.

Another portion of the work-in-process is the reimbursed costs that the law firm received after the valuation date. These expenses had previously been considered in the overhead factor applied against the other work-in-process, so there is no need to apply another factor to it. However, because these expenses are deducted when paid by the practice, taxes will be paid when the reimbursements are received. These reimbursements must also be discounted back to the valuation date. Applying similar treatment to these expenses results in an addition to work-in-process of \$285,328.

**EXHIBIT 23.11 Work-in-Process—Contingent Fee Law Firm**

The final portion of work-in-process that needs to be added is the portion attributable to the open files. The gross estimates to be received by the law firm are \$61,647 and \$6,910 for fees and costs, respectively. With the exception of cases numbered 200360, 200335, and 200428, all the other files were opened up in the beginning of 2008. In order to estimate the value of these cases, we followed similar procedures as was done for the cases that we knew were closed. In this instance, we assumed that these cases would remain open, on average, for four years. The value was estimated as follows:

Total Fees	\$ 61,647
Overhead Factor (88.7%)	54,681
Profit	\$ 6,966
Taxes (35%)	2,438
Net Profit	\$ 4,528
Present Value	\$ 3,328

The costs were estimated as follows:

Total	\$6,910
Taxes (35%)	2,419
Net Profit	\$4,491
Total	6,910
Present Value	\$3,301

As a result of our analysis, work-in-process is estimated to be as follows:

Cases closed to date	\$592,993
Reimbursed costs for cases closed to date	285,328
Cases still open	3,328
Reimbursed costs for cases still open	3,301
<b>TOTAL WORK-IN-PROCESS</b>	<b>\$884,950</b>

The illustration in exhibit 23.11 shows an analysis that took a lot of hours to perform. This is anything but easy. Sometimes, calculating the contingent work-in-progress makes no sense. Instead, the valuation analyst may be of assistance to the parties by making a recommendation of how to divide this asset, particularly in a matrimonial valuation. How we handled a major contingent fee in a matrimonial case is shown in exhibit 23.12.

### EXHIBIT 23.12 Major Contingent Fee

Work-in-process has been calculated from contingent fee schedules in client service agreements, settlement letters, and client ledgers from each case. Where applicable, we have used the actual settlement numbers to derive the actual work-in-process completed as of the valuation date. At present, the only cases that have been settled are the Rubin and Cohen matters. Due to the complexity of the work in process calculations, we have listed the calculations as follows:

<b>Rubin</b>	
<u>Jones Law Firm Fees Calculation*</u>	
Value of Settlement as of May 2015	\$ 350,000.00
Less: Disbursements	(25,551.11)
Subtotal to Calculate Contingent Legal Fees	\$ 324,448.89
<u>Legal Fee</u>	
1/3 of up to \$250,000 in Settlement Value	\$ 83,333.33
25% of Subtotal Amount Over \$250,000	18,612.22
Total Legal Fees as of Settlement	\$ 101,945.56
Less: 1/3 Referral Fee Paid by Jones	(32,430.73)
Total Legal Fees Attributable to Jones	\$ 69,514.83
<u>Work-in-Process Calculation</u>	
Unbilled Hours as of 2/28/14	352.3
Total Unbilled Hours	÷ 730.5
Percentage of 2/28/14 Fees to Total Unbilled Fees	× 48%
Subtotal	\$ 33,525.08
Plus: Pre 2/28/14 Disbursements	0.00
Work-in-Process as of 3/1/14	\$ 33,525.08
Less: 40% to Tax Affect	13,410.03
Tax Affected Work-in-Process	\$ 20,115.05

\*Note: Figures in these tables may not calculate exactly due to rounding.

We have calculated work-in-process based on a percentage of hours worked on each case. In the Rubin matter, approximately 48 percent of the total work completed in settling this case was performed before the valuation date. Multiplying the total monies attributable to the Jones Law Firm by 48 percent results in an untaxed work-in-process amount of \$33,525. Assuming that these monies are collected, we have tax-affected them at a rate of 40 percent, for a tax-affected work in process amount of \$20,115. A similar calculation has been performed for the Cohen matter.

**EXHIBIT 23.12 Major Contingent Fee**

<b>Cohen*</b>	
<u>Jones Fees Calculation</u>	
Value of Settlement	\$250,000.00
Less: Disbursements	(6,624.06)
<b>Subtotal to Calculate Legal Fees</b>	<b>\$243,375.94</b>
<u>Legal Fee</u>	
Equals 1/3 of up to \$500,000 in Settlement Value	\$ 81,125.31
Less: 1/3 Referral Fee Paid by Jones	(27,041.77)
<b>Total Legal Fees Attributable to Jones</b>	<b>\$ 54,083.54</b>
<u>Work-in-Process Calculation</u>	
Unbilled Hours as of 2/28/14	17.2
<b>Total Unbilled Hours</b>	<b>÷ 138.4</b>
Percentage of 2/28/14 Fees to Total Unbilled Fees	× 12%
<b>Legal Fee Estimate as of 2/28/14</b>	<b>\$ 6,721.37</b>
Plus: Disbursements as of 2/28/14	35
<b>Work-in-Process as of 3/1/14</b>	<b>\$ 6,756.37</b>
Less: Tax Affect—40%	2,702.55
<b>Tax Affected Work in Process</b>	<b>\$ 4,053.82</b>

\*Note: Figures in these tables may not calculate exactly due to rounding.

During an interview with Mr. Jones, he provided us with his estimates of the time necessary to complete each of the cases that were open as of the valuation date, including the Arney, Warner, Lamant, Port Rooster, and Angel matters, and their prospective settlements. Because of the highly speculative nature of these contingent fees, we have not included these in the work-in-process figure. These open cases add value to the practice, but because of the highly speculative nature of these cash flows, we could not estimate them with any certainty. Instead, we believe that these monies should be distributed on an “if and when collected” basis. At the bottom of this letter, we have provided you with a worksheet that you can use each time one of these matters is finalized.

As of the valuation date, two inputs into the worksheet are known, namely unbilled hours as of February 28, 2014, and disbursements through the same date. The following data reflects the inputs into the worksheet when you use it.

**TABLE 2 Worksheet Inputs**

	Unbilled Hours	Disbursements
Arney	186.50	\$ 8.95
Warner	126.95	441.15

(continued)

**EXHIBIT 23.12 Major Contingent Fee** *(continued)*

An important note on the Lamant matter is that the client had left the practice as of the valuation date but had already accrued \$3,486 in legal fees contingent upon settlement. The client has since returned to the practice, but a willing buyer would not know this as of the valuation date; therefore, the most that could be reasonably expected is their unbilled legal fees.

We have not addressed the Port, Rooster and Angel matters. The amounts are contingent on the successful litigation of these matters and are extremely large. In respect to equitable distribution regarding *Jones v. Jones*, the only way that these monies can be divided is on an “if and when collected” basis. At this point in time, it is beyond speculation to place dollar values on these matters due to the size and riskiness of these cash flows.

**Tax Affected Work-in-Process Worksheet**

Value of Settlement	\$
Less: Disbursements	
Subtotal to Calculate Legal Fees	\$
Calculation of Legal Fees	
Contingent Legal Fees	\$
Less Referral Fees Paid by Jones	
Calculation of Work-in-Process	
Calculation of Work-in-Process	\$
Total Legal Fees Attributable to Jones	\$
Unbilled Hours as of 2/28/14	
Total Unbilled Hours	÷
Percentage of Unbilled Hours as of 2/28/14 to Total Unbilled Hours	
Work-in-Process as of 2/28/14	\$
Less: Tax Affect (40%)	
Tax Affected Work-in-Process	\$

**Prepaid Insurance**

Certain types of professional practices, particularly medical practices, may be paying a significant amount in malpractice premiums. Typically, these items are expensed as they are paid. The valuation analyst needs to be aware of the policy period because this could turn out to be a large prepaid asset on the balance sheet at the valuation date. Imagine a medical practice that pays \$120,000 in malpractice premiums on February 1 and undergoes a valuation on March 1. Because 11 months of the premium are prepaid, the practice value just increased (on the basis of its assets) by \$110,000. Do not double count this by adjusting the income statement. The entire premium should be included if you are performing an income or market approach. Because a prepaid insurance policy that is cancelled may have a right to a return of some portion of the premium upon



the sale of the business, this asset may be considered as an additional item of value in a fair market value assignment and might need to have that value added at the end of the valuation as an excess asset. But, because nothing in life is easy, the valuation analyst must also consider whether the practice would most likely have to purchase what is called a *tail policy* to protect against any malpractice claims that arise during the future period for prior acts. This could turn out to be a liability, rather than an asset. Medical surgical practices and possibly audit firms may need this type of coverage. Who said this stuff is a walk in the park?

## Supplies

Certain types of professional practices maintain a supply inventory that could be material. For example, certain medical practices maintain an inventory of drugs that may have a very substantial value. The valuation analyst should inquire about supplies. Sometime we find out how often supplies are ordered and prorate the supplies expense. We generally only do this when supplies are considered material to the value of the practice.

## Library Costs

Law firms, accounting firms, valuation firms (like ours), and other professional practices used to spend a considerable amount of money each year to keep their libraries current. Sometimes the library may have significant value. Other times, the volumes and volumes of books sitting on shelves in the library have been replaced by the Internet. In these instances, the value may not be substantial. In fact, it may be worth only pennies. Other than the library really looking impressive, these days, the old books do not have nearly the value that they once had. The valuation analyst can make a few telephone calls to find out how much the major publications are worth in the used market.

## Reasonable Compensation

Probably the most important adjustment the valuation analyst makes during the valuation of a professional practice is reasonable compensation. This adjustment can literally make or break the valuation conclusion. The valuation analyst needs to be extremely careful to ensure that all factors that affect reasonable compensation for the professional are properly analyzed. Frequently, the valuation analyst needs to consider the market rate of compensation to replace the owner-employee with an employee with similar employment skills and attributes as the person being replaced. Many factors should be considered. Among them are the following:

- Job description
- Hours worked
- Education
- Age
- Special skills
- Rainmaking ability
- Size of the practice
- Profitability of the practice

Various sections of different types of professional practice compensation considerations are illustrated in exhibit 23.13. Although the dates are older, these are good examples, so why change them?

### EXHIBIT 23.13 Reasonable Compensation

#### DENTAL PRACTICE

In order to determine reasonable compensation for Drs. Brown, Green, and Black, several sources of information were used. There is much controversy over the issue of reasonable compensation and, generally, it is determined based on numerous factors. Appraisal theory has taught the valuation analyst to calculate reasonable compensation based on the norm within the industry. The hypothetical willing buyer will have the same qualifications and experience as the hypothetical willing seller, work the same number of hours as the hypothetical seller, and be in the same cost-of-living area of the country as the hypothetical seller.

(continued)

**EXHIBIT 23.13 Reasonable Compensation** *(continued)*

In “Professional Practice Goodwill: An Abused Concept,” published by the *Journal of the American Academy of Matrimonial Lawyers*, 1986, James T. Friedman found that most lawyers and judges wrongfully equate high earnings and divisible goodwill, and that most highly salaried professionals do not enjoy any more compensation than highly salaried nonprofessionals do.

Friedman attacks the excess earnings method and is highly critical of the methods used to determine reasonable compensation. He states the following:

In calculating excess compensation you must first deduct fair compensation for the individual whose practice you are valuing. The more valuable that individual’s contribution, the higher will be, the compensation entitlement, or replacement costs.

Friedman goes further and states that “the hard working, highly skilled specialist probably earns his or her total compensation and derives little excess from the enterprise.”

In *Valuing Small Businesses and Professional Practices*, published by Dow Jones-Irwin, Shannon P. Pratt, DBA., CFA., CFP., FASA., CRA., a renowned expert in the valuation field, states the following:

The smaller the business or practice, the more important looms the role of the owner/manager. How much of the success of the operation is due to the talent and efforts of the owner/manager(s)? How much of that success can be transferred to new ownership?

Pratt continues:

There is no point in paying a sizable sum for a business or practice from which the customers will disappear as soon as the new owner takes over, or which is dependent on a seller’s talent that will not be available to the new owner.

Pratt, in his discussion of goodwill, indicates that “several factors are dominant in determining the existence and value of practice and personal goodwill for professional practices:

1. Earnings levels that can be expected in the future.
2. The level of competition.
3. The referral base.
4. The types of patients or clients the practice serves.
5. Work habits of the practitioner.
6. The fees charged (compared to others in the same specialty).
7. Where the practice is located.
8. The practice’s employees.
9. The general marketability of the type of practice being sold.”

According to *Financial Studies of the Small Business*, published by Financial Research Associates, officers’ salaries in dental practices are approximately 29.71 percent of net sales. Using this information results in officers’ compensation as follows:

	2002	2001	2000	1999
Sales	\$1,237,400	\$1,278,449	\$1,257,051	\$1,203,644
Refunds and Allowances	(46,612)	(53,700)	(21,134)	(18,425)
Net Sales	\$1,190,788	\$1,224,749	\$1,235,917	\$1,185,219
Salary Percentage	× 29.71%	× 29.71%	× 29.71%	× 29.71%
Officers’ Compensation	\$ 353,783	\$ 363,873	\$ 367,191	\$ 352,129

Another source, *RMA Annual Statement Studies*, published by Risk Management Association, indicates that based on historical data, dentists in the upper quartile earn 32.9 percent of salaries on average. The upper quartile was chosen to reflect the fact that salaries in the Mid-Atlantic/Northeast area tend to be higher than the national average.

**EXHIBIT 23.13 Reasonable Compensation**

Based on the Robert Morris Associates' statistics, reasonable compensation for the officers of Dental Associates would be calculated as follows:

	2002	2001	2000	1999
Net Sales	\$ 1,190,788	\$ 1,224,749	\$ 1,235,917	\$ 1,185,219
Salary Percentage	× 32.9%	× 32.9%	× 32.9%	× 32.9%
Officers' Compensation	\$ 391,769	\$ 402,942	\$ 406,617	\$ 389,937

In The Survey of Dental Practice, the American Dental Association breaks down dentists' incomes by other criteria. Table 5, includes the net income of general practitioners who earn their money from the primary practice of dentistry.

**TABLE 5 Net Income of Independent General Practitioners by Age and Source of Dental Income**

Source of Net Income	Mean	1st Q	Median	3rd Q	S.D.	n
<b>Primary Private Practice</b>						
<i>Age Group</i>						
Under 30*	\$ —	\$ —	\$ —	\$ —	\$ —	18
30–34	82,000	45,000	69,500	100,000	53,120	166
35–39	98,820	64,500	90,000	124,500	58,740	272
40–44	97,270	60,990	88,700	122,000	52,870	239
45–49	109,090	70,000	100,000	140,060	59,870	204
50–54	102,670	70,000	90,700	125,000	57,550	133
55–59	83,500	50,000	75,630	110,000	44,490	115
60–64	74,580	46,870	66,000	91,000	41,880	100
65 +	61,730	30,000	51,000	86,000	42,380	98

(Source: American Dental Association, Survey Center, The Survey of Dental Practice.)

\*There were too few respondents in this category to allow for reliable statistical analysis.

(continued)

**EXHIBIT 23.13 Reasonable Compensation** *(continued)*

According to table 5, the doctors' salaries would be as follows:

	Median	3rd Quartile
Dr. Brown	\$ 75,630	\$110,000
Dr. Green	90,000	124,500
Dr. Black	69,500	100,000
<b>TOTAL</b>	<b>\$235,130</b>	<b>\$334,500</b>

In table 6, income is determined by the number of years since the doctor graduated from dental school.

**TABLE 6 Net Income of Independent General Practitioners by Years Since Graduation and Source of Dental Income**

Source of Net Income	Mean	1st Q	Median	3rd Q	S.D.	n
<b>Primary Private Practice</b>						
<i>Years Since Graduation</i>						
Under 5	\$ 60,910	\$28,500	\$50,750	\$ 73,750	\$ 51,140	56
5–9	88,250	50,000	80,640	106,670	56,210	230
10–14	99,660	65,000	90,000	122,000	55,810	274
15–19	103,340	64,500	97,000	136,500	51,630	208
20–24	106,820	69,000	95,000	135,000	61,260	174
25–29	94,120	60,000	87,000	120,000	53,100	133
30–34	85,580	48,000	70,000	115,000	50,840	122
35 +	65,690	35,000	60,660	87,720	41,390	148

*(Source: American Dental Association, Survey Center, The Survey of Dental Practice.)*

According to this data, the dentists would earn the following:

	Median	3rd Quarter
Dr. Brown	\$ 70,000	\$115,000
Dr. Green	97,000	136,500
Dr. Black	80,640	106,670
<b>TOTAL</b>	<b>\$247,640</b>	<b>\$358,170</b>

**EXHIBIT 23.13 Reasonable Compensation**

The data in table 7 indicates earnings by number of hours worked. Based on the office hours previously discussed, each doctor works 33 hours per week for two weeks and 41 hours during the third week.

**TABLE 7 Net Income, Age, and Hours Worked of Independent General Practitioners by Hours Worked and Source of Dental Income**

	Mean	1st Q	Median	3rd Q	S.D.	n
<b>Hours per Week</b>						
<b>Less than 32 hours:</b>						
Primary Private Practice	\$62,570	\$30,000	\$51,000	\$ 79,000	\$49,030	201
Total from Private Practice	\$63,560	\$32,000	\$51,000	\$ 82,000	\$49,050	201
Total from Dentistry	\$65,580	\$36,000	\$55,000	\$ 82,000	\$48,850	201
Dentist Age	53.5	42.0	54.0	64.0	13.9	294
Hours worked per week	25.5	24.0	28.0	30.0	5.6	294
<b>32 hours or more:</b>						
Primary Private Practice	\$97,200	\$60,000	\$90,000	\$122,000	\$54,670	1144
Total from Private Practice	\$97,940	\$60,000	\$90,000	\$124,000	\$54,880	1144
Total from Dentistry	\$98,430	\$61,000	\$90,000	\$124,000	\$54,860	1144
Dentist Age	45.1	37.0	43.0	52.0	10.2	1664
Hours worked per week	39.7	35.0	40.0	42.0	6.7	1664
<b>Hours per Year</b>						
<b>Less than 1,600 hours:</b>						
Primary Private Practice	\$80,680	\$41,800	\$72,500	\$106,500	\$54,410	368
Total from Private Practice	\$81,830	\$42,970	\$74,020	\$108,000	\$55,440	368
Total from Dentistry	\$83,360	\$45,000	\$75,000	\$108,500	\$55,300	368
Dentist Age	51.5	42.0	51.0	61.0	12.6	511
Hours worked per year	1322.7	1215.0	1440.0	1536.0	293.7	511
<b>1,600 hours or more:</b>						
Primary Private Practice	\$96,300	\$60,000	\$87,000	\$120,000	\$54,980	977
Total from Private Practice	\$96,930	\$60,000	\$88,000	\$120,000	\$54,850	977
Total from Dentistry	\$97,350	\$60,000	\$90,000	\$120,000	\$54,760	977
Dentist Age	44.5	37.0	43.0	51.0	10.1	1447
Hours worked per year	1995.1	1750.0	1920.0	2156.0	328.6	1447

(Source: American Dental Association, Survey Center, The Survey of Dental Practice.)

(continued)

**EXHIBIT 23.13 Reasonable Compensation** *(continued)*

Based on this, the data in table 7 indicates income levels as follows:

	Median	3rd Quarter
More than 32 hours per week	\$90,000	\$ 22,000
More than 1,600 hours per year	87,000	120,000

The different earnings levels based on the dentist's employment status are shown in table 8.

**TABLE 8 Net Income, Age, and Hours Worked of Independent General Practitioners by Employment Status in the Primary Practice and Source of Dental Income**

	Mean	1st Q	Median	3rd Q	S.D.	n
<b>Source of Net Income</b>						
<b>Unincorporated Sole Proprietor</b>						
Primary Private Practice	\$ 82,920	\$47,250	\$ 76,000	\$109,000	\$49,560	804
Total from Private Practice	\$ 83,530	\$48,000	\$ 77,000	\$110,000	\$49,410	804
Total from Dentistry	\$ 84,320	\$50,000	\$ 77,000	\$110,000	\$49,060	804
Dentist Age	46.4	37.0	44.0	55.0	11.8	175
Hours worked per year	1826.4	1568.0	1800.0	2040.0	450.6	175
<b>Unincorporated Partner</b>						
Primary Private Practice	\$ 91,070	\$56,500	\$ 76,500	\$103,000	\$52,910	88
Total from Private Practice	\$ 93,390	\$60,000	\$ 82,000	\$107,970	\$52,500	88
Total from Dentistry	\$ 93,730	\$60,000	\$ 82,000	\$107,970	\$52,380	88
Dentist Age	43.1	33.0	39.0	51.0	12.8	125
Hours worked per year	1789.2	1600.0	1800.0	2000.0	434.2	125
<b>Incorporated Sole Proprietor</b>						
Primary Private Practice	\$109,670	\$66,000	\$100,000	\$138,000	\$63,620	370
Total from Private Practice	\$109,950	\$66,000	\$100,000	\$140,000	\$63,580	370
Total from Dentistry	\$110,320	\$66,000	\$100,000	\$140,000	\$63,610	370
Dentist Age	47.6	41.0	47.0	54.0	9.3	533
Hours worked per year	1820.3	1600.0	1800.0	2000.0	397.8	533

*(Table continued)*

**EXHIBIT 23.13 Reasonable Compensation****TABLE 8 Net Income, Age, and Hours Worked of Independent General Practitioners by Employment Status in the Primary Practice and Source of Dental Income** *(continued)*

	Mean	1st Q	Median	3rd Q	S.D.	n
<b>Source of Net Income</b>						
<b>Incorporated Partner</b>						
Primary Private Practice	\$102,630	\$71,000	\$ 95,000	\$125,000	\$49,460	83
Total from Private Practice	\$105,510	\$71,000	\$ 95,000	\$130,000	\$54,370	83
Total from Dentistry	\$107,630	\$72,000	\$ 99,000	\$135,000	\$55,070	83
Dentist Age	44.1	36.0	43.0	52.0	10.4	125
Hours worked per year	1784.0	1536.0	1800.0	2000.0	445.5	125

(Source: American Dental Association, Survey Center, The Survey of Dental Practice.)

Dental Associates is a professional corporation, so the dentists are considered to be incorporated partners. The median earnings level for an incorporated partner is \$95,000, whereas the income in the 3rd quartile is \$125,000.

The ADA survey then broke its statistics down by regions. The data in tables 9, 10, and 11 highlight some of the regional differences in income, age, and hours worked.

**TABLE 9 Net Income of Independent General Practitioners by Region And Source of Dental Income**

	Mean	1st Q	Median	3rd Q	S.D.	n
<b>Source of Net Income</b>						
<b>Primary Private Practice</b>						
<i>Region</i>						
New England	\$105,350	\$75,000	\$90,000	\$139,000	\$67,570	89
Middle Atlantic	90,150	54,700	82,000	115,500	53,960	208
East North Central	90,050	52,000	85,000	115,000	51,350	246
West North Central	88,780	50,000	79,000	114,000	52,540	106
South Atlantic	98,140	56,000	90,000	130,000	53,650	179
East South Central	84,370	50,000	75,560	110,000	46,500	73
West South Central	81,720	45,000	75,000	97,000	49,050	129
Mountain	81,810	42,940	75,000	110,000	51,450	79
Pacific	100,280	60,000	85,000	126,000	62,570	230

(Source: American Dental Association, Survey Center, The Survey of Dental Practice.)

*(continued)*

**EXHIBIT 23.13 Reasonable Compensation** *(continued)***TABLE 10 Age Of Independent General Practitioners By Region**

	Mean	1st Q	Median	3rd Q	S.D.	n
<b>Type of Dentist</b>						
<b>General Practitioners</b>						
<i>Region</i>						
New England	47.1	38.0	45.0	54.0	11.5	120
Middle Atlantic	47.7	38.0	46.0	56.0	12.3	305
East North Central	46.1	37.0	45.0	54.0	11.7	371
West North Central	46.5	39.0	45.0	53.0	10.6	148
South Atlantic	46.2	37.0	44.0	53.0	11.5	277
East South Central	46.6	38.0	43.0	55.0	10.8	106
West South Central	45.7	36.0	44.0	55.0	10.8	195
Mountain	46.4	38.0	45.0	54.0	10.2	112
Pacific	45.8	38.0	45.0	52.0	10.1	314

(Source: American Dental Association, Survey Center The Survey of Dental Practice.)

**TABLE 11 Annual Hours Worked by Independent Dentists by Region**

	Mean	1st Q	Median	3rd Q	S.D.	n
<b>Type of Dentist</b>						
<b>General Practitioners</b>						
<i>Region</i>						
New England	1833.8	1598.0	1836.0	2028.0	391.0	120
Middle Atlantic	1792.5	1560.0	1824.0	2009.0	486.0	305
East North Central	1830.8	1560.0	1764.0	2058.0	468.3	371
West North Central	1816.7	1673.0	1806.5	2000.0	372.5	148
South Atlantic	1885.1	1620.0	1840.0	2100.0	425.2	277
East South Central	1843.7	1620.0	1862.0	2000.0	330.9	106
West South Central	1802.4	1600.0	1750.0	1960.0	350.5	195
Mountain	1891.5	1584.0	1838.0	2067.0	468.9	112
Pacific	1741.4	1504.0	1728.0	1974.0	450.3	314

(Source: American Dental Association, Survey Center, The Survey of Dental Practice.)



### EXHIBIT 23.13 Reasonable Compensation

The tables shown on the previous pages indicate that general dentists in the Middle Atlantic region earn a median salary of \$82,000, are age 46, and work 1,800 hours per year.

Based on the various statistics shown, the valuation analyst has determined the following reasonable compensation amounts for 2002:

Dr. Brown	\$115,000
Dr. Green	136,500
Dr. Black	106,670

The amounts are based on the salaries shown for years since graduation because it approximately reflects the number of years each dentist has been practicing. In addition, the third quartile was chosen to reflect a fairly stable practice in the Middle Atlantic area, which has been in existence for almost 30 years.

The salaries chosen approximately reflect the percentages of gross income earned by each doctor in 2002. Dental Associates maintains a Procedure Analysis Report, which is used to track each doctor's productivity. In 2002, the report showed the following breakdown of revenues:

Dr. Brown	\$322,527
Dr. Green	410,381
Dr. Black	330,810

Although Dr. Black's revenues were higher than Dr. Brown's, Dr. Brown is responsible for most of the administrative work of the dental practice and, therefore, should be compensated for those additional duties and responsibilities.

The total compensation determined represents 30.1 percent of 2002 net sales. This percentage was used to determine reasonable compensation for the other years, and the adjustment in table 4 is calculated as follows:

	2002	2001	2000	1999
Net Sales	\$ 1,190,788	\$ 1,224,729	\$ 1,235,917	\$ 1,185,219
Salary Percentage	× 30.1%	× 30.1%	× 0.1%	× 30.1%
Reasonable Compensation	\$ 358,427	\$ 368,643	\$ 372,011	\$ 356,751
Per Tax Return	468,873	594,376	538,742	515,825
Adjustment	\$ 110,446	\$ 225,733	\$ 166,731	\$ 159,074

#### LAW FIRM

One of the difficult components of a business valuation for a law practice is the determination of reasonable compensation for the owner of the practice. The purpose of reflecting reasonable compensation is so that a willing buyer, if purely an investor, would see what he or she would have to pay someone to perform the services that are done by the current owner.

Appraisal theory teaches the valuation analyst to calculate reasonable compensation based on the norm within the industry. The hypothetical willing buyer will have the same qualifications and experience as a hypothetical willing seller, work the same number of hours as the hypothetical seller, and be in the same cost of living area of the country as the hypothetical seller. In fact, case law has suggested that the valuation analyst examine the value of goodwill very carefully "for the individual practitioner will be forced to pay the ex-spouse 'tangible' dollars for an intangible asset at a value concededly arrived at on the basis of some uncertain elements."<sup>1</sup> Case law also suggests that the age, health, and professional reputation of the practitioner, the nature of the practice, the length of time the practice has been in existence, its past profits, its comparative professional success, and the value of its other assets should also be taken into consideration in the determination of goodwill.<sup>2</sup>

<sup>1</sup> *Dugan v. Dugan*, 92 NJ Super 435, 457 A.2d at 7.

<sup>2</sup> *In re-marriage of Lopez*, 38 Cal. App. 3d 93, 113 Cal. Rptr. 58 (3d Dist. 1974).

(continued)

**EXHIBIT 23.13 Reasonable Compensation** *(continued)*

However, goodwill cannot be measured without properly considering the effort expended by the practitioner. A reasonable level of compensation cannot be determined by merely consulting a salary survey without considering the work habits of the professional. Shannon Pratt states the following:

It's almost a cliché that professionals work long hours. However, some are willing to work longer hours than others. A practice that requires 80 hours a week of a practitioner's time will not be worth as much per dollar of income to a purchaser as one that requires only 50 hours per week.<sup>3</sup>

A review of the time and billing records of Donald Neal & Associates revealed the following billable hours per individual attorney over the past several years:

	2005	2004	2003	2002	2001
DAN	3486.25	3299.25	3284.00	3208.00	3576.00
KLJ	808.50	—	—	—	—
MFS	—	—	—	—	1422.80
REG	973.40	2096.45	2135.50	629.00	—
LJG	—	—	—	—	627.50
KEN	—	1191.00	2245.75	2105.75	738.75
AMC	317.75	2359.50	1690.25	1734.00	996.00
SCS	888.75	—	—	—	—
BCS	2815.50	2753.50	2097.50	—	—
DRR	2427.50	712.25	—	—	—
LEC	—	—	—	1309.25	650.50

The billable hours worked by Mr. Neal far exceed all the other attorneys in the firm. The nature of this practice requires exceptionally long hours. Turnover in associates has been a problem for this reason. However, as the owner, Mr. Neal does whatever it takes to get the job done. This is typical for a small professional practice.

What makes this practice somewhat unique is the “emergency room law” type of practice. If a client calls with a problem, it is not uncommon for the firm to dispatch at least one attorney immediately to investigate a situation. For example, if a call comes in about an alleged child molestation, a team of attorneys may be sent hours away to interview students, teachers, and the school administration. This can result in very long hours worked on a particular assignment. Also, school board meetings tend to be at night, and these types of jobs can also make for an exceptionally long day.

In order to determine a reasonable level of compensation for Mr. Neal, this valuation analyst consulted the *Survey of Law Firm Economics*, published by Altman Weil Pensa (AWP). This survey provides the valuation analyst with a benchmark of compensation levels. Various factors, besides the region in which the law practice operates, affect the amount of compensation earned by a practice's owners. These factors include the size of the practice, the type of law performed, and the year the owners were admitted to the Bar. AWP provides a breakdown of the salaries for lawyers broken down by each of these categories.

In order to use the survey, the valuation analyst considered several specialties within the legal profession in which to compare Donald Neal & Associates. There are no statistics for education law, but there are enough similarities between insurance defense firms and labor/employment specialties that a meaningful comparison could still be made.

<sup>3</sup> Shannon P. Pratt, *Valuing Small Businesses and Professional Practices*, 2nd edition (Business One Irwin: 1993), 414.

**EXHIBIT 23.13 Reasonable Compensation**

Some of the more meaningful data about the owners of the firms includes the following:

	Average	Lower Quartile	Median	Upper Quartile	Ninth Decile
<b>BILLABLE HOURS</b>					
All Firms	1,722	1,471	1,707	1,948	2,216
South	1,759	1,512	1,747	1,976	2,245
Under 9 Lawyers	1,683	1,352	1,664	2,019	2,247
Insurance Defense	1,943	1,693	1,916	2,164	2,540
Labor/Employment	1,782	1,585	1,758	1,990	2,183
Admitted Bar (1978)	1,728	1,479	1,691	1,950	2,246
<b>TOTAL COMPENSATION</b>					
All Firms	\$194,966	\$121,834	\$168,751	\$230,133	\$320,411
South <sup>4</sup>	292,835	189,119	265,360	378,821	458,437
Under 9 Lawyers <sup>5</sup>	187,821	93,870	143,265	239,200	328,410
South	193,813	127,409	171,819	229,416	303,150
Under 9 Lawyers	170,174	96,617	134,294	216,399	318,170
Insurance Defense	176,802	112,516	152,159	218,692	290,883
Labor/Employment	173,284	115,804	157,091	199,227	280,210
Admitted Bar (1978)	206,802	141,236	183,893	241,663	323,290
Admitted Bar (1978) <sup>6</sup>	206,733	148,333	185,334	245,085	314,499
Admitted Bar (1978) <sup>7</sup>	195,584	114,253	176,610	248,943	336,329

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4 Owners with significant management responsibilities.

5 Owners with significant management responsibilities.

6 South only.

7 Firms with under 9 lawyers.

(continued)

**EXHIBIT 23.13 Reasonable Compensation** *(continued)*

A review of the preceding data indicates that the hours Mr. Neal worked far exceed his peers. In fact, using 2006 as a comparison to the AWP data reflects the following:

	Median AWP	Ninth Decile	Billable Hours	Percentage Over	
				Median	Ninth Decile
All Firms	1,707.00	2,216.00	3,486.25	+ 104.2%	+ 57.3%
South	1,747.00	2,245.00	3,486.25	+ 99.6%	+ 55.3%
Under 9 Lawyers	1,664.00	2,247.00	3,486.25	+ 109.5%	+ 55.2%
Insurance Defense	1,916.00	2,540.00	3,486.25	+ 81.9%	+ 37.3%
Labor/Employment	1,758.00	2,183.00	3,486.25	+ 98.3%	+ 59.7%
Admitted Bar (1978)	1,691.00	2,246.00	3,486.25	+ 106.2%	+ 55.2%

Mr. Neal worked almost twice the number of hours of any of the attorneys, based on median hours worked. He also worked, on average, 53 percent more hours than the attorneys who made up the ninth decile of the survey. Clearly, the profitability of the firm is attributable, in large part, to the work habits of the owner.

A review of the total compensation for owners of firms reflects various levels, depending on the categorization within the survey. The median total compensation for firms in the south, where the owners have significant management responsibilities was \$265,360, whereas the ninth decile for this category was \$458,437. It can only be assumed by this valuation analyst, that there are larger firms reflected in these figures.

Firms with under nine lawyers for this same group had a median and ninth decile total compensation of \$143,265 and \$328,410, respectively. Total compensation for owners without significant management responsibilities ranged from a median of \$134,294 to \$183,893 and a ninth decile from \$280,210 to \$336,329.

Whether the median or the ninth decile compensation is used as a base compensation for Mr. Neal, these figures must be adjusted for the significant number of hours that he works. Based on the preceding data, a base amount, before this adjustment, appears to be approximately \$175,000 for the median and \$315,000 for the ninth decile. These figures can then be adjusted as follows:

	Median	Ninth Decile
Base Amount	\$ 175,000	\$ 315,000
Excess Billable Hours Percentage	× 100%	× 53%
Extra Compensation	\$ 175,000	\$ 166,950
Total Compensation	\$ 350,000	\$ 481,950

The next part of this analysis is the determination of which group of owners is considered to be applicable to Mr. Neal. Mr. Neal is the firm's "rainmaker." He is the reason that clients come back for more. Although repeat patronage is an element of goodwill, the personal component of the goodwill will generally be reflected in the level of compensation that an individual can command. Being a rainmaker adds significant value to the firm. Part of that value is reflected in the salary.

The upper quartile of the survey is a more conservative level of compensation than the ninth decile. We feel that the median does not compensate Mr. Neal for his rainmaking or administrative responsibilities. The average billable hours for the upper quartile was about 2,000 hours, or about 74 percent less than Mr. Neal's billable hours. The survey compensation is about \$230,000. After adjusting for hours worked, compensation is estimated as \$400,200.

### EXHIBIT 23.13 Reasonable Compensation

In our opinion, reasonable compensation appears to be about \$400,000. This represents 26.8 percent of 2005 revenues. In order to check this amount for reasonableness, we consulted *RMA Annual Statement Studies*, published by Risk Management Association, a banking organization that compiles financial information by Standard Industrial Classification Codes. According to this publication, the percentage of officers', directors', or owners' compensation to sales was 28.7 percent for firms with \$1 million to 3 million in revenues.

Prior years' compensation has been calculated as 26.8 percent of revenues to be consistent with our calculation for 2005.

#### ACCOUNTING PRACTICE

In order to determine reasonable salaries for Mr. Thomas and Mr. Lux, we reviewed several sources of information. The first source was the survey from the Texas Society of CPAs, which indicates that owners of firms with revenues between \$401,000 and \$1 million receive 52 percent of revenues as earnings. For firms with revenues over \$1 million, this drops significantly to 38.2 percent of revenues. The second source we reviewed was Risk Management Association's Annual Statement Studies. This data indicated salaries for partners of approximately 27.2 to 27.5 percent of revenues.

The third source of information we reviewed was the *Accounting Finance and Information Technology Salary Guide*, published by Robert Half. Although this survey does not discuss salaries at partner levels, it does report data for the manager level. According to the survey, managers' salaries could range as high as \$76,000 in accounting firms with revenues under \$15 million. This is based on Robert Half's placement experience. The fourth and final source of information we used was from the firm itself. Brian Edwards, CPA, is the firm's manager, who, at the valuation date, was making \$86,000 per year. Combined with the Robert Half data, this sets an absolute floor on the compensation of the firm's partners. Because the partners are the ones generating the business, they should naturally be more highly compensated than the individuals strictly servicing the clients.

Because the Texas Society of CPAs survey deals with firms in New Jersey, it is more relevant than the RMA data. As discussed, the partners of firms with over \$1 million in revenues earn 38.2 percent of revenues. This is consistent with the RMA data when pre-tax profits are factored in; combining salaries and profits results in a 36.4 percent salary level for partners of firms with revenues between \$1 million and \$3 million. Based on this data, we have determined reasonable salaries for Mr. Thomas and Mr. Lux to be approximately 27 percent of revenues for 2007, or \$285,000. We have assumed this to be the appropriate percentage for all years in our analysis to reflect their salaries based on fees generated. These figures are calculated as follows:

Year	Revenues	%	Officers' Compensation
2007	\$1,055,627	27%	\$285,019
2006	901,226	27%	243,331
2005	789,052	27%	213,044
2004	775,066	27%	209,268
2003	861,495	27%	232,604

Given the industry data and the number of hours worked by the two partners, the data appears reasonable.

#### ANOTHER ACCOUNTING PRACTICE

According to the firm's financial statements, none of the firm's partners take an annual salary. Therefore, the income statement must be normalized to account for the number of partners needed to maintain daily operations of the firm and for an appropriate level of compensation required to replace them. Based on information provided regarding partners' billable hours in the first nine months of 2003, on average, each partner's total hours worked consisted of 42 percent billable hours and 58 percent nonbillable hours. In the first nine months of 2002, approximately 47 percent of partners' total hours were billable.

(continued)

**EXHIBIT 23.13 Reasonable Compensation** *(continued)*

According to the Texas Society's Practice Management Survey, 53 percent of total hours of active owners of large accounting practices are billable. Assuming that the 2002 and 2003 time analysis of the Jackson Greer partners' work is comparable to their billable hours worked as of October 2005, Jackson Greer's partner productivity is below the industry average. As of October 2005, the firm has eight partners. We estimate that six partners would be the number of partners necessary to run the practice at an efficient level compared to its peer group.

Jackson Greer establishes hourly billing rates based on a 0.00225 multiple of the employee's annual salary. For partners of the firm, the hourly billable rate is \$250. Divided by the multiple, this results in an annual salary of approximately \$110,000 per partner.

In order to verify the reasonableness of the level of salary, we performed research regarding salaries paid to partners of accounting firms in order to compare the Jackson Greer partner salary to industry statistics. Our findings are as follows:

Source	Criteria	Salary
<i>CPA Newsletters</i>	CPA Salaries—Partner Mid-Atlantic Region	\$113,000
<i>CPA Newsletters</i>	CPA Salaries—Partner Firm Revenue over \$1,700,000	120,000
<i>Executive Compensation Survey Analysis</i> <sup>8</sup>	CEO President—Median Sales Volume: \$2.5—9.99 Mil.	110,815
<i>Source Finance's Accounting &amp; Finance Salary Survey</i>	Public Accounting Partner-Median	90,000

Utilizing these surveys, the average partner salary is approximately \$108,000. Based on this research, we feel that \$110,000 is a reasonable estimate for a partner's salary at Jackson Greer.

For 2005, a reasonable officers' compensation expense of \$660,000 was added to Jackson Greer's operating expenses. This amount comprises a \$110,000 salary per partner, multiplied by six partners. In order to account for this expense in previous years, this amount was deflated at an annual rate of 6 percent based on the average of 6.5 percent and 5.4 percent reflected in CPA Newsletters' Annual Compensation Survey for the past two years, respectively. Before calculation of reasonable owner's compensation for 2000, two partners' salaries were removed (based on 2001 salary estimates) to accommodate the fact that two partners joined Jackson Greer in the November 2000 to January 2001 period.

**MEDICAL PRACTICE**

Because Dr. Peters operates as a sole proprietorship, he does not take a salary from the practice. Rather, he pays taxes on the net income from the practice.

A willing buyer might not operate the practice as a sole proprietorship, so in order to determine what a reasonable level of earnings will be from the practice, a reasonable level of salary must be factored in.

MGMA produces a second survey entitled "Physician Compensation and Production Survey: Current Year Report Based on Last Year Data." According to this survey, some median compensation figures are as follows:

Pediatricians: single specialties	\$137,994
Pediatricians: Eastern United States	128,177
Pediatricians: 51%–100% Managed Care	130,998
Primary Care: Eastern United States	129,238
Primary Care: 51%–100% Managed Care	135,598

<sup>8</sup> Published by the National Institute of Business Management.

### EXHIBIT 23.13 Reasonable Compensation

According to the AMA's publication, *Physician Marketplace Statistics*, some median compensation figures are as follows:

Pediatricians: Self-Employed (United States)	\$149,000
Pediatricians: Self-Employed (Mid-Atlantic)	129,000

Some additional information provided in the AMA publication is as follows:

Median Office Hours:	
Pediatricians	35
New Jersey	30
Self-Employed	30

In addition, median hours spent in hospital rounds for all three categories are 5 hours.

The preceding salary range indicates that median salaries for pediatricians range from \$129,000 to \$149,000. Therefore, a salary of \$135,000 appears to be reasonable.

According to the MGMA survey, median compensation rose 2.29 percent from last year to this year, and 2.12 percent from the previous two-year period. Therefore, these figures have been used to deflate the current-year salaries for the prior years.

## Valuation Calculations—Unique Aspects of the Calculations

Sometimes, professional practice valuations involve more than the typical calculations. All the normal methodologies will be employed in the valuation process. However, many professional practices have a greater emphasis placed on the gross revenues of the practice. Obviously, you cannot ignore earnings, but the willing buyer will frequently be purchasing the revenue stream and may often be a strategic or synergistic buyer. This may be the highest value for the practice. For control valuations, this may be the correct value even though it is higher than the other indications of value. Although not a professional practice valuation, the Tax Court case *Estate of Samuel I. Newhouse v. Commissioner*, 94 TC 193(RIA) (1990) is a great case to read regarding different types of potential willing buyers. I have included the case in the downloadable materials. In the meantime, here is a synopsis of the case.

### Issue: Different Classes of Willing Buyers Result in Different Values

The theme that I am highlighting is a small, but important part, of the case. Valuations that are performed for estate tax purposes must use the fair market value standard of value. Valuation theory tells us that fair market value assumes a hypothetical transaction between a hypothetical willing buyer and a hypothetical willing seller. This case addresses the issue of fair market value “to whom.”

Fair market value deals with the hypothetical willing buyer and willing seller. This case addressed the issue of which class of willing buyer should be considered in the determination of fair market value. Valuation analysts frequently use terms such as strategic or synergistic buyer. Based on information acquired earlier in this book, the notion would be that if there is a *strategic* or *synergistic buyer* involved, the value determined would represent investment value and not fair market value. This is not always correct.

Part of the determination of fair market value requires the valuation analyst to determine the likely market for the property. Clearly, the willing seller, if prudent, will look to sell the property in the market that would bring him or her the greatest price.

The *Newhouse* case examined four classes of potential investors:

- The passive investor
- The active investor
- The control investor
- The public investor

Goldman Sachs analyzed these four categories of investors as all being valid willing buyers in the definition of fair market value. The court's opinion discusses the different types of investors. The subject company of the valuation is referred to as "Advance." Important descriptions from the opinion are excerpted in box 23.1.

**BOX 23.1****Classes of Potential Investors**

- A passive investor would not be interested in managing Advance and would not attempt to wrest control from management. Expecting to realize value from dividends and private resale, the passive investor would not expect to extract value from Advance through liquidation, merger, or public offering. The passive investor would consider that Advance's stock was not publicly traded, which would depress expectations of resale value. Due to this illiquidity, lack of control, and the uncertainties and constraints affecting the purchase, Goldman Sachs concluded that the passive investor would have offered 30 percent less than the public trading market value of the common stock and, thus, only \$141 million for the common stock.
- The active investor would be inclined to pursue action, short of seeking control, that would quickly maximize the return on his or her investment. One course of action would be to declare a dividend of Advance's excess cash and any funds that could be obtained through borrowing. Because of the high prevailing interest rate and planned capital expenditures, the common shareholder could extract no more than \$74 million of excess cash plus loan proceeds. Advance also had \$145 million of excess cash, which could be distributed with the loan proceeds. Because of the time and uncertainty involved in this plan of action, the active investor would pay no more than 85 percent of the amount he or she hoped to extract. This figure would be far less than the \$141 million the passive investor would be willing to pay.

Alternatively, the active investor might cause the excess cash to be distributed immediately and then cause Advance to pay dividends at the highest possible level. Assuming that the active investor would insist on an after-tax yield on his or her investment of about 13 percent or 14 percent, Goldman Sachs concluded that the active investor would be willing to pay \$150 million for the Advance common stock.

- A control investor would have purchased the Advance common stock with the goal of acquiring 100 percent of the equity ownership and control of the company. A control investor would hope to realize value from his or her purchase by dividend distributions, by liquidation, or by merger, but Advance's unusual capital structure would prevent the latter two courses of action without eliminating the preferred stock or securing their consent. The preferred had the right to block liquidation. Because the common's power to effect a merger adverse to the preferred's interests was so uncertain, Goldman Sachs concluded that any willing buyer, as a matter of sound business judgment, would analyze the value of the common as if that option were foreclosed. Goldman Sachs' analysis is persuasive.

Goldman Sachs concluded that only another media company would be interested in acquiring Advance and that none of the major media companies would have considered buying the common stock without first eliminating the claims of the preferred shareholders. Because the control investor would assume that he could not receive anything except 22 percent of the highest level of dividends declared, he or she would be in the same position as the active investor and would pay no more than what the active investor would pay, that is, \$150 million.

- Goldman Sachs concluded that an underwritten public offering would be the best way to sell the Advance common stock, requiring the three different types of stock to be recapitalized into a single class. Goldman Sachs' research indicated that in approximately half of the transactions in which voting control was transferred, the buyers paid a premium for control. Goldman Sachs concluded that no control premium was warranted. Goldman Sachs then determined that after exchanging the class A common stock 1 for 3, and the class B common and the preferred stock 1 for 1, the offering price would be \$25 per share subject to a 7 percent discount. The price for all the shares would be \$778 million, and for petitioner's shares it would be \$176 million.

Because the benchmark value for a public offering, \$176 million, was the highest value, Goldman Sachs concluded that the value of petitioner's Advance common stock was \$176 million on February 29, 1980.



In a previous AICPA self-study program, *Business Valuation Methods*, Alan Zipp discussed the categories of investor. He stated the following:

### ***The Passive Investor***

A passive investor would not be interested in managing the business. He would expect to realize value from dividends and resale and not from liquidation, merger, or public offering. Although the passive investor neither controls management, business operations, nor cash flow, he would expect to have some influence on management to increase dividends in the future. The passive investor would consider a depressed resale value because a closely held company is not publicly traded. Due to this illiquidity, lack of control, the uncertainties of future dividends, and constraints affecting a resale, a passive investor would be willing to purchase the business only at a substantial discount, of perhaps 30% or more.

### ***The Active Investor***

The active investor would be inclined to pursue action, short of seeking control, that would quickly maximize the return on his investment. One course of action would be to pressure the control interest to declare a dividend. Continuous pressure on management to promote business growth and to distribute dividends would be the role of the active investor. Because of the time and uncertainty involved in this plan of action, the active investor would pay no more than 85% of the amount he hoped to extract as dividend distributions.

### ***The Control Investor***

The control investor would purchase an interest in a business with the goal of acquiring 100% of the equity ownership and control of the company. A control investor would hope to realize value from his purchase through excess salary and fringe benefits, dividend distributions, liquidation, merger, or perhaps a public offering. A control investor, being in a position to determine the timing and amount of dividend distributions, salary and fringe benefits, and liquidation or sale prospects, would be willing to pay about 90% of the amount he expects to receive.

### ***The Public Investor***

The public investor would purchase a business interest with the full acceptance of being a minority stockholder and having no influence over business operations. The public investor would hope to realize value from his purchase in the appreciation in value of the investment, along with dividends received. The public investor would only consider historical dividends, even though the company had the ability to pay higher dividends, because the public investor is not inclined to seek larger distributions. The public investor, unlike the passive investor, would make the investment only if the company planned to make a public or private offering creating a market for the shares. Therefore, in addition to a substantial discount for the lack of control and influence, illiquidity, uncertainty of future dividends, and risk of liquidation, the public investor would want a discount for the costs associated with the underwriting of a public or private offering, from 5% to 20%. Hence, the public investor in a closely held business would expect a discount from 35% to 55% or more.

The importance of this case is that it explicitly contends that the willing buyer of a company can be any number of possible buyers with varying intentions and return on investment requirements. The result of such a conclusion is the creation of an awareness that one type of buyer, based on his or her intentions, will pay a much different price than that of another buyer. As discussed previously, there are many different traits and factors that must be considered. The review of such issues is not relegated only to those mentioned within this case summary. The motivations for investment for the different classes of willing buyers can vary greatly. The difficult part of this exercise is to identify as many of the different classes of buyers as possible. Identifying the numerous reasons why one investor differs from another will support the existence of a difference in value even for the same company.

Although this portion of the willing buyer analysis is rational and sound, it is frequently overlooked. The process of valuation must consider all factors, regardless of whether they are used in the final conclusions of the report. Ensuring that all variables have been analyzed will justify conclusions better than by ignoring them.

The valuation analyst is faced with the challenge of defining the market for the subject interest being valued. Just keep in mind that the market should represent a rational, knowledgeable buyer and not the most gullible who will pay the most for the property. Gullible buyers don't count!

## Rules of Thumb

A very popular, but often abused, method of valuation for professional practices is the multiple of revenue method. This method is also referred to as the *industry rule of thumb* method. There are many disadvantages to this method. The major disadvantage is the number of different multiples that are used for the same type of practice. A classic example of the danger in applying this method is one of the historical rules of thumb for an accounting practice. Over the years, accounting practices have been sold for a range between 50 percent and 150 percent of gross billings. This means that an accounting practice with gross billings of \$1 million could be valued anywhere from \$500,000 to \$1,500,000. This is clearly too wide a spread to be meaningful. Disparities such as this take place all the time and must be considered before applying unsupported rules of thumb.

Sometimes, we will put a rule-of-thumb section into a report to act as a sanity check on the other methods of valuation. When we do this, we usually start off our reports with the discussion that started off this section of the book. This is illustrated in exhibit 23.14.

### EXHIBIT 23.14 Rules of Thumb

There were several "rules of thumb" located for accounting practices. In *Handbook of Small Business Valuation Formulas and Rules of Thumb*, published by Valuation Press, Glenn M. Desmond, ASA., MAI., suggests two methods:

- (1) A monthly net revenue multiplier of 9 to 15.

As a result of this multiplier, the value of the practice, without considering the retained assets, would be as follows:

	Low	High
Annual Forecasted Revenues	\$ 602,238	\$ 602,238
	÷ 12	÷ 12
Monthly Revenues	\$ 50,187	\$ 50,187
	× 9	× 15
Indicated Value	\$ 451,683	\$ 752,805
Retained Assets	(418,417)	(418,417)
Enterprise Value	\$ 33,266	\$ 334,388
Rounded	\$ 33,000	\$ 334,000

**EXHIBIT 23.14 Rules of Thumb**

(2) Annual owner's cash flow multiplier, with a multiplier between 2 and 5.  
The value range under this method is calculated as follows:

Normalized Owner's Cash Flow	\$ 420,289	\$ 420,289
Multiplier	× 2.0	× 5.0
Indicated Value	\$ 840,578	\$2,101,445
Add Retained Assets	(418,417)	(418,417)
Enterprise Value	\$ 422,161	\$1,683,028
Rounded	\$ 422,000	\$1,683,000

The problems with using rules of thumb are apparent when reviewing the wide divergence of values that are calculated, with little data supporting the conclusions. Although rules of thumb can sometimes be used as a sanity check on other methodologies employed by a valuation analyst, they should never be used as a stand-alone, viable, valuation method. In the example in exhibit 23.14, the rules of thumb created values ranging from \$33,000 to \$1,683,000, a 5,000 percent swing in values. Very meaningful, isn't it?

**Statutory Rule Value**

Once in a while, the valuation analyst will find a provision that is built into a professional licensing law that may require a particular methodology to be used in certain circumstances. If there is a statutory valuation method required, use it. Even if it is not required, it may give you one more indication to consider. A section of a report dealing with a statutory methodology is shown in box 23.2.

**BOX 23.2 Statutory Valuation Method**

The state of Arkansas has passed laws governing business formation and conduct within Arkansas. The Arkansas Professional Corporation Act, in particular, governs the formation; corporate names; limitations on officers; directors and shareholders; employees; certification; and price of shares of deceased or disqualified shareholders.

Although this valuation does not deal with a deceased or disqualified shareholder, the statute does provide guidance in determining value. The statute states the following:

**4-29-213. Shares of deceased or disqualified shareholder—Price.**

If the articles of incorporation or bylaws of a corporation subject to this subchapter fail to state a price or method of determining a fixed price at which the corporation or its shareholders may purchase the shares of a deceased shareholder or a shareholder no longer qualified to own shares in the corporation, then the price for the shares shall be the book value as of the end of the month immediately preceding the death or disqualification of the shareholder. Book value shall be determined from the books and records of the corporation in accordance with the regular method of accounting used by the corporation.

In accordance with this statute, the value of John Smith & Company is determined as \$125,186, as stated in the balance sheet dated December 31, 1991, located in Schedule 1 at the end of this report.

Although the statutory method discussed in box 23.2 did not provide us with anything that was even remotely close to the values that we derived using other methods (other than the low end of the rule of thumb), it turned out to be pretty useful. In this valuation, the IRS was challenging the buyout of the senior partner from this accounting practice. In fact, the IRS agent claimed that the practice was worth a fortune. Unfortunately, he used the high end of a rule of thumb. Even the statutory method showed that it was not worth anywhere near what the agent came up with.

### Asset-Based Approach

More often than not, an adjusted balance sheet may be created for the purpose of figuring out what the value of the assets and liabilities are that may be retained by the owners if a market approach (transaction method) valuation is performed. Other times, it will be done to allow an excess earnings methodology to be used in the valuation. Using the asset-based approach will really depend on the composition of the asset base of the practice. Because so many practices get the majority of their value from the intangible assets, going through the tedious exercise of reviewing each balance sheet item and valuing them separately may make little sense. However, some of the assets that we discussed earlier may need to be valued even if a full balance sheet valuation is not performed. The valuation analyst needs to use his or her head. I hope that valuation analysts don't need this next exhibit, but in case they do, exhibit 23.15 demonstrates the result of an adjusted book value methodology being applied to a professional practice (tangible assets only) without the explanations of each adjustment because analysts have seen many of them before. This book is already thick enough without repeating this stuff again.

#### EXHIBIT 23.15 Adjusted Book Value Presentation Tangible Assets Only

**ADJUSTED BOOK VALUE.** The firm's balance sheet was prepared as of December 31, 2016, a couple of days prior to the valuation date. Book value rarely reflects the fair market value of the company's balance sheet; therefore, certain adjustments were deemed necessary by the valuation analyst. This analysis is shown in table 2.

**TABLE 2 Balance Sheet**

	Book Value	Adjustments	Adjusted Book Value
Current Assets			
Cash	\$ 74,365	—	\$ 74,365
Accounts Receivable	—	97,464	97,464
Advances	(14,719)	—	(14,719)
Work-in-Progress	—	51,305	51,305
Prepaid Insurance	—	8,481	8,481
Other Investments	6,875	—	6,875
<b>Total Current Assets</b>	<b>\$ 66,521</b>	<b>\$ 157,250</b>	<b>\$ 223,771</b>

*(Table continued)*

**EXHIBIT 23.15 Adjusted Book Value Presentation Tangible Assets Only****TABLE 2 Balance Sheet** *(continued)*

	Book Value	Adjustments	Adjusted Book Value
Gross Fixed Assets	\$ 47,969	\$ (7,739)	\$ 30,230
Accumulated Depreciation	(42,966)	42,966	—
Net Fixed Assets	\$ 5,003	\$ 25,227	\$ 30,230
Other Assets			
Cash Surrender Value of Officer's Life Insurance	75,000	—	75,000
<b>TOTAL ASSETS</b>	<b>\$ 146,524</b>	<b>\$ 182,477</b>	<b>\$ 329,001</b>
Current Liabilities			
Mortgages and Notes Payable (Current)	\$ 6,519	\$ —	\$ 6,519
Unfunded Deferred Compensation Payable	—	39,059	39,059
Funded Compensation Payable	—	75,000	75,000
Taxes Payable	6,968	—	6,968
Total Current Liabilities	\$ 13,487	\$ 114,059	\$ 127,546
Long-Term Liabilities			
Unfunded Deferred Compensation Payable	\$ —	\$ 530,486	\$ 30,486
Loans from Stockholders	7,851	—	7,851
Total Long-Term Liabilities	\$ 7,851	\$ 530,486	\$ 538,337
Total Liabilities	\$ 21,338	\$ 644,545	\$ 665,883
Stockholders' Equity			
Common Stock	\$ 200	\$ —	\$ 200
Paid-In Capital	8,910	—	8,910
Retained Earnings	116,076	(462,068)	(345,992)
Total Stockholders' Equity	\$ 125,186	\$ (462,068)	\$ (336,882)
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<b>\$ 146,524</b>	<b>\$ 182,477</b>	<b>\$ 329,001</b>

## Conclusion

Valuing a professional practice is not too terribly different than valuing other types of businesses. However, the valuation analyst must understand the unique aspects of each type of practice if a reasonable value is to be determined. I hope that this chapter provided some things to think about the next time (or the first time) a valuation analyst either values or reviews a professional practice.

# Chapter 24

# Ownership Disputes

## Learning Objectives

In this chapter, I will attempt to explain the following:

- What causes ownership disputes
- The difference between dissenting and oppression cases
- The impact of case law on the standard of value and valuation adjustments
- Valuation methodologies accepted by the courts
- Anything else that comes to me (by now, you should be used to me)

## Introduction

Before I begin, let me start off with some attribution for the materials that are included in this chapter. In addition to my own stuff, valuable information came from my reading and, in some instances, from adapting portions of materials from *Valuing a Business*<sup>1</sup> and *The Handbook of Advanced Business Valuation*.<sup>2</sup> Like I said earlier: If it ain't broke, don't fix it. There is another resource that you should have in your library if you do this type of work: *BVR's Guide to Fair Value in Shareholder Dissent, Oppression and Marital Dissolution*, published by Business Valuation Resources, and updated annually. These books, in addition to so much other material, have allowed me to organize this chapter.

In this chapter, I am referring to ownership disputes, rather than shareholder disputes, because not all disputes are only among corporate owners. They can be among members of limited liability companies, partners, or any types of owners or beneficial owners that may have legal rights under state statutes. If the valuation analyst has been involved with shareholder disputes, he or she cannot assume that the laws are the same for limited liability companies or partnerships. The various jurisdictions have different statutes for these different types of entities. Guidance should always be obtained from the client's legal counsel before embarking on the journey of ownership disputes.

I probably should not have to state this upfront, but I want to play it safe. Ownership disputes typically result from a minority owner who feels that he or she (or they) have not been treated fairly by those who have control over the company. A controlling owner would probably not have to file a lawsuit against himself or herself. Therefore, individuals who own minority interests in closely held entities are subject to an additional element of risk solely because they have a minority position in the entity. The major risk factor is that they cannot exercise the prerogatives of control that were discussed in chapter 14. As such, this significant lack of control causes them to have a lack of liquidity because who in their right mind wants to buy minority shares in a closely held company? As a result, they are prisoners in the company. The information in box 24.1 shows what a minority shareholder typically cannot do because he or she does not have exercisable control. However, if the valuation analyst was valuing a partnership interest instead of a corporate interest, the items in box 24.1 on the following page, would have to be modified because a partner can cause a liquidation under the *Uniform Partnership Act* if there is no agreement to the contrary.

1 *Valuing a Business*, 5th edition, by Pratt and Niculita, has some excellent materials throughout.

2 *The Handbook of Advanced Business Valuation*, edited by Robert Reilly and Robert Schweihs. See in particular chapter 15, authored by Anne C. Singer and Jay E. Fishman.

**BOX 24.1****Common Exercisable Majority Ownership Rights**

- Appoint or change operational management
- Appoint or change members of the board of directors
- Determine management compensation and perquisites
- Set operational and strategic policy and change the course of the business
- Acquire, lease, or liquidate business assets, including plant, property, and equipment
- Select suppliers, vendors, and subcontractors with whom to do business and award contracts
- Negotiate and consummate mergers and acquisitions
- Liquidate, dissolve, sell out, or recapitalize the company
- Sell or acquire treasury shares
- Register the company's debt or equity securities for an initial or secondary public offering
- Declare and pay cash or stock dividends, or both
- Change the articles of incorporation or bylaws
- Select joint ventures and enter into joint venture and partnership agreements

For the balance of this chapter, I am going to refer to shareholders and corporations, but understand that this could apply to other types of ownership and entities. Because this is a valuation book and not a legal treatise, I am going to keep it simple. These items are the prerogatives of control that were previously discussed. These are also the reasons for many shareholder lawsuits. When the minority shareholder feels that the controlling shareholder is taking advantage or mismanaging the company, a lawsuit frequently takes place. There are also times that the shareholder may be squeezed out of the company, triggering a lawsuit. In some jurisdictions, the lawsuit may occur because the corporation is in a deadlock situation. I will attempt to explain this stuff soon.

Many times, in a closely held company, the minority shareholder is an officer or employee of the company, rather than purely an investor. Disputes arise when the controlling shareholder decides to

- terminate the minority shareholder as an employee, director, or officer of the corporation.
- change his or her salary.
- completely freeze out the minority shareholder.
- otherwise abuse him or her (this abuse is called *oppression*).

In order to avoid allowing the controlling shareholders to take advantage of the minority shareholders, most jurisdictions have passed laws to protect the noncontrolling owners. These laws provide minority shareholders with remedies for actions regarding fraud, abusive behavior, and mismanagement by the controlling shareholder. These laws are frequently referred to as *oppressed shareholders' statutes* or *dissolution statutes*. In

some cases, they are not the same. Make sure that you work with an attorney so that you are following the correct rules. Let me give you a quick example. We represented a shareholder who was effectively thrown out of the company that he founded, and he subsequently filed a lawsuit. The jurisdiction did not have an oppression statute. We were engaged to value his interest using a fair value standard based on the following description in a state statute:

FL §607.1301(4) defines fair value as follows:

'Fair Value' means the value of the corporation's shares determined:

- (a) Immediately before the effectuation of the corporate action to which the shareholder objects.
- (b) Using customary and current valuation concepts and techniques generally employed for similar businesses in the context of the transaction requiring appraisal, excluding any appreciation or depreciation in anticipation of the corporate action unless exclusion would be inequitable to the corporation and its remaining shareholders.
- (c) For a corporation with 10 or fewer shareholders, without discounting for lack of marketability or minority status.

So, what is the problem? If you reread the Florida statute that was quoted in the preceding paragraph, you would discover that this statute is part of the dissenting shareholder statute. A battle ensued between the attorneys about whether or not to accept our report because the case before the court was not a dissenting shareholder matter. It turns out there are no other definitions of *fair value* in the Florida statutes, so we were instructed to use this one as an indication of what would be necessary to do the correct thing (compensating the shareholder for what was being taken away from him), which is normally the concept in many fair value litigations. I cannot say what would have happened because The Court dismissed the action based on some other technical issues that had nothing to do with our valuation.



This is where we learn from the possible mistakes of others. Two weeks later, I was reviewing a report with an attorney regarding a deadlocked corporation matter in which I had used the preceding definition, once again, because of the lack of definition elsewhere in the Florida statute. He had me remove the statutory definition and insert the following instead:

According to Florida Statute §607.1436

Election to purchase instead of dissolution.—

(1) In a proceeding under s. 607.1430(2) or (3) to dissolve a corporation, the corporation may elect or, if it fails to elect, one or more shareholders may elect to purchase all shares owned by the petitioning shareholder at the fair value of the shares.

In *Cox Enterprises Inc. v. News Journal Corporation*, 510 F.3d 1350,1357 (11th Cir. 2007), the Court addressed the issue of fair value in the context of the above statute. It stated:

Fla Stat. § 607.1436 gives the court charged with valuing shares in a corporation discretion to determine the most appropriate valuation method by which to arrive at “fair value.” See *G&G Fashion Design, Inc. v. Garcia*, 870 So.2d 870, 873 (Fla. Dist. Ct. App. 2004) (‘A trial court’s selection of one valuation method over another does not require reversal.’) (also citing *In re Walt’s Submarine Sandwiches, Inc.*, 569 N.Y.S.2d 492, 493, 173 A.D.2d 980, 980 (N.Y.App.Div.1991) (‘The valuation process is fact specific with an emphasis on the particular circumstances of the case.’)); see also *In re Blake v. Blake Agency*, 486 N.Y.S.2d 341, 347, 107 A.D.2d 139, 146 (N.Y.App.Div.1985) (‘The factors to be considered [in determining ‘fair value’] are, inter alia, market value, investment value, and net asset value, [and t]he weight to be accorded each factor depends upon the circumstances of the particular case.’) (citations omitted). When trial judges are given such discretion, ‘we review only for an abuse of that discretion.’ *FDIC v. Morley*, 915 F.2d 1517, 1523 (11th Cir.1990). In reviewing for abuse of discretion, we recognize the existence of a ‘range of possible conclusions the trial judge may reach,’ and ‘we must affirm unless we find that the district court has made a clear error of judgment, or has applied the wrong legal standard.’ *Amlong & Amlong, P.A. v. Denny’s, Inc.*, 500 F.3d 1230, 1238 (11th Cir.2007).

The Court went on by stating:

#### A. Consideration of Fair Market Value

Florida courts have explained that determination of ‘fair value’ for the purposes of the election statute ‘rests on determining what a willing purchaser in an arm’s length transaction would offer for an interest in the subject business.’ *G&G Fashion Design*, 870 So.2d at 871; see also *Friedman v. Beway Realty Corp.*, 87 N.Y.2d 161, 638 N.Y.S.2d 399, 661 N.E.2d 972, 976 (1995) (applying New York statute similar to Florida’s statute). This is not to say that ‘fair value’ is synonymous with ‘fair market value.’ Most courts have rejected the notion of such synonymy. See *Boettcher v. IMC Mortg. Co.*, 871 So.2d 1047, 1052 (Fla. Dist. Ct.App.2004). However, the terms are not mutually exclusive. On one hand, as Florida courts have explained, where ‘fair market value’ would take into account appreciation or depreciation in anticipation of corporate action such as a merger or acquisition, the valuation process under § 607.1436 must exclude both positive and negative effects of any such impending transaction. *Id.* On the other hand, a court may use fair market value as an estimate of ‘fair value’ when such potentially distorting corporate actions are not at issue. See, e.g., *G&G Fashion Design*, 870 So.2d at 872-73 (affirming trial court’s reliance on market value approach and evidence of good faith, bona fide, arm’s length offer for minority shareholder’s shares in determination of ‘fair value’).

This just goes to highlight the vast differences between the definitions that a valuation analyst might see in the same jurisdiction. This is why the valuation analyst needs to get this information from an attorney and not take it upon himself or herself to determine the correct definition or statute to follow. Back to theory!

Every jurisdiction has enacted dissenters' rights statutes. These statutes provide an appraisal remedy for the minority shareholder who does not agree with certain types of transactions approved by the controlling shareholders that have a financial impact on the value of the minority shares. In these instances, the statutes generally provide the remedy of allowing the shares to be sold.

Despite the different reasons for dissenting and oppressed shareholder suits, the standard of value in most of these cases is fair value. For dissenting shareholders, the purchase of their stock for fair value is usually the only remedy. For minority shareholders seeking a remedy for oppression, fraud, mismanagement, or similar problems, the courts frequently have more latitude for the remedy. In most instances, the minority shareholder will be allowed to sell his or her shares back to the corporation at fair value. In some instances, the shareholder may be entitled to compensation as a measure of damages, but for the mismanagement of the company, the shares would have been worth this much. In a very rare situation, The Court<sup>3</sup> allowed the minority shareholder to buy out the controlling shareholders. Our firm was actually involved in that case! Justice was truly served when our client was allowed to purchase the shares of the controlling shareholders at their low-balled valuation figure and keep the company that he had worked so hard to build. Once in a while, there really is justice in our legal system.

Because oppressed and dissenting shareholders rarely, if ever, have a ready market for their stock on the open market, as do stockholders in publicly traded companies, fair value is an important standard of value to ensure that the minority shareholders receive adequate consideration for their investment.

As discussed in chapter 4, fair value is not clearly defined, but it is used in the vast majority of dissenters' rights<sup>4</sup> and oppressed shareholders' statutes. Whereas the term fair market value has a definition, *fair value* is rarely, if ever, defined in a statute. When it is, it is often in a particular statute that may not apply to the particular case (as was the situation I described in the preceding section). Therefore, the definition has been left to judicial interpretation. The valuation analyst must check with the client's attorney for the interpretation in the jurisdiction in which the litigation takes place. This stuff can get very tricky when it comes to control versus minority issues, as well as marketable versus nonmarketable issues.

## Dissenting Shareholder Matters

Minority shareholders who believe that the value of their shares in a company that is undergoing, for example, some form of transaction, recapitalization, or merger, is greater than the proposed consideration to be received by them are entitled, by statute, to dissent from the transaction, recapitalization, or merger. This generally means that they have to file a lawsuit. The lawsuit usually states something like, "I'm not getting what I believe to be the fair value of my shares, and I want more." Most of the time, these matters come about because of a merger; however, dissenting shareholders' rights may also come into play when a corporation sells substantially all of its corporate assets or makes certain changes in its basic organizational structure that results in its shareholders being compelled to sell their shares for what is perceived to be an unfair price. Notice the use of the word *compelled*. They usually do not have a choice. Remember the definition of *fair market value*: Neither party is compelled. Here, the seller is compelled. Even the buyer may be compelled. In most cases, the dissenting shareholder's only remedy is to seek an independent valuation as the basis for an alternative cash settlement. A book that nicely summarizes the case law as it pertains to different definitions of types of value is *Standards of Value*, which I mentioned previously in this book.

In dissenting shareholder actions, the appropriate standard or premise of value is fair value. In states that have adopted the Uniform Business Corporation Act, the definition of *fair value* is "the value of the shares immediately before the effectuation of the corporate action to which the dissenter objects, excluding any appreciation or depreciation in anticipation of the corporate action unless exclusion would be inequitable." However, even in those states that have accepted this definition, there is little guidance about what this truly means. What is

<sup>3</sup> *Muellerberg v. Bikon Corp.*, 143 N.J. 167, 182, 669 A.2d 1382, 1389 (1996).

<sup>4</sup> Not all states have adopted the fair value standard in dissenters' cases.

somewhat clear, and actually seems to be agreed upon by most courts, is that fair value is not synonymous with fair market value.

Before we go any farther, let me comment about the quote from the Uniform Business Corporation Act. Notice that it states “immediately before the effectuation...” The key here is that the valuation analyst is trying to value the interest before the corporate action takes place. This means that the dissenting shareholder should not gain, nor be penalized, as a result of the action that is causing the dissension. If a merger will make the company stronger, that should not be taken into consideration. Also, if the corporate action actually hurts the value of the entity, the shareholder should not have to suffer due to the actions of the corporation. But notice the part of the quote that states “excluding any appreciation or depreciation in anticipation of the corporate action unless exclusion would be inequitable.” This section, which many states have omitted from their local statutes, is designed to provide flexibility for the court to do the “equitable” thing. Because fairness is the goal of this type of litigation, which usually takes place in a court of equity, the law is designed to allow factors to be considered by the court even if the value is affected by the corporate action. Now, with that being said, the question becomes whose job is it to determine whether a valuation analyst should exclude or include this information? Certainly, it is not ours to decide. This is a judgment call that must be left to the client’s attorney because it will most likely require a legal argument to be made. I frequently like to say that the attorney is the quarterback who calls the play, and I am the wide receiver who runs the pass pattern for the quarterback (if you are not familiar with football, just ignore my last statement).

Sometimes, equitable adjustments may be required separate and apart from the value that the valuation analyst determines. Here, too, it is not the job of the valuation analyst to determine these adjustments. We may quantify them, but we should be told which ones need quantification. I will discuss this point further in a short while.

Because the definition of *fair market value* involves the hypothetical willing buyer and the hypothetical willing seller (in other words, neither party is under any compulsion to buy or sell), there should be little doubt that a minority stockholder of a company involved in a statutory merger is a specific seller (not hypothetical) and is compelled to sell for a unilaterally determined price. In the absence of the right to refuse the “offer,” a dissenting shareholder has no choice but to seek fair value with the court’s help.

Under the principle of alternatives (discussed in chapter 4), the hypothetical willing seller, in a free and open market, has the option of rejecting a tender offer. As a result, the hypothetical buyers are typically motivated to pay a (control) premium in order to entice sellers to forego future participation or ownership. Distinctions between fair market value and fair value notwithstanding, guidance concerning the interpretation and application of fair value as evidenced by case law varies considerably between the jurisdictions.

One of the most important determinations affecting the calculation of fair value is the appropriate level of value—minority or controlling interest, marketable or nonmarketable basis. The case law is literally all over the place. In *Standards of Value*, the authors discuss various interpretations of the courts. I am not going to repeat them here. For the most part, my interpretation of the case law is that typically, in dissenting shareholder suits, the shares are valued as a pro rata share of the whole company. However, the question that the valuation analyst will have to address is based on value to whom? Certain case law discusses valuing the shares based on what the shareholder is giving up. That can make the income approach more important than the market approach. I will address this point soon.

Logically, if the entire company was sold, the minority shareholder would get a proportionate share of the transaction. Minority discounts are a concept applicable to fair market value. Because each shareholder should have the same value per share, minority discounts in fair value cases do not make sense. In fact, at least in the state of Florida, the legislation made sure that this would not be an issue. It specifically states “For a corporation with 10 or fewer shareholders, without discounting for lack of marketability or minority status.”<sup>5</sup>

.....  
5 The 2007 Florida Statutes, Title XXXVI, Chapter 607, Sec. 607.1301 Appraisal Rights; Definitions.

Case law for dissenting shareholder actions also seems to discourage the use of marketability discounts in the calculation of fair value. This is primarily due to the fact that there is some sort of transaction being proposed. This makes a market for the shares. Accordingly, the use of a marketability discount in calculating the fair value of the subject shares is not warranted. However, considering the complexity and contradictory nature of the case law in this arena, the valuation analyst should always rely on the advice of counsel on this issue. Have I said that enough times in this book? There will be a few more before we are through.

Minority shareholders who believe that certain fundamental or extraordinary corporate changes voted by the controlling shareholders will adversely affect the values of their interests in the company have statutory rights available as dissenters. Currently, the statutes of all states permit such shareholders to dissent from the controlling shareholders' action, compelling the corporation to purchase their stock.

In Delaware, the jurisdiction where an awful lot of this type of litigation takes place, only a merger or consolidation triggers dissenters' rights. However, under the statutes of most states, dissenters' rights are triggered by a variety of actions, such as a merger, sale, lease, exchange, or other disposition of all or substantially all the corporate stock.

Under normal circumstances, shareholders who wish to exercise their rights must give notice to the corporation that they intend to demand payment for their shares if the proposed action is approved in advance of the vote. The stockholder must then make a written demand for payment within some time period of the mailing of notice, advising that the corporate action was approved. In some jurisdictions, once the demand for payment is made, the dissenting shareholder no longer continues "to have any rights of a shareholder, except the right to be paid the fair value of his shares..."<sup>6</sup>

For example, in New Jersey, the applicable statute provides that the corporation must mail to each dissenting shareholder the financial statements of the corporation as of the latest available date and profit and loss statements for a 12-month period ending on the date of the balance sheet. The corporation may, at the time of this mailing, make a written offer to purchase the dissenting shareholder's shares at a specified price deemed to be the fair value. If no agreement about fair value is reached within the statutory time period, the dissenting shareholder may serve a demand on the corporation that it commenced an action to determine fair value. Once the action is initiated, the court may appoint a valuation analyst to estimate the fair value of the dissenter's shares.

## Oppressed Shareholder Matters

An oppressed shareholder case is, in effect, a corporate divorce between shareholders instead of husband and wife. These types of cases provide relief to a noncontrolling shareholder in a closely held business who seeks such relief because the controlling shareholder's fraud, oppression, or mismanagement. Courts have recognized that relief is frequently necessary for shareholders in closely held corporations because of the unique nature of a closely held entity. In a closely held company,

- shareholders who are employed by the company often expect to be active participants in management.
- when disagreements occur, the controlling shareholder usually has the ability to use his or her power to unfairly take advantage of the minority shareholder, preventing the minority shareholder from obtaining a fair return on his or her investment.
- the illiquidity associated with the minority shareholder's stock means that he or she may not be able to get out of the investment that he or she no longer wants.

Although courts usually have a number of equitable remedies available, including corporate dissolution, the most common remedy afforded minority shareholders is an award of fair value for their stock.

The buy-out remedy provides the minority shareholder with the ability to liquidate an otherwise relatively illiquid investment. If the system works properly, it provides the minority shareholder with a fair return on his or her investment, and it divorces people who do not want to stay married in business.

<sup>6</sup> This is the language that appears in N.J.S.A. (14A:11-3(2)).

Under most of the state statutes, the minority shareholder cannot just waltz into court and get the fair value for his or her stock. The shareholder usually has to prove oppression, fraud, or mismanagement before the court will order a buyout at fair value. In certain jurisdictions, once a minority shareholder files a lawsuit requesting dissolution of the corporation on the basis of oppression or related grounds, the controlling shareholder can automatically elect to purchase the shares of the minority shareholder for fair value. This turns the case into nothing more than a simple stock purchase, eliminating the allegations of oppression or wrongdoing. In some jurisdictions, the alternative of purchasing a minority shareholder's stock is irrevocable, absent court approval. In other states, the corporation may elect not to proceed with the purchase if it is dissatisfied with the value eventually set by the court for the stock. Once again, inconsistent laws make our job difficult. But that is why we get paid the big bucks!

The payment of fair value to an oppressed shareholder has been recognized as a complete and just remedy for oppression. The Delaware Supreme Court has said that fair value "measures that which has been taken from [the shareholder], viz., his proportionate interest in a going concern."<sup>7</sup>

## Fair Value

A proper understanding and definition of the applicable standard of value is a key to achieving a proper conclusion of value. The failure to stick to the correct standard of value can cause otherwise qualified business valuation analysts to greatly differ in their conclusions.

As mentioned previously, fair value is rarely legislatively defined. For business valuers, this often leads to confusion about the meaning of fair value in the context of these assignments. Moreover, even when the courts have addressed this issue, legal precedents can be vague or contradictory and, therefore, offer inadequate guidance about the application of the fair value standard. The dissenters' rights section of the Model Act<sup>8</sup> does not provide any direction as to how fair value is to be determined, although it contains a definition. This definition states

"Fair value," with respect to a dissenter's shares, means the value of the shares immediately before the effectuation of the corporate action to which the dissenter objects, excluding any appreciation or depreciation in anticipation of the corporate action unless exclusion would be inequitable.<sup>9</sup>

The definition contained in the Model Act has varied at the state level. Although some states have adopted that identical definition, other states use the definition without the final phrase "unless exclusion would be inequitable."<sup>10</sup> Some states use terms such as *fair cash value*,<sup>11</sup> *value*,<sup>12</sup> or even *fair market value*.<sup>13</sup> This is why you must know the rules of the jurisdiction.

The American Law Institute's concept of *fair value* as explained in *Principles of Corporate Governance* defines *fair value* as

... the value of the eligible holder's proportionate interest in the corporation, without any discount for minority status or, absent extraordinary circumstances, lack of marketability. Fair value should be determined using the customary valuation concepts and techniques generally employed in the relevant securities and financial markets for similar businesses in the context of the transaction giving rise to appraisal.<sup>14</sup>

7 Matter of Shell Oil Co., 607 A.2d 1213, 1218 (Del. 1992) (citations omitted), quoting *Tri-Continental Corp. v. Battye*, 74 A. 2d 71, 72 (Del. 1950); see also *Beerly v. Dept. of Treasury*, 768 F. 2d 942 (7th Cir. 1985).

8 The Model Business Corporation Act (MBCA) is a model set of law prepared by the Committee on Corporate Laws of the Section of Business Law of the American Bar Association and is followed by twenty-four states.

9 Model Act, '13.01(3).

10 The statutes of approximately 27 states contain the same definition of *fair value*. Approximately 14 other states, including New Jersey (N.J.S.A.'14A:11-3), use the same general concept of *fair value* without the final phrase "unless exclusion would be inequitable."

11 Ohio Rev. Code Ann. '1701.85(C) (Page's 1997 Supp.) (defined in the same way as *fair market value*); La. Rev. Stat. Ann. '12:131C(2) (West 1998 Supp.).

12 Kas. Stat. Ann. '17-6712 (1997 Supp.).

13 Cal. Corp. Code '1300(a) (West 1998 Supp.).

14 *Principles of Corporate Governance: Analysis and Recommendations*, Volumes 1 and 2, The American Law Institute, Section 7.22: 315.

Notice in this definition the phrase “absent extraordinary circumstances.” For those jurisdictions that follow this concept, a discount for lack of marketability will generally not be applied unless there are extraordinary circumstances. For example, a discount may be applied in a situation in which a minority shareholder interferes with business relationships to spite the controlling owner. Even though oppression may be demonstrated, the court may choose to punish the minority shareholder for his or her poor behavior in trying to hurt the business. This too, however, is a legal call and should be discussed with the client’s attorney.



#### Author's Note

The definition of fair value should never be taken from a valuation textbook because it is only through statutes and case law, which vary by jurisdiction, that the proper definition can be determined. I see valuation analysts quote books and make a determination that fair value is fair market value without discounts. Although this is sometimes the result, many times it is not. Please do not take the chance that you may get lucky. If you feel that lucky, buy a lottery ticket!

Fair value will usually be different than fair market value. Because *fair market value* refers to the price at which stock would be bought and sold in the marketplace, the estimation of the value of a minority shareholder’s stock under this standard may include a discount for lack of marketability and a discount for minority ownership interest. The methodology used in a fair value assignment may also be different than in a fair market value assignment. This could be the case in which the *market* price of stocks is not reflective of the *true* value of the guideline companies, resulting in a market value, but not a fair value, of the subject interest. If you do not think that this matters, think again. There can be times that the *true* value of what a shareholder is giving up may be miles apart from the fair market value of that interest. A portion of a fair value report where we attempted to reconcile the differences between the market approach and the income approach is shown in exhibit 24.1.

### EXHIBIT 24.1 Measuring the True Worth of What is Being Given Up Reconciliation of Values

In this valuation, various approaches to value were considered. The asset approach was eliminated because it did not consider the earnings potential of the Smith Entities. The remaining approaches resulted in the following:

Income approach	
Discounted cash flow	\$194.0 Million
Market approach	
MVIC to EBIT	148.0 Million
MVIC to debt-free net income	159.0 Million

We believe that the income approach results in the closest indication to fair value. The market approach is more indicative of fair market value. The pricing multiples are considerably lower than the intrinsic value of the guideline companies when considering the outlook for the future.

We further researched information in the public domain from the valuation date back, to attempt to resolve the issues of the market price of the stocks in the trucking industry. The following information summarizes our findings:

- *Fortune*—September 18, 2000

These are dark days for the trucking sector. Gas prices are soaring, the economy is slowing down, and interest rates are still one big question mark. Maybe that’s why shares of trucking companies linger at about book value. But at least one fund manager—PBHG Small Cap Value’s Jerome Heppelmann—thinks it’s time to buy.

### EXHIBIT 24.1 Measuring the True Worth of What is Being Given Up Reconciliation of Values *(continued)*

He's boosting his funds' weighting in trucking stocks from 2.5% to 4%, namely, with four companies: Swift Transportation, JB Hunt Transport Services, Covenant Transport, and US Xpress.

- *Morgan Keegan*—November 28, 2000

For regional, less-than-truck-load (LTL) carriers, rate increases have been gained more consistently. The LTL carriers, in general, pushed through a 4% to 6% rate increase this fall, which typically covers one-half of their revenue base. The other half of the revenue base is typically contractual in nature, and rate increases are sought as contracts expire. Truckers report that the pricing environment for LTL service is as good as it has been in recent memory. An estimated \$1.0 to \$1.5 billion in annual revenue/capacity has been taken out of the industry in the past two years as three major regional LTL carriers have ceased operations. This removal of capacity has been good for the remaining players. We believe regional LTL carriers are also benefiting from secular changes in shipping trends. As more and more distributors, manufacturers, and retailers practice just in-time inventory management, the need for high service freight delivery increases. Just-in-time also means smaller, more frequent shipments. Both of these dynamics favor the service-sensitive product offering of the LTL carriers.

A quick review of the data in table 5 shows us that our list of trucking companies, without exception, are all trading at a discount to their respective average P/E calculated over the past three years. Most are trading within earshot of their low P/E over that three-year time period, well below the high P/Es achieved.

**TABLE 5 Comparison of P/E Ratios**

	Historical P/E Hi-Low Avg	P/E on MK 2001 Estimate	P/E on MK EPS w/ (10%) Rev. Shortfall	P/E on MK EPS w/2% OR Increase	P/E on MK EPS w/Both Events
CVTI	24.5–5.3 / 13.2	8.1	9.5	15.2	18.5
HTLD	31.8–11 / 17.3	15.4	16.9	16.9	18.5
KNGT	34.8–11.1 / 21.6	11.8	13.3	13.6	15.3
MSCA	22.8–6.6 / 14	11.6	13.7	21.6	27.4
CRGO	11–4.8 / 8.1	5.4	6.0	7.0	7.8
SWFT	27.9–11.5 / 19.8	16.5	18.6	21.4	24.3
XPRSA	38.6–5 / 16.5	10.0	12.5	NM	NM
USFC	18.4–4.8 / 12.1	7.3	8.1	10.1	11.5
WERN	22.4–8.9 / 15	13.0	14.5	18.0	20.2

In our opinion, current valuations placed on our recommended truckers have assumed a recessionary environment in the year ahead. As industry conditions toughen, whether due to a slowing level of freight activity, higher fuel prices, or other reasons, we believe that consolidation will favor many of the carriers in our list of coverage. Though it is difficult to pound the table with doubt hanging over the growth prospects for 2001, we strongly encourage investors to have some exposure to the truckers on our coverage list.

Therefore, in our opinion, the fair value of the Smith Entities as an operating concern is estimated to be \$194.0 million.

#### Author's Note

We found that the investment bankers who followed most of the guideline companies had strong buy recommendations for these stocks. This added further proof that the market was undervaluing the companies. The Smith Entities were financially strong, postured for solid growth, and had a proven track record. Our client had also received very substantial dividends over the past 10 years. We believed that just because the stock market was depressed for the guideline companies, it was no reason to undervalue the subject company. This is why we concluded that the income approach better reflected the true or intrinsic value of what was being given up.

Shareholder disputes often include a battle about which discounts, if any, should be applied. Although it is the intention of the court to be equitable, these discounts are the cause of extremely contentious litigation.

The New Jersey Supreme Court decided two separate cases on the same day: one dealing with a dissenting shareholder issue and the other dealing with an oppressed shareholder issue. The contrasting issue of which discounts, if any, should be considered by the court was addressed in these two rulings, which were explained in our firm's newsletter and are reproduced here in box 24.2. Although this seems like it is old, the case law today seems to be similar in most jurisdictions. Everyone is struggling with these same issues.

**BOX 24.2****Trugman Valuation Associates, Inc. Newsletter, Valuation Trends, Winter 2000 Edition**

In July 1999, the Supreme Court of New Jersey ruled on two fair value cases. One of these cases was filed as a dissenting shareholder action, while the other was filed under the New Jersey Oppressed Shareholder Statute. Although there were several issues on appeal in each case, the commonality between them was the issue of a discount for lack of marketability (DLOM). While we recognize that all of our readers are not from New Jersey, we felt that these two cases are a good follow up to the last issue's article. These cases highlight the differences that can arise under the same standard of value.

The *Lawson Mardon Wheaton, Inc. v. Smith* (A-63/64-98) case deals with a family-owned business. After a number of shares of this family-owned business were sold or conditionally sold to a British company, the board of directors approved a plan to restructure the corporation. The reason for this restructuring was to keep the stock in the family by restricting future public sales of the company's stock. When the plan was approved in 1991, those stockholders who did not approve were notified of their right to demand payment of the fair value of their shares under N.J.S.A. 14A:11-1 to -11, also known as the Appraisal Statute. Twenty-six shareholders owning approximately 15 percent of the shares dissented and demanded payment for their shares. The corporation offered \$41.50 per share, which included the deduction of a 25 percent DLOM. This discount was based on the belief that there was a limited market of potential buyers for this stock. When the dissenters rejected this offer, this action was instituted.

Both the trial court and the appellate court determined the price of the stock after considering a DLOM finding that there were "extraordinary circumstances" in this situation giving applicability to this discount. The Supreme Court disagreed.

The Supreme Court's opinion stresses the nature of the term *fair value* and states "courts must take fairness and equity into account in deciding to apply a discount to the value of the dissenting shareholders' stock in an appraisal action." The court goes on to say

Indeed, equitable considerations have led the majority of states and commentators to conclude that marketability and minority discounts should not be applied when determining fair value of dissenting shareholders' stock in an appraisal action. Although there is no clear consensus, the use of a fair value standard, combined with application of equitable principles, has resulted in a majority of jurisdictions holding that a dissenting shareholder is entitled to her proportional share of the fair market value of the corporation. The value of the shares will not be discounted on the ground that the shares are a minority interest or on the related grounds of a lack of liquidity or marketability.

In addressing the issue of extraordinary circumstances, the Supreme Court disagreed with the lower courts. According to the decision, extraordinary circumstances exist when a dissenting shareholder holds out in order to benefit him or herself by doing so. In this case, The Court felt that disagreeing (dissenting) to a corporate change was not extraordinary, but rather an ordinary business matter.

In light of the issue of fairness, and the fact that extraordinary circumstances did not appear to exist, the Supreme Court overturned the lower court on these issues and held that a discount for lack of marketability was not applicable in this case.

On the same date, The Court ruled in the opposite direction in *Emanuel Balsamides, Sr., et. al. v. Protameen Chemicals, Inc., et. al.* (A-27-1998), which was an action brought under the New Jersey Oppressed Shareholder Statute (N.J.S.A. 14A:12-7).

In this case, Mr. Balsamides and Mr. Perle were equal partners in a manufacturing business. After many years of jointly running the business, the partners began having trouble working together, and over a number of years, this relationship deteriorated. Mr. Balsamides sought relief as an oppressed shareholder. Under this statute, if The Court finds the plaintiff to be oppressed, The Court "may appoint a custodian, appoint a provisional director, order a sale of the corporation's stock [as provided below], or enter a judgment dissolving the corporation.. ." After a 19-day trial, The Court found that Mr. Balsamides was oppressed, that Mr. Perle had conducted himself in such a way as to harm the business, and concluded that Mr. Balsamides should purchase Mr. Perle's share of the business. The trial court determined the purchase price of these shares of stock after the deduction of a 35 percent DLOM.



**BOX 24.2****Trugman Valuation Associates, Inc. Newsletter, Valuation Trends, Winter 2000 Edition**

The case was appealed to the appellate division, which overturned the trial court's decision relating to this discount. The appellate court "concluded that such a discount was not appropriate in this case because there was no sale of Mr. Perle's stock to the public, nor was Mr. Balsamides buying an interest that might result in the later sale of that interest to the public."

The case was then appealed to the Supreme Court, which overturned the appellate division on the issue of the discount for lack of marketability. The decision stated

The position of the Appellate Division ignores the reality that Balsamides is buying a company that will remain illiquid because it is not publicly traded and public information about it is not widely disseminated. Protameen will continue to have a small base of available purchasers. If it is resold in the future, Balsamides will receive a lower purchase price because of the company's closely held nature.

If Perle and Balsamides sold Protameen together, the price they received would reflect Protameen's illiquidity. They would split the price and also share that detriment. Similarly, if Balsamides pays Perle a discounted price, Perle suffers half the lack-of-marketability now; Balsamides suffers the other half when he eventually sells his closely-held business. Conversely, if Perle is not required to sell his shares at a price that reflects Protameen's lack of marketability, Balsamides will suffer the full effect of Protameen's lack of marketability at the time he sells.

In the Balsamides decision, the Supreme Court distinguishes the two cases. In summary, the cases are distinct based on the facts and the different statutes under which these cases arise. Regarding Wheaton, the court states, "it would be unfair and inequitable to apply a marketability discount. To allow the major shareholders to buy out the minority dissenters at a discount would penalize the minority for exercising their statutory rights. Moreover, it would create the wrong incentives for shareholders." Regarding the *Balsamides* decision, the court states, "In cases where the oppressing shareholder instigates the problems, as in this case, fairness dictates that the oppressing shareholder should not benefit at the expense of the oppressed. The statute does not allow the oppressor to harm his partner and the company and be rewarded with the right to buy out that partner at a discount. We do not want to afford a shareholder any incentive to oppress other shareholders."

Despite the differences that appear to exist in the cases, the bottom line appears to be that The Court is looking for all shareholders to be treated fairly, regardless of the circumstances.

## The Valuation Date

A valuation is an estimate of value at a given point in time. The date of the valuation, whether statutorily mandated or otherwise, is of great importance (and by now, you know that). Most state statutes provide that when a dissenting shareholder's stock is to be purchased, fair value is determined as of the day prior to the meeting of the shareholders at which the action dissented from was opposed. The valuation analyst must get a copy of the statute and read it. For example, the New Jersey statute provides: "In all cases, fair value shall exclude any appreciation or depreciation resulting from the proposed action."<sup>15</sup> This means that the dissenting shareholder does not get credit for any gain, nor is he or she penalized for any loss that results from the action from which he or she dissented. This actually makes sense when you think about it.

Under the fair market value concept, the valuation analyst only uses information known or knowable as of the date of the valuation. Under the fair value concept, some courts have allowed subsequent information to be used, as well. I discussed subsequent events previously, so I am not going to repeat that discussion here. However, if that discussion has already been forgotten, go back and start reading this book all over again. The Delaware Supreme Court has ruled that the language limiting consideration of some post-merger changes in value eliminates the consideration of the speculative elements of value created by the merger. It does not rule out consideration of elements of future value, including the nature of the enterprise, "that are known or susceptible of proof as of the date of the merger and not the product of speculation..."<sup>16</sup>

In reading the statutes, the valuation analyst should pay close attention to the wording. For example, under the New Jersey statute applicable to oppressed shareholders, the purchase price of any shares sold "shall be their fair value as of the date of the commencement of the action plus or minus any adjustments deemed

<sup>15</sup> N.J.S.A. '14A: 11-3(3)(c).

<sup>16</sup> *Weinberger v. UOP, Inc.*, 457 A.2d 701 (Del. 1983); see also *Cede & Co. v. Technicolor, Inc.*, 684 A.2d 289 (Del. 1996).

equitable by the court.”<sup>17</sup> Notice the phrase “plus or minus any adjustments deemed equitable by the court.” This gives the court latitude to do the fair thing. Many times, equitable adjustments will be made by the court. In some instances, it will be the role of the valuation analyst to provide these adjustments to the judge or jury. A section of a valuation report in a fair value litigation is contained in exhibit 24.2.

This section was included at the end of the valuation report. Our client was going to be bought out. The valuation date was determined by the court to be January 31, 1996. Again, some of these older cases are great teaching tools.

## EXHIBIT 24.2 Equitable Adjustment Analysis

At the request of Tom Sawyer, Esq., we have performed an analysis that is intended to assist the court regarding the issues raised in *William C. Musto v. Vincent G. Vidas, John S. Degnan, and Semcor, Inc.* (333 N.J. Super. 52 (App. Div. 2000)), particularly regarding the issues of interest and double recovery. Interest is considered under N. J. S. A. 14A:12-7(8)(d).

**Interest.** N.J.S.A. 14A:12-7 (8)(d) provides that:

Interest may be allowed at the rate and from the date determined by the court to be equitable, and if the court finds that the refusal of the shareholder to accept any offer of payment was arbitrary, vexatious, or otherwise not in good faith, no interest shall be allowed.

The court selected January 1996 as the valuation date, but the monies will not be paid to Susan Littleton until sometime in the future, many years after the valuation date. The statute compensates for the time lag through a consideration of interest. We must determine an appropriate interest rate.

In *Musto*, an argument was made regarding the use of an “equitable interest rate.”

The court determined that the interest rate to be used should be a rate that pertains to a creditor/lender as opposed to an equity owner. In fact, Judge Gottlieb used the prime lending rate, compounding the interest annually. He stated

Now interest. Defendants urge that it be not available but realistically as—a cutoff as of March 1992. This is when the several motions were made which memorialized a buy-out offer of the other. I’m not going to go on with that because then that overlooks the ultimate fact and that is that defendant had the use of plaintiff’s money...

What I have selected for the use of an interest rate payable here is the prime rate and why I have selected the prime rate is, it is most analogous to a corporate borrower and in light of Semcor’s solid financial position ...

I am not going to use the risk free rates, and by that I refer to the treasury notes, treasury bills, CDs, that sort of thing, since that would be intellectually inconsistent with my earlier determination of fair value where I said the cap rate which I have to apply ... to the income stream or reasonable income in order to arrive at the formulation of value, put a certain amount in there additional for Semcor not being, “risk free.”

I have thought about .... whether it should be compound or simple .... What I’ve done is try, since I’m using the prima [sic] rate.... to figure out if it were going to ABC Bank what it would be doing in borrowing X dollars for two years, four years, whatever it is, some period longer than one year.

In that marketplace, to my knowledge, it would be compounded on an annual basis at best, maybe compounded at a shorter period of time. That’s why I have chosen compounding as opposed to simple. I have chosen annual as opposed to quarterly compounding only because it seems to me that in the light of the events that occurred if it had been the equivalent circumstance the lending of money to Semcor would have been on probably not a quarterly compounding basis but on an annual.

In this instance, the fair value of Susan Littleton’s interest in the Littleton Entities was determined to be \$44,100,000 as of January 31, 1996. Interest should be added from that date.

In *Musto*, the court used the prime rate because “it is most analogous to a corporate borrower and in light of Semcor’s solid financial position...” According to the 1995 financial statements for the operating Littleton Entities, the interest rates being paid by these companies were as follows:

.....  
17 N.J.S.A. '14A: 12-7(8).

**EXHIBIT 24.2 Equitable Adjustment Analysis**

Notes payable to banks due in installments through December 2002 at interest rates of 8.75 percent to 9.48 percent.

Notes payable to financial institutions due in installments through August 2002 at interest rates of 7.5 percent to 13.2 percent.

On a weighted average basis, the Littleton Entities were paying about 10.35 percent.\* Since this is the rate of interest being paid by the Littleton Entities, we have applied this rate, with annual compounding through July 31, 2001. This calculation is included in table 55.

<b>TABLE 55 Pro Rata Valuation Plus Interest</b>	
Pro rata 1/3 ownership	\$44,100,000
Interest (10.35%)	
1/31/96–1/31/97	4,564,350
	\$48,664,350
1/31/97–1/31/98	5,036,760
	\$53,701,110
1/31/98–1/31/99	5,558,065
	\$59,259,175
1/31/99–1/31/00	6,133,325
	\$65,392,500
1/31/00–1/31/01	6,768,124
	\$72,160,623
1/31/01–7/31/01	3,734,312
<b>Total</b>	<b>\$75,894,936</b>

\* It is important to note that these rates represent collateralized loans that are secured. Any interest calculated for unsecured loans would normally be at a higher rate of interest to account for the additional risk to the lender.

**Double Recovery.** After considering interest, the next item to consider is whether any adjustment should be made for the monies received by Susan Littleton after the buy-out date to avoid a double recovery. The issue raised in *Musto* was whether the court should have permitted an equitable adjustment of account for the post-valuation growth until the stockholder's interest was actually redeemed. The facts in *Musto* are different than the litigation at hand.

In *Musto*, the plaintiff filed his complaint in December 1990. Shortly before the complaint was filed, the plaintiff was terminated from the company. The plaintiff received his year-end 1990 distribution, but received no other bimonthly distributions or paychecks from the company after that. He actually left in February 1991. In July 1991, he received a distribution from the company in the amount of \$200,000 and received an additional \$550,000 in deferred compensation. Value was determined in 1996, although *Musto* was out of the company for more than five years, earning his living elsewhere.

(continued)

**EXHIBIT 24.2 Equitable Adjustment Analysis** *(continued)*

In the most recent appellate decision, Judge Wallace stated

Defendants maintain the trial judge was correct in not deviating from the presumptive valuation date set forth in the statute (the date of the filing of the complaint) because an award of post-1990 profits under any rationale would constitute an illegal double recovery since the determination of fair value is actually based upon a company's future income stream. Defendants further assert that plaintiff would not have sought a post-1990 valuation date if Semcor's value had decreased after 1990. *Musto*, 333 N.J. Super. at 58-59.

The valuation date was set by the judge in this case as January 31, 1996. This is the date that has been used in our report. However, unlike *Musto*, Susan Littleton continued to work for the Littleton Entities after the valuation date. She continued to assist in creating value for the entities that she was being bought out of. The statute requires the court to consider whether any equitable adjustments should be made to reach a fair and just result for all of the parties to this litigation. N.J.S.A. 14A:12-7(8)(a) provides:

The purchase price of any shares so sold shall be their fair value as of the date of the commencement of the action or such earlier or later date deemed equitable by the court, plus or minus any adjustments deemed equitable by the court if the action was brought in whole or in part under paragraph 14A:12-7(1)(c).

In the *Musto* decision, Judge Gottlieb subsequently decided against an equitable adjustment for post-complaint corporate profits. Discussing the trial court's use of discretion, the appellate court stated

Thus, if the judge had allowed an equitable adjustment to account for a company's actual growth in the years following the valuation date, he might as well have accorded plaintiff a double recovery. Consequently, we find no abuse of discretion in the trial judge's denial of plaintiff's request for equitable adjustments to fair value. *Musto*, 333 N.J. Super. at 64.

To prevent any such double recovery, after applying interest, we must examine the money that Susan Littleton received after the valuation date to see what portion represents compensation for the work that she continued to perform as an employee of the company and what portion represents payment for her equity interest.

In order to respond to this issue, we reviewed the various entities' tax returns and financial information after 1995 (although January 1996 should be excluded from this analysis, we did not have the detail that would allow us to exclude it). Susan Littleton received the following monies from the Littleton Entities:

	Salaries	Commissions	Distributions
1996	\$ 498,429	\$1,425,000	\$ 38,400
1997	898,429	3,510,000	1,000,000
1998	1,172,927	3,380,000	2,638,477
1999	488,726	3,182,500	3,019,607
2000	500,000	1,000,000	1,314,500

**EXHIBIT 24.2 Equitable Adjustment Analysis**

In addition to the preceding, Susan Littleton was allocated profits and losses from the Littleton Entities as follows:

	1996	1997	1998	1999	2000
Company A	\$ (8,333)	\$ (9,657)	\$ (150)	\$ 2,506	N
Company B	7,979	6,710	10,495	9,637	O
Company C	(320,522)	(568,217)	(133,044)	94,539	T
Company D	17,807	(920,139)	(818,995)	(483,770)	
Company E	221,592	322,836	358,188	372,000	A
Company F	159,756	189,150	177,225	176,206	V
Company G	77,251	54,321	40,676	72,657	A
Company H	22,813	46,068	12,733	50,844	I
Company I	1,225,024	474,501	2,585,351	1,289,664	L
Company J	(171)	—	(200)	15,728	A
Company K	22,370	5,138	(200)	94,643	B
Company L	673,539	(746,437)	110,909	242,849	L
Company M	—	—	1,299,385	1,687,856	E
<b>Total</b>	<b>\$2,099,105</b>	<b>\$(1,145,726)</b>	<b>\$3,642,373</b>	<b>\$3,625,359</b>	

Some of the monies received by Susan Littleton may create a similar problem to the one that had to be addressed in *Musto*, namely the court's treatment of the deferred compensation received after the valuation date.

In disallowing the adjustment sought by the defendants, Judge Gottlieb stated

[I]t was characterized by the defendants as deferred compensation. It has been argued to me that .... that characterization was just a fiction in order to be able to take out of the corporation monies that year and still meet the equal compensation requirements.

[I]t was called deferred compensation.... to avoid taxes which would otherwise have had to have been paid to the State of New Jersey as a then subchapter S corporation....

So, the first concern that I have is the defendants have selected to go that route .... in order to gain a tax advantage and now having obtained that tax advantage wish to disavow it. I will not permit that. I find that they are estopped from characterizing it as anything other than deferred compensation for efforts before January 1, 1991.

The second basis is .... that it was paid pursuant to the equal compensation agreement and not for reasons of distributing to plaintiff a share of the corporation.

The appellate court, once again, supported Judge Gottlieb's opinion in stating

As noted above, N.J.S.A. 14A:12-7 (8)(a) authorizes a trial judge to make adjustments to fair value, either plus or minus, which the trial Judge finds equitable. The fact that Semcor was not obligated to make a payment to plaintiff, but did so voluntarily, does not mean the trial judge was obligated to make an equitable adjustment to fair value to account for the payment, or that his failure to do so constitutes an abuse of discretion. *Musto*, 333 N.J. Super. at 76.

(continued)

**EXHIBIT 24.2 Equitable Adjustment Analysis** *(continued)*

In this litigation, Susan Littleton received current compensation (salaries and commissions), as opposed to deferred compensation. She also received some cash distributions. Here, also, allocated profits and losses were reflected on the partnership and S corporation tax returns filed by the various companies.

The difficulties in trying to create an equitable adjustment would be determining which of the monies paid to Susan Littleton (salary, commission, or distributions) should be considered as a double recovery, and how the offsetting credit will be applied against these monies for all of the income taxes that have been paid on these items, including the allocated profits and losses.

Using an estimated 45 percent combined personal income tax rate, the net result of all of these items is as follows:

	1996	1997	1998	1999
Salary	\$ 498,429	\$ 898,429	\$ 1,172,927	\$ 488,726
Commissions	1,425,000	3,510,000	3,380,000	3,182,500
Allocations	2,099,105	(1,145,726)	3,642,373	3,625,359
Subtotal	\$ 4,022,534	\$ 3,262,703	\$ 8,195,300	\$ 7,296,585
Tax cost (45%)	1,810,140	1,468,216	3,687,885	3,283,463
Subtotal	\$ 2,212,394	\$ 1,794,487	\$ 4,507,415	\$ 4,013,122
Distributions	38,400	1,000,000	2,638,477	3,019,607
Net after tax	\$ 2,250,794	\$ 2,794,487	\$ 7,145,892	\$ 7,032,729
Noncash allocation	(2,099,105)	1,145,726	(3,642,373)	(3,625,359)
Net cash benefit	\$ 151,689	\$ 3,940,213	\$ 3,503,519	\$ 3,407,370

In addition to the preceding, the year 2000 figures have been estimated as follows:

Salary	\$ 500,000
Commissions	1,000,000
Allocations*	3,625,359
Subtotal	\$5,125,359
Tax cost (45%)	2,306,412
Subtotal	\$2,818,947
Distributions	1,314,500
Net after tax	\$4,133,447
Noncash allocation	(3,625,359)
Net cash benefit	\$ 508,088

\* At the time of the preparation of this report, the year 2000 figures were unknown. Because 1998 and 1999 were similar, we have estimated the year 2000 to be the same as 1999.

### EXHIBIT 24.2 Equitable Adjustment Analysis

Assuming that The Court wants to offset a portion of Susan Littleton's entitlement to avoid a "double recovery," the most that should be offset is the net cash benefit that has been received by her. The problem with adding back the entire amount is that Susan Littleton would also be giving back her compensation as an employee. The net cash benefit received by Susan Littleton should be reduced by whatever amount The Court deems to be reasonable to compensate her for her efforts as an employee during these years. This salary amount should be reduced by 45 percent to be consistent with our calculations.

**Reconciliation of Interest and Equitable Adjustments.** In the valuation analysis previously presented, a reasonable allowance for officers' compensation was estimated to be 2 percent of sales. This was unallocated between the officers, but if we assume that it was to be split evenly between Joan and Susan Littleton, each would be entitled to the following amounts:

1996	\$1,207,932
1997	1,328,725
1998	1,461,598
1999	1,607,757

The most equitable way to adjust the award to Susan Littleton would be to use the same level of compensation that was used in the valuation. This would avoid a "double recovery," and both value and compensation would be determined in a consistent fashion.

We believe the following calculation to be consistent with the intent of *Musto*.

Pro rata 1/3 ownership	\$44,100,000
1996 Equitable adjustment	512,674
<b>Subtotal</b>	<b>\$44,612,674</b>
Interest 1/31/96–1/31/97	4,617,412
<b>Subtotal</b>	<b>\$49,230,085</b>
1997 Equitable adjustment	(3,209,414)
<b>Subtotal</b>	<b>\$46,020,671</b>
Interest 1/31/97–1/31/98	4,763,139
<b>Subtotal</b>	<b>\$50,783,811</b>
1998 Equitable adjustment	(2,699,640)
<b>Subtotal</b>	<b>\$48,084,170</b>
Interest 1/31/98–1/31/99	4,976,712
<b>Subtotal</b>	<b>\$53,060,882</b>

(Table continued)

**EXHIBIT 24.2 Equitable Adjustment Analysis** *(continued)**(Table continued)*

1999 Equitable adjustment	(2,523,104)
Subtotal	\$50,537,778
Interest 1/31/99–1/31/00	5,230,660
Subtotal	\$55,768,438
2000 Equitable adjustment	456,566
Subtotal	\$56,225,005
Interest 1/31/00–1/31/01	5,819,288
Subtotal	\$62,044,293
Interest 1/31/01–7/31/01	3,210,792
Total Due to Susan Littleton	\$65,255,085

However, our client continued to be active in the business as a shareholder and employee until December 31, 2000. Significant dividends and distributions were made to the client subsequent to the valuation date, and the issue of double counting came up. Because the valuation was based on the anticipated future income stream, and the shareholder received part of that income stream, The Court wanted each side to address the issue of double counting. We performed our analysis in accordance with the case law that the judge and our client's attorney referred us to.

The determination of a valuation date, whether in a dissenters' rights case or an oppressed shareholder case (or any valuation case), is of considerable importance. This is because only those facts known or knowable at the valuation date should generally be considered. Courts have bought into this principle. It has been said that "valuation of securities is 'in essence a prophecy as to the future,' but this prophecy must be based upon facts available at the critical [valuation] date."<sup>18</sup> The Seventh Circuit Court of Appeals has stated that investors would be entitled to the future value "when 'known or susceptible of proof as of the [valuation] date....'" The court continued:

Here the subsequent events...were no more than speculation as of the time of the merger. We, like the district court, therefore exclude from consideration the fact that Mobil paid in 1980 more than twice the value implied by the merger in 1979. Only facts known in 1979 count . . . . Any increment of value attributable to changes after August 1979 [the valuation date] in the market for oil and gas, or to Mobil's willingness to make changes or bear special risks, belongs to [the purchasing] shareholders rather than [the selling shareholders]. The investors in a firm are entitled only to what it is worth as it exists, not as it could become in other hands.<sup>19</sup>

Therefore, the choice of a valuation date is essential because it acts as a cut-off date for the information that the valuation analyst may consider in performing the business valuation.

<sup>18</sup> Revenue Ruling 59-60, quoted in *Blass v. United States*, 344 F. Supp. 669, 670 (E.D. Ark. 1972).

<sup>19</sup> *Metlyn Realty Corp. v. Esmart Inc.*, 763 F.2d 826, 838 (7th Cir. 1985) at 838. See also *Kastenbaum v. Falstaff Brewing Corp.*, 514 F. Supp. 690, 698 (5th Cir. 1976) (elements to be considered in determining the value of known as of the date of the valuation"); *Gratto v. Gratto*, 272 N.J. Super. 140, 639 A.2d 390 (App. Div. 1994); *Bogosian v. Woloohojian Realty Corp.*, 923 E.2d 898 (1st Cir. 1991).



## Fair Value Methodology

Although business valuation contains many methods for a valuation analyst to use in estimating the value of a business, the valuation methods employed to estimate fair value have been heavily influenced by judicial precedents emerging from the Delaware courts. Delaware is the state where many public companies incorporate, and, as such, this jurisdiction sees more litigation in this area than many other jurisdictions. As a result of the case law that has come from these courts, Delaware's decisions have been followed in other jurisdictions. Although Delaware case law suggests that "all factors and elements which reasonably might enter into the fixing of value"<sup>20</sup> are relevant, until 1983 Delaware courts relied heavily on a fairly mechanical method known as the "Delaware Block Method." This method was adopted by a number of other states.

The Delaware Block Method had the valuation analyst

- derive separate values using methods under the income (based on earnings or dividends), asset-based, and market approaches.
- apply weights to each of the methods, depending upon the type of business being valued.
- add the results to determine the final estimate of value.

In the application of this method, the valuation analyst used pricing multiples derived from publicly traded guideline companies for the earnings or dividend methods. For public companies, the market approach would be based on some measure of the market price of the company's stock. In 1983, the Delaware Supreme Court decided the case of *Weinberger v. UOP, Inc.*<sup>21</sup> In this case, a minority shareholder objected to a freeze out merger, and the shares had to be valued. A *freeze out merger* occurs when a minority shareholder's interest in a corporation is involuntarily eliminated when controlling shareholders create a dummy corporation, transfer their stock to that corporation, and then agree to merge the old corporation with the new one. The new corporation acquires the assets and liabilities of the original corporation, with the controlling shareholders of the old corporation owning the stock of the surviving corporation. The minority shareholders no longer have any equity interest in the new business and have the right to receive only cash for their shares in the original company.

Although freeze out mergers may be thought to create special valuation problems because minority shareholders subject to a freeze out merger do not have a choice about whether to sell their stock, this is not the case. The valuation does not take into account any increased value or synergies that may result from the merger, and an ousted shareholder bears no costs or risks of the future enterprise and so should not share in its possible rewards. However, in *Mills v. Electric Auto-Lite Co.*,<sup>22</sup> it was determined that an undervaluation can occur in a freeze out situation.<sup>23</sup>

*Weinberger v. UOP, Inc.* became an important case because the Delaware Supreme Court held that the Delaware Block Method was "clearly outmoded" because it "excludes other generally accepted techniques used in the financial community."<sup>24</sup> Although this case did not totally eliminate the use of this method, it seems to have relaxed its exclusivity as a valuation method. Other valuation methods are much more common today. Thus, in most states, courts tend to base their valuation determination on any method accepted in the financial community. The discounted cash flow (DCF) method has become considerably more prevalent in the recent past.

The general interpretation by most courts in both dissenters' cases and oppression cases have held that fair value means valuing the business as a going concern, rather than as if in liquidation. This recognizes the fact that the business should be valued based on its status in the hands of the shareholders whose shares have been taken away from them. According to the Delaware Supreme Court, "The basic concept for value under the appraisal statute is that the stockholder is entitled to what has been taken from him, viz.,

20 *Tri-Continental Corp. v. Battye*, 74A.2d 71, 72 (Del. 1980).

21 *Weinberger v. UOP, Inc.*, 457 A.2d 701 (Del. 1983).

22 *Mills v. Electric Auto-Lite Co.*, 552 F.2d 1239, 1248 (7th Cir. 1977).

23 *The Handbook of Advanced Business Valuation*, p. 306.

24 547 A.2d at 713. See also *Stringer v. Car Data Systems, Inc.*, 314 Or. 576, 841 P.2d 1183, 1189 (1992) (fair value includes "all relevant factors"); *Schechter v. Watkins*, 395 Pa. Super. 363, 577 A.2d 585, 592 (1990) (in a forced buyout, the jury is instructed to consider any factor deemed appropriate).

*his proportionate interest in a going concern.*<sup>25</sup> However, as I indicated previously, the valuation analyst must check with counsel for the local interpretation. Not all states follow Delaware in this regard.

The battles that the valuation analyst may find himself or herself involved in can be truly challenging. The valuation analyst really has to know the valuation theory if he or she is going to compete in this business. A critique of a very large firm's valuation report in a shareholder dispute is included in exhibit 24.3. It has been edited to demonstrate only those points that have been discussed in this chapter (with a few other educational items thrown in). This firm only used a guideline company method, whereas we used the guideline company method and the DCF method. In this instance, the value derived using the DCF method was substantially greater than the guideline company method value because the guideline companies had a lower market value than intrinsic value.

### EXHIBIT 24.3 Partial Critique of Fair Value Report

**Page 1.** In the first paragraph of the executive summary, ABC Appraisal Co. says "Judge Harris directed that the purchase price be determined based on the fair value of John's interest as of January 31, 1996, or the end of the preceding year December 31, 1995 (valuation date), provided that the value not be materially different." This statement is incorrect. According to the November 1, 2000 order, Judge Harris specifically determined that the value was to be as of January 31, 1996. There is nothing in that order to indicate a different valuation date. The month does not materially change the value, but it allowed ABC Appraisal Co. to heavily rely on XYZ Appraisal Co., because their report was as of December 31, 1995. Practically speaking, we used December 31, 1995 financial data; however, the multiples and prices from the public market, as well as any known information to be considered in this valuation, should have included through January 31, 1996.

In the last paragraph on this page, ABC Appraisal Co. mentions reading the XYZ Appraisal Co. report, and they concur with XYZ Appraisal Co. that the market approach is the most reliable methodology to determine "the fair value of the interest." XYZ Appraisal Co. did not determine fair value, nor did they ever say that they were determining fair value. XYZ Appraisal Co. very clearly in their report determined fair market value, and any reliance by ABC Appraisal Co. on the XYZ Appraisal Co. report for fair value is incorrect.

ABC Appraisal Co. also states "because the Littleton Entities did not prepare financial forecasts, we could not perform a discounted cash flow (DCF) analysis, a form of the income approach." This statement is nonsense because ABC Appraisal Co. knew that the value would be considerably greater using a DCF because this company was a very profitable company and postured for substantial growth. The fact that the Littleton Entities did not prepare financial forecasts is not a reason for the valuation analyst not to perform a discounted cash flow analysis. We run into this situation, 90 out of 100 times in valuation when the company does not prepare its own forecasts. Part of being a valuation analyst is working with management to prepare a forecast or preparing your own, or both, because valuation is a prophecy of the future. Reliance on history, which the market approach does, will frequently undervalue the company, unless the valuation analyst is lucky enough to guess at the growth rate of the subject company and have guideline companies that are so comparable that little subjectivity has to be applied in the valuation process. This is rarely the case.

ABC Appraisal Co. also says "our valuation was based on all information that was known or should have been known as of the valuation date." This is clearly not true because they should have been able to determine, based on the financial information, that there was a ramping up of fixed assets, that the customer base was growing, that Littleton was coming out of their refinancing mode, and growth was clearly going to happen. All of this was known at the valuation date. They chose to ignore it.

ABC Appraisal Co. also said, "if such company forecasts had existed as of the valuation date, the value derived from a DCF analysis would be consistent with our determination of value." This is not true if fair market value understates the true value of the company. Clearly, we are dealing with an industry where the market was undervaluing these companies. Even reading the Alex Brown report attached to ABC Appraisal Co.'s report (which I will discuss later), the intrinsic value of most of these companies was considerably higher than fair market value. Because market perception is undervaluing these companies, a DCF analysis would not be consistent; if anything, the DCF analysis would tend to be considerably higher than the market approach. The DCF analysis actually values Littleton, as opposed to trying to make believe that the various publicly traded companies are a "good fit" in an industry that went through tough times in 1995.

<sup>25</sup> *In re McLoon Oil Co.*, 565 A.2d at 997, 1003 (emphasis in original).

### EXHIBIT 24.3 Partial Critique of Fair Value Report

**Page 2.** ABC Appraisal Co. indicates “an analysis of the guideline companies as of the valuation date indicates the market did not forecast any material future earnings growth.” While their statement may be correct regarding investors, and the prices that they are willing to pay for trucking company stocks, clearly growth was being forecasted. Morgan Keegan was forecasting anywhere from 18–35 percent growth (see page 48 of our report) and the analyst expectations regarding growth of guideline companies were substantial (see page 165 of our report). Alex Brown was forecasting 15–30 percent growth. ABC Appraisal Co. should have read their own attachment.

ABC Appraisal Co. also discusses at the bottom of the page that they determined a 35 percent discount for lack of marketability in this valuation. The 35 percent, which will be discussed in more detail later, is appropriate for a minority interest in a fair market value analysis under certain circumstances. This discount is punitive if applied in a fair value context, if the determination of value is to provide a pro rata interest in the company to the shareholder whose shares are being forced to be sold.

**Page 3.** At the top of the page, ABC Appraisal Co. indicates “John was found by the Court to be the oppressor, and should not gain disproportionately from the forced buyout.” While this may be true, he should also not be punished. The November 1, 2000 order of Judge Harris (on page 2) clearly indicates this.

**Page 5.** ABC Appraisal Co. indicates “we consider fair value to be based on the price that is ‘fair and equitable’ to both parties that would effectuate a transaction in the interest in The Littleton Entities on the open market.” This definition is problematic for a number of reasons. First, by treating a partial interest as being sold on the open market, they are clearly indicating that their valuation will be on a minority basis. I do not believe that that is the intent of the New Jersey Statute, as it appears that case law tends to disfavor a minority discount in fair value oppression cases. Therefore, treating an interest in the Littleton Entities on the open market is very different from treating the Littleton Entities on the open market. For this reason, I believe the premise that ABC Appraisal Co. is operating under violates the intent of the New Jersey Statute.

According to Pratt (*Valuing a Business*, page 352) “certain precedents—including those pursuant to California Corporation Code, Section 2000—have suggested that fair value may be interpreted to mean fair market value without a non-controlling ownership interest discount (i.e., a proportionate share of the overall business enterprise value).”

In discussing the difference between fair value and fair market value, Pratt includes a discussion in his book (page 801) on dissenting stockholder and minority oppression court cases. He states, “in most states, the standard value for dissenting stockholder suits and for minority oppression suits is fair value.” Several state statutes indicate that either “fair cash value” or simply “value” is the appropriate standard. While the various states interpret fair value quite differently from one another, and sometimes differently under differing facts and circumstances, they do not strictly equate fair value with fair market value.

This point is illustrated well by a New York court’s rejection of an expert’s valuation report based on fair market value in a dissenting stockholder case. The court stated

Because the petitioner’s expert ... in its valuation report (on title page) and on 15 occasions refers to its valuation to be based on Fair Market Value, and the Business Corporation Law only uses the term Fair Value... The Court considers it a threshold question as to whether fair value and fair market value are synonymous.

The standard upon which (the company’s experts) valuation was based, was market value... the statutory standard is much broader. . . The Court may give no weight (emphasis supplied) to market value if the facts of the case are required.<sup>1</sup>

Pratt indicates that the court ultimately rejected the fair market value of \$52 per share and awarded the dissenting shareholders \$99 per share. This illustrates the potential range of difference between fair market value and fair value. Another case cited by Pratt is *LeBeau v. N.G. Bancorporation, Inc.* (NO.CIV.A. 13414, 1998 WL 44993 (DEL.CH. Jan. 29, 1998)) In this case, when fair market value is used rather than fair value, the Delaware Court of Chancery stated that this was “legally flawed” as evidence regarding fair value.

ABC Appraisal Co. also says “pursuant to Judge Harris’s Order, we have used December 31, 1995 as the valuation date.” What order are they talking about? The November 1, 2000 order clearly indicates January 31, 1996 to be the valuation date. At the bottom of that same paragraph, ABC Appraisal Co., in discussing using only items that were foreseeable as of the valuation date, feels that this is consistent with *Musto*, which stated “equitable adjustments to fair value to reflect corporations’ growth in the years following the valuation date would have been improper.” However, equitable adjustments are very different from excluding anticipated growth. If something happens after the valuation date that caused the company to change, I would agree that this should be excluded if the foundation had not been set prior to the valuation date. In this instance, the economic, industry, and company data all point to the company being positioned for growth, including a substantial investment in rolling stock in the most recent year. This rolling stock was added for new business, as opposed to replacement of existing assets.

<sup>1</sup> *Matter of Slant/Fin. Corp. v. The Chicago Corp.*, (NYSUP. CT Oct. 5, 1995), aff’d 236 A.D. 2d 547, 654 N.Y.S.2d 627 (N.Y. APP. DIV. Feb. 18, 1997).

(continued)

### EXHIBIT 24.3 Partial Critique of Fair Value Report *(continued)*

Footnote 5 at the bottom of the page refers to the “Zukin book,” however, ABC Appraisal Co. does not discuss the context in which this quote is probably made. I have subsequent editions of this book as opposed to the 1990 book, but Zukin discusses dissenters’ rights cases and not oppression cases. Their underlying quote in the footnote would be true, except the New Jersey Statute also provides the court with the ability to make any equitable adjustments deemed necessary.

Rather than guessing at certain instances, actual information can be used as a sanity check on what might have been known or was knowable at that time. Based on our analysis of the actual 1996–1999 results, as compared to our forecasts for that same time period, it was reasonably predictable that this company should have been able to accomplish what it actually did. In fact, I believe it could have done better had management not been distracted by this litigation.

As a side note, getting back to the concept of being “fair and equitable,” what ABC Appraisal Co. wants the court to accept is that John gives up the income that he has received historically out of this business for \$8 million. Joe and Jane get to split what John gives up. If we discuss what would have actually been given up during 1996 to 2000, John received salaries, commissions, and distributions totaling \$24,066,995 (see page 191 of our report).

Even if we were to buy into the concept that ABC Appraisal Co.’s reasonable compensation for John of \$250,000 per year is appropriate, five years of compensation, or \$1,250,000 being subtracted from the \$24 million+ would result in John receiving excess distributions of \$22,816,995. On average, this is \$4.56 million per year. ABC Appraisal Co. wants the court to believe that someone receiving \$4.56 million per year should give this up for \$8 million. This defies common sense and logic.

What it also excludes is any rights in the future to receive this level of income. If we assume a simple capitalization of the \$4.56 million at 20 percent, this would result in a \$22.8 million value for the terminal period beyond the year 2000. Adding \$22.8 million to the other \$22.8 million that I have come up with would indicate a value of about \$45.6 million without any discounting being taken into consideration. This, in itself, indicates the serious flaw in the \$8 million value that ABC Appraisal Co. derives. It is anything but “fair and equitable” to give up a stream of income averaging \$4.56 million per year for only \$8 million.

**Page 9.** Once again, ABC Appraisal Co. indicates that they read pages 21–23 of the XYZ Appraisal Co. report, and that they believe that the XYZ Appraisal Co. discussion depicts an accurate portrayal of the general economic environment as of the valuation date. They also indicate that they agree with XYZ Appraisal Co.’s findings. First, did they do any independent analysis, or did they purely read XYZ Appraisal Co.’s report?

Second, despite the quote appearing at the top of this page, they ignore the fact that on page 23 of the XYZ Appraisal Co. report, it discusses stock market increases, particularly the Dow being up 33.5 percent, and the Nasdaq being almost 40 percent up in that year. What they also ignore is on page 23 of the XYZ Appraisal Co. report, where XYZ Appraisal Co. discusses the Federal Reserve Board lowering interest rates in December 1995 “to recharge the stalled economy.” This would have a positive effect on the value of the Littleton Entities.

ABC Appraisal Co. also states “the slowing economy led to a slowing within the trucking sector as retail sales and manufacturing production had been declining. These economic factors led to a decline in the demand for trucking services and a resulting over-capacity of trucks and service.” While this statement is true for 1995, they totally ignore the fact that it is expected to turn around in 1996 and forward. In fact, according to the Alex Brown report attached to the ABC Appraisal Co. report (on page 6), revenue growth is expected to be anywhere from 15–30 percent for this industry. The growth prospects for the industry look pretty good. ABC Appraisal Co., however, decides to only pick and choose that which serves their purpose in low-balling this valuation.

**Page 10.** According to ABC Appraisal Co., “market multiples in the trucking industry in 1995 were reflective of the economic outlook and other factors specific to the trucking industry.” This statement appears to be absolutely false when reading the Alex Brown report attached to the ABC Appraisal Co. report. In fact, Alex Brown is talking about many trucking stocks looking attractively valued to them, and they even indicate “stock valuations reflect diminished expectations and are at cyclically low levels.” They also indicate “we are 12-month bulls on trucking stocks, as we believe multiples are likely to expand on the prospect of yr/yr earnings growth in 2H 1996.”

Ironically, ABC Appraisal Co. also quotes from the Alex Brown report stating, “(Trucking) stocks with market capitalizations of less than \$100 million were penalized for their illiquidity and are trading at what we consider to be private company valuations (3–5x EBITDA, vs. 6–10x for larger stock).” First of all, we used a multiple of six in our report. What is also interesting is that ABC Appraisal Co. uses this to help try to support their lower earnings before interest, taxes, depreciation, and amortization (EBITDA) multiple, but they ignore the fact that Alex Brown is also talking about the public companies being penalized for their illiquidity, and that they are also trading at what looked like “private company valuations.” Despite all of this, ABC Appraisal Co. still wants to apply a 35 percent discount for lack of marketability (illiquidity). This is a clear case of double counting.

**EXHIBIT 24.3 Partial Critique of Fair Value Report**

**Page 11.** Once again, ABC Appraisal Co. refers to the XYZ Appraisal Co. report as the basis for the business description. They also acknowledge the breakdown of the company revenues being one-third for each of the following categories: less-than-truckload, truckload, and fleet management. This point becomes important in the search for guideline (comparable) companies because as XYZ Appraisal Co. pointed out in their report, comparability is frequently difficult to achieve.

XYZ Appraisal Co. valued the Littleton Entities separately and used different guideline companies for each because these companies did different types of trucking services. Now, we are comparing a broader category of company to a combined Littleton Entity, which actually makes them a bit less comparable. If anything, because of Littleton's diversification and the mix of business, they are probably less risky regarding any one aspect of the business, compared to the guideline companies. However, it makes comparability that much more of a problem. This is one more reason for questioning the validity of the outcome of the market approach.

**Page 12.** In discussing all of the nonconsolidated entities that were made part of this report, ABC Appraisal Co. lists Company A as being one of the companies included. One of the major differences between their report and our report is that we treated this valuation of Company A as a nonoperating asset, which added \$12.5 million to the value of the operating entity. It is my understanding from the real estate valuation analyst that this property was not legally zoned for the use, nor would it be necessary to use a \$12.5 million piece of property as a parking lot for trailers.

All of the other entities were combined in our report, as well, but here, also, there is a significant difference in value because of the treatment of these entities. At the bottom of the page, ABC Appraisal Co. indicates "... we conducted a functional review and benchmarking analysis of the non-consolidating entities contribution to the consolidating entities. This review indicated they were all functional components of the primary business." ABC Appraisal Co. should be questioned regarding the functional use of Company A.

**Page 13.** ABC Appraisal Co. also presents net fixed assets to sales and intangible assets to sales to indicate that the guideline companies have much greater levels of assets to sales than the Littleton Entities. Once again, this is not necessarily a deficiency on the part of the Littleton Entities. In reality, closely held companies have a lower ratio because they utilize their assets for a longer period of time because they do not necessarily have the asset replacement policy of the public companies. Once again, this is not necessarily a weakness. If the assets are in good working order, and if the assets do not require extraordinary repairs, what the private company effectively is doing is becoming more profitable by utilizing their assets for a longer period of time. ABC Appraisal Co. wants to turn this into a negative.

ABC Appraisal Co. also indicates "this analysis further confirms Judge Harris's conclusions that The Littleton Entities represented a single, unified entity." This analysis did not confirm that at all. Quite frankly, the judge is absolutely correct, but it is common sense that dictates that these entities have been operated as a single unified entity. The ABC Appraisal Co. analysis in no way confirms the unification of these companies.

Getting back to ABC Appraisal Co.'s assessment that the Littleton Entities was undercapitalized, nowhere does ABC Appraisal Co. recognize the fact that the officers of the company have been withdrawing extraordinary amounts of money, clearly indicating, as with most closely held companies, that they can operate the company as they wish to. Now,

ABC Appraisal Co. wants to penalize the value of the Littleton Entities for this reason. In reality, this company is not undercapitalized; it has had an extraordinary dividend paying capacity that the shareholders have taken advantage of.

It is important for the judge to understand that there is a very big difference between the operation of a public company and the operation of a closely held business. A public company has a board of directors that is charged with maximizing shareholder value. That is typically not the manner in which a private company is operated. A private company operates to not only minimize income taxes, but also to maximize the benefits to the current shareholders.

In this instance, while ABC Appraisal Co. talks about the Littleton Entities needing a capital infusion of \$19 million, they fail to recognize the fact that the excess compensation from 1993–1995 alone amounts to almost \$10 million. This is not taking into consideration any other cash distributions that were made to the shareholders during this period of time that were not considered to be compensation.

Clearly, the Littleton family, as a unified group, has elected to operate this company as a cash cow to the owners, rather than reinvesting these monies into the company. This does not necessarily mean that the company is weak. It shows that the company has the ability to operate in this fashion. In 1995, the company purchased or leased, or both, a significant amount of rolling stock to get ready for the next influx of business that was foreseeable in the upcoming year(s).

*(continued)*

### EXHIBIT 24.3 Partial Critique of Fair Value Report *(continued)*

Overall, the analysis included on this page is extremely misleading, and in my opinion, is intended to deceive the court rather than provide an independent analysis.

**Page 15.** In the discussion of valuation methods, ABC Appraisal Co. provides a brief description of the three basic approaches to valuation. I agree with them regarding not using a net asset approach. However, I clearly disagree with them regarding their lack of using the income approach. In the middle of the page, they state “we agree with XYZ Appraisal Co. that the market approach is the most appropriate methodology to determine the fair value of the interest. The income approach was considered, but not used, due to the lack of any contemporaneous projections prepared by The Littleton Entities during the general time frame of, or any time prior to the valuation date.”

There are several problems with this statement. First, while they agree with XYZ Appraisal Co., XYZ Appraisal Co. nowhere in their report refers to the standard of value as fair value. XYZ Appraisal Co. strictly performed a fair market value analysis. Fair market value is very different than fair value. Also, ABC Appraisal Co.’s rejection of the income approach because the Littleton Entities did not have contemporaneous projections is utter nonsense. As valuation analysts, we prepare projections in valuation reports on a regular basis. I find it hard to believe that ABC Appraisal Co. does not do the same. In fact, it would be interesting to get information from some of their old valuation reports, particularly the smaller, privately held companies, because more often than not, only the large companies have the internal staff to make projections. Valuation, in itself, is a prophecy of the future, and I find it hard to believe that ABC Appraisal Co. never uses the income approach.

ABC Appraisal Co. indicates, “inherent in the market approach are assumptions related to the future growth in cash flows and the associated risks in obtaining that growth.” However, they fail to further indicate that the growth inherent in the market approach is typically considered to be short-term growth, as opposed to long-term growth, which is considered in the income approach.

The public market is extremely short-term oriented, and more often than not, the multiples will reflect short-term growth. In fact, if a company has experienced substantial growth over the past several years, there is a good possibility that their multiples will be even lower than you would expect because the marketplace will have perceived that a lot of the growth has taken place, and that future growth will slow down. This is one of the misleading factors in comparing public companies to privately held companies, particularly where the public company has a track record of growing through acquisition.

Pratt discusses the various approaches to value in the context of dissenting rights and oppression suits. He indicates “most Courts embrace all three broad approaches to value (income, market, and asset-based approaches) in dissenting stockholder and judicial dissolution cases. The Chancery Court of Delaware has repeatedly expressed a preference for the discounted cash flow method (citations will be provided in sections to follow on the income approach). However, reliance on the DCF method is dependent on reasonable projections, which are not always available.” In discussing a Supreme Court of Utah case, *Oakridge Energy v. Clifton*, No. 960049, 1997 WL 191487 (Utah April 18, 1997), Pratt indicates

The Court noted that the consensus of the cases cited, is that the component elements to be relied on in estimating fair value are market value, net asset value, and investment value, and the Courts have traditionally favored investment value, rather than asset value, as the most important of the three elements. (footnote omitted).

In this instance, Pratt quotes the case which stated “we conclude that the trial court erred in using the stock market price... as the sole criterion for determining the fair value... .”

**Market Approach.** There are a number of cases, however, where the market approach was accepted. For example, Pratt states in *Borruso v. Communications Telesystems International*,<sup>2</sup> “both experts used only the guideline publicly traded company method, both relying primarily on multiples of revenue, because the financial history was insufficient to provide a basis for a DCF analysis, or even multiples of economic income variables, such as EBITDA.” Once again, although the market approach was accepted in this instance, a DCF analysis could not be performed due to insufficient history. That is certainly not the case regarding the Littleton valuation. All of the cases cited by Pratt relate to dissenting shareholder cases as opposed to oppression cases. This creates a distinction between the court’s considering a minority value versus a pro rata share of the entire company.

**Discounted Cash Flow Method.** In discussing the DCF method, Pratt indicates that in *Grimes v. Vitalink*,<sup>3</sup> the Delaware Court of Chancery characterized the DCF method as “increasingly the model of choice for valuations in this Court.” Another case where the court favored a DCF method over the guideline company method is *Gilbert v. M.P.M. Enterprises*.<sup>4</sup>

<sup>2</sup> *Karl Borruso and William Lee v. Communications Telesystems International*, C.A.NO.16316-NC, 999LEXIS 197(DELCH. September 24, 1999).

<sup>3</sup> *Charles M. Grimes v. Vitalink Communications Corporation*, NO.C.A.12334,1997 WL538676 (DEL.CH.Aug28,1997), aff’d no.425,1997 (DEL. April 1, 1998).

<sup>4</sup> *Gilbert v. M.P. Enterprises Inc.*, NO. C.A.14416-NC,1998Lexus60 (DEL.CH.April 24, 1998), aff’d *M.P. Enterprises Inc. v. Jeffrey D. Gilbert*,731A.2d 790 (DEL.June 24, 1999).

### EXHIBIT 24.3 Partial Critique of Fair Value Report

**Excess Earnings Method.** Although neither of us used the excess earnings method in the Littleton valuation, Pratt discusses *Balsamides* in the context of this method being accepted because the expert could not obtain all of the information needed to perform better valuation methods, but it should be noted that the excess earnings method is considered to be a control valuation. This means that the entire enterprise is valued without consideration to any minority discounts. You may wish to advance this argument as another reason why the use of the guideline company method in the ABC Appraisal Co. report without a control premium effectively penalizes John by valuing his interest on a minority basis as opposed to a pro rata share of the whole.

ABC Appraisal Co. is relying on the XYZ Appraisal Co. report to support the sole use of the market approach. Not only does the XYZ Appraisal Co. report not discuss their lack of use of the income approach, but XYZ Appraisal Co. on page 27 of their report states:

As a practical matter, it became obvious early in our search that it would be impossible to find an adequate number of publicly held businesses corresponding precisely to these definitions. (These definitions relate to the description of the type of business that Company B, Company C, and Company D are engaged in). It thus became necessary for us to broaden our criteria enough to select a group large enough for valuation purposes, but not so much as to impair valuation results by inclusion of companies only little or remotely analogous to Company B, Company C, and Company D. (Parenthetical remark added for explanation).

Even XYZ Appraisal Co. recognizes that they had to reach in order to meet a good definition of comparability. Now, ABC Appraisal Co. wants to solely rely on this method, despite the fact that there are potential problems with its application due to the subjectivity of comparability. Clearly, we ran into the same issue when we applied our market approach, but that is more of a reason to not just stop at a market approach. In fact, ABC Appraisal Co. talks about the market approach taking into consideration future growth and the associated risks in getting to the growth, but they once again fail to discuss the impact, if the market undervalues stocks in the public marketplace.

Substantial support exists for our position on this issue in Pratt's *Valuing a Business*, 4th Edition. In a discussion involving standards of value, Pratt discusses the different definitions of *intrinsic* or *fundamental value*. On page 31, he indicates the following:

#### **Intrinsic or Fundamental Value**

Intrinsic value (sometimes called fundamental value) differs from investment value in that it represents an analytical judgment of value based on the perceived characteristics inherent in the investment, not tempered by characteristics peculiar to any one investor, but rather tempered by how these perceived characteristics are interpreted by one analyst versus another.

In the analysis of stocks, intrinsic value is generally considered the appropriate price for a stock according to a security analyst who has completed a fundamental analysis of the company's assets, earning power, and other factors.

**Intrinsic Value.** The amount that an investor considers, on the basis of an evaluation of available fact, to be the "true" or "real" worth of an item, usually an equity security. The value that will become the market value when other investors reach the same conclusions. The various approaches to determining intrinsic value in the finance literature are based on expectations and discounted cash flows. See expected value; fundamental analysis; discounted cash flow method.<sup>5</sup>

**Fundamental Analysis.** An approach in security analysis which assumes that a security has an "intrinsic value" that can be determined through a rigorous evaluation of relevant variables. Expected earnings is usually the most important variable in this analysis, but many other variables, such as dividends, capital structure, management quality, and so on, may also be studied. An analyst estimates the "intrinsic value" of a security on the basis of those fundamental variables and compares this value with the current market price of this security to arrive at an investment decision.<sup>6</sup>

The purpose of security analysis is to detect differences between the value of a security as determined by the market and a security's "intrinsic value"—that is, the value that the security ought to have and will have when other investors have the same insight and knowledge as the analyst.<sup>7</sup>

If the market value is below what the analyst concludes is the intrinsic value, the analyst considers the stock a "buy". If the market value is above the assumed intrinsic value, the analyst suggests selling the stock. (Some analysts also factor market expectations into their fundamental analysis.)

<sup>5</sup> Cooper, W.W. and Yuri Ijiri, eds., *Kohler's Dictionary for Accountants*, 6th ed. (Englewood Cliffs, NJ: Prentice Hall, 1983): 285.

<sup>6</sup> *Ibid*, p. 228.

<sup>7</sup> Lorie, James H. and Mary T. Hamilton, *The Stock Market: Theories and Evidence* (Burr Ridge, IL: Irwin, 1973): 114.

(continued)

**EXHIBIT 24.3 Partial Critique of Fair Value Report** *(continued)*

It is important to note that the concept of intrinsic value cannot be entirely divorced from the concept of fair market value because the actions of buyers and sellers based on their specific perceptions of intrinsic value eventually lead to the general consensus market value and to the constant and dynamic changes in market value over time.

Case law often refers to the term intrinsic value. However, almost universally, such references do not define the term other than by reference to the language in the context in which it appears. Such references to intrinsic value can be found both in cases where there is no statutory standard of value and in cases where the statutory standard of value is specified as fair value or even fair market value. When references to intrinsic value appear in the relevant case law, the analyst should heed the notions ascribed to that term as discussed in this section.

As you can see from the above definition, Pratt indicates that “the various approaches to determining intrinsic value in the finance literature are based on expectations and discounted cash flows.” Clearly, expected earnings are of critical importance, but other variables such as dividends, capital structure, management quality, and so on, are also considered in a fundamental analysis. What is striking is that Pratt indicates “if the market value is below what the analyst concludes is the intrinsic value, the analyst considers the stock a ‘buy.’” This is exactly what is taking place in the Alex Brown report attached to the ABC Appraisal Co. report. In fact, not only does Alex Brown consider certain stocks to be a ‘buy,’ they, in fact, suggest that certain of these stocks are considered to be a “strong buy.”

On the front page of the December 1995 Transportation Report, Alex Brown lists a number of truckload and less-than-truckload public companies that are considered to be strong buys. In fact, eight of these companies were used by us as guideline companies, while three of the seven of ABC Appraisal Co.’s guideline companies are also listed in this category.

ABC Appraisal Co. says “. . . hence the market approach is a fair proxy for the income approach.” Besides the fact that this assumes that the market comparable companies are properly priced, it is also not the case in this situation. We point out at the top of page 166 of our report, that our correlation analysis indicates that there is no direct correlation between earnings growth and the pricing multiples. We say “it appears that the companies with the lowest three-year compound growth rate in earnings have the highest earnings estimates, but this is not translating directly into high multiples.” Clearly, there are many factors that affect the prices of stocks in the public market, and, in this instance, we have an industry that does not necessarily behave as analysts would expect. Therefore, the results can be extremely misleading and caution must be exercised by a valuation analyst in using this information, particularly as the sole source of deriving a valuation conclusion for a closely held company. This is one of the reasons why it is suggested that valuation analysts use as many approaches and methods as may be applicable in any given situation: not only to serve as checks and balances upon ourselves, but also because there is a subjective element to the valuation process. Using a single approach can bias the result, and that is not necessarily the intention of the valuation process.

**Page 16.** At the bottom of this page, ABC Appraisal Co. discusses excess compensation. Their analysis refers to a Court Trial Exhibit Number 1707, indicating the total salary and commissions for Joe and John to be approximately \$2.75 million each. We have no problem with the use of this figure because it is the same amount that we reflect on page 74 in table 18 of our report. However, at the very bottom of the page, carrying over to the next page, is a discussion about Judge Harris’s perception of Joe being the dominant person in the business.

ABC Appraisal Co. uses the court’s findings as a basis of determining reasonable compensation for Joe to be what he was actually paid and substantially reducing John’s salary. There is no empirical basis to support the level of replacement compensation based upon the court’s statement. Regardless of who the dominant person is, the issue becomes what would be the cost of replacing this person with someone of equal ability to run this company, if the company was to be sold? In order to support their conclusion, ABC Appraisal Co. refers to a return on equity analysis that they performed showing that an investor would be content paying Joe this huge amount of money because they would continue to get their return. However, what ABC Appraisal Co. has done is an extremely misleading and incorrect analysis.

The return on equity analysis is used as one of the factors to consider in the reasonableness for the deductibility of compensation paid to an officer of a company. There is a large distinction between reasonable compensation from an income tax standpoint and reasonable compensation in an appraisal situation. The partial analysis that ABC Appraisal Co. has included is used frequently to support deductions under Section 162 of the IRC relating to deductibility of ordinary and necessary business expenses.

Two cases that describe the use of a return on equity analysis are *Mad Auto Wrecking Inc. v. The Commissioner* (TC Memo 1995–153) and *Elliotts, Inc. v. Commissioner* (52 AFTR 2d 83-5976). These are both income tax cases dealing with reasonable compensation.



### EXHIBIT 24.3 Partial Critique of Fair Value Report

In a valuation context, the issue that we address is what is the replacement cost of the officer and not what is a reasonable amount for past efforts that may be tax deductible? According to Pratt (page 79), “in order to make the appropriate adjustments regarding executive compensation of the closely-held business, the valuation analyst identifies the total compensation from all sources being paid to the existing executive and compares that to the total compensation required to attract an executive of similar skills.” If public company executives are the appropriate basis for comparison, then total compensation from all sources paid to the public company executive (including stock options, bonus plans, pension plans, and perquisites) should be evaluated along with the contribution to the company provided by the executive. ABC Appraisal Co. did not do this analysis as part of their report.

**Page 18.** Continuing with the excess compensation analysis, discussing the Littleton Entities’ compound annual growth rates, ABC Appraisal Co. indicates at the top of the page that the Littleton Entities exceeded several market indexes over the same period. This indicates that Littleton outperformed the market. Once again, while attempting to justify a higher salary for Joe, ABC Appraisal Co. supports the notion that the Littleton Entities are considerably stronger, which should positively affect its value.

In the first full paragraph on the top of page 18, ABC Appraisal Co. states “it seems from the CAGR, since Joe took over the business and the level of dividends received by the shareholders, that all shareholders (particularly John) have been well compensated for their association with this successful business.” One of the ethical provisions of the valuation profession is that we are only supposed to be advocates for our opinion, and we are not supposed to advocate on behalf of a client. ABC Appraisal Co.’s parenthetical remark, as well as numerous remarks throughout this report, borderlines advocacy.

Ironically, when it comes to John’s compensation, they pull out a study and support his salary as being \$250,000. The real issue becomes, would it take \$3 million to compensate management in this company, if the company was sold? ABC Appraisal Co. tries to use an “independent investor test” to further support Joe’s \$2.75 million. They indicate “... this comparison shows that an independent investor would be willing to pay the level of compensation that we have deemed appropriate for Joe (\$2.75 million).” The question isn’t would they have been willing to pay this, but, would they have to pay this? On pages 75–77 of our report, we performed an analysis of reasonable compensation.

Furthermore, we have taken information from the 1995 proxy statements of the public companies, which I am showing below.

Company	Position	Salary and Bonus	Options Granted	Sales	Salary/Sales
American Freightways	President and CEO	\$ 266,191	50,000	\$ 572,100,000	0.05%
Arkansas Best	Executive V.P.	945,821		1,437,279,000	0.07%
Arnold	President and Chairman	635,140		330,136	0.19%
Builders Transport	CEO	327,014		289,527,000	0.11%
Heartland Transport	Chairman and President	300,000		191,507,000	0.16%
MS Carriers	Chairman and CEO	389,484		333,070,000	0.12%
Old Dominion	Chairman and CEO	474,103		248,079,000	0.19%
OTR Express	President and CEO	142,086	7,455	49,211,000	0.29%
PAM Transportation	President and CEO	294,875	50,000	91,595,000	0.32%
Swift Transportation	Chairman and President	801,303		458,165,000	0.17%
Transportation Corp. of America	CEO	299,890		144,254,000	0.21%
USA Truck	Chairman	380,984		102,400,000	0.37%
US Xpress	Co-Chairman	1,210,127		254,331,000	0.48%
Werner Enterprises	CEO	738,185		576,002,000	0.13%
Anuhco (Transfinancial Holdings)	President	188,264	10,000	97,444,000	0.19%

(continued)

### EXHIBIT 24.3 Partial Critique of Fair Value Report *(continued)*

It should be noted that the options granted in the preceding schedule were under water at the time of the grant, so looking at these public company executives, the highest paid executive earned \$1.2 million for a company that was twice the size of the Littleton Entities. Clearly, Joe could be replaced by the president, chairman, or CEO of one of these public companies for less than \$2.75 million. This shows the unreasonableness of the unsubstantiated compensation amount.

Table 2 of the ABC Appraisal Co. report, once again, indicates that the Littleton Entities were stronger than the guideline companies because they have a stronger EBIT margin. This further substantiates the fact that Littleton should be valued higher than ABC Appraisal Co. concluded.

**Pages 26–27.** The discussion for the adjustment for lack of marketability is flawed. Pratt includes a brief discussion about the fact that lack of control discounts are rejected in several instances. I am not going to elaborate on these cases because neither valuation analyst in the Littleton valuations actually took a minority discount. However, Pratt also highlights the fact that a control premium had been accepted by the Delaware Chancery Court under two specific circumstances. He lists these as follows:

1. When the base value is a publicly traded equivalent value derived by the guideline publicly traded company method.
2. When valuing a controlling ownership position in this subsidiary company.

In *Borruso* (see footnote 30), both experts agreed that a control premium should be applied. In fact, in *Rapid American Corporation v. Harris*,<sup>8</sup> the Delaware Supreme Court concluded that a control premium was appropriate, explaining “the exclusion of a control premium artificially and unrealistically treated Rapid as a minority shareholder.” In *LeBeau*, the Delaware Court of Chancery implicitly allowed a control premium by allowing the guideline merger and acquisition method to be used.

In *Quantifying Marketability Discounts* written by Z. Christopher Mercer, ASA, CFA, the author discusses various levels of value that are used in the appraisal process. Mercer states the following:

The controlling interest value represents the value of the enterprise as a whole. The controlling interest appraisal should, therefore, encompass the rights, risks and rewards of having controlling power in a business. In the context of this discussion, controlling interests and enterprises are considered to be marketable, and a marketability discount is not used. Some valuation analysts, however, do apply a marketability discount, which may reflect the costs of brokerage or transactions costs, to control values.

Basically, Mercer’s position is that because a controlling interest can readily be sold, there should not be a discount taken for lack of marketability. This would further suggest that if there is a discount to be taken, it would be no more than a brokerage cost, which, for a company the size of Littleton, would probably not exceed about 5 percent. Certainly, the discount for marketability taken by ABC Appraisal Co. represents a discount for a minority value and, as such, we believe that it unfairly penalizes John because we believe he should be entitled to a pro rata share of the entire business.

<sup>8</sup> *Rapid American Corporation v. Harris*, 603A.2d796 (DEL.1992).

The real kick in the head in the litigation that the critique came from was that the case went up on appeal for numerous reasons. When it was remanded for a new trial, the appellate court also changed the valuation date. We got to do the job a second time. The critique we did of the same expert’s report during the second litigation is shown in exhibit 24.4.

### EXHIBIT 24.4 Critique—The Second Time Around

This report is anything but an independent, objective valuation of the Littleton Entities. ABC Appraisal has relied on the former judge to support their position, rather than putting forth an argument to allow the new judge to understand the valuation issues. This report is loaded with advocacy, which is unethical for a valuation analyst.

Let me point out a difference between our two reports. You told me that the valuation date was November 29, 2000, and that for convenience, it was agreed that we could use Littleton’s year-end financial statements. All other calculations that were done in the guideline company analysis were based on November 29, 2000, meaning that we did not use the guideline companies’ year-end financial statements or stock prices. ABC Appraisal used December 31 as the basis for their entire report, including stock prices and financial information for their choice of guideline companies in the market approach.

## EXHIBIT 24.4 Critique—The Second Time Around

**Page 1.** It is ironic that ABC Appraisal references the previous judge's opinion of November 7, 2001, in which the judge concluded that John's interest was worth \$12,423,125. This was at a time when Littleton Trucking was doing about \$100 million in revenues. Now, years later, when the company is doing \$166 million in revenues, ABC Appraisal values John's interest at \$12.8 million.

ABC Appraisal concludes that the market approach is the most reliable methodology to determine the fair value of the interest. This is despite the thinly traded guideline companies, the undervalued guideline companies, and the fact that fair value is intended to measure what John is giving up. This is going to be a major point of difference between ABC Appraisal and me. They are assuming a sale of the company and totally ignore the fact that the business is going to continue in the hands of John's brother, Joe. They attempt to reduce value by assuming that Joe will be gone, but a sale would require Joe to help create a smooth transition so that Joe, as well as the other shareholders, could maximize their sale price. ABC Appraisal treats Joe as if he was going to die suddenly. The entire key person discount is premised on the sudden disappearance of Joe.

In reviewing chapter 15 of the *Guide to Business Valuations*, published by Thomson PPC, an interesting definitional issue is discussed relating to fair value. This publication quotes, *In re Shell Oil Co.*, 607 A.2d 1213, 1218 (Del. 1992), quoting *Tri-Continental Corp v. Battye*, 74 A.2d 71,72 (del. 1950) and states the following:

Another judicial definition states that fair value, 'measures that which has been taken from [the shareholder], viz., his proportionate interest in a going concern.'

This treatise also contains a discussion of the Delaware Block Method, and its applicability to fair value. Although the Delaware Block Method is not at issue in this case, the point was made that

In its decision, the court ruled that the Delaware Block Method was clearly outmoded because other valuation methods commonly accepted in the financial community were not considered. **In fact, the methodology used by the court in this case was the discounted cash flow method.** Although the Weinberger decision did not eliminate the use of the Delaware Block Method, it did allow other appropriate valuation methods to be accepted by the courts. See *Rosenblatt v. Getty Oil Co.* [493 A.2d 929 (Del. 1985)]; also, *Leader v. Hycor, Inc.* [395 Mass. 215, 479 N.E.2d 173 (Mass. 1985)]. **As a result, methods such as the discounted future returns methods, are now commonly used in fair value cases.** (Emphasis added).

This provides support for our use of the discounted cash flow (DCF) method. In fact, Shannon Pratt and Jay Fishman, the primary authors of the Thomson PPC treatise indicate, "As a result, methods such as the discounted future returns methods, are now commonly used in fair value cases."

ABC Appraisal states, "Because the Littleton Entities did not prepare financial forecasts, I could not perform a Discounted Cash Flow ("DCF") analysis, a form of the Income Approach." This is complete nonsense. The American Society of Appraisers teaches valuation analysts to do their own forecast if one is not available. I referenced the course materials in my report on page 70. It is also quite common for valuation analysts to prepare their own forecasts.

There are clear differences between the market approach and the income approach, and they are extremely difficult to reconcile if you have a company that is growing. Growth must be adjusted for in-the-market multiples, which can be very difficult because the publicly traded companies probably have different growth characteristics than the subject company. In the DCF method, growth appears in the forecasted revenues and cash flows of the subject company, and then the valuation analyst merely needs to determine a reasonable discount rate to reduce the forecast to present value.

ABC Appraisal then states, "Consistent with standard valuation and appraisal practices, our valuation was based on all information that was known or should have been known as of the Valuation Date." However, numerous times throughout their report, they refer to post-valuation date information. This occurs in the following places in their report:

(continued)

**EXHIBIT 24.4 Critique—The Second Time Around** *(continued)*

Page No.	Reference
7	Standard and Poor's The Outlook, December 27, 2000
9	Standard and Poor's The Outlook, December 27, 2000
14	Footnote 15 refers to K-Mart bankruptcy in January 2002
16	Footnote 18 Phase II Opinion November 7, 2001
27	Discussion that FedEx bought American Freightways on February 12, 2001
27	Discussion that OTR Express was liquidated in May 2001
36	Reference to article "Personal Goodwill" January/February 2006
36	Reference to article "Key Person Discount" May/June 2000 (this publication date is really 2006)
Sch 3b	Footnote 1 refers to February 2001 acquisition
Sch 3b	Footnote 2 refers to merger August 2001
Sch 3b	Footnote 3 refers to merger June 2001
Sch 3b	Footnote 4 refers to company went private February 2006

ABC Appraisal states:

The Market Approach utilizes multiples that represent investor expectations for growth and profitability of public companies. Therefore, if such Littleton Entities forecasts had existed as of the Valuation Date, the value derived from a proper DCF analysis should be consistent with our determination of value.

Their statement is partially true, but overall, it is incorrect. I agree that the market approach is supposed to utilize multiples that take investor expectations into consideration, but the trucking industry has been an industry that underperformed on Wall Street for a long time. The investment houses that follow this industry have had strong buy recommendations on many of the public company stocks because the market is not valuing these companies based on their "true" worth. I quoted a few sources beginning on page 163 of my report.

Furthermore, in order for the market approach to truly work, the market needs to be active. Pratt states in *The Market Approach to Valuing Businesses*:

The market approach is especially relevant if the standard of value is **fair market value**. (Emphasis added).

Pratt discusses sections of Revenue Ruling 59-60 and points out the following:

Revenue Ruling 59-60 strongly advocates the guideline public company method within the market approach. Section 3.03 reads as follows:

.03 Valuation of securities is, in essence, a prophesy as to the future and must be based on facts available at the required date of appraisal. As a generalization, the prices of stocks which **are traded in volume** in a free and **active market** by informed persons best reflect the consensus of the investing public as to what the future holds for the corporations and industries represented. When a stock is closely held, is traded infrequently, or is traded in an erratic market, some other measure of value must be used. In many instances, the next best measure may be found in the prices at which the stocks of companies engaged in the same or a similar line of business are selling in a free and open market.

## EXHIBIT 24.4 Critique—The Second Time Around

Section 4.02(h) reads as follows:

(h) Section 2031(b) of the Code states, in effect, that in valuing unlisted securities the value of stock or securities of corporations engaged in the same or a similar line of business which are listed on an exchange should be taken into consideration along with all other factors. **An important consideration is that the corporations to be used for comparisons have capital stocks which are actively traded by the public.** In accordance with section 2031(b) of the Code, stocks listed on an exchange are to be considered first. However, if sufficient comparable companies whose stocks are listed on an exchange cannot be found, other comparable companies which have stocks actively traded on the over-the-counter market also may be used. The essential factor is that whether the stocks are sold on an exchange or over-the-counter there is evidence of an active, free public market for the stock as of the valuation date. In selecting corporations for comparative purposes, care should be taken to use only comparable companies. Although the only restrictive requirement as to comparable corporations specified in the statute is that their lines of business be the same or similar, yet it is obvious that consideration must be given to other relevant factors in order that the most valid comparison possible will be obtained. For illustration...a company with a declining business and decreasing markets is not comparable to one with a record of current progress and market expansion.

I highlighted the requirement of active trading because it is important if the valuation analyst is to get a true read of the investing public. We pointed out in our report the thin trading of the guideline companies. ABC Appraisal's selection of guideline companies included two companies that we rejected. The trading activity of their companies was as follows:

Company	Trading Volume
Arnold Industries	1.72%
Old Dominion	0.35%
PAM Transportation	0.05%
Transport Corp	0.64%
US Xpress	0.22%
USA Truck	0.82%

At least some of our guideline companies had trading activity. Their selection could not possibly reflect the active market required to have any confidence that the stock prices were truly reflecting the activity of the investing public. To make matters worse, PAM Transportation reported in its 2000 Form 10-K that it only had 284 shareholders at the time that the form was filed. For ABC Appraisal to ignore the active trading requirement indicates that they were negligent in following generally accepted valuation principles, or they were on a mission.

Their statement about a "proper DCF" would have proven to them that the market was not priced correctly at the valuation date. I agree that if the market is properly priced, the values should be close between the market approach and a DCF analysis. Because they never bothered to check their values with another approach, they would not know that their conclusion is wrong.

With respect to ABC Appraisal's statement "The Market Approach utilizes multiples that represent investor expectations for growth and profitability of public companies," there can be a tremendous difference between the fair market value of the public company's stock, as it is trading in the marketplace, and the true worth, or intrinsic value, of the company. When the intrinsic value of the company is different than the market value, fair value cannot be calculated using market multiples.

In *Valuing a Business*, the authors (Pratt, Reilly, and Schweih) discuss the definition of intrinsic value. In particular, the authors state that intrinsic value is

The amount that an investor considers, on the basis of an evaluation of available facts, to be the 'true' or 'real' worth of an item, usually an equity security. The value that will become the market value when other investors reach the same conclusions. The various approaches to determining intrinsic value in the finance literature are based on expectations and discounted cash flows.

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### EXHIBIT 24.4 Critique—The Second Time Around *(continued)*

In discussing the purposes of security analysis, the authors state the following:

The purpose of security analysis is to detect differences between the value of a security as determined by the market and a security's 'intrinsic value'—that is, the value that the security ought to have and will have when other investors have the same insight and knowledge as the analyst.

This indicates that market value will be different than intrinsic value, but the intrinsic value is really the underlying value of the security. The Littleton case is a situation in which ABC Appraisal has ignored the willing seller. They have discounted John's interest by 15 percent for Joe's key man status and 35 percent for marketability. I will point out later that these discounts are unreasonable, even if applicable (and I do not concede that they are applicable).

In *PPC's Guide to Business Valuations*, the authors make the statement that "the value of a business is equal to the present worth of the future benefits of ownership." Immediately following, they explain

That statement is a fundamental principle of business valuations. A rational buyer normally will invest in a company only if the present value of the expected benefits of ownership are at least equal to the purchase price. Likewise, a rational seller normally will not sell if the present value of those expected benefits is more than the selling price. Thus, a sale generally will occur only at an amount equal to the benefits of ownership.

By purely relying on historic information, and only the year 2000 at that, ABC Appraisal has ignored this "fundamental principle" of business valuation. They have chosen to ignore the future benefits of ownership.

In *Valuation of a Closely-Held Business*, published by Research Institute of America, there is probably one of the best definitions and discussions of intrinsic value in all the literature that I have reviewed. I believe that it is very applicable to this case. According to the authors

The intrinsic value of a business refers to the value derived on the basis of an analysis of the fundamental factors related to the business. Such factors as assets, earnings, and future growth are considered in arriving at a 'pure' value of the investment. This standard ignores the capriciousness of the market and determines a value which, theoretically, would be arrived at by sophisticated analysts. In this, its rather esoteric form, the intrinsic value standard has relatively little use or application to the real world of business valuation. **Its practical use is most often found within the realm of fair value.** (Emphasis added).

In *Valuing Small Businesses and Professional Practices*, Pratt discusses intrinsic value. In this instance, he quotes from a book entitled *Financial Decision Making*, which defines intrinsic value as follows:

A security's intrinsic value is the price that is justified for it when the primary factors of value are considered. In other words, it is the real worth of the debt or equity instrument as distinguished from the current market price. The financial manager estimates intrinsic value by carefully appraising the following fundamental factors that affect security values:

**Value of the firm's assets.** The physical assets held by the firm have some market value. They can be liquidated if need be to provide funds to repay debt and distribute to shareholders. In techniques of going concern valuation, asset values are usually omitted.

**Likely future interest and dividends.** For debt, the firm is committed to pay future interest and repay principal. For preferred and common stock, the firm makes attempts to declare and pay dividends. The likelihood of these payments affects present value.

**Likely future earnings.** The expected future earnings of the firm are generally viewed as the most important single factor affecting security value. Without a reasonable level of earnings, interest and dividend payments may be in jeopardy.

**Likely future growth rate.** A firm's prospects for future growth are carefully evaluated by investors and creditors and are a factor influencing intrinsic value.

### EXHIBIT 24.4 Critique—The Second Time Around

In Graham and Dodd's *Security Analysis*, the authors discuss three approaches to analysis and valuation. They indicate the following:

There are three broad concepts or approaches to the analysis and valuation of common stocks. The first and oldest approach places primary emphasis on anticipated market performance. In the true sense, this approach is not based on a valuation concept because it does not seek to value a stock apart from the market. Hence, we term it 'anticipation' approach. The second and third approaches clearly rest on valuation (one on intrinsic values, the other on relative values.

In essence, these authors discuss intrinsic value and fair value as being synonymous. The authors state

the intrinsic value approach is a normative concept that seeks to determine what a stock is worth, that is, the price at which it should sell if properly priced in a normal market.

In the fourth chapter of the book, the authors describe, "The traditional definition of intrinsic value emphasizes the role of facts: the value which is justified by assets, earnings, dividends, definite prospects, and the factor of management." In discussing valuation factors, the authors state the following:

These four earnings factors are the major components of the intrinsic value of a going concern:

1. Level of normal earning power and profitability in the employment of assets as distinguished from the reported earnings, which may be, and frequently are, distorted by transient influences
2. Dividends actually paid or the capacity to pay such dividends currently and in the future
3. A realistic expectation about the trend line growth of earning power
4. Stability and predictability of these quantitative and qualitative projections of the future economic value of the enterprise

ABC Appraisal has not addressed any of these factors in their report. They merely took six public companies and accepted the price at which the market was trading, regardless of how these factors affected the intrinsic value of these companies. They then used their multiples to justify the value of Littleton.

Graham and Dodd also indicate the following:

Intrinsic value is therefore dynamic in that it is a moving target which can be expected to move forward but in a much less volatile manner than typical cyclical or other gyrations of market price. Thus, if intrinsic value is accurately estimated, price will fluctuate about it.

In discussing the central tendency in pricing, the authors state

Therefore, intrinsic value is in essence the central tendency in price. Viewed in this manner, the actual coincidence between market price and the more stable central tendency in price will usually be brief.

If we translate what the authors are saying into information that should be used in this case, the market approach does not necessarily reflect the true value of a company, and it is rare that the market approach will be at a "correct" level because the reliance on the market prices of stocks of guideline companies will rarely reflect the true value of these companies. This causes the valuation analyst to use data which is applied to the subject company, in this case, Littleton, that is questionable. Not only that, but after all the subjective adjustments that must be made to make these companies comparable, a correct conclusion will be derived only if the valuation analyst is pretty lucky.

In an article that appeared in *Valuation Strategies*, Pratt discusses the fact that the three elements of fair value are investment value, market value, and asset value. Pratt states the following:

Courts have treated investment value (defined in this context as value based on earning capacity) as the most important of the three elements. In fact, in one case, the Delaware Chancery Court stated that the discounted cash flow (DCF) model is 'increasingly the model of choice for valuations in this Court.' (Citing *Grimes v. Vitalink Communications Corp.*, No. 12334. 1997 WL 538676 (Del.Ch., 1997)).

(continued)

### EXHIBIT 24.4 Critique—The Second Time Around *(continued)*

Finally, in an article published in *Business Valuation News*, March 1984, the author discusses the concept of intrinsic value. He discusses several treatises that are cited over and over again in court decisions by Professor Bonbright and Graham, Dodd, and Cottle. Intrinsic value is actually considered to be “that value which is justified by the facts.” In quoting Graham, Dodd, and Cottle, the author states the following:

The primary objective in using the adjective ‘intrinsic’ is to emphasize the distinction between value and current market price, but not to invest this ‘value’ with an aura of permanence. In truth, the computed intrinsic value is likely to change at least from year to year, as the various factors governing that value are modified. But in most cases intrinsic value changes less rapidly and drastically than market price...

This is another instance that differentiates between value and price, which can be explained by the drastic swings in market price from day to day. The author continues by discussing Professor Bonbright’s difference between intrinsic value, commercial value, or justified selling price, and market value:

But if strictly interpreted, the market value of an enterprise means the price at which it could actually be sold by its present owners to some outside buyers. While such an interpretation may be pertinent in an inheritance-tax case where the decedent was the sole owner of a small enterprise, it would hardly serve as a basis of valuation of a large incorporated business, the sale of which is not contemplated and the realization price of which would depend largely on the accident of a favorable negotiation with investment bankers.

In discussing the difference between normal value and its relationship to intrinsic value, Bonbright states the following:

Just as it is possible to appeal from the prices that are current on the market place to prices that would be current if the market acted intelligently, and thus to invoke a concept of ‘intrinsic value,’ so it is possible to appeal from the price at which a commodity is quoted in today’s market, to some average or trend in prices over a longer period of time. When this latter effort is made, it represents an attempt to make use of a concept of normal value, as distinct from the evanescent values (many appraisal writers prefer to call them merely ‘prices’) that are assumed to be of little practical significance.

Probably one of the best quotes cited in this article comes from The United States Tax Court in the *Estate of Oakley J. Hall*, 34 T.C.M. 648, 666 (1975). The Court found the following:

In times of wide speculation and resulting fluctuations in the stock market we are extremely doubtful that the price at which a stock is traded on the stock exchange on any particular day is a true reflection of what an investor would pay for the stock if he was looking primarily to the historical earnings of the corporation to determine a fair price.

**Page 2.** ABC Appraisal discusses their use of the “independent investor test” for their determination of reasonable compensation. I will address this later in this critique.

**Page 3.** I will address their 35 percent discount for lack of marketability later in this critique.

**Page 4.** ABC Appraisal ignores loans due from the shareholders even though they amount to \$10,444,659 at the valuation date. This would increase their figure for the entire company by that amount. They discuss the fact that John would have to repay his loans, but they never give the court the amount that should be on the balance sheet.

ABC Appraisal states the following:

We have used and relied upon the accuracy and completeness of various historical **and prospective** information provided to us.

What prospective information did they use and rely upon? What happened to known or knowable at the valuation date?

**Page 5.** It is ironic that ABC Appraisal references *Wheaton* in assisting them to define fair value, but they choose to ignore other parts of that decision in which the judge indicated “Even though ‘fair value’ is not synonymous with ‘fair market value,’ consideration of market price still can be a ‘valuable corroborative tool.’” To me, this means that the market price should be used to corroborate value and not necessarily solely to rely on it for the determination.



## EXHIBIT 24.4 Critique—The Second Time Around

ABC Appraisal indicates “Based on the statute, cases, and case commentary, we consider Fair Value to be based on the price that is ‘fair and equitable’ to both parties that would effectuate a transaction **in the Interest in the Littleton Entities** on the open market.” This definition is problematic for a number of reasons. First, by treating a partial interest as being sold on the open market, they are clearly indicating that their valuation will be on a minority basis (they presented their report with and without a control premium, and their discount for lack of marketability is based on minority studies). This is not the intent of the New Jersey statute because case law disfavors a minority discount in fair value oppression cases. Therefore, trading an interest in the Littleton Entities on the open market is very different from trading the Littleton Entities on the open market.

**Page 9.** ABC Appraisal starts their discussion of industry conditions in 2000 by stating “The fundamentals affecting the trucking industry as of the Valuation Date had a negative effect on the valuation and help explain the reduced market multiples relative to earlier periods.” This is the precise reason why fair market value does not necessarily equal fair value. Fair value should look to what the shareholder is giving up, and that is the right to hold the investment—not dispose of it at the time that the market may be down. The value of Littleton was growing based on the company’s own growth and expansion, despite the downturn in the market. Sure, Littleton is affected, as are the rest of the players in the industry, by industry-specific factors, but Littleton has been weathering the storm better than many of the other companies.

**Page 11.** ABC Appraisal starts laying their foundation for Joe’s importance, and in paragraph 8.2, lists the competitive advantage of the company being “Joe’s client relationships.” However, because Joe is not going anywhere, this should be good for the valuation. John was a shareholder of the company who would be entitled to his fair share of the company. What ABC Appraisal wants the court to effectively do is split the company by indicating that the per share value is greater for Joe than it is for John. That is not the intent of fair value.

This paragraph describes the Littleton Entities as a superstar. It has all of these great competitive advantages, but ABC Appraisal wants to reduce the intrinsic value of the company as if all of these positive attributes are going to disappear.

**Page 13.** ABC Appraisal discusses their benchmarking analysis of Littleton to the guideline companies, but they do so in a misleading manner. To begin with, ABC Appraisal totally ignores all years prior to 2000. Although the date closest to the valuation date is important, it is common practice to review trends for the subject company. The year 2000 also happens to be the least profitable year over the last several years.

Regardless, ABC Appraisal ignores some important points regarding the year 2000. For example:

1. Joe decided to stop distributions so that he could reinvest heavily in the new facility that came online after the valuation date. Instead of using bank financing, he used the company’s cash flow to fund the investment. This caused the company to have less cash at the end of the year.
2. Being a closely held company, Littleton has, in past years, made major distributions to the shareholders in the form of dividends, loans, and excess compensation, not including the personal expenses that were run through the company. The nature of a closely held corporation will frequently result in lower cash balances because of the sizeable distributions to the owners.
3. The nature of most closely held companies is that fixed assets are used for a longer period of time than the public companies. Because the money comes directly from a few shareholders’ pockets, the general attitude is, let’s run the assets as long as we can if we are not compromising the business. This is economically sound. ABC Appraisal makes it sound like it is a problem. Somewhere in the depositions, I recall reading Joe or someone stated that they keep the assets longer.

The box at the bottom of the page indicates “This family business in total had less tangible capital compared to its peers, as of the Valuation Date.” This is much ado about nothing. ABC Appraisal highlights it as if it is a big deal.

**Page 14.** ABC Appraisal discusses the concentration of customers but fails to mention that Littleton deals with many divisions of those customers and, therefore, is not subject to the same level of risk as if it was one company. They also disregard the long-term customer relationships that exist with many of these customers. ABC Appraisal also ignores the fact that even the large companies in the industry that also have customer concentration have not had a problem. ABC Appraisal fails to discuss the longer contracts, the increasing business from these customers, nor do they indicate that many of the guideline companies are in similar situations. This is an industry factor, so Littleton is not in any worse shape than its peers.

ABC Appraisal mentions Federated’s bankruptcy in 1990 but fails to mention that currently, Federated is expanding.

ABC Appraisal makes a big deal about bankruptcies. According to some of our follow-up research, the number of bankruptcies in the retail sector has been very small compared to the number of companies in the industry. This puts the risk at a fairly low level. You may want to get ABC Appraisal’s support for the number of bankruptcies that warranted their putting this in the report. Of course, they are probably referring to K-Mart, which occurred after the valuation date. This was not known or knowable.

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### EXHIBIT 24.4 Critique—The Second Time Around *(continued)*

In Section 8.5 of the report, ABC Appraisal discusses Joe's importance. What we have to make the judge realize is that this situation is no different than what Louis Gerstner was to IBM or what Lee Iacocca was to Chrysler. They were also important, but that does not mean that shares of those companies were worth less to some shareholders than to others. Compensation for these individuals still had to be at market rates.

**Page 15.** The discussion about Joe's importance refers to the time period of 1992–1994 when Joe was away from the business. It is ironic that the reason that Joe was away from the business was because he was in jail. What ABC Appraisal left out of their report is that the country was in a serious recession during this time frame. In fact, the Northeast did not start seeing daylight from the recession until about 1994, when Joe got out of jail. The decline in revenues from 1991–1992 shown in table 3 of the ABC Appraisal report has nothing to do with John running the company.

The other piece that is missing from ABC Appraisal's report is the fact that a good portion of the growth may have been attributable to the existing customers' growth during the late 90s because the economy was red hot during that period. The true question to find out is, if Joe is so good, how many new customers did he pick up during this period?

ABC Appraisal states:

During the full period of Joe's absence, revenue declined 10 percent and EBIT declined 21.6 percent. After Joe's return, revenue grew by 60.8 percent through 2000, and EBIT grew by 201.0 percent.

This should be an indication that the company had considerably more value at November 29, 2000, than in January 1996. If they believe that the previous judge was correct in determining the value of John's interest, then why is their value today the same as the judge's value back then?

**Page 16.** ABC Appraisal states:

The Market Approach and the Income Approach, properly applied, should produce comparable results. The Market Approach incorporates the stock market's outlook on the prospects of the guideline companies, which provides a proxy for the outlook of the Littleton Entities. We believe this approach correctly considers the Littleton Entities' future prospects as of the Valuation Date.

I agree with their first sentence. However, there are times that the market is not properly priced. Fair market value comes from the market. Fair value considers other factors besides the ups and downs of the market at any point in time.

Although the market approach is supposed to incorporate the stock market's outlook on the prospects of the guideline companies, it does not always do that. The trucking industry has historically been valued below the true worth of these companies. This has never been seen as a "sexy" industry that investors want to play in. The proof is that the public companies are generally very thinly traded, and many of them have strong buy recommendations by the brokerage firms that follow them. The strong buy is because the market undervalues the stocks. The effect of undervalued stocks on the market approach is to undervalue the subject company. This happened the first time we valued Littleton, and it is happening again this time.

The market approach is not perfect by any means. Its successful application depends on the valuation analyst's ability to

1. select good guideline companies.
2. understand what is driving the guideline company's stock price.
3. compare the subject and guideline companies to eliminate all differences.
4. select the correct type of multiple(s) to use for the subject company.
5. choose the correct multiple (amount) to apply against the subject company's income stream.
6. determine if a control premium is applicable to the result.
7. determine how much of a control premium is applicable by comparing Wall Street transactions to the subject company situation.
8. determine whether a discount for lack of marketability is appropriate.
9. if the discount is appropriate, determine how much to apply.

## EXHIBIT 24.4 Critique—The Second Time Around

There is a tremendous amount of subjectivity in the market approach that is frequently overlooked. I believe that in many instances, it is less subjective to perform a forecast and select a reasonable rate of return to discount the forecast to present value. When the income and market approaches are very different, the valuation analyst needs to understand what is causing the difference. Without performing at least two approaches to value in the same appraisal, the valuation analyst does not have the normal checks and balances required to overcome subjectivity that exists in all approaches. This is one of the reasons that the appraisal organizations recommend performing multiple approaches in the same valuation, so that there can be checks and balances on the valuation analyst's application of any one approach.

Another question that ABC Appraisal fails to address is how many of the guideline companies were about to go live with a state-of-the-art facility? How do the public company multiples consider this? ABC Appraisal fails to address this in the application of the market approach.

Instead of explaining why ABC Appraisal believes that the market approach is the best proxy for Littleton, they rely on the previous judge's opinion. Where is the independent thinking of the valuation analyst?

**Page 17.** ABC Appraisal states:

Applying the Market Approach provides an indication of the value “as if publicly traded” because the multiples are all derived from publicly traded stock. To value the Interest, we considered the following adjustments:

- Addition of a control premium.
- Application of a key man discount because the success of the Littleton Entities is dependent upon a key man, Joe Littleton.
- Adjustment for Step-Up of Pass-Through Entities: Because the guideline companies' profits are taxed at the entity level (the entities are C corporations) and dividends and capital gains are taxed a second time at the shareholder level, whereas the Littleton Entities are “pass-through” entities and profits are only taxed at the shareholder level, upon sale of the business, a buyer could benefit from a step-up in the basis of the underlying assets of the entities.
- Application of a discount for lack of marketability because the Littleton Entities stock is closely held.

Because ABC Appraisal has put all of their eggs in the market approach basket, there are other areas in the literature that we should address. In an article entitled, “Is the Subject Company Similar?” appearing in *Valuation Strategies*, May/June 1998, the author discusses the differences between private and public companies. The author mentions the following:

Any comparison between the universes of closely held companies and public companies also makes an assumption that the foundation for pricing between the two markets are indeed similar. There are at least several indications they are different.

One of the differences pointed out by the author is the fact that the public market is much more volatile than the pricing of the private market. The author references a study done by Ray Miles, Founder and Former Executive Director of the Institute of Business Appraisers to show that small companies do not appear to be time sensitive, nor do they shift in price with changes in the economy. Even though the reference is to small companies, much of this argument would also apply to a company the size of Littleton. The author concludes that “Thus, it appears that prices for private and public companies are derived independently and driven, in part, by different factors—market movements vs. static return-on-investment criteria.” This represents a big difference between the public company and the private company. This also shows the fact that changes in market movements will affect the market approach, whereas putting in reasonable return on investment criteria, which would allow us to calculate required rates of return or discount rates, would favor using a discounted cash flow methodology for a privately held company.

In an article entitled, “Random Walk and The Close Corporation,” appearing in *Business Valuation Review*, September 1988, the author discusses the suitability of using public company stock prices in determining the value of a privately owned company. The author states the following:

The question we ask is how suitable are stock market transactions in establishing the intrinsic value of a business enterprise. It may be argued that the appraiser wants to determine the hypothetical market price rather than market value.

This article discusses the volatility of the public market and factors affecting stock prices on a daily basis. The author references Professor Bonbright and states the following:

The prices that result from stock market trades are generally derived from small lots that represent only minority interests. It is well known that buyers and sellers of securities, no matter how large the sums they command, are not always intelligent in their evaluation of investment merits.

(continued)

### EXHIBIT 24.4 Critique—The Second Time Around *(continued)*

Citing a paper done under the auspices of the National Bureau of Economic Research, he states

... the authors concluded that stock prices are more volatile than can be justified on the basis of news about underlying fundamentals; a rational investor concerned about the short run may be better off guessing the guesses of others (the 'Keynesian' method); and making assets illiquid, and thus no longer subject to the whims of the market, as is done when a firm goes private, may enhance their value.

An interesting quote from the Council of the Stock Exchange (London) indicates that for valuation purposes

We desire to state authoritatively that Stock Exchange quotations are not related directly to the value of a company's assets, or to the amount of its profits, and consequently these quotations, no matter what date may be chosen for reference, cannot form a fair and equitable, or rational basis for compensation.

[Price is determined by] the actions and opinions of private and institutional investors all over the country and, indeed, the world. The actions and opinions are the result of hope, fear, guesswork, intelligent or otherwise, good or bad investment policy, and many other considerations. The quotations that result definitely do not represent a valuation of a company by reference to its assets and its earning potential.

In *Financial Valuation* by Zukin, the author of chapter 12, "Start-Ups, IPOs, and Private Placements," discusses the limitations of price earnings multiples. Although this is not the pricing multiple used by ABC Appraisal, it is a multiple used in the application of the market approach. The same holds true for other multiples, as well. The author states the following:

As even a casual follower of the public stock markets knows, price/earnings ratio levels are subject to fairly wide fluctuations, often with very imperfect correlations with the current performance of the economy.

This is further support that the appraiser is required to make subjective judgment calls when using these ratios to value the closely held company.

In a book entitled, *Investments: An Introduction to Analysis & Management*, the author discusses some guidelines in the use of the price-to-earnings ratio. Item number 13 on his list is "A company that pays a higher dividend tends to have a higher PIE ratio." Although ABC Appraisal did not use a P/E multiple in its analysis, the same would hold true for any pricing multiple in the market approach. ABC Appraisal totally ignored Littleton's history of making substantial distributions to the shareholders whether it was in the form of dividends, excess compensation, loans, or personal expenses that were paid for by the company on their behalf. This is especially true when ABC Appraisal indicates that Littleton is undercapitalized compared to the public companies.

From a valuation standpoint, Littleton has been able to grow and make the necessary investment in its fixed assets and still pay substantial dividends to its owners. This would be justification for a considerably higher multiple under a market approach. This is one of the reasons why ABC Appraisal undervalued the company using a market approach. That is why it was so important to use a secondary approach to valuation in order to really capture the true earnings capacity and cash flow of the company.

**Page 18.** ABC Appraisal starts their discussion about adjustments by referring to their use of the 2000 audited financial statements. It is ironic that they choose to use the year that is least profitable. There is no discussion about trends for Littleton, no discussion about why profitability in 2000 may be different than in prior years, no discussion about the substantial investment in the new facility. I seriously question whether or not they did any analysis of the prior years.

At the bottom of the page, ABC Appraisal addresses their compensation analysis. They only use 2000, partly because prior years had much greater salaries. In fact, salaries were as follows:

	1996	1997	1998	1999	2000
Officers' compensation	\$4,364,000	\$9,614,000	\$10,637,000	\$8,779,000	\$2,114,000

ABC Appraisal avoids the issue that what the shareholders received in previous years was so far above what even they considered to be reasonable, that it does not enter into their valuation. However, this is one more instance in which John's loss includes the loss of the level of salary that he was getting, far in excess of the value of the services rendered.

**Page 19.** ABC Appraisal attempts to support the reasonableness of the compensation being added in the dividends and subtracting the total taxes paid on the profits of the company. This is misleading. Reasonable compensation is based on a pretax compensation level. Imputing taxes in the fashion that they did is nothing more than an attempt to justify the fact that there is a considerable amount of money passing through to the owners of the company.

## EXHIBIT 24.4 Critique—The Second Time Around

ABC Appraisal relies on the previous judge to support the importance of Joe to the company and further attempts to use this to support the notion that he deserves a large amount of compensation. Comparing the results of the company from 1979–1991 to show Joe's importance ignores the fact that along the way, Joe received the benefits of his efforts. Besides being compensated through payroll and perquisites, he received dividends, and his investment in the company is worth many times what it was previously.

**Page 20.** ABC Appraisal starts off by stating “Based on the Court’s findings, Joe deserves a significant level of compensation for his efforts in leading the Littleton Entities.” Because the valuation report is supposed to be an independent opinion, hasn’t ABC Appraisal relied on the judge for the judge’s opinion, instead of supporting one of their own?

ABC Appraisal also states that “Because Joe is the principal contact with the customers, the loss of Joe would leave the Littleton Entities vulnerable to the loss of major customers.” The fact is that Joe is not going anywhere. He will be staying with the company. Even if Joe was to sell the company, a prudent willing buyer would insist on a reasonable employment contract to insure a smooth transition of the customer base. ABC Appraisal uses Joe’s importance to support higher compensation, a key person discount, and lower multiples than the guideline companies. They are effectively triple-counting in order to low-ball the final opinion of value.

ABC Appraisal refers to the “Independent Investor Test” to support reasonable compensation. Although this is one way to look at the reasonableness of compensation, it is not the only factor that should be considered. First of all, let’s put this test into perspective. It is generally used to determine the reasonableness of past compensation for income tax purposes. Next, while it has come up in several tax-related cases, other factors have also been raised as being pertinent.

ABC Appraisal footnotes *Exacto Spring Corporation v. Commissioner* of Internal Revenue to support the concept of the reasonable investor test. However, I found a newsletter that cites the following:

In *Metro Leasing and Development Corp. v. Commissioner*, 376 F.3d 1015 (9th Cir. 2004), the Court rejected in substantial part the ‘independent investor’ test for determining reasonable compensation, and held that a payment of income tax that was contested was not deductible from the base on which the accumulated earnings tax is computed. The former holding puts the Circuit in substantial conflict with the Seventh Circuit’s decision in *Exacto Spring Corp. v. Commissioner*, 196 F.3d 833 (7th Cir. 1999), as well as the Second Circuit’s in *Rapco Inc. v. Commissioner*, 85 F.3d 950 (2d Cir. 1996). The latter places the Ninth Circuit in clear conflict with the Fifth Circuit’s decision in *J.H. Rutter Rex Manufacturing Co. v. Commissioner*, 853 F.2d 1275 (5th Cir. 1987).<sup>1</sup>

The basis of ABC Appraisal’s analysis is the return on equity. However, because Littleton is a privately owned company, equity is capable of being manipulated because it is not an important number to the business owner. Public companies are operated to maximize shareholder value and, because of this, the value of equity is important at all times, and returns on equity are very important to the shareholders. Littleton, however, being privately owned, operates the business in the manner in which the Littleton family sees fit.

What is also extremely misleading is that ABC Appraisal uses results from 1979, when the company was considerably smaller, to help justify today’s (2000) compensation. On Schedule 6 of their report, they show returns for the Russell 2000, the Russell 1000, the S&P 500, and the Dow Jones Transportation Average. ABC Appraisal shows the S&P compound annual growth rate (CAGR) at 12.7 percent. According to Ibbotson Associates’ *Cost of Capital, 2000 Yearbook*, the S&P had an average return of 19.92 percent over the last 10 years. This would indicate that Littleton did not do as well during the most recent 10-year period. Ibbotson also shows that the compound annual equity returns for the Standard Industrial Classification (SIC) code 4213, Trucking Except Local, was 14.35 percent for the composite of the 32 companies in this group. Littleton’s rate of 12.9 percent is not as good as the industry overall.

In an attempt to see what the impact of using a shorter period of time would have on the Littleton rates of return, we performed a similar analysis as ABC Appraisal did in their Schedule 6. When we did ABC Appraisal’s analysis from 1990, instead of 1979, the results change dramatically. In fact, using their methodology, Littleton has negative returns of 3.20 percent, considerably below the industry average.

**Page 21.** In the middle of this page, ABC Appraisal starts to discuss their alternative compensation test relating to three positions in the company. This is similar to what we did, but we did more. ABC Appraisal cites data from the Economic Research Institute (ERI) database (see his schedule 9) to establish a reasonable compensation level per position. The source document that ABC Appraisal used is included as the next to the last page in their report.

<sup>1</sup> A.S. Pratt & Sons, Community Bank Tax Report, “Ninth Circuit Decision Limits: Independent Investor Test, Deduction of Paid Contested Taxes Against AET Base.”

(continued)

## EXHIBIT 24.4 Critique—The Second Time Around *(continued)*

When ABC Appraisal references the maximum reasonable cash compensation, as defined by the IRS, they are referring to the agreed upon figure that ERI can use in its database—not what the IRS will necessarily allow in a reasonable compensation case. I spoke with ERI about this figure. It represents two standard deviations above the mean. As ERI told me, this is a statistical figure that the IRS allowed to provide guidance about the reasonableness of the maximum compensation that might be allowed by the IRS, but the facts and circumstances of every situation must prevail. Therefore, this is not a guaranteed maximum figure.

Another consideration in the ERI figures is that the noncash compensation is frequently estimated, but not necessarily pertinent, to the specific companies in the data set. This makes the information less reliable.

The proxy analysis that ERI does in the data used by ABC Appraisal includes the following companies: CD&L, Forward Air Corp., Mobile Mini, Inc., Pacific CMA, Inc., Planar Systems, Inc., RPC, Inc., Smithway Motor Xpress Corp., Trailer Bridge, Inc., Transport Corporation of America, and U.S. 1 Industries, Inc. Other than Transport Corporation of America, none of these companies were guideline companies. Our analysis of the proxies went as far as to pull the actual proxies of companies that we considered to be relevant to Littleton. ABC Appraisal merely used this program, and it is not inclusive of their comparable companies, despite the SIC code used.

**Page 23.** Once again, ABC Appraisal displays complete advocacy as they discuss the adjustment for nonrecurring items. Discussing the expenses of Walder and Kass, ABC Appraisal states “As a matter of equity, the Court may wish to exclude this adjustment due to its conclusion that John was the oppressor.” This comment has no place in an independent, objective valuation. This is for legal counsel to argue and not the valuation analyst.

ABC Appraisal discusses their findings and the fact that they narrowed down the selection to only six guideline companies. They say that these are the “most comparable companies.” However, two of their six companies are not comparable. PAM Transportation derives a large percentage of its revenue from the automobile industry. US Xpress was growing through acquisition; it had made numerous acquisitions during the past several years.

They claim to have benchmarked the 24 companies for the latest 12-month period in terms of

- revenues (in terms of size and growth in revenues);
- EBITDA (earnings before interest, income taxes, depreciation and amortization); and
- EBIT (earnings before interest and income taxes).

However, using only these criteria ignores other attributes that make these companies good guideline companies. Some of the factors to consider in selecting guideline companies have been included in the writings of Graham, Dodd, and Cottle;<sup>2</sup> Stockdale;<sup>3</sup> and Bolten, Brockardt, and Mard.<sup>4</sup> The following are some of the factors to consider, though not necessarily in any special order.

- |  |  |
|--|--|
| • Past growth of sales and earnings                            | • Amount of investment in inventory                |
| • Rate of return on invested capital                           | • Level of technology employed                     |
| • Stability of past earnings                                   | • Level of skill required to perform the operation |
| • Dividend rate and record                                     | • Size   |
| • Quality of management  | • Financial position                               |
| • Nature and prospects of the industry                         | • Liquidity  |
| • Competitive position and individual prospects of the company | • Years in business                                |
| • Basic nature of the activity                                 | • Financial market environment                     |
| • General types of goods or services produced                  | • Quality of earnings                              |
| • Relative amounts of labor and capital employed               | • Marketability of shares                          |
| • Extent of materials conversion                               | • Operating efficiency                             |
| • Amount of investment in plant and equipment                  | • Geographical diversification                     |

It seems that his benchmarking was extremely limited. Personally, I think that it was designed to eliminate many of the guideline companies that, not only they, but we, used in our first reports, but it also eliminated many of the potential guideline companies that had higher multiples. This was one more attempt on their part to low-ball the final value.

<sup>2</sup> Graham, B., Dodd, D., and S. Cottle, *Security Principles and Technique*, 4th ed. (New York: McGraw-Hill Book Co., 1962).

<sup>3</sup> John J. Stockdale, “Comparison of Publicly Held Companies With Closely Held Business Entities,” *Business Valuation Review*, 1986: 3–9.

<sup>4</sup> Bolton, Steven E., Brockardt, James W., and Michael J. Mard, “Summary (Built-Up) Capitalization Rates for Retailers,” *Business Valuation Review*, 1987: 6–13.

**EXHIBIT 24.4 Critique—The Second Time Around**

**Page 24.** ABC Appraisal refers to their Schedules 3b and 3b.1 for a description of the 24 companies that they considered and why they rejected some. I agree with some of their selections, but disagree with others. I believe that their explanation of why they eliminated some of these companies is ridiculous. They refer to some of these companies being more than seven times Littleton's revenues as a reason for elimination. Knocking out a perfectly acceptable guideline company that is under 10 times the subject is without good justification, especially when these companies are a good fit to the subject. Furthermore, these are the companies that might very conceivably be the willing buyer of Littleton.

For ABC Appraisal's deposition, you probably want to ask them questions regarding their choice of guideline companies, where it differs from ours. For example, they include PAM Transportation, which admittedly gets about 46 percent of its revenues from the automotive industry. However, on Schedule 3b, they eliminate Allied Holdings Inc. Although they indicate that the primary reason was that the revenue was more than six times the size of the Littleton, they make it a point to indicate that this company is automotive-focused. With PAM Transportation getting approximately 46 percent of its revenues from the automotive industry, and approximately 33 percent of its revenues from one customer, GM, it seems that this company (PAM) is automotive-focused and should have been eliminated in their selection process. This is the reason why we eliminated this company.

With regards to US Xpress, we eliminated this company because according to the disclosures in their Form 10K, they have made approximately 10 acquisitions during the 1990s, with more than half of them coming in the latter half of the decade. We felt that because this company was in acquisition mode, and its growth was through acquisitions as opposed to internal growth, this was a company that was dissimilar to Littleton. Let's find out why ABC Appraisal believes that this company was a good guideline company.

With respect to some of the other companies that we included, and that ABC Appraisal omitted, some of these companies do not show up on his Schedule 3b. This indicates that either the company did not show up at all in their search, or they excluded them early in the process. Let's find out which it is. For example, JB Hunt does not show up at all in Schedule 3b. Besides the fact that we found it to be a reasonable guideline company, its multiples are as follows: MVIC to Revenues, 1.93; MVIC to EBITDA, 9.14; MVIC to EBIT, 9.90.

Another company not included on ABC Appraisal's list is Motor Cargo Industries. Once again, we need to find out why. The multiples for this company are as follows: MVIC to Revenues, 0.37; MVIC to EBITDA, 2.66; MVIC to EBIT, 5.33.

**Page 27.** In Section 10.4, ABC Appraisal states the following:

We determined the multiples of the guideline companies by dividing their adjusted total capital of the guideline companies as of December 31, 2000 by the appropriate adjusted financial parameter as of December 31, 2000.

This will cause a difference in their report from ours. We used Littleton's December 31, 2000 financial statements, but that was it. They used financial statements for the guideline companies and their stock prices as of December 31, 2000. Not only does this add an extra quarter of financial data to the analysis (because we cut off at September 30, 2000, to stay with what would have been known or knowable at November 29, 2000), but it also changes the multiples because of the stock price differences.

Before I demonstrate the differences in the multiples between the time periods, there is one other multiple that I need to address. ABC Appraisal calculates what they call "adjusted total capital" in Schedule 12b of their report. This calculation is performed in a relatively unorthodox format. By definition, invested capital typically represents long-term interest-bearing debt plus equity of a company. For convenience, many valuation analysts will use total interest-bearing debt. ABC Appraisal adds "book debt," which they reference to their Schedule 3. However, in reviewing what they have called book debt, I found that they included a cash overdraft for Transport Corp. of \$4.1 million and \$1.5 million for USA Truck. Cash overdrafts are typically treated as accounts payable, not interest-bearing debt under generally accepted accounting principles. Therefore, they have overstated the invested capital for these two guideline companies.

Another item that needs to be discussed is the fact that ABC Appraisal subtracts non-operating assets from the guideline companies' equity in the determination of his "adjusted total capital." Because the investors in the public market pay a price for the stock of these companies knowing that these assets are included in the equity of the company, I feel that it is inappropriate to make this subtraction.

*(continued)*

**EXHIBIT 24.4 Critique—The Second Time Around** *(continued)*

The following table shows the differences in the stock prices and multiples based on the information reported in the Form 10-Ks (before making the adjustments that ABC Appraisal made regarding the leases and excluding the cash overdraft):

	Stock Price		MVIC/EBITDA		MVIC/EBIT	
	Dec. 31	Nov. 29	Dec. 31	Nov. 29	Dec. 31	Nov. 29
Arnold Industries	18.00	18.73	4.54	4.82	6.91	7.34
Old Dominion	9.50	9.88	3.02	3.06	6.05	5.92
Pam Transportation	8.03	8.00	3.34	3.36	6.58	6.33
Transport Corp.	4.38	4.66	3.38	3.41	9.33	10.24
US Xpress	5.56	6.69	4.78	4.96	13.03	11.10
USA Truck	5.50	6.00	4.01	3.66	23.31	12.54
		Median	3.69	3.53	8.12	8.79

As you can see, the stock price was lower for five of the six guideline companies at December 31, as compared to November 29. The median multiple actually rose slightly for EBITDA, but declined for EBIT. This would cause ABC Appraisal's overall figures to decline again by using the December 31 figures, as compared to November 29 (latest 12 months September 30).

**Page 28.** One of the many problems in using the guideline company method is that you cannot always correlate the multiples. In looking at table 6 of ABC Appraisal's report, let's concentrate on the EBITDA and EBIT multiples. The only difference between these two multiples is that depreciation and amortization is added back in order to derive EBITDA. But look at how different these multiples are when you compare the variance from one multiple to the next for the same company:

	EBITDA	EBIT	EBITDA/EBIT
Arnold Industries	4.43	6.84	64.77%
Old Dominion	2.71	6.32	42.88%
PAM Transportation	3.09	6.06	50.99%
Transport Corp.	2.86	8.19	34.92%
US Xpress	3.05	11.90	25.60%
USA Truck	4.01	22.56	17.77%

This indicates that these guideline companies have such a different degree of depreciation and amortization from each other (and from Littleton) that the use of both of these multiples renders one of them meaningless. This is the reason that we used an EBIT multiple and did not use the EBITDA multiple in this valuation. We also used debt-free net income so that we had a second multiple. This just highlights one more of the problems in determining comparability of Littleton to these public companies. Even the public companies are different.

**Page 30.** ABC Appraisal discusses the analysis of transaction multiples on this page. They indicate that they located 18 transactions but could not use 14 of them. They show the four transactions that are used on Schedule 4. First of all, there are not enough transactions for this to really be useful, other than at most, a sanity check. However, if you look at the transactions on Schedule 4, you will notice that three of these companies are considerably smaller than Littleton. That eliminates them for comparability. Also, it is known in the valuation field that larger companies typically sell for larger multiples. That is one of the reasons that ABC Appraisal eliminated some of the larger companies from their guideline company analysis.



**EXHIBIT 24.4 Critique—The Second Time Around**

The four transactions look like this:

Target	Sales	Multiples	
		Sales	EBITDA
Jevic	226.1	0.90	6.70
Bestway	40.9	0.40	1.50
Dedicated	44.0	0.10	3.00
Carco	66.7	0.50	3.60
Average		0.48	3.72
Median		0.44	3.30
<b>Closer to Littleton</b>	<b>226.1</b>	<b>0.90</b>	<b>6.70</b>

ABC Appraisal uses the median and mean to justify the multiple from the public companies, but the reality is that even these transactions are being used by them to mislead the judge. The only preceding transaction that is remotely similar to Littleton is Jevic, which results in multiples that are almost twice the median and mean. I do want to emphasize, however, that only one transaction cannot be used for much without having a tremendous amount of detail, which is not available from the transaction databases. This is another display of trying to mislead the reader of their report that this information is relevant.

They attempt to explain away the higher multiple by indicating that a control premium can be observed for only one transaction. If that is true, which it is not, the premium would be almost 100 percent!

**Page 31.** Table 8 indicates the percentage growth in Littleton compared to the guideline companies. ABC Appraisal uses this information to indicate how Littleton compares to these companies. However, once again, this analysis, by itself, is misleading. ABC Appraisal never discusses the fact that the growth rates for several of the guideline companies are attributable to acquisitions, as opposed to real growth. They also are only looking at historical information (another drawback of using the market approach in this fashion). Historical growth rates do not translate into stock prices. It is the future growth that investors are buying. Merely looking at history does not allow an informed decision to be made about future prospects. What this table shows is that on a revenue basis, Littleton has done incredibly well (except 1998) in comparison to the guideline companies because none of their growth has come from acquisitions.

Based on profitability, Littleton is superior in its EBITDA margin and almost as good in its EBIT margin. Once again, ABC Appraisal attributes this to Joe. Regardless of who caused it, the value is clearly there for Littleton.

It seems that every time ABC Appraisal has to say something positive about Littleton, they attribute it to Joe, or they attempt to downplay it. The fact is, John is entitled to the value of his interest, regardless of who runs the company.

**Page 32.** At the top of the page, there is another attempt to downplay the multiples that would be applicable to Littleton. They state the following:

In addition, an investor would consider an investment in the Littleton Entities riskier than the guideline companies in the following respects:

- The Littleton Entities had a high customer concentration level.
- The Littleton Entities was smaller than the majority of the guideline companies.
- The Littleton Entities had less net tangible assets per dollar of revenue relative to its peers. An investor may need to invest additional funds relative to the guideline companies to maintain a comparable level of earnings in the future.
- The Littleton Entities has a great reliance on one key person, Joe.

(continued)

**EXHIBIT 24.4 Critique—The Second Time Around** *(continued)*

If we look at each one of these statements separately, we can see that it really should not matter that much. According to ABC Appraisal's own description of these companies (beginning on page 24), customer concentration is as follows (for the top five customers):

Arnold Industries	43%
Old Dominion	6%
Pam Transportation	55%
Transport Corp.	43%
US Xpress	4%
USA Truck	31%*

\*10 customers

Many of the guideline companies have customer concentration risk, as well.

As far as being small, this is true. However, here also, it is not that much of an issue for all the companies. Transport Corp., USA Truck, and Pam Transportation have revenues of \$290,611, \$226,585, and \$205,245, respectively, compared to Littleton at \$166,173. When companies are this size, they are very similar. Even the other companies used by ABC Appraisal could be deemed similar to Littleton. The only company in their group that is really larger than Littleton is US Xpress (\$787,085), which we eliminated as a guideline company because it has been on an acquisition spree.

In terms of having less net tangible assets per dollar of revenue relative to its peers, ABC Appraisal takes the position that "an investor may need to invest additional funds relative to the guideline companies to maintain a comparable level of earnings in the future." I believe that this indicates that Littleton is run more efficiently than the guideline companies, and an investor would see better asset utilization than the other companies.

Once again, the reliability is on Joe. Talent can be purchased. This is the trucking industry and not rocket science. ABC Appraisal cannot really believe that an adequate replacement cannot be found to run a trucking company, as well, if not better than, the manner in which Joe runs the company. There are many CEOs of other trucking companies, both public and private, that can be put in Joe's shoes. This is not as much of an issue as they keep emphasizing.

In the conclusion section of the report, ABC Appraisal states the following:

While the additional factors above would warrant a reduction in the multiples, we have assumed market multiples at or above the median multiples of the guideline companies in order to be conservative (favorable to John).

They have already eliminated the guideline companies with higher multiples. They have chosen to ignore a DCF method because of the growth of Littleton. They have ignored the new state of the art facility. They have overstated Joe's worth to support reasonable compensation. And now, they choose median multiples "in order to be conservative (favorable to John)." Who are they kidding?

They attempt to use the transaction multiples to justify what they have done here. I have already demonstrated why this is not reasonable.

**Pages 33 and 34.** At the bottom of the page and the top of the next page, ABC Appraisal justifies their weighting the multiples, 20 percent for the revenue multiple with the balance split evenly between the other two multiples. They indicate the following:

But we do not believe a buyer would ignore the value indicated by using the Revenue multiple because the buyer will be concerned whether the profit margins of the Littleton Entities can be maintained and if the profitability will revert to a more average margin in order to retain the customers.

## EXHIBIT 24.4 Critique—The Second Time Around

This is nothing more than an attempt to put some weight on a multiple that is lower than the others. It brings down the value. The revenue multiples have a range from 0.38–0.95 (table 6 of their report). Looking at means and medians without an analysis of what caused growth and profitability for the guideline companies does not prove that there is any correlation between the multiples that these companies are trading at and revenues. In our analysis (using the guideline companies that we selected) we found a very poor correlation in the revenue multiples. That is the reason that we eliminated it from consideration.

We ran a simple regression analysis using ABC Appraisal's multiples to determine if there was any statistical reliability in them. The only multiple that showed any reliability was his EBITDA multiple. The revenue multiple had a  $R^2$  of 0.54 (the closer to one, the better) and the coefficient of variation was 0.36 (the lower, the better). The EBIT multiple has a  $R^2$  of 0.77, but a coefficient of variation of 0.62. This means although the  $R^2$  is within an acceptable range, the coefficient of variation shows a wide swing in the multiples. This is evidenced by the fact that the multiples range from 6.06–22.57. This would make this multiple unreliable. Both statistics are acceptable for their EBITDA multiple, which indicates consistency in the guideline company multiples. This does not mean, however, that their value is correct because I believe they chose inadequate guideline companies.

**Page 35.** They indicate the following:

We also believe that giving John the benefit of an additional control premium would be to be unfair to Joe and Mary (the third shareholder), as their ability to receive such a premium would require both that the Littleton Entities be sold, and that it would warrant a premium over its going-concern value in such a sale.

It is interesting that ABC Appraisal makes this remark because their entire valuation is premised on the assertion that the company will be sold. For them to say “such a premium would require both that the Littleton Entities be sold...” seems to be the very premise that they operated under all along. They are being contradictory.

In table 12, they are, once again, being cute with the transactions. They are showing how close they came to the average and median multiples. Where they fail is in their analysis.

**Page 36.** Section 11.3 is ABC Appraisal's discussion of their key person discount for Joe. They list factors that show that Joe is “great.” They omit, of course, the negative impact that Joe probably had on the company because he went to jail. They also discuss the decline in the company during Joe's absence (1992–1994), but again, they forget to mention anything about the serious recession that the country, and particularly the Northeast, was in during that time frame.

ABC Appraisal footnotes an article from *The Business Owner* relating to personal goodwill:

It is harder to sell a business in which the owner is active in the business and, even more so, was hard to replace. Furthermore, such a business will command a lower price.

However, if you read through this article, you will see that it pertains to small businesses and not companies the size of Littleton. The author cites a presentation that I attended at a conference entitled “Separating Personal and Business Goodwill of Operating Companies in Divorce Valuations.” This presentation had to do with valuing small companies in a divorce setting. The presenter, Rod Burkert is from Pennsylvania, a state that does not permit personal goodwill to be part of “equitable distribution.”

If you answer the many questions in the article with a “p” for personal and a “b” for business, you can see that the vast majority of Littleton Trucking's goodwill is business-related and not personal. The questions raised are as follows:

### Type of Service

- Is the product creation process labor-intensive (P) or machine-intensive (B)?
- Are orders received by the owner or his staff, or both, (P) or automatically (B)?
- Do customers interact with the owner-manager personally (P) or mostly just with employees (B)?
- Do customers associate quality with the owner-manager (P) or with the company (B)?
- If a reputation of quality, honesty, and fair dealing exists, is it attributed to the owner-manager (P) or the business (B)?

### Customers

- Do customer referrals come to the owner-manager personally (P) or to the business (B)?
- Do the customers speak of the owner (P) or the business (B)?
- Does most revenue come from repeat business (P) or new customers (B)?
- Are there just a few customers (P) or many (B)?

(continued)

### EXHIBIT 24.4 Critique—The Second Time Around *(continued)*

#### The Company

- Start-up (P) or mature business (B)?
- Is the business named after the owner (P) or not (B)?
- Is there one owner working in the business (P) or many (B)?
- Does the owner-manager handle all core tasks (P) or delegate them to a talented team (B)?
- Are the systems, processes, and methods “in the owner’s head” (P) or are they documented and carried out by others (B)?

#### The Owner

- Does the owner work many hours in or on the business (P) or few (B)?
- Is the owner well-known in the industry and community (P) or not really (B)?
- Does the business require a high level of knowledge, skill, and ability (P) or could the business be run by any one of a great many people (B)?

#### Other

- Can personal relationships influence customer decisions to buy (P) or are customers large and interested only in price, terms, and service quality (B)?
- Is the business financing personally guaranteed by the owner (P) or not (B)?
- If the business was purchased, was a covenant not to compete a part of the terms (P) or not (B)?
- Can the ownership interest be sold without restrictive covenants on the owner (B) or would the buyer likely require the seller to agree to restrictive covenants (P)?
- Would the loss of the owner’s services result in a decline in revenue (P) or not (B)?

With regard to the other article, “Key Person Discount” from *Valuation Strategies*, the full name of the article is “Key Person Discount: Overlooked and Underutilized.” This article starts off with the following sentence:

In **small closely held entities**, it is quite common to find many if not all elements of management concentrated in one or two people. (Emphasis added)

It then states the following:

The IRS has long recognized the fact that a reduction in value is appropriate and it stated in Rev. Rul. 59-60:

The loss of the manager of a so-called “one-man” business may have a depressing effect on the value of the stock of such business, particularly if there is a lack of trained personnel capable of succeeding to the management of the enterprise. In valuing the stock of this type of business, therefore, the effect of the loss of the manager on the future expectancy of the business and the absence of management succession potentialities are pertinent factors to be taken into consideration.

Littleton trucking is certainly not a “one-man” business. It also has at least \$1 million of life insurance as mitigation of the loss of Joe. By the way, if Joe is so important, why wasn’t this policy amount increased?

The studies included in this article show ranges that are all over the place. There is not enough information to determine how applicable each situation would be to Littleton.

What is also interesting is the court case determinations (and keep in mind that this is all in the context of fair market value and not fair value), and particularly, the *Estate of Paul Mitchell*. The court in *Estate of Mitchell* allowed a 10 percent discount to reflect the value of the decedent’s creativity to the business. Paul Mitchell was considered the heart of the company’s connection with its customers; he was a creative trendsetter, and his hair sculpting techniques revolutionized hair styling.

According to the author “It appears from the empirical data (although that data is somewhat thin) that a range of 8% to 35% may be appropriate.” However, if you look at the table that they include to summarize the cases, they show the following:

**EXHIBIT 24.4 Critique—The Second Time Around**

Exhibit 2. Summary of Cases Case	
	Discount
<i>Estate of Huntsman</i>	11.2% and 9.1%
<i>Estate of Yeager</i>	10.0%
<i>Estate of Feldmar</i>	25.0%
<i>Estate of Rodriguez</i>	27.4%
<i>Estate of Mitchell</i>	10.0%
<i>Furman</i>	10.0%

In the two cases that allowed higher discounts (*Feldmar* and *Rodriguez*), the key person had a tremendous impact on the business. In *Rodriguez*, the company was small (average three-year earnings were under \$300,000), and in *Feldmar* (company had about \$31.0 million in revenues), the decedent was responsible for marketing its insurance product in a unique way. Neither of these cases would apply to Littleton.

In Pratt's *Business Valuation Discounts and Premiums*, the author discusses factors to consider in analyzing the key person discount. Pratt states the following:

Some of the factors to consider in estimating the magnitude of a key person discount, in addition to special characteristics of the person listed above, include:

- Services rendered by the key person and degree of dependence on that person
- Likelihood of loss of the key person (if still active)
- Depth and quality of other company management
- Availability and adequacy of potential replacement
- Compensation paid to key person and probable compensation for replacement
- Value of irreplaceable factors lost, such as vital customer and supplier relationships, insight and recognition, and personal management styles to ensure companywide harmony among employees
- Risks associated with disruption and operation under new management
- Lost debt capacity

Pratt then goes on to discuss items that mitigate the potential loss:

There are three potential offsets to the loss of a key person:

1. Life or disability insurance proceeds payable to the company and not earmarked for other purposes, such as repurchase of a decedent's stock
2. Compensation saved (after any continuing obligations) if the compensation to the key person was greater than the cost of replacement
3. Employment and/or noncompete agreements

Pratt references an article on this subject as follows:

Jerome Osteryoung and Derek Newman propose a fairly rigorous analytical approach to quantifying the key person discount. In the summary to their article, they write:

This paper suggests that the key person impact on the valuation of a business is important. The smaller the business the more important the key person becomes.

The key person impact cannot be thought of as applying a certain percentage to normal valuation of the business. This is not appropriate for two reasons. First, there is no viable research or theory that substantiates this point. Second, the key person loss will be different with each type of business.

(continued)

**EXHIBIT 24.4 Critique—The Second Time Around** *(continued)*

In order to evaluate the loss of a key person on the value of a business, each component in the future income and cash-flow stream must be evaluated for the exiting key person. Only by undertaking such a rigorous approach can any losses resulting from [sic] the departure of the key person be quantified?<sup>5</sup>

Notwithstanding the above, the fact is that most practitioners and most courts do express their estimate of the key person discount as a percentage of the otherwise undiscounted enterprise value.

Note the explanation regarding the methodology for evaluating the key person impact on the valuation. Osteryoung and Newman state the following:

**Methodology for Evaluating Key Person Impact on Valuation**

In this section, a definition of a key person is suggested for the purpose of the appraisal of the privately held firm and methods of evaluating the contribution of the key person are described.

A key person is defined as the owner/manager of a privately held business. It is very important to note that in the discussion of key person valuation issues, the key person is defined as both the owner and manager. This distinction is important because if the owner is not the manager, then the owner is remote from the daily operation of the business and the impact is not as great as that of the owner/manager. Additionally, the manager who is not an owner is not considered as a key person as this person is assumed to be continuing with the business for valuation purposes.

The establishment of the fair market value of a business begins with a forecast of the firm's earnings and cash flows. While there are many approaches for this process, this paper will only highlight the necessary adjustments for this process to account for the key person impact.

Mathematically, the key person discount is the percentage decline in the value of the business resulting from the replacement of the key person. While this is normally thought of as a discount, there are many times when the value of a business will be enhanced with the replacement of a key person. If an owner/manager was ineffective, then the replacement of that person should be considered a key person premium.

In every valuation, the impact of the key person needs to be ascertained. Shown below are the key elements to evaluate the key person's impact on the income stream of the business:

**Elements in Key Person Evaluation**

1. the salary paid to the key person,
2. the salary expected to be paid to the replacement of the key person,
3. the perquisites paid to the key person,
4. the perquisites expected to be paid to the replacement of the key person,
5. the ease of finding a replacement for the key person and the time necessary to accomplish such a replacement,
6. the non-replaceable reduction in sales from key person departure, and
7. the non-replaceable reduction in costs from key person departure.

The salary paid to the key person must be compared to the expected salary of the replacement. The salary paid to the key person can either be too high or too low depending on the specifics. What is relevant is the change in salary to the business after the change in ownership takes place. For example, if the key person was extracting an annual salary of \$45,000 a year but the new person would require \$75,000 for an equivalent performance then the \$75,000 is appropriate for the valuation process.

With perks, the same type of analysis is required. The perks that the key person is receiving must be compared with those of a replacement. If the key person was taking \$54,000 in perquisites and the new replacement will only extract \$16,000, then the relevant figure here is the \$16,000 as this will be the figure that impacts the projected income flows of the business.

Very often the key person of the business is performing two or three jobs that any prospective purchaser of the business would not be able to accomplish. Some time in the valuation process must be spent going over the role and responsibility of the key person to ferret out what the job performance really is. This might entail spending a day or two just following the key person around to actually see what he does. Frequently, the key person is the CEO, marketing manager, and the production supervisor. In this case, the marginal expenses of hiring the additional people to perform these jobs must be computed and incorporated into the valuation's projected income flows.

<sup>5</sup> Osteryoung, Jerome S. and Derek Newman, "Key Person Valuation Issues for Private Businesses," *Business Valuation Review*, 1994: 116.

## EXHIBIT 24.4 Critique—The Second Time Around

Frequently, it may take months to find an adequate replacement for the key person. It should not be assumed in the valuation process that, automatically, the new purchaser will have the skills to run the business. Rather, the assumption should be made that it will take time, effort, and sometimes a monetary expense to find or train the replacement. All of these elements need to be considered and built into the forecast of future income and cash flows.

One critical element in the valuation process is to estimate the amount of sales that will be lost with the departure of the key person. The closer the key person is to the sales function the higher this number will be. For example, a business with a key person in a manufacturing operation who normally does not get involved in marketing but has a marketing manager will not normally lose sales. However, a legal or medical practice will lose substantial revenue if the lead attorney or physician departs from the business. These departures are significant since there is a personal relationship built up between the client and the key person. The closer the key person is to the purchaser of goods or services the greater the loss of revenue.

This key person sales loss must be built into the revenue forecast of the valuation. Of course, the difficulty is in estimating the decrease in revenue because of the key person departure. The following is a list which allows the ascertainment of the amount of the sales declines which occurs with a loss of the key person.

### Elements in Estimating Revenue Change

1. The clients should be asked discretely how they would respond if the key person was busy, or would another professional in the firm be a satisfactory substitute? The more willing a client would be to let another professional meet his needs, the less the sales decline on the departure of the key person.
2. The effects of actual departures on the revenues of similar firms should be evaluated.
3. The frequency of contact between the customer and the key person should be evaluated. The greater the frequency, the less likely the client will be to willingly and/or automatically stay with the firm.
4. The nature of the service the key person is providing should be evaluated. If this service is highly personal (e.g. lawyer, doctor, and interior designer), then a great majority of these accounts and clients may be lost.

Sometimes the key person can have a dramatic impact on the costs of a business. A key person may be a very knowledgeable buyer and get goods at very reasonable prices. Additionally, the key person, through diligence and knowledge, can shift down the entire cost structure of a business.

One way to evaluate the effectiveness of the key person in reducing costs is to compare the costs of this business on a line by line basis. If the costs are significantly below the industry averages, then one reason for this may be the cost awareness of the key person.

To incorporate these cost savings from the departing key person is important to the valuation in forecasting the future income and cash flows. One way to do this would be to use the costs that would be expected under normal conditions (e.g. industry averages).

I realize that this quote was long, but it really provides a road map of the factors that should be considered. ABC Appraisal probably did not consider any of them. They merely accepted Joe's importance based on their client's say so and, of course, the previous judge.

**Page 37.** Continuing their discussion about key person discounts, ABC Appraisal states the following:

If we assume that approximately 50 percent of this intangible value, or \$14.7 million, is attributable to the key person value of Joe Littleton, this represents approximately 27.2 percent of the total equity value of the Littleton Entities (before applying a control premium).

This is nothing more than grabbing numbers out of the air. There is no basis for an assumption of 50 percent. ABC Appraisal refers to one of their trucking industry comparables to support the key person discount that resulted because of the death of the founder and chairman of Transport Corp. (TCAM). According to the 1999 Form 10-K filed in March 2000, TCAM's stock prices ranged as follows during 1999 and 1998:

*(continued)*

**EXHIBIT 24.4 Critique—The Second Time Around** *(continued)*

Period	High	Low
1999		
1st Quarter	13.750	11.250
2nd Quarter	13.438	9.750
3rd Quarter	16.250	12.375
4th Quarter	13.500	10.563
1998		
1st Quarter	18.250	14.250
2nd Quarter	18.250	16.250
3rd Quarter	17.250	10.000
4th Quarter	12.875	10.875

This data demonstrates that this company's stock prices fluctuated widely. In fact, the stock price declined through 1998 and bounced all over the place in 1999. The death of the founder and chairman was of so little importance to the company that it was not mention in the Form 10K. Earnings per share dropped by \$0.44 per share from a year earlier. Fully diluted earnings per share for 1999 were as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
\$0.25	\$0.46	\$0.31	(\$0.05)

Seeing the decline in profitability, the market's reaction had little to do with the death of the founder. Furthermore, according to a *New York Times* article published on February 10, 2000

Shares of the Transport Corporation of America Inc. fell yesterday after the company said fourth-quarter profit declined more than forecast, and the USFreightways Corporation scrapped a plan to buy the company for \$132.7 million in stock. Stock in Transport, a long distance trucker, slid \$5.625 to \$9.4375 in NASDAQ trading. The stock of both companies tumbled after they said on Jan. 18 that shareholders of Transport, which is based in Eagan, Minn., would receive 0.412 share of USFreightways for each of their shares, a 31 percent premium at the time. The stock of USFreightways was up 75 cents yesterday, to \$39.375, in NASDAQ trading.

The announcement of this transaction took place in January 2000. Once again, there is no mention that the decline had anything to do with the death of Jim Aronson.

ABC Appraisal then tries to justify why they did not think that this discount was important in their earlier report, but it is now. If the previous judge had decided based on a January 31, 1996 valuation that Joe was so important, why is this now justified? Joe's importance has not changed. If anything, it seems that Ray has taken over a lot of the day-to-day issues as President (at least according to Ray's deposition).

**Page 38.** The only part of the analysis that I disagree with about the pass-through status is the concept of prorating the pass-through entities tax shield because they had not elected S status 10 years ago. Because there is no intention of selling the company, this tax benefit will be realized by Joe and Mary. This is another calculation to bring down the value.



## EXHIBIT 24.4 Critique—The Second Time Around

**Pages 39 and 40.** The discussion that takes place in this section about the discount for lack of marketability is completely misleading and, in my opinion, inappropriate. First, ABC Appraisal starts off using *Balsamides* to help support a 35 percent discount. What makes matters worse is they intentionally attempt to mislead the court by stating

A 35 percent discount for lack of marketability is also consistent with published research that indicates that private placements typically occur at prices approximately 50 percent below subsequent public offering prices.

'Average differentials between private transactions prices and public market prices varied under different market conditions, ranging from about 40 percent to 63 percent, after eliminating the outliers.' These studies effectively compare the same company under private and public ownership, and indicate a substantial premium when the shares are easily traded in a liquid market. (Footnotes omitted).

ABC Appraisal references studies that appear in Pratt's *Valuing a Business*, but omit one critical item. The last sentence in the conclusion states the following:

This is very strong support for the hypothesis that the **fair market value of non-controlling ownership interests** in privately held businesses are greatly discounted from their publicly traded counterparts. (Emphasis added).

The error that took place in *Balsamides* was the fact that the court had poor testimony from the experts. Although I agree with the notion that you should consider the illiquid nature of the closely held company, the expert whose testimony was accepted used inappropriate data. The studies that he cited were restricted stock studies which pertain to noncontrolling ownership blocks. Effectively, the court allowed a discount for lack of marketability as if the business was being valued on a minority basis.

ABC Appraisal knows better, and they are trying to get the court to go along with this discount, which is applicable to minority interests. If the Littleton Enterprise were sold, Joe and Mary would not suffer a discount of 35 percent. Application of this discount would be a windfall for them.

ABC Appraisal also tries to use the Tax Court's benchmarks of 35 percent to 45 percent (again, minority interests) to support the factors that they considered in this appraisal. The nature of a closely held company that has owner/employees is that the holding period is a long-term investment. This should not come as any great surprise. Considering the other factors that ABC Appraisal listed, there should be little to no discount.

The major mitigating factor to illiquidity is the large distributions (excess salary from previous and current years, and distributions) that provide strong liquidity to the stockholders while the company is on the market. The financial strength of the company and the fact that the new facility is about to start early in the next period also affords strength. There are no shareholder agreements, so there are no restrictions on stock transferability. The company is not going public, so there are no costs associated with a public offering.

**Page 41.** ABC Appraisal states that customer concentration would make it difficult to sell the company. However, they ignore the fact that three of the six guideline companies that they chose had similar situations. They already discounted the company for Joe, but now they want to consider it again. There is no undercapitalization of the company because the owners (Joe) have chosen to distribute large amounts of cash over the years. Finally, the sub-segment of the trucking industry will not be a problem given the strength of the company. There is no justification for this discount.

### SOME MISCELLANEOUS POINTS AND REFERENCES FOR TRIAL

**Discounted Cash Flow.** In *Business Analysis & Valuation*, the authors discuss the concept of detailed valuation versus the use of multiples. They indicate the following:

Of course, how much is gained (or lost!) by relying on the market's pricing of other firms depends critically on how closely comparable those firms are. Such reliance also involves a certain circularity. If all equity valuation were based solely on comparables, then mispricing of one firm would translate into mispricing in another firm, and so on. To avoid this never-ending spiral, someone must ultimately conduct an analysis based on something other than mere comparables.

Each of the alternatives offers its own set of advantages. There is no 'best' valuation method, which explains why analysts tend to 'triangulate' by applying several methods in the same context.

(continued)

### EXHIBIT 24.4 Critique—The Second Time Around *(continued)*

In *Valuing Financial Institutions*, Z. Christopher Mercer, a well-respected business appraiser and author discusses relating P/Es and other historical valuation approaches to discounted cash flow methodologies. Mercer states the following:

Discounted cash flow methodologies are, from a theoretical viewpoint, the most correct and precise methods for valuing businesses. After all, what could better describe the value of a business today than the present value (determined at an appropriate discount rate) of all its future cash flows (or earnings)?

In discussing earnings forecasts, Mercer states, “Finally, for existing companies or financial institutions, the analyst must bridge the gap between actual historical performance and projected future performance.” Clearly, you cannot just rely on history, but you need to project the future and then understand the difference between the two.

In the *Valuation Reference Manual*, in the discussion of discounted earnings, the author states, “The real value of any going business is its future earning power. Accordingly, the discounted cash flow approach, more than any other, determines the true value of your business.”

In an article appearing in *Business Week* entitled, “Taking the Measure of a Stock—Discounted Cash Flow Tells What Other Methods Don’t” appearing May 14, 2001, the author discusses a valuation performed by Aswath Damodaran, a New York University finance professor. The article discusses that stock market prices are based on many factors, but the discounted cash flow model really gets to the underlying value of the company itself. In fact, the author says this:

What these models really give you is an appreciation for what drives stock values. Changes in the long-term growth rate seem to have the greatest impact on growth companies, with next year’s earnings projection and, of course, changes in interest rates, also making a big difference.

The author then goes on to say

With all the caveats, Damodaran still argues that discounted-cash flow models make the best valuation tools. He says analysts who rely on price-earnings ratios also make assumptions about growth when they decide what p-e is justifiable for a stock. They just don’t bother doing it explicitly. Without weighing all the elements that are in the discounted-cash-flow model, says Damodaran, valuation becomes a beauty contest—with stocks compared with each other rather than judged on intrinsic value. ‘If the companies you are comparing your company to are all overpriced,’ says Damodaran, ‘what you end up with is a stock that drops by 60% or 65%.’ That’s something easier to imagine now than it was two years ago. ‘Besides,’ he says, ‘focusing only on earnings puts investors at the mercy of companies adept at jiggering the bottom line. Cash flows are more difficult to manipulate.’

**Forecasting.** In *Business Analysis & Valuation*, the authors discuss the process of forecasting. Regarding the overall structure of the forecast, they indicate the following:

The best way to forecast future performance is to do it comprehensively, by producing not only an earnings forecast, but a forecast of cash flows and the balance sheet as well.

They also indicate:

Forecasting represents the first step of prospective analysis, and serves to summarize the forward-looking view that emanates from business strategy analysis, accounting analysis, and financial analysis.

The authors conclude this section of the book by stating the following:

There are a variety of contexts (including but not limited to security analysis) where the forecast is usefully summarized in the form of an estimate of the firm’s value—an estimate that, after all, can be viewed as the best attempt to reflect in a single summary statistic the manager’s or analyst’s view of the firm’s prospects. That process of converting a forecast into a value estimate is labeled valuation.

## EXHIBIT 24.4 Critique—The Second Time Around

In *PPC's Guide to Business Valuations*, the authors provide a step-by-step summary of how to complete a discounted future returns method. In step 1, they indicate, "Obtain (or Prepare) a Financial Forecast." As you can see, the authors tell us that even if we do not obtain one, we certainly prepare one. The argument that ABC Appraisal uses for not using a discounted future returns methodology is because management did not have a forecast available; that is nonsense. Later in the chapter, the authors indicate:

In some cases, the valuation consultant may be able to obtain a forecast of future operations from the company being valued or from that company's independent accountant. This is the preferred approach and should be encouraged whenever feasible. In many cases, however, the consultant may have to prepare the forecast.

As the authors elaborate on forecasts, they indicate:

Since the valuation consultant **prepares the financial forecast in most instances**, (emphasis added) the consultant should base the forecast on normalized assumptions presented in accordance with GAAP.

In the seminar material, *Business Valuation for Accountants, Brokers and Appraisers*, by The Institute of Business Appraisers, the materials discuss forecasting as an "essential part of appraising" and "often overlooked or ignored by otherwise competent appraisers." In discussing forecasting techniques, various methodologies are indicated in these materials. For example, they talk about mathematical analysis of history, however, the materials also state, "but an analysis of history, no matter how sophisticated in the mathematical sense, is not a forecast."

Finally, with regard to the use of judgment, and possibly being wrong about the forecast, these materials indicate:

Fortunately, appraisers are not required to be infallible forecasters; they are expected only to reach conclusions such as would be reached by a reasonable person, given the available information.

These materials end with a quote from Justice Holmes in *Ithaca Trust Co. v. U.S.*:

Values . . . depend largely on more or less certain prophecies of the future; and the value is not less real at the time if later the prophecy turns out to be false...

In an article "Traditional Equity Valuation Methods," published by the Association for Investment Management and Research, the author discusses traditional valuation methods versus "new" valuation methods. The traditional methods fall into more of a market approach concept because the author discusses price-to-book ratio, price-to-sales ratio, price-to-earnings ratio, and a dividend discount model. While discussing the pros and cons of these different methodologies, the author states, "the DDM (Dividend Discount Model) is intellectually and ideally the best model for valuing companies." Although they chose to ignore dividend-paying capacity because he claimed it was not important for a controlling interest, clearly, this dividend model is considered to be important.

In the second article in this series, "New Methodologies for Equity Analysis and Valuation," this presentation discusses "two of the new equity valuation methodologies—economic value added (EVA) and discounted cash flow (DCF)—that have particular appeal in global analysis." These concepts are based on making the forecast and determining the present value of this stream of income.

The author points out

Modern theory has outgrown the old approaches. Finance professors have in some instances stopped teaching the valuation yardsticks of the previous generation, such as P/E, price-to-sales (P/S), and return on-equity approaches. In fact, Putnam Investment Management recruits heavily from one business school where the students are not allowed to discuss P/E but, rather, only the results from PV methodologies. This change is symptomatic of an ongoing evolutionary trend, both in academic circles and among practitioners, toward new methodologies. The old methodologies focus on earnings-based measures, with some consideration of yield; 5 or 10 years ago, the dominant valuation approaches included P/E, P/S, and among a distinct minority of practitioners, the dividend discount model (DDM). The new methodologies focus much more carefully on the creation or destruction of value; they emphasize the future benefits from investing capital now. The PV calculations permit analysts to value the cash flows from a firm as it now exists and from its use of cash and its financing capability, whether that capability is used to expand the business, repurchase stock, or pay dividends.

(continued)

**EXHIBIT 24.4 Critique—The Second Time Around** *(continued)*

The author discusses both the EVA and DCF methods and states the following:

The EVA and DCF disciplines do, however, focus analysts' attention explicitly on economic earnings, rather than on accounting earnings, and on the productive use of capital, rather than on the growth of reported income per share. These disciplines are also more systematic and sophisticated than the ratio approaches (i.e., P/E and P/S) but, admittedly, at the cost of being more labor intensive. In addition, the PV approaches force disciplined thinking and conscious evaluation of appropriate discount rates. Significantly, they provide a lens to look through various accounting systems at underlying real economic phenomena.

Clearly, what the author is saying is that these approaches are much more difficult and much more labor-intensive, but they are clearly the manner in which valuations should be performed. ABC Appraisal took the easy way out by not attempting to perform this labor-intensive exercise. ABC Appraisal clearly was looking to lowball their figures, so they wanted to avoid using a DCF methodology.

Another important point discussed in this article is the holding period relating to an investment in a company. Clearly, the market approach emphasizes a short-term expectation based on the market prices and growth expectations in the public market. An investment in a closely held company, however, has a longer-term holding period and, as such, in order to properly value it, a longer holding period needs to be considered. The authors in this article state the following:

Finally, the new methodologies, by their very focus on future benefits, share an explicitly longer-term view of a firm's prospects than do the more traditional measures. Ratio analysis tends to depend heavily on historical norms and can easily miss changes taking place in companies, as well as the valuation implications of those changes. Because the PV approaches require explicit forecasting of important future variables for several years, at a minimum, they almost force the analyst to have a greater reliance on future rather than present results.

In discussing the advantages and disadvantages of the methodology, the author states the following:

First, they provide a consistent and clear framework for valuation...Second, the new methodologies do not depend on GAAP financial reporting. Third, the financial inputs are consistent, allowing more realistic company-to-company, industry-to-industry, and cross-border comparisons. The final advantage, which is potentially the most substantial but also the most difficult to make real, is that these disciplines can make the relationship between expected or forecasted returns and the fair price for the stock quantifiable, specific, and sometimes even transparent. The primary advantage of PV-based disciplines, in fact, is the ability to say that a given asset is intrinsically undervalued, overvalued, or fairly valued.

The disadvantage pointed out by the author primarily is the fact that the analysis requires an extensive amount of labor and, therefore, becomes expensive. Clearly, the author also indicates that in performing forecasts, calculating growth rates, and discount rates, a small variation can affect the valuation. However, there is a clear bias towards using the new methodologies.

In the third article in this series, "Cash Flow Analysis and Equity Valuation," the author states, "The basic idea behind any valuation approach is to estimate the intrinsic value of a company." He also states that "The focus is on the business and its ability to generate cash." In discussing problems with an earnings focus, the author points out

In general, earnings realizations depend substantially on generally accepted accounting principles (GAAP), and companies have discretion and can manage their earnings by using their choice of accounting principles.

While the intention of this article is to point out the difference between using cash flow versus earnings in the valuation process, this quote becomes somewhat important because the public companies that would be responsible for reporting their earnings to their shareholders could, in fact, manipulate their earnings by applying generally accepted accounting principles in a fashion that would be favorable to them. However, this may not prove to be a good comparison to the Littleton Entities, which has concerned itself with its ability to generate as much cash as possible to the shareholders.

The Littleton Entities have been operated for the purpose of generating cash flow to its owners, proven by its track record of large distributions. Using the public companies could end up being somewhat misleading. A better approach to valuation would be relying on the cash flow generated by Littleton because that would provide the intrinsic value of Littleton, which would not be prejudiced by any of the manipulations or the volatility of the guideline companies.

**EXHIBIT 24.4 Critique—The Second Time Around**

In an article entitled, “Valuation of Closely-Held Firms” published in *Business Valuation Review*, December 1990, the authors discuss various valuation techniques recommended in the literature. They also provide the results of a survey that they conducted among practitioners. In discussing the different valuation methodologies, they state the following:

Respondents ‘covered the waterfront’ in stating the most practical approach in valuing a small or closely-held business. The single factor that dominates all others is that most replies indicated the use of the net present value approach as offered, discussed and recommended by most theoreticians and practitioners alike.

They also state:

The message is clear that no single approach is the best in all cases. The literature suggests using multiple approaches in each valuation as a check against other approaches, when sufficient data are available to apply different techniques.

This further supports our position that more than one approach should have been used in this valuation.

In an article entitled, “Market Comparables and Valuation: The Lotz Case Revisited,” the authors discuss the use of the market approach in this valuation. This was a California Court of Appeal case (*In re Marriage of Lotz* (1981) (120 Cal. App.3d 379, 174 Cal. Rptr. 618)). The essence of the article is that the authors discuss the ruling by saying, “Simply stated, the court held that the valuation of the closely held company using a comparison with public companies was based on an invalid assumption.” They go on to state the following:

In hearing the case, the Court of Appeals ruled that considerable difference exists between public and private companies and that, therefore, the use of the price/earnings method of valuation as a determinant of market value for a closely held corporation was inappropriate. Consequently, a valuation based on a procedure with such a singular focus, which contained an invalid assumption, was also invalid.

The authors discuss the fact that the court, although not outright rejecting the market approach, said that by using it as a sole approach, because of assumptions that could be faulty, it would flaw a valuation.

In Pratt’s *Valuing a Business*, he starts a discussion on generally accepted theory by stating

In the simplest sense, the theory surrounding the value of an interest in a business depends upon the future benefits that will accrue to the owner of it. The value of the business interest, then, depends upon an estimate of the future benefits and the required rate of return at which those future benefits are discounted back to the valuation date.

Thus, the theoretically correct approach is to project some category or categories of the future benefits of ownership (usually some measure of economic income, such as cash flow, earnings, or dividends), and estimate the present value of those future benefits by discounting them based upon the time value of money and the risks associated with ownership. Direct implementation of this theoretically correct approach is discussed in chapter 9, “Income Approach: Discounted Future Economic Income Method.” That chapter focuses heavily on net cash flow as a measure of economic income, both for conceptual reasons and also because it is the focus of most merger and acquisition income value analysis.

Pratt concludes this section of his book by stating the following:

In general, approaches using current or historical data, if properly carried out, should yield a result that is reasonably reconcilable with what a well-implemented discounted economic income method would derive.

Pratt continues his discussion of basic theory by referring to Professor Bonbright’s work on the valuation of property. This discussion pertains to the concept of realized earnings (historical earnings) versus prophesied earnings (future earnings). ABC Appraisal’s entire valuation was performed based on historical earnings of the company. Pratt quotes Bonbright as follows:

The truth is that, when earnings have once been ‘realized,’ so that they can be expressed with some approach to accuracy in the company’s accounts, they are already water under the mill and have no direct bearing on what the property in question is now worth. Value, under any plausible theory of capitalized earning power, is necessarily forward looking. It is an expression of the advantage that the owner of the property may expect to secure from the ownership in the future. The past earnings are therefore beside the point, save as a possible index of future earnings.

(continued)

### EXHIBIT 24.4 Critique—The Second Time Around *(continued)*

With so many valuation treatises and court cases quoting Professor Bonbright's work, this may be a good treatise to lead the judge to further support our position.

In discussing basic variables affecting value, Pratt states the following:

One way or another, the financial benefits of ownership of an interest in the business enterprise must come from the following sources:

1. Dividends, distributions, or other type of cash flow:
  - a. from operations, or
  - b. from investments (e.g., interest).
2. Liquidation or hypothecation of assets.
3. Sale of the interest.

Therefore, any valuation approach—at least from a financial point of view—must focus on quantifying the ability of the business interest to provide benefits to its owner from one or some combination of the above sources.

In discussing the theory of valuation, Pratt starts off with two quotes: one from *Investment Analysis and Portfolio Management* and one from *Principles of Corporate Finance*. The first quote is as follows:

... the value of an asset is the present value of its expected returns. Specifically, you expect an asset to provide a stream of returns during the period of time that you own it. To convert this estimated stream of returns to a value for the security you must discount this stream at your required rate of return. This process of valuation requires estimates of (1) the stream of expected returns, and (2) the required rate of return on the investment.

The second follows:

Value today always equals future cash flow discounted at the opportunity cost of capital.

As I have been saying all along in this matter, value is equal to the present value of the future cash flows. No matter what methodologies are used, if they do not resemble the future cash flows, the appraiser is not truly measuring value. By relying so heavily on the market approach to determine multiples and ignoring the particular attributes of the Littleton contracts, growth rates, and performance measures, ABC Appraisal has ignored the valuation of Littleton. What they have done, instead, is superimposed into their valuation that if the Littleton Entities were a generic company, trading at the same types of multiples as the public companies, they would be worth a particular amount. In fact, the exercise is to value Littleton, and not a generic company, as if it was just going to be sold in the marketplace. Because the measure of fair value that we are trying to achieve is the value that John Littleton will be giving up, it seems only appropriate that we should be valuing the Littleton trucking companies and not some generic enterprise.

Throughout his writing, Pratt emphasizes the fact that future income is what is being purchased, and that the theory clearly says that you should be discounting it to present value. In chapter 11 of *Valuing a Business*, Pratt discusses the guideline publicly traded company method. He indicates that it is clearly most useful when valuing a marketable, minority ownership interest using the premise of value and continued uses of a going concern business. What he indicates though is, "The method can be used in conjunction with a valuation for any standard of value, certainly most importantly for fair market value." In discussing the application of this methodology to the various standards of value, under fair value, Pratt states the following:

As a generality, in most states it is a broader standard that incorporates market value along with values indicated by income and asset approaches. Therefore, we would state that a guideline publicly traded company method usually would be a part of the analysis when fair value is the standard.

The important concept in this statement is that it should be part of the analysis. It should not be the sole analysis, which, once again, is what ABC Appraisal did.

Referring once again to *Valuing a Business*, chapter 19, Pratt discusses the reconciliation process performed at the end of the valuation. He states the following:

If, after careful review, one of the valuation methods that appears to have merit still produces an outlier, then it becomes a matter of the analyst's professional judgment as to the extent to which the factors reflected in the valuation method actually contribute to the estimate of value of the subject business or business interest. And, the analyst will weight that outlier method accordingly in the final value estimate.

**EXHIBIT 24.4 Critique—The Second Time Around**

Clearly, there is no substitute for judgment if the different methodologies and approaches yield very different results. This is precisely what we did in attempting to reconcile the market approach valuation with the income approach valuation. What is of importance is that Pratt, in discussing the weighting of the results says this:

The analyst should ask, 'What attributes of the ownership of the subject business or business interest create the economic value associated with its ownership?' If the income available for distribution to the business owner is the primary value driver, then it may be appropriate that one or more methods within the income approach dominate the value conclusion. Of course, a capitalization (1) of dividends (for a noncontrolling ownership interest) or (2) of dividend paying capacity (for a controlling ownership interest) within the market approach could very well also capture this income-related value.

In an article "The Myth of Public Company Comparisons," appearing in *Business Valuation Review*, June 1992, the author discusses various problems with using public company methodologies. In fact, he starts off by stating the following:

But the simple fact is, that determining the value of a privately held company based purely on a cursory review of a group of ostensibly comparable public companies can only produce reasonable results quite by accident.

He then states:

The insurmountable problem is that we can never completely discover why investors bought and sold those specific securities for those prices. And without that knowledge we cannot even begin to hypothesize how those transactions may indicate what an investor would pay for the shares of our client's private company.

The author then points out this:

Another problem with using public market data is that we are compelled to examine historical information while the marketplace is anticipating the future.

The author illustrates a group of P/E ratios for different industries that are very broad. For example, in the electronics industry, the P/E range was from 8.7–72.7, with a mean of 19.5, and a standard deviation of 12.4. What he states is as follows:

It is evident that this range permits a great deal of discretion in the ultimate selection of the P/E ratios to be used. Attempts to calculate a hypothetical share value for one of the publicly traded companies using 'comparable' data from the rest of the industry would generally produce ludicrous results when compared to its actual price. And this is for companies with virtually no differences in security attributes (i.e., actively traded, widely held). How then, can the methodology be expected to actually reflect the value of private shares?

Towards the end of the article, the author states the following:

Let's end the charade. Is it not preferable to determine the value of a controlling interest by examining the expected cash flow to that interest and the risk inherent in holding that interest? Similarly, isn't it better to determine the value of a minority interest by examining the cash flow to that interest and its relative risk? The assessment of risk can be based on investment hurdle rates or long term equity rates of return as adjusted for the specific characteristics of the subject company, the size of the interest relative to other interests, and other factors. This basis is clearly superior to using the P/E ratios of companies that are subject to multi-variate market influences we can have no hope of fathoming.

An article entitled, "Appraising The Close Corporation, Lotz, Hewitson, and Ronald Not Withstanding," appearing in *Business Valuation Review*, December 1986, includes a statement by the author regarding the market approach:

Some of the elements that determine the price earnings ratio (or its reciprocal the capitalization rate) are past growth, profitability, stability of earnings, financial strength, quality of management, prospects for the industry and, most importantly, the expected growth rate of earnings per share; along with such outside factors as the level of interest rates and current stock market conditions. It is evident from the reaction of the public securities markets that stock market valuations are influenced appreciably by the prospects for immediate increase or decrease in earnings. It is the long-range prospects, however, that furnish the basis for intrinsic value. Thus, the appraiser must be alert for what may be temporary aberrations in the stock market. (Footnotes omitted).

Clearly, the long-range nature of the closely held investment is more important than the short range, which could lead to aberrations in the public market. This, once again, is a danger in applying the market approach.

Obviously, all of these materials tend to support the theory that we have based our valuation on, and in many instances, negate or show the deficiencies in what ABC Appraisal has done. I hope that these materials are useful in preparing for depositions and trial.

After reading exhibits 24.3 and 24.4, it's probably obvious that I was not overly happy with the work of the opposing valuation analyst. However, much of the theory that I cited in the earlier chapters of this book showed up in these critiques with many quoted sources. There are many others besides me who not only write about this stuff but also have strong opinions. These exhibits should serve as a great refresher for so much of the rest of this book.

Because many of the readers of this book are involved with smaller companies, I have included a sample report of an interest in a smaller firm in an oppressed shareholder suit with the other downloadable samples. Happy plagiarism!

## Conclusion

If I did my job, you now have a better understanding of valuations to be used in shareholder disputes. If I did not do my job, or if you just want more information on this subject, see Pratt's *Valuing a Business* or *The Handbook of Advanced Business Valuation*. If you are looking for a book that has many of the leading cases included, purchase *BVR's Guide to Fair Value in Shareholder Dissent, Oppression, and Marital Dissolution*, published by Business Valuation Resources. These are dandy resources.



# Chapter 25

## Other Valuation Assignments

### Learning Objectives

In this chapter, I am going to explain some general information on specialized valuation assignments that valuation analysts often encounter. This chapter will discuss valuation issues related to the following:

- Stock options
- Warrants
- Preferred stock
- Debt
- Early-stage companies

### Introduction

In the past, valuation analysts who primarily valued small- to medium-sized businesses rarely came across many of the items that are going to be covered in this chapter. However, times have changed. Other types of securities are becoming more of the norm for businesses, regardless of the size of the entities. As valuation analysts, we are often engaged to perform services that extend beyond the valuation of businesses and business interests. Therefore, it has become essential to have knowledge about the valuation of these other securities. This chapter only presents a general overview of the valuation issues related to a select group of securities and is not intended to make anyone an expert on the valuation of these securities. Furthermore, there are numerous other complex securities that will not be covered in this book. If you find that you have an interest in any of these specific topics, there is an extensive amount of literature out there that goes into more detail about these issues.

### Stock Options

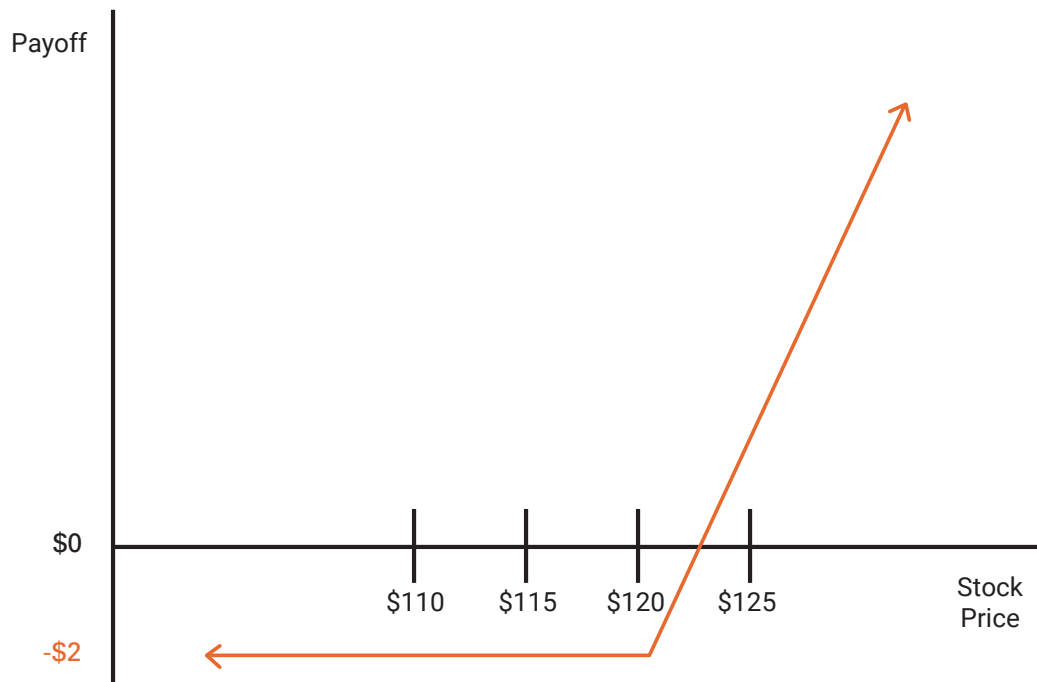
If you've ever read *The Wall Street Journal* or read through the benefits package offered by an employer, the term *stock option* may have appeared from time to time. An option is a derivative instrument, which means that its value is dependent upon (or derived from) another asset. Nearly anything with a random outcome can have an option on it: stock prices, interest rates, commodity prices, and so on. In this textbook, the discussion will be limited to stock options.

Options can take one of two forms: either *call* or *put* options. The owner of a call option has the right, but not the obligation, to purchase the underlying asset at a specified price, known as the *exercise price*, on or before a specified date in time, known as the *expiration date*. A put option works in exactly the opposite fashion. The owner of a put option has the right, but not the obligation, to sell the asset underlying the option at a specified price, on or before the expiration date. The expiration date for the option depends on whether the option is an American option or a European option. An American option allows the owner of the option to exercise before the expiration date. With a European option, the option cannot be exercised early.

When purchased in the market, investors buy options for a price known as the *option premium*. The buyer is paying for the rights granted by the option (to buy or sell). The owner of the call option will exercise his or her right to buy the underlying stock when the market price of the stock is greater than the exercise, or "strike" price. The owner of a put option will exercise his or her rights when the price of the underlying stock is less than the strike price. In both of these cases, an option that can be exercised is said to be *in the money*.

The best way to understand the basic concept of an option is to look at the pay-off diagrams for each type. Let's start with a call option. Suppose I purchase a call option on McDonald's stock for \$2 and the exercise price is \$120. Given this information, the option payoff appears graphically in figure 25.1.

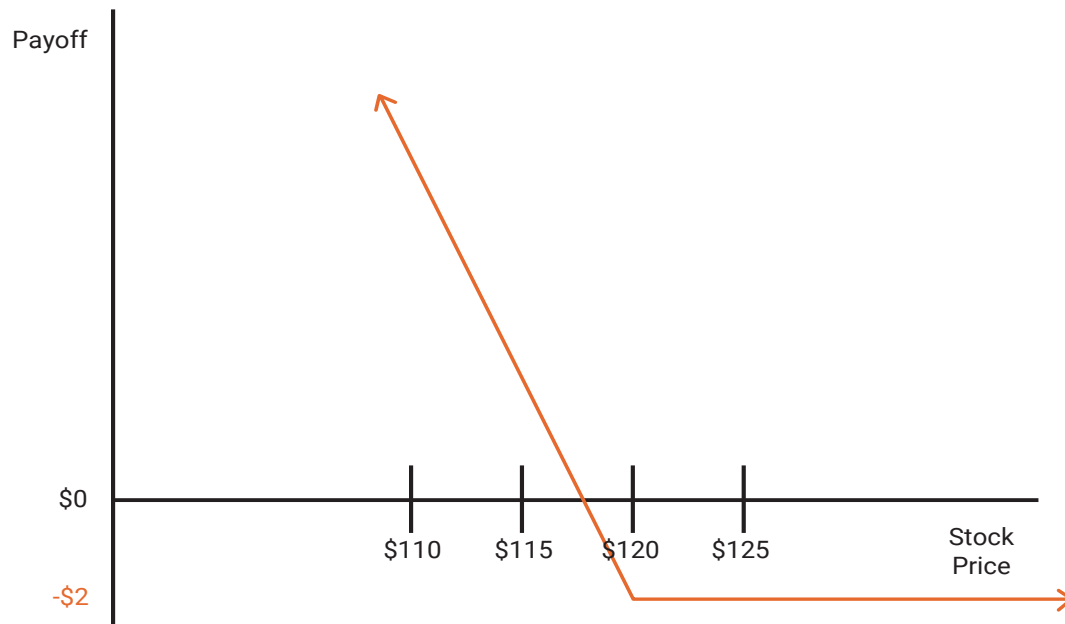
**Figure 25.1 Call Option Payoff**



The pay-off diagram for the call option is illustrated in figure 25.1. When the stock price exceeds \$120, the potential profit generated from the option begins to increase. However, remember that the option costs \$2. Therefore, the stock price needs to reach \$122 in order to break even. My cost would be my initial \$2 plus the cost to exercise the option of \$120, or \$122. Once the stock price reaches \$122, the profit I can generate is unlimited because there is no ceiling on the stock price. For example, suppose the stock price is \$130 at the expiration date. This means I exercise my option to purchase the stock at \$120 and sell it in the market for \$130. When considering the \$2 option premium, I would generate an \$8 profit in this instance.

The advantage of an option is that the profit upside is unlimited, whereas the maximum amount that you can lose on an option is the option premium. Think of it as an insurance policy against the loss in value of the stock. As you can see in figure 25.1, if the stock price is \$115, the option would expire and all I would lose is the \$2 premium that I paid for the option.

Now let's discuss put options. In this instance, I have the right, but not the obligation, to *sell* the stock at the exercise price at a certain point in the future. So, let's assume I purchase a put option on McDonald's stock for \$2 with an exercise price of \$120. The pay-off diagram would be the opposite of the call option diagram. This appears in figure 25.2.

**Figure 25.2 Put Option Graph**

In this instance, the option becomes profitable when the stock price decreases. If the stock price is \$110 at expiration, I can buy the stock in the marketplace for \$110, then exercise my option to sell it for \$120. If the stock price exceeds \$120, the option expires and the maximum amount I can lose is the \$2 option premium.

## Valuation of Options

Now that we've covered the basic concept of call and put options, we can discuss the valuation of these derivatives. First and foremost, when an investor purchases an option, he or she does not hold a direct interest in the stock of that company. Therefore, because an option's value is based on the value of the underlying stock, the typical methodologies to value the stock using the asset-based, income, and market approaches to value do not apply. Nobody said this was going to be easy!

For simplicity purposes, we will begin with a discussion on valuing call options. At expiration, a call option is worth the stock price less the exercise price. Prior to expiration, a call option is worth the stock price less the present value of the strike price after both prices are adjusted for the riskiness of the option. The valuation of options that are not at expiration is performed using mathematical models developed specifically for this purpose.

The most commonly used option pricing models are the Black-Scholes-Merton (BSM) and binomial models. Each of these models is based on the volatility of the underlying stock price, the difference between the current stock price and the strike price, and the length of time until expiration. This stuff can get very complicated, but I am going to intentionally keep the discussion as simple as I can. There are many finance books that contain the more complex version.

## Black-Scholes-Merton Option Pricing Model

The Black-Scholes-Merton option pricing model (also referred to as the Black-Scholes Option Pricing Model) is named after its founders Fischer Black, Myron Scholes, and Robert Merton. Fischer Black and Myron Scholes originally published a paper in 1973 called "The Pricing of Options and Corporate Liabilities" in the *Journal of Political Economy* (just the name of the publication should give a pretty good indication that this topic is

not going to be easy). In this paper, the authors derived an equation that estimates the price of an option over time. Robert Merton devised another method to derive the formula, expanded the mathematical understanding of the formula, and coined the term “Black-Scholes Option Pricing Model.” In 1997, Merton and Scholes received the Nobel Prize for their work on option pricing. Although Fischer Black was not alive to receive the prize, he was mentioned as a contributor by the Swedish Academy.<sup>1</sup> Given Merton’s contribution to this model, I will refer to the model as the Black-Scholes-Merton or BSM model throughout this textbook.

The following formula gives the BSM model for a call option:

$$C_t = e^{-d(T-t)} S_t N(d_1) - X e^{-r(T-t)} N(d_2)$$

where:

(1)  $N(\cdot)$  = cumulative normal distribution function

$$(2) \quad d_1 = \frac{\ln\left(\frac{S_t}{X}\right) + (r - d + 0.5\sigma^2)(T - t)}{\sigma\sqrt{T - t}}$$

$$(3) \quad d_2 = d_1 - \sigma\sqrt{T - t}$$

$C_t$  = The price of a call in period  $t$ .

$S_t$  = Stock price in period  $t$ .

$\ln$  = Natural logarithm.

$X$  = The call’s strike price.

$e$  = 2.71828, the base of the natural log function.

$r$  = The risk-free interest rate (annualized and continuously compounded) having the same maturity as the option.

$T$  = Call expiration date.

$t$  = Valuation date.

$\sigma^2$  = Variance of the annualized continuously compounded rate of return on the stock.

$\sigma$  = Standard deviation of the annualized continuously compounded rate of return on the stock.

$d$  = Annual Dividend Yield (Percent of Stock Price)

How’s that for a formula? I can promise that I do not have the capacity to make this up by myself. The BSM model uses what is known as *continuous mathematics*. This is one of two forms a mathematical expression can take, the other being *discrete mathematics*. The difference between continuous and discrete mathematics can be understood by explaining the difference between a ramp and a flight of stairs. A flight of stairs has a specific number of steps. In mathematics, these are considered to be discrete periods; there are  $x$  number of stairs; therefore, it is a discrete number. A ramp is continuous. If you are the type of person that wears a Fitbit, and you want to get in your 10,000 steps, you can take very small steps. However, if you are a large person with long legs, and you are in a rush, you may take half the number of steps to get up the ramp. In contrast, if a flight of stairs is the same size as the ramp, and has 20 stairs, it is climbed by a person in 20 steps (unless you cheat and take two at a time).

To obtain a result from the BSM model, the value of a call must equal or exceed the difference between the stock price and the present value of the exercise price. Although this model is complex, taken in pieces, it is not as daunting as it seems. I am going to break down the formula into little pieces to better understand the components.

<sup>1</sup> Nobel Prize Foundation, 1997 Press release. October 14, 1997, [www.nobelprize.org/nobel\\_prizes/economic-sciences/laureates/1997/press.html](http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/1997/press.html) (Accessed August 24, 2016).

The first term is the stock price times the cumulative normal distribution function. A distribution describes how observations from a sample are clustered or spread out. The standard normal distribution is the most widely used distribution in statistics. The standard normal distribution looks like a bell-shaped curve with small “tails” or ends. The center of the bell represents the location of the average of the distribution. This was already mentioned in chapter 7.

A normal distribution’s curve is symmetrical, which means both sides of the bell are the same size. This is because a standard normal distribution has an equal number of data points on each side of the average. The width of the bell is determined by how close to the average the data points are. The more tightly packed the data points are around the mean, the narrower the bell. The more disperse the data points are from the mean, the wider the bell. The width of a distribution is described by its standard deviation. A standard normal distribution is used to estimate probabilities that a variable is equal to a certain value. The cumulative normal distribution adds these probabilities to give the probability that a variable is less than or equal to a certain value.

For example, if  $d_1$  in the first term of the BSM equation was 1.25,  $N(1.25)$  measures the probability that a standard normal variable will have a value of 1.25 or less. Although an explanation of how these probabilities are calculated goes beyond the scope of this book, it is sufficient to say that the probabilities for standard normal variables can be referenced in established statistical tables found in almost any statistics textbook. It is important to note that the BSM model is very sensitive to rounding errors. Therefore, it may be more appropriate to calculate these probabilities using a software program, such as Microsoft Excel, in order to derive more precise results.

In the first term,  $d_1$  is used to represent the sub-equation I have labeled as (2) in the preceding list. The first term in this equation is the natural logarithm of the stock price divided by the option’s exercise price. The natural logarithm is the inverse (or opposite) of the mathematical constant  $e$ , which will be discussed shortly. The stock price is the market price on the valuation date. The exercise price, also known as the *strike price*, is the price someone can purchase the underlying stock for with the option. For example, a strike price of \$20 means that the call option holder can buy the underlying stock for \$20. All things being equal, a higher stock price results in a higher call price.

The second term of (2) in the preceding list begins with  $r$ , the risk-free rate of interest annualized and continuously compounded. This measures the rate of return one would receive for investing in a “riskless” security. In chapter 13, I already stated that there is no such thing as a “riskless” security, but securities that are backed by the full faith and guarantee of the United States government are considered to be a good surrogate. The interest rate on these securities compensates the holder for inflation risk and, as the maturity of the Treasury security gets longer, horizon risk, or the risk of things changing over time.

The theoretical risk-free interest rate to be used in the BSM model is one with the same maturity as the option. Although in reality this is often difficult to accomplish, the model is not very sensitive to this parameter; therefore, estimates can be used without a material loss of computational accuracy. All things being equal, an increase in the risk-free interest rate results in a higher call price. This is because the investor is earning a higher rate of interest on the money set aside to pay the exercise price.

The  $d$  in the equation refers to the dividend yield. When a business pays dividends, it is reducing the value of its equity by the total value of the distribution. On a business’s balance sheet, the cash account is reduced by the amount of the distribution, which is balanced by a reduction in stockholders’ equity. The dividend reduces the value of the shareholders’ equity by the value of the distribution. On a per share basis, the value of one share of stock is reduced by the dividend amount.

In the case of an *in the money* call option, the option value would be reduced by the value of the dividend. Merton produced an extension of the BSM model that could account for the decrease in value over time that is associated with dividend payments. The model is based on the assumption that a business will make continuous dividend payments.

The next variable in the second term of sub-equation (2) is  $.5\sigma^2$ , one-half of the variance of the daily returns on the underlying stock. The variance is equal to the standard deviation of the underlying stock squared. The standard deviation is a measure of volatility. Stock prices move up and down daily. Some stocks have greater fluctuations in their prices than others. This is what the standard deviation measures: the amount of movement in the underlying stock price. The greater this volatility measure, the higher the option price, all other things being equal. This is because the greater the volatility, the greater the chance the stock price will move higher over the life of the option. As stated by Frank K. Reilly PhD, CFA:

The only variable that is not directly observable is the standard deviation, often called the *volatility*, of the continuously compounded return on the stock over the life of the option. This value can be estimated using past returns on the stock, but what you really want is the future volatility of the stock which is quite naturally unknown. Of course, if everyone agreed on the expected volatility, then everyone would agree on the option price. The fact is, it is differences of opinion about the expected volatility that create an incentive for trading options.<sup>2</sup>

As Dr. Reilly states, there is no rule about the time period over which volatility is computed. Some analysts will use shorter periods to find the “instantaneous” standard deviation. The difficulty with doing this is not having enough data points to create a statistically significant measurement. In practice, my firm uses daily stock prices to perform this calculation, thereby allowing us to have enough data points that we are more comfortable with the statistical measurement of this variable.

The third term in sub-equation (2) is the length of time from the valuation date to the exercise date. All things being equal, the longer the period of time until expiration, the higher the call price. This is because the option has more time to move into the money.

The last term in sub-equation (2) is  $\sigma \sqrt{T-t}$ . As stated previously, all other things being equal, a call option's price will increase for either an increase in volatility or an increase in the period until expiration. This term is used to capture the interactions between volatility and time, showing that the call price will move in conjunction with volatility, multiplied by the square root of the amount of time until expiration.

In principle,  $N(d_1)$  assesses the risk associated with the stock price increasing. Combining the current stock price with this probability to form the first term in the BSM equation results in what in simple terms can be called a *risk-adjusted current stock price*.

The second term of the BSM equation starts with  $X$ , the exercise price, which I have already discussed. The next term is  $e$ . This symbol represents a number that has special mathematical properties. The number is approximately 2.718. I say approximately because the decimal does not terminate and does not have a repeating pattern. This number has a special use in continuous mathematics. When used in conjunction with an interest rate and a period of time, as it is in this instance, this number calculates continuous compounding and discounting factors. In this instance, the factors are present value factors. They are used to take the exercise price, which is a price in the future, and reduce it to a price as of the valuation date.

The remaining variables in the BSM equation have all been described previously. The term  $N(d_2)$  is only slightly different from  $N(d_1)$ , but all the variables should be familiar at this point.

Taken together, the second term in the BSM equation represents the risk-adjusted present value of the exercise price. When I say “present value,” I mean as of the date of the valuation. Because the goal is to develop

#### Author's Note

By now, if none of this stuff looks familiar, it may be causing some concerns. Be patient, at the end of the explanation, I am going to show some number-crunching. There are also models available on the Internet to compute this stuff. As with all models that a valuation analyst uses, he or she must understand what the model is doing. That is the foundation that I am laying right now. Stay calm, grab a drink, and we will continue.

<sup>2</sup> Frank Reilly, *Investment Analysis and Portfolio Management*, 4th edition (Fort Worth: The Dryden Press) 1994, 773.

the call option price as of the valuation date, and the strike price is for a future date, it must be discounted to present value. Thus, under the BSM model, a call option is worth the difference between its risk-adjusted stock price and the present value of the risk-adjusted exercise price.

The key to understand is that the price of a call option is based on the probability that the stock price will be greater than the strike price on the exercise date. This probability is risk-adjusted to reflect the risk in the up and down movements of the underlying stock price. In addition, it is affected by the length of time to exercise and the level of interest rates.

With respect to a put option, the BSM formula differs slightly. This appears as follows:

$$P_t = Xe^{-r(T-t)}[1 - N(d_2)] - S_t[1 - N(d_1)]$$

Though I will not go through the same detail in explaining the formula for the put option, the concept remains the same. The major difference is that in this case, the put option is worth the difference between the present value of the risk-adjusted exercise price and the risk-adjusted stock price. In other words, the price is based on the probability that the stock price will be lower than the strike price on the exercise date.

Certain inputs into the BSM model affect put options differently than call options. These differences are highlighted in box 25.1.

The reasons for the different impacts of the variables for call and put options can be explained as follows:

- **Share Price.** If you own a call option, you benefit when the stock price goes up. Therefore, an increase in the stock price results in an increase in value of a call option. The put option is the exact opposite.
- **Exercise Price.** The exercise price is the price at which you have the option to purchase the stock in the case of a call option and sell the stock in the case of a put option. With respect to a call option, a higher exercise price means that you have to pay more at expiration. Therefore, a call option is more valuable when the exercise price is lower. With a put option, a higher exercise price is beneficial because you get to sell at a higher price during expiration.
- **Volatility.** Both call and put options become more valuable with a higher level of volatility because the more volatile the stock, the higher the probability of going deeper *in the money*.
- **Risk-Free Rate.** By buying a call option, you save money by not having to buy the stock at full price. Therefore, when interest rates are higher, you can take your savings and invest at higher rates. Therefore, a higher interest rate makes a call option more valuable. On the contrary, a put option gives you the right to sell the stock at a future date. In other words, you don't receive the cash proceeds until expiration. By forgoing this *cash in hand* until expiration, you are bypassing the opportunity to invest this cash in these higher rates. Therefore, higher interest rates make put options less valuable.
- **Expiration Date.** Longer expiration dates make both call and put options more valuable because this means there is more time for the stock to go deeper *into the money*.
- **Dividend Yield.** When a company pays a dividend, it removes cash from its balance sheet and shareholders' equity declines. This decline results in a lower stock price. As discussed previously, a lower stock price makes a call option less valuable and a put option more valuable.

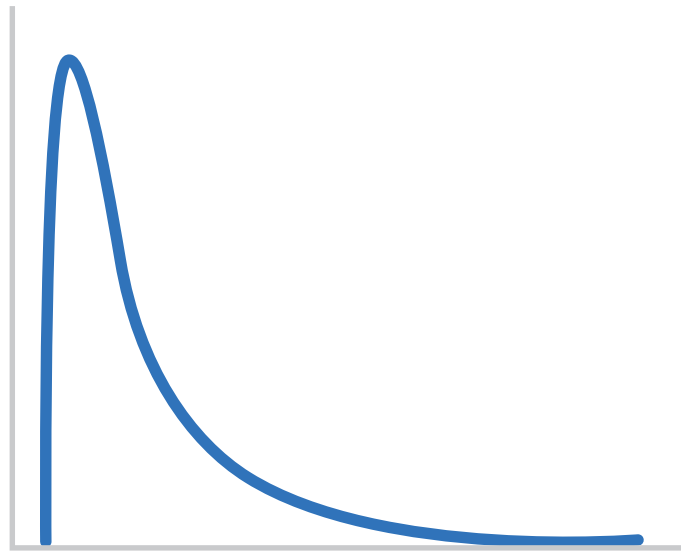
Now that you have an understanding of the mathematics of the BSM model (ha ha), and the various inputs that affect the value of the option, the next step is to understand the underlying assumptions of the model. As with any valuation model, it is essential to understand the assumptions behind the model and determine if it is appropriate to use in a particular instance.

**BOX 25.1****Variables Affecting Option Value**

	Impact on Option Price	
	Call	Put
Share Price	Increase	Decrease
Exercise Price	Decrease	Increase
Volatility	Increase	Increase
Risk-Free Rate	Increase	Decrease
Expiration Date	Increase	Increase
Dividend Yield	Decrease	Increase

1. *The stock price follows a lognormal distribution.*

I hate to confuse things more than I probably already have, but this is an important assumption of the BSM model. A lognormal distribution assumes that the log returns of the stock are normally distributed (remember the bell-shaped curve previously discussed?). For example, suppose you buy a stock for \$10 and sell it for \$15. Your return on the stock is 50 percent, but the log return on the stock is  $\ln(\$15/\$10) = 40.54\%$ . A log return is just another name for a continuously compounded return. If the historic log returns form a bell-shaped curve, they are assumed to be lognormally distributed. A lognormal distribution appears graphically as follows:



As you can see, the return is truncated to the left and stretches out further to the right. This limitation exists so that the price of the stock cannot be worth less than zero.

2. *The risk-free rate and volatility of the asset are known and constant.*

These assumptions are critical because interest rates and the volatility of the stock are typically not constant over time, especially during periods of economic turmoil.

3. *There are no taxes or transaction costs.*

This sounds like an assumption in the capital asset pricing model, right? It did not make sense then either.

4. *There are no cash flows over the term of the option.*

Although the model makes this assumption, there are ways to adjust for it. However, such adjustments are way beyond the scope of this textbook.

5. *The options are European.*

Remember that a European option cannot be exercised early and the option must be held until expiration. Therefore, if you are valuing an option that can be exercised prior to expiration, another model (such as the binomial model that will be discussed next) may be appropriate.

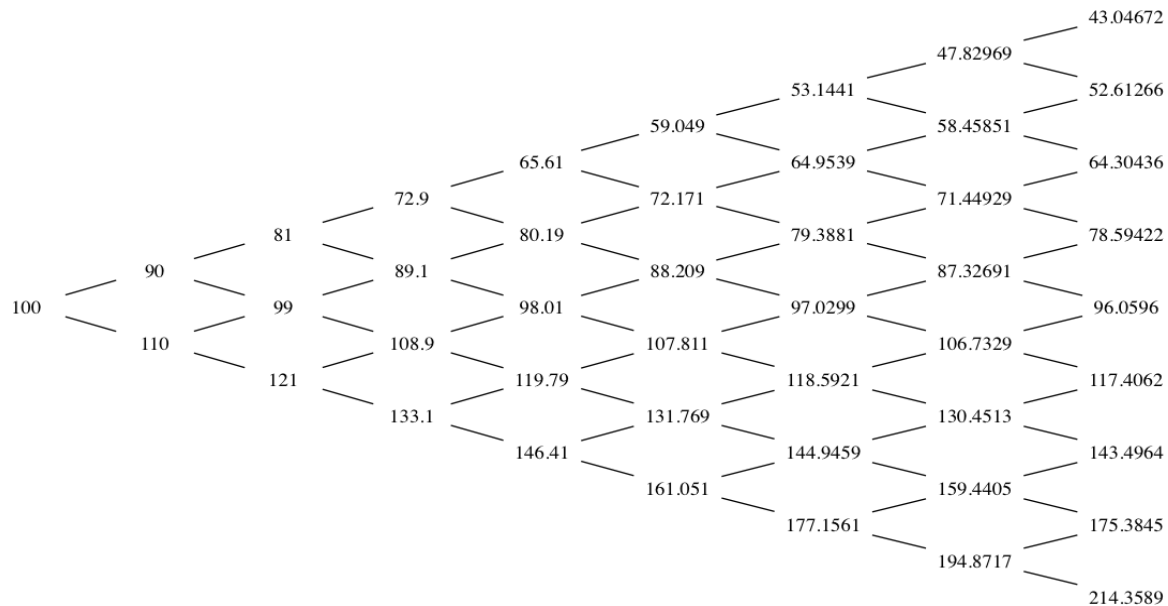
## The Binomial Option Pricing Model

The Binomial Option Pricing Model is a *discrete* model. This means that it is computed using a finite number of periods, in contrast to the BSM model, in which a time period is considered to be *continuous*.

The word *binomial* refers to the fact that in a given period, a stock price can move up or down, creating two potential outcomes. In this instance, the two potential outcomes refer to either an up or down movement in



the stock price. Extending one period further, each of those results can have two possible outcomes, an up or down stock price movement. This process can be extended for any number of periods when each new outcome has two possible outcomes. Each potential outcome for a given period is summed and discounted to present value to estimate the option price. After a number of periods, the binomial model begins to look like a tree laying on its side as the number of outcomes increases with each period. Graphically, a binomial tree may end up looking like this:



An advantage of the binomial model over the BSM model is that it can be used to more accurately price American options. This is because with the binomial model, it is possible to check at every point in an option's life (that is, at every step of the binomial tree) for the possibility of early exercise. Where an early exercise point is found, it is assumed that the option holder would elect to exercise, and the option price can be adjusted to reflect its value at that point. The binomial model basically solves the same equation as the BSM model, while providing opportunities along the way to check for early exercise for American options. As a result, for European options, the binomial model converges with the BSM formula as the number of binomial calculation steps increases. In fact, the BSM model for European options is really a special case of the binomial model in which the number of binomial steps is infinite. In other words, the binomial model provides discrete approximations to the continuous process underlying the BSM model.<sup>3</sup>

The first step in this model is to calculate the expected up-and-down movement of the underlying stock price at each step. The equations are as follows:

$$U = e^{\sigma \sqrt{\text{Step}}}$$

$$D = \frac{1}{U}$$

Where:

- U = The up factor, or the factor by which the stock will rise in any given time step, which is estimated using the stock's volatility.
- e = 2.718, the base of the natural log function.
- $\sigma$  = Standard deviation of the annualized continuously compounded rate of return on the stock.
- Step = Time steps. The time (in years) until expiration divided by the number of steps in the binomial tree.
- D = The down factor, or the factor by which the stock will decline in any given time step. It is the reciprocal of the up factor.

<sup>3</sup> See [www.hoadley.net/options/bs.htm](http://www.hoadley.net/options/bs.htm) (Accessed September 23, 2013).

Similar to the BSM model, the Binomial model estimates the movement of the stock price based on the historic volatility of the stock. Once the up-and-down movements are calculated, the next step is to determine the price of the option. The binomial model assumes that the price of the option today is the weighted average of the next two possible prices (the potential up-and-down movements). The weighted average of these potential price movements is then discounted to present value by the risk-free rate (another input into the BSM model). The formula to calculate the weights appears as follows:

$$P = \frac{e^{(r - \text{div})(\text{step})} - D}{U - D}$$

Where:

- P = The risk-neutral probability of an up move
- e = 2.71828, the base of the natural log function
- r = The risk-free rate
- div = The annualized dividend yield
- step = Time steps
- U = The up factor
- D = The down factor

The preceding formula is what is referred to as a risk-neutral (don't worry, we will get to this in a second) probability of an up move. The risk-neutral probability of a down movement is calculated as (1-P) or one minus the risk-neutral probability of the up movement. Because there are only two potential outcomes, the sum of the probability of the up movement and the probability of the down movement should be equal to one.

In interpreting the binomial model, it is important not to confuse these weights with actual probabilities. They are not probabilities of an up or down movement in the price of the stock. These weights are the probabilities that would exist if investors were *risk-neutral*. Risk-neutral means that an investor is not risk-averse or risk-seeking. In other words, the investor's decisions are not affected by the degree of certainty in a set of outcomes. Given two outcomes, with equal expected payoffs, the risk-neutral investor is indifferent between the two choices, even if one of the choices may be riskier.

Therefore, a risk-neutral investor values an asset as the expected future value of that asset, discounted to present value at the risk-free rate. In contrast, a risk-averse investor would value this same asset as the expected future value of the asset discounted to present value at the risk-free rate plus a risk premium as was discussed in the chapter 13.

Right now, the valuation analyst would probably be thinking "wait a minute, nobody in the real world would accept a risk-free rate of return for a risky investment." Well, think about what a stock price is. A stock price already reflects the expected future cash flows of the business, discounted to present value by the risk-adjusted rate of return. It already incorporates the risk profile of the universe of investors. Therefore, when valuing options, the risk preferences of investors are irrelevant because they are already reflected in the stock price. Option valuation is based on this framework.

Before we get to the number-crunching, let me discuss some real-world stuff. I do not know of a single valuation analyst who calculates any of this stuff without using a model that is readily available. For example, there are numerous models on the Internet that allows the analyst to just plug in the correct variables and out comes the answer. Various stock option models, including BSM, binomial, and others, can be found at [www.hoadley.net/options/calculators.htm](http://www.hoadley.net/options/calculators.htm).

Now, let's look at some examples. My firm has had several valuation engagements in which we have had to value options for a variety of reasons. An excerpt from a report where we applied both the binomial and BSM models is included in exhibit 25.1.

## Exhibit 25.1 Option Valuation

Trugman Valuation Associates, Inc. was retained by Sam Jones to perform a business valuation of 94,723 stock options of the common stock of Public Company as of October 5, 2012.

### BACKGROUND INFORMATION<sup>1</sup>

Public Company (PC or The Company), a Delaware corporation, is a leading media and marketing information services firm. The Company's stock is traded on the New York Stock Exchange under the symbol PC.

On May 27, 2009, each continuing director of PC received an annual grant of options to purchase 15,719 shares of The Company's common stock. These options had an exercise price of \$20.52 per share, were fully vested on the date of the grant, and became exercisable six months after the date of the grant. The options have a 10-year term, expiring on May 27, 2019.

Pursuant to an employment agreement, PC granted an initial equity award, which included 45,254 stock options. Assuming continued employment, the stock options would vest in equal amounts over a 3-year period following the date of the grant.

On March 4, 2010, PC established the performance objectives and other terms of The Company's 2010 Long-Term Incentive Plan for officers and eligible employees of The Company. As part of the 2010 Long-Term Incentive Plan, Mr. Jones was granted 73,251 stock options, which will vest in equal amounts over the 3-year period following the date of the grant, assuming continued employment.

A summary of the stock options owned by Mr. Jones as of the valuation date is presented in table 1.

**TABLE 1 Stock Options Owned by Mr. Jones**

Grant Date	Vested Options			
	Number of Options	Exercise Price	Expiration Date	Years Until Maturity
5/27/2009	15,719	20.52	5/27/2019	6.64
2/11/2010	30,170	24.94	2/11/2020	7.36
3/4/2010	48,834	22.17	3/4/2020	7.42
<b>Total</b>	<b>94,723</b>			

Grant Date	Unvested Options				Years Until Maturity
	Number of Options	Exercise Price	Vesting Date	Expiration Date	
2/11/2010	15,084	24.94	2/11/2013	2/11/2020	7.36
3/4/2010	24,417	22.17	3/4/2013	3/4/2020	7.42
Total	39,501				
<b>TOTAL</b>	<b>134,224</b>				

As shown in the data in table 1, as of the valuation date, Mr. Jones owned 134,244 stock options, of which 94,723 were vested and the remaining 39,501 will vest in early 2013. Our valuation engagement is to value the 94,723 stock options that were vested as of October 5, 2012.

<sup>1</sup> Much of this section was adapted from Public Company's Form 10-K for the fiscal year ended December 31, 2012, and Form DEF14A filed with the SEC.

(continued)

**Exhibit 25.1 Option Valuation** *(continued)***BLACK-SCHOLES-MERTON MODEL**

We have utilized the BSM model to value the options owned by Mr. Jones. A summary of these calculations is presented in table 2.

**TABLE 2 BSM Model Computations**

<b>INPUTS VARIABLES</b>			
Grant Date	5/27/2009	2/11/2010	3/4/2010
Expiration Date	5/27/2019	2/11/2020	3/4/2020
Average Stock Price As of 10/5/2012:	\$ 37.66	\$ 37.66	\$ 37.66
Exercise Price:	\$ 20.52	\$ 24.94	\$ 22.17
Term (In Years):	6.64	7.36	7.42
Volatility (Annual):	34.88%	34.88%	34.88%
Annual Yield of Quarterly Dividends:	1.10%	1.10%	1.10%
Risk-Free Rate:	1.13%	1.13%	1.13%
Call Option Value	\$ 19.23	\$ 17.29	\$ 18.61
Number of Options	15,719	30,170	48,834
Value of Options	\$ 302,221	\$ 521,549	\$ 908,674
<b>TOTAL VALUE OF OPTIONS USING BSM MODEL</b>		<b>\$1,732,444</b>	

Note: Figures may be off due to rounding.

The value of the options is determined by multiplying the number of options for each group by the option price. The total value of the options was determined to be \$1,732,444 as of the valuation date.

**BINOMIAL MODEL**

In order to substantiate the values derived using the BSM model, we constructed a binomial tree for each group of options. By using the binomial model, we can analyze the impact that early exercise has on the option values. In using the binomial model, we relied on the same assumptions that were used to calculate the values of the options under the BSM model.

The first step in this model is to calculate the expected up-and-down movement of the underlying stock price at each step. The equations are as follows:<sup>2</sup>

<sup>2</sup> Futures, options, and swaps.

**Exhibit 25.1 Option Valuation**

$$U = e^{\sigma \sqrt{\text{Step}}}$$

$$D = \frac{1}{U}$$

Where:

- U = The up factor, or the factor by which the stock will rise in any given time step, which is estimated using the stock's volatility.
- e = 2.718, the base of the natural log function.
- $\sigma$  = Standard deviation of the annualized continuously compounded rate of return on the stock.
- Step = Time steps. The time (in years) until expiration divided by the number of steps in the binomial tree. In this instance, seven steps were included in the binomial tree, which approximates the time to expiration for the stock options.
- D = The down factor, or the factor by which the stock will decline in any given time step. It is the reciprocal of the up factor.

Using the same inputs that were used in the BSM model, the up-and-down factors were calculated as follows:

Grant Date	5/27/2009	2/11/2010	3/4/2010
Expiration Date	5/27/2019	2/11/2020	3/4/2020
Volatility	34.88%	34.88%	34.88%
Time to Expiration (Years)	6.64	7.36	7.42
Number of Steps	7	7	7
Up Factor	1.40	1.43	1.43
Down Factor	0.71	0.70	0.70

The next step is to calculate the probabilities of the stock price moving up or down. These equations are as follows:

$$P = \frac{e^{(r - \text{div})(\text{step})} - D}{U - D}$$

Where:

- P = The probability of an up move
- e = 2.71828, the base of the natural log function
- r = The risk-free rate
- div = The annualized dividend yield
- step = Time steps
- U = The up factor
- D = The down factor

(continued)

**Exhibit 25.1 Option Valuation** *(continued)*

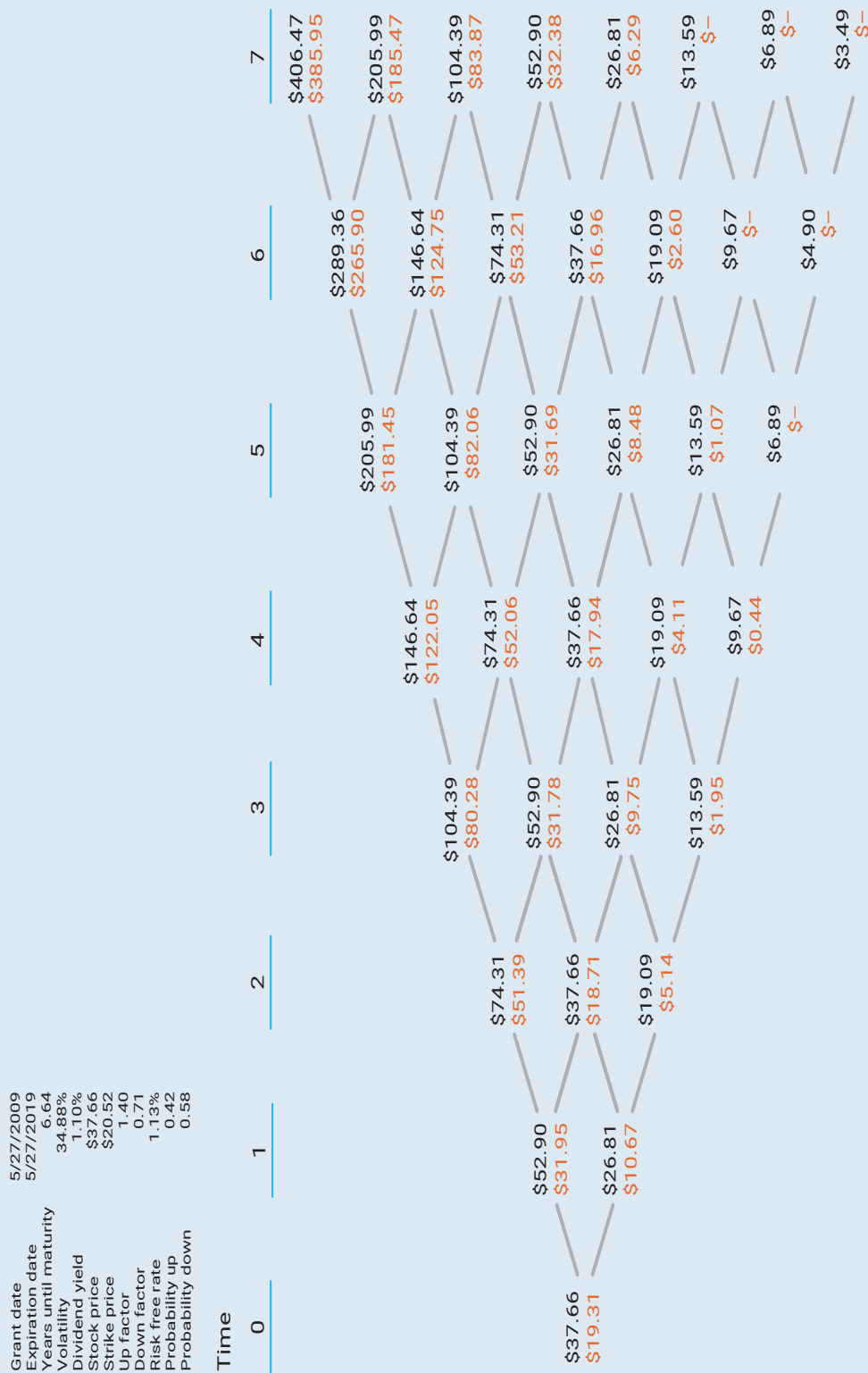
Using this information as the inputs into the preceding equation results in the following probabilities:

Expiration Date	Probability of an Up Move	Probability of a Down Move
5/27/2019	0.42	0.58
2/11/2020	0.41	0.59
3/4/2020	0.41	0.59

Now that we have all the necessary inputs, the next step is to calculate the value of each group of stock options using the binomial option pricing method. The binomial trees for each group of options are presented in tables 3–5 on the following pages.

Exhibit 25.1 Option Valuation

TABLE 3 Binomial Model for Options Expiring on May 27, 2019



(continued)

Exhibit 25.1 Option Valuation (continued)

TABLE 4 Binomial Model for Options Expiring on February 11, 2020

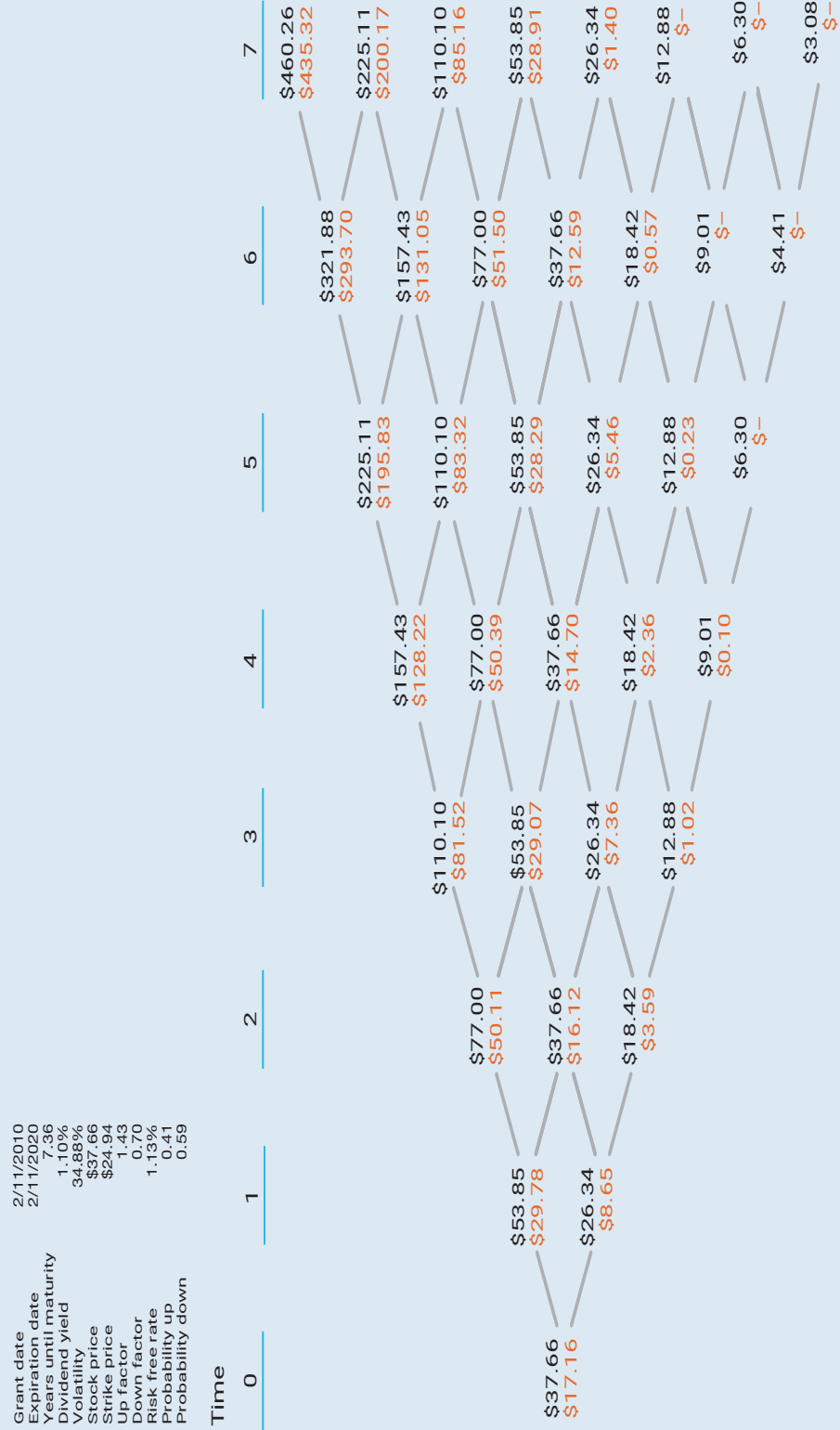
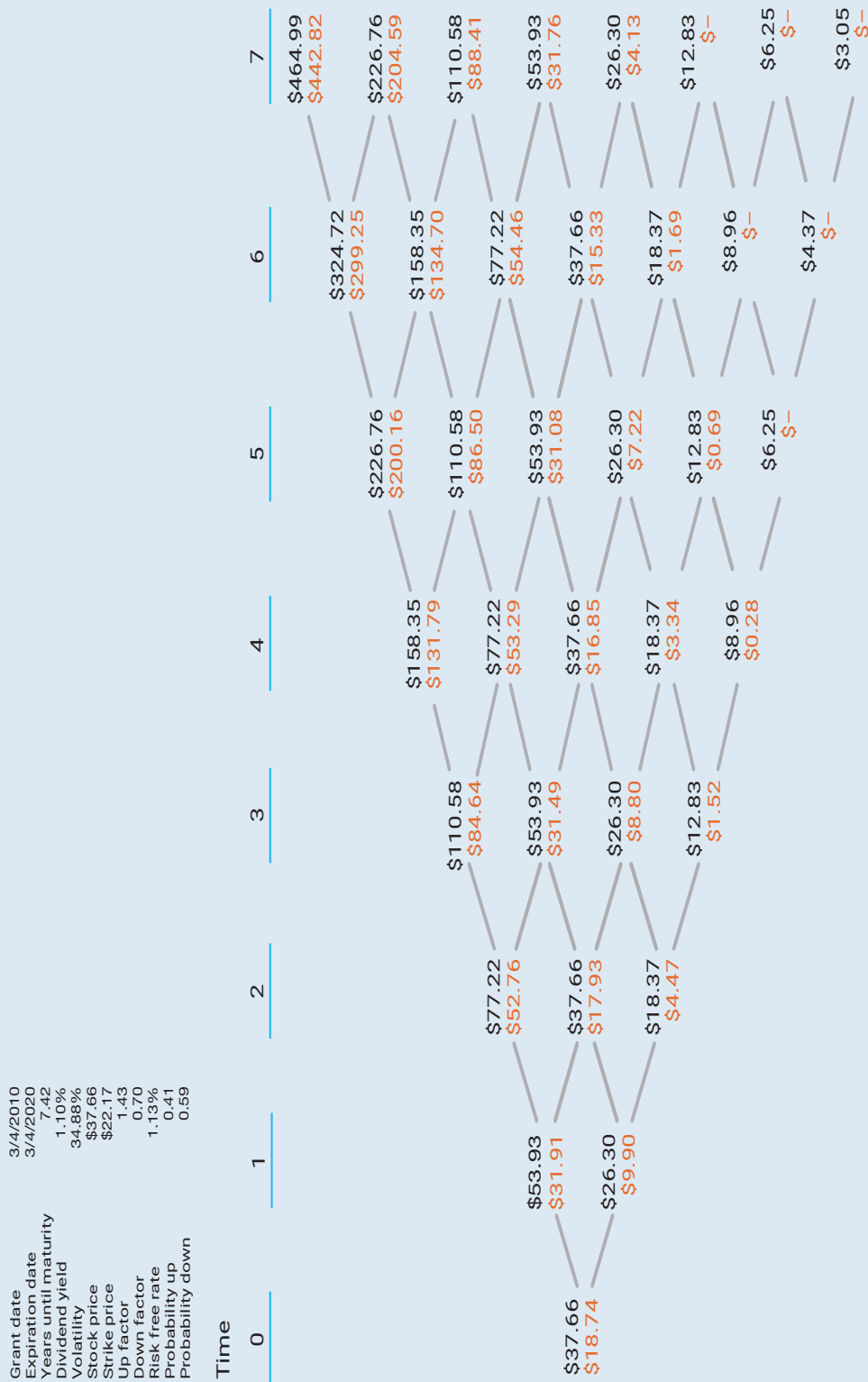




Exhibit 25.1 Option Valuation

TABLE 5 Binomial Model for Options Expiring on March 4, 2020



(continued)

### Exhibit 25.1 Option Valuation *(continued)*

The figures in tables 3–5 show the valuation calculations of the stock options using the binomial model. The black numbers represent stock prices, while the red numbers represent the option values at each node.

As of the valuation date, XYZ's stock price was \$37.66. This is the number that appears in column 0 in all three calculations. As we move forward through each period, the stock price is assumed to increase by the up factor or decrease by the down factor. For example, in table 3, in period 1, it is assumed that XYZ's stock price would either increase from \$37.66 to \$52.90 (a factor of 1.40) or decrease to \$26.81 (a factor of 0.71). This calculation is carried through to the final nodes.

The red numbers represent the value of the options at each node. Starting in column 7, the value of the option is simply the greater of either the stock price minus the exercise price, or zero. This is the value of the option at expiration.

Starting in column 6, and working backwards, the value of the option at each node is calculated as the probability weighted average of the possible call option values in the next period, discounted by the risk-free rate. For example, in looking at table 3, if the stock were to increase in 6 consecutive periods, the price would be \$289.36 in period 6. At that point, it can either increase by a factor of 1.40, resulting in a price of \$406.47, or decrease by a factor of 0.71, resulting in a price of \$205.99. If the stock price increases to \$406.47, the value of the call option would be \$385.95 at expiration (\$406.47 less the strike price of \$20.52). If the stock price decreases to \$205.99, the call option would have a value of \$185.47 at expiration. We have previously calculated the probability of an up move and a down move at 0.42 and 0.58, respectively. Therefore, in order to calculate the value of the call option in the previous period, we simply calculate a weighted average value, weighting each potential call option value by the appropriate probability. This calculation is as follows:

	Value	×	Probability	=	Weighted Average
Call Option Value—Up Move	\$385.95		0.42		\$162.10
Call Option Value—Down Move	185.47		0.58		107.57
			<b>1.00</b>		<b>\$269.67</b>

Performing the calculations results in a weighted average value of \$269.67. The next step is to discount this value by the risk-free rate to arrive at the call option value at that particular node. Discounting this value by the risk-free rate of 1.13 percent results in a call option value of \$265.90.<sup>3</sup> Working backwards, this same calculation is performed at each node until column 0, which shows the value of the call option.

Based on the values derived using the binomial model, the total value of the stock options is calculated as follows:

Expiration Date	# of Options	Call Option Value	Total
5/27/2019	15,719	\$19.31	\$ 303,534
2/11/2020	30,170	17.16	517,717
3/4/2020	48,834	18.74	915,149
<b>TOTAL VALUE OF OPTIONS USING BINOMIAL MODEL</b>			<b>\$1,736,400</b>

This value is approximately the same as the value derived under the BSM model because the dividend yield is small and the time to expiration is relatively short. Therefore, the use of either model renders a reasonable conclusion of value.

<sup>3</sup> The discounting formula for continuous compounding is  $e - (\text{risk free rate}) \times \text{weighted average value}$ .

## Warrants

A *warrant* is another type of derivative instrument that gives the holder the right, but not the obligation, to buy or sell an asset at a predetermined price at a specified date. Sounds a lot like an option, right? Warrants are similar to options, except there are several glaring differences. These include the following:

1. The time to expiration for warrants is typically much longer than that of options, and in my practice, we have seen warrants that have had periods as long as 10 years. With respect to options, the time to maturity is typically measured in months.
2. Warrants are typically issued by a company or a financial institution. Oftentimes you will see a company finance a portion of a transaction (merger, acquisition, employee stock ownership plan [ESOP] transactions, and so on) by issuing warrants. Individual investors can buy or sell options.
3. One stock option typically represents 100 shares of stock. One warrant can represent any number of shares. Warrants typically have conversion ratios that represent the number of shares that can be converted from each warrant. You may see a conversion ratio of 3:1, which means that the holder needs three warrants to purchase one share.
4. Warrants that are issued by a business have a dilutive effect. That means, upon exercise, the company's number of shares outstanding increases, resulting in a lower price per share (the total market value of equity is distributed across a larger number of shares). Options, on the other hand, are not dilutive. Upon exercise, the owner of the option receives an existing share from the secondary market.

Although these differences don't seem to be significant, they need to be considered when performing valuations. Too often, we see warrant valuations in which the valuation analyst blindly relies on the BSM model and completely disregards the terms of the warrant agreements. This is not to say that the BSM model cannot be used, but when doing so, the valuation analyst must consider the facts and circumstances of the valuation.

In fact, in *The Pricing of Options and Corporate Liabilities*, published by Fischer Black and Myron Scholes, the authors discussed the challenges associated with using an option pricing model to value warrants. The paper states the following:

A warrant is an option that is a liability of a corporation. The holder of a warrant has the right to buy the corporation's stock (or other assets) on specified terms. The analysis of warrants is often much more complicated than the analysis of simple options, because:

- a) The life of a warrant is typically measured in years, rather than months. Over a period of years, the variance rate of the return on the stock may be expected to change substantially.
- b) The exercise price of the warrant is usually not adjusted at all for dividends. The possibility that dividends will be paid requires a modification of the valuation formula.
- c) The exercise price of a warrant sometimes changes on specified dates. It may pay to exercise a warrant just before its exercise price changes. This too requires a modification of the valuation formula.
- d) If the company is involved in a merger, the adjustment that is made in the terms of the warrant may change its value.
- e) Sometimes the exercise price can be paid using bonds of the corporation at face value, even though they may at the time be selling at a discount. This complicates the analysis and means that early exercise may sometimes be desirable.
- f) The exercise of a large number of warrants may sometimes result in a significant increase in the number of common shares outstanding.

In some cases, these complications can be treated as insignificant, and equation (13) can be used as an approximation to give an estimate of the warrant value. In other cases, some simple modifications of equation (13) will improve the approximation.<sup>4</sup> [Author's clarification: Equation 13 in this quote is referring to the Black Scholes Option Pricing Model.]

<sup>4</sup> Fischer Black and Myron Scholes, "The Pricing of Options and Corporate Liabilities." *Journal of Political Economy*, Vol. 81, No. 3 (May-June, 1973): 637-654.

The paper offers several suggestions on how to account for these various issues. However, given these differences, the ending result is usually an approximation of the value of the warrant. As the article states, one such consideration is that the option value must be adjusted to reflect the dilutive effect of warrants. Not doing so will result in an overstatement of the warrant price. Also, the terms of the warrant agreement will affect the type of model that can be used. For example, my firm performed valuation work for an ESOP transaction where as part of the transaction, warrants were issued. The warrants had a term of 15 years, were not exercisable until the transaction debt was paid in full, and the upside potential for the warrants was capped. The valuation analyst who performed the valuation for the trustees of the ESOP utilized the BSM model to value these warrants. It turned out that the use of the BSM model was inappropriate for a number of reasons, including that (1) the warrants could be exercised early (when the transaction debt is paid off); (2) the upside potential was capped (if you remember the call option diagram, the profit potential for a call option is unlimited); and (3) the warrants were dilutive if the stock price was within a certain range at expiration. Based on these facts, the valuation analyst should have utilized a model other than the BSM model to adjust for these specific factors.

Ignoring these factors can result in significant errors when trying to determine the values of the warrants. To illustrate, the following excerpt came from the valuation analyst's report that was provided to the trustees of the ESOP:

As part of the transaction, the selling shareholders were issued warrants giving them the right to purchase 94,494 shares of Class-A Voting shares, representing 42% of the fully diluted shares outstanding. Details of the warrants are as follows:

- The warrants will have a strike price of \$47.62 per share.
- The warrants will be exercisable for 15 years from the date of issuance
- The Company has a call option, exercisable once the initial Transaction debt is paid off, to purchase some or all of the warrants at a price of \$153.45 per share, reduced by the exercise price of the Warrant representing a maximum payment to the Selling Shareholders of \$10 million net of the aggregate exercise price.

The value of the warrants was estimated by applying the BSM model using the following inputs:

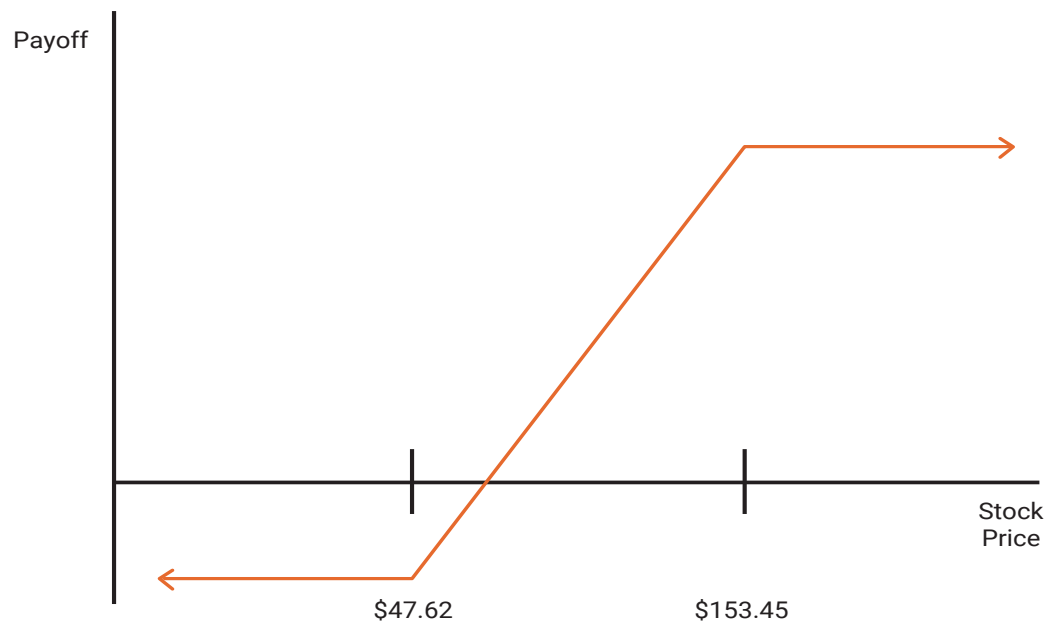
Current Stock Price	57.62
Exercise Price	47.62
Volatility of the Stock	20%
Risk-Free Interest Rate for the Term of the Option	2.16%
Dividend Yield	0.00%
Years Until Expiration	15

The resulting value was \$28.16 per warrant or \$2,661,348 in total.

As the preceding excerpt indicates, the valuation analyst valued the warrants as a call option using the Black-Scholes Option Pricing Model. In addition to the challenges already discussed, a traditional Black-Scholes calculation does not provide an accurate indication of value for the warrants in this instance because the payoff for a traditional call option has an unlimited upside. However, in this instance, the upside potential is capped due to the presence of a call option that allows the company to purchase the warrants at a price of \$153.45 per share less the exercise price. In other words, if the stock price of the company exceeds \$153.45, the company can exercise this call option and buy back the warrants. This puts a cap on the upside potential for the selling shareholders because the maximum amount they can receive for their warrants is \$153.45 less the exercise price. Because these warrants do not have an unlimited payoff, they are worth less than a traditional call option.

Based on these factors, the value derived by the valuation analyst was overstated. In this instance, the warrants owned by the selling shareholders should have been considered as two separate option positions, the first being the purchase of a call option with an exercise price of \$47.62, and the second being the sale of a call option with an exercise price of \$153.45. The pay-off diagram for this position is shown in figure 25.3.

**Figure 25.3 Warrant Payoff**



The calculations that should have been performed based on the same inputs that the other valuation analyst used are as follows:

INPUTS VARIABLES	Date	Purchase of Call Option	Sale of Call Option
Stock Price as of	1/26/2011	\$ 57.62	\$ 57.62
<b>Exercise Price:</b>		<b>\$ 47.62</b>	<b>\$ 153.42</b>
Term (In Years):		15	15
Volatility (Annual):		20.00%	20.00%
Annual Rate of Quarterly Dividends:		0%	0%
Risk-Free Rate:		2.16%	2.16%
<b>Call Option Value</b>		<b>\$ 28.16</b>	<b>\$ 6.54</b>
<b>Value of Warrants Before Dilution</b>	<b>\$21.63</b>		

As indicated previously, the warrants were valued as if the selling shareholders purchased a call option with an exercise price of \$47.62 and sold a call option with an exercise price of \$153.42. Performing this transaction would result in a net purchase price of \$21.63 because the income from selling the option offsets the cost of purchasing the option.

Next, we have to consider dilution. In this instance, the company had 130,895 shares of common stock outstanding and warrants to purchase an additional 94,494 shares. This results in 225,389 common shares outstanding on a fully diluted basis. In order to adjust the warrant price, we calculated a dilution factor of 1.72, which is the ratio of fully diluted shares outstanding to the current number of shares outstanding ( $225,389/130,895 = 1.72$ ). It should be noted that this adjustment is strictly an approximation to estimate the impact of dilution. Based on this adjustment, the value of the warrants would be estimated as follows:

<b>Value of Warrants Before Dilution</b>	<b>\$ 21.63</b>
Dilution Factor	÷ 1.72
Value of Warrant	\$ 12.56
Number of Warrants	× 94,494
<b>Total Value of Warrants</b>	<b>\$ 1,186,782</b>

As indicated previously, the calculations resulted in a total estimated warrant value of \$1,186,782, which is significantly lower than the \$2,661,348 calculated by the valuation analyst. This demonstrates how blindly applying an option model to value a warrant can result in significant errors.

## Preferred Stock

Every so often, valuation analysts encounter companies that have multiple classes of stock. The equity of a business can be in the form of either common or preferred stock. Within each category, there may also be several classes of common and preferred stock that have different voting and dividend rights. From a legal standpoint, after all creditors have been paid, preferred shareholders have preference over common shareholders with respect to liquidation proceeds and frequently with respect to dividends.

Preferred stock can be looked at as a hybrid security that combines features of both debt and equity. Like debt, preferred shareholders can receive a fixed income stream (in the form of a dividend) and get preferential treatment over common shareholders in the event of liquidation. Similar to other forms of equity, preferred shareholders can also benefit from the appreciation in the value of the business.

There are a variety of forms of preferred stock with different features. Before we get into the valuation of preferred stock, it is important to have a general understanding of these features.

## Dividend Rights

Preferred shares typically have a right to receive a dividend that must be paid out before dividends can be paid to common stockholders. The dividend rate for preferred shares is typically stated as a percentage of the par value of the shares. For example, if a share of preferred stock has a par value of \$100, and a dividend rate of 4 percent, the shares will pay a dividend of \$4 to the preferred shareholder. Dividend rates on preferred shares can be either fixed or variable.

Preferred shares can either be *cumulative* or *noncumulative*. Cumulative preferred stock includes a provision that all preferred dividend payments that have been forgone in the past will accrue and must be paid to the preferred shareholders before common shareholders can receive any distributions. Noncumulative preferred stock does not include this feature and all forgone dividend payments will be disregarded.

## Options

Redeemable (or callable) preferred stock allows the issuer to buy back and retire the preferred shares. This works in favor of the issuer because a company can get rid of the preferred equity if the cost becomes too

expensive. In certain instances, an issuer may be required to set aside funds to redeem the shares over a certain period of time. This is referred to as a *sinking fund provision*.

Preferred stock can also include put options, which gives the owner the right, but not the obligation, to sell the shares back to the company at a predetermined price at a particular point in time.

## Voting Rights

Preferred stock can come with voting or nonvoting rights. The valuation analyst must have a clear understanding of the rights and control features of the preferred shares in order to assess the degree in which these features can affect value.

## Participation Rights

An owner of participating preferred stock has the right to receive an additional dividend over and above the specified rate of the preferred shares. This typically occurs when the dividend for the common shares exceeds the dividend for the preferred shares. For example, suppose an investor owns participating preferred shares with a fixed dividend rate of \$5 per share. If the company announces a dividend of \$10 per share, the participating preferred shareholder will be entitled to an additional \$5 dividend, bringing his or her total to \$10.

Participation rights also entitle the investor to “double dip” in the total equity of the company in the event of sale or liquidation. For example, suppose ABC Pharmaceutical Company has \$10 million of outstanding participating preferred stock, representing 50 percent of the company’s total capital structure. The remaining 50 percent consists of common stock. If the company sells for \$50 million, the participating preferred shareholders will receive \$10 million for their preferred shares, resulting in a residual balance of \$40 million to be distributed among all remaining equity holders. This remaining \$40 million will be allocated 50/50 to the participating preferred shareholders and the common stockholders. Therefore, as a result of this transaction, the participating preferred shareholders walk home with a total of \$30 million (\$10 million for their preferred shares and \$20 million of the remaining proceeds), whereas the common stockholders end up with \$20 million of the total. However, in contrast to this situation, a nonparticipating shareholder would only be entitled to \$10 million as a result of this transaction (assuming that there are no unpaid dividends).

## Conversion Rights

Conversion rights grant the preferred shareholder the option to convert his or her preferred shares to common shares. Conversion rights allow the investor to participate in the value appreciation of the company. Converting from preferred stock to common stock becomes optimal when the value of the company reaches a point at which the investor would receive more as a common stockholder than he or she would receive as a preferred shareholder.

When issuing convertible preferred stock, a company usually sets a conversion ratio, which represents the number of common shares that the preferred shareholders can receive in exchange for each of their preferred shares. For example, suppose ABC Pharmaceutical Company issues convertible preferred shares with a conversion ratio of five. This allows investors to convert one preferred share for five shares of common stock. Now suppose that the preferred shares are priced at \$100 per share. The question becomes, at what price does it become optimal for the preferred shareholder to convert his or her shares into common stock?

This question can be answered by dividing the price of the preferred shares by the conversion ratio. In this instance, the conversion price would be \$20 (\$100 price of preferred shares divided by the conversion ratio of five). In other words, the investor would gain value by converting his or her shares if the common stock price of the company exceeds \$20. For example, if the company’s stock price is \$25, the preferred shareholder can take one of two actions: either keep the preferred share at a price of \$100 or convert the preferred share into five common shares worth \$25, providing a total value of \$125.

It should be noted that if preferred shares contain participating features, with no caps on the preferred liquidation preference, there is never a need to convert the shares because the preferred shareholder would get to

double dip in the preferred and common equity of the company. This demonstrates the importance of understanding the rights and preferences of the preferred shares that are being valued.

## Valuation of Preferred Stock

As is the case with any financial security, the value of preferred stock is the present value of the expected future cash flows expected to be generated by the shares, discounted by a rate of return reflective of the risk associated with the security. For dividend-paying preferred shares, an income approach can be utilized by discounting the future expected preferred dividends to present value. The par value and the dividend rate are typically known and specified in the various legal documents associated with the issuance of preferred shares. The challenge is determining the appropriate discount rate that reflects the risks associated with the preferred shares. As is the case with common shares, rates of return for preferred shares can also be obtained from the public market. However, the valuation analyst must perform a significant amount of qualitative analysis and have a thorough understanding of the financial condition of the company and the rights of the preferred shares. Important considerations include the following:

- The ability of the subject company to pay the preferred dividends
- The strength of the company's balance sheet, which affects the company's ability to fund the liquidation preference of the preferred shares
- The rights and features of the preferred shares that were discussed earlier in this section

Guidance on the valuation of preferred shares is discussed in detail in Revenue Ruling 83-120. According to Section 4: Approach to Valuation-Preferred Stock of this Revenue Ruling:

.01 In general the most important factors to be considered in determining the value of preferred stock are its yield, dividend coverage and protection of its liquidation preference.

.02 Whether the yield of the preferred stock supports a valuation of the stock at par value depends in part on the adequacy of the dividend rate. The adequacy of the dividend rate should be determined by comparing its dividend rate with the dividend rate of high-grade publicly traded preferred stock. A lower yield than that of high-grade preferred stock indicates a preferred stock value of less than par. If the rate of interest charged by independent creditors to the corporation on loans is higher than the rate such independent creditors charge their most credit worthy borrowers, then the yield on the preferred stock should be correspondingly higher than the yield on high quality preferred stock. A yield which is not correspondingly higher reduces the value of the preferred stock. In addition, whether the preferred stock has a fixed dividend rate and is non-participating influences the value of the preferred stock. A publicly traded preferred stock for a company having a similar business and similar assets with similar liquidation preferences, voting rights and other similar terms would be the ideal comparable for determining yield required in arms-length transactions for closely held stock. Such ideal comparables will frequently not exist. In such circumstances, the most comparable publicly-traded issues should be selected for comparison and appropriate adjustments made for differing factors.

.03 The actual dividend rate on a preferred stock can be assumed to be its stated rate if the issuing corporation will be able to pay its stated dividends in a timely manner and will, in fact, pay such dividends. The risk that the corporation may be unable to timely pay the stated dividends on the preferred stock can be measured by the coverage of such stated dividends by the corporation's earnings. Coverage of the dividend is measured by the ratio of the sum of pre-tax and pre-interest earnings to the sum of the total interest to be paid and the pre-tax earnings needed to pay the after-tax dividends. *Standard & Poor's Ratings Guide*, 58 (1979). Inadequate coverage exists where a decline in corporate profits would be likely to jeopardize the corporation's ability to pay dividends on the preferred stock. The ratio for the preferred stock in question should be compared with the ratios for high quality preferred stock to determine whether the preferred stock has adequate coverage. Prior earnings history is important in this determination. Inadequate coverage indicates that the value of preferred stock is lower than its par value. Moreover, the absence of a provision that preferred dividends are cumulative raises substantial questions concerning whether the stated dividend rate will, in fact, be paid. Accordingly, preferred stock with noncumulative dividend features will normally have a value substantially lower than a cumulative preferred stock with the same yield, liquidation preference and dividend coverage.



.04 Whether the issuing corporation will be able to pay the full liquidation preference at liquidation must be taken into account in determining fair market value. This risk can be measured by the protection afforded by the corporation's net assets. Such protection can be measured by the ratio of the excess of the current market value of the corporation's assets over its liabilities to the aggregate liquidation preference. The protection ratio should be compared with the ratios for high quality preferred stock to determine adequacy of coverage. Inadequate asset protection exists where any unforeseen business reverses would be likely to jeopardize the corporation's ability to pay the full liquidation preference to the holders of the preferred stock.

.05 Another factor to be considered in valuing the preferred stock is whether it has voting rights and, if so, whether the preferred stock has voting control.

.06 Peculiar covenants or provisions of the preferred stock of a type not ordinarily found in publicly traded preferred stock should be carefully evaluated to determine the effects of such covenants on the value of the preferred stock. In general, if covenants would inhibit the marketability of the stock or the power of the holder to enforce dividend or liquidation rights, such provisions will reduce the value of the preferred stock by comparison to the value of preferred stock not containing such covenants or provisions.

.07 Whether the preferred stock contains a redemption privilege is another factor to be considered in determining the value of the preferred stock. The value of a redemption privilege triggered by death of the preferred shareholder will not exceed the present value of the redemption premium payable at the preferred shareholder's death (i.e., the present value of the excess of the redemption price over the fair market value of the preferred stock upon its issuance). The value of the redemption privilege should be reduced to reflect any risk that the corporation may not possess sufficient assets to redeem its preferred stock at the stated redemption price. See .03 above.

The Revenue Ruling demonstrates the detailed level of financial analysis and qualitative analysis that must be performed in valuing preferred stock. The financial condition of the business and the ability of the company to pay the dividend and the liquidation preference are important considerations. A ratio analysis comparing the financial condition of the subject company to the publicly traded preferred stocks can be a useful tool. Furthermore, many of the features that were discussed earlier in this chapter must be considered because these features affect the risk profile of the underlying securities. An excerpt from a valuation report that addressed a company that owned common and preferred stock is contained in exhibit 25.2.

### Exhibit 25.2 Preferred Stock Valuation

The first step in the valuation of the preferred stock is to determine whether the dividend yield on The Company's classes of preferred stock adequately reflect the risk inherent in Machine Co., Inc. In order to determine this, we turned to preferred stock yields in the public marketplace.

The first source of information analyzed was historical price and dividend data from the iShares Standard & Poor's U.S. Preferred Stock Index (PFF). Standard & Poor's website defines this index as follows:

The S&P U.S. Preferred Stock Index is designed to serve the investment communities need for an investable benchmark representing the U.S. preferred stock market. Preferred stocks are a class of capital stock that pays dividends at a specified rate and has a preference over common stock in the payment of dividends and the liquidation of assets.

We calculated the dividend yield for PFF by taking the total amount of dividends paid by the index in 2009 and dividing it by the average monthly price for 2009. Monthly prices are calculated by taking the average of the highest closing price and the lowest closing price for the month. The result of this calculation is as follows:

Dividends Paid—2009	\$ 2.440
Average Price—2009	÷ 30,245
Dividend Yield	<u>8.07%</u>

(continued)

### Exhibit 25.2 Preferred Stock Valuation *(continued)*

The calculations indicate that the average dividend yield for PFF in 2009 was 8.07 percent. This is higher than that of Machine Co., Inc.'s two classes of preferred stock, which pay yields of 6 and 8 percent. However, Machine Co., Inc.'s preferred stock is cumulative, meaning that if any dividends to preferred shareholders have been omitted in the past, they must be paid to preferred shareholders before common shareholders can receive dividends. In addition, when dividends are cumulative, dividends in arrears must be paid, in addition to the stated liquidation preference, before making any assets available for distribution to common shareholders.<sup>1</sup> As a result, a lower yield for Machine Co., Inc.'s preferred shares is warranted because its preferred shares are cumulative, which makes them less risky than the index which includes non-cumulative shares.

Another factor considered is Machine Co., Inc.'s net asset value. We calculated The Company's net asset value at \$1.68 million. In other words, after paying all of its liabilities, Machine Co., Inc. has \$1.68 million to fund its preferred stock obligations (liquidation value and accrued dividends), which also reduces the risk of these shares. In addition, Machine Co., Inc. has no debt in its capital structure. As a result, The Company's preferred shares are the most senior class of securities in The Company's capital structure. This makes The Company's preferred shares more "bond-like" as these shareholders have initial claims on Machine Co., Inc.'s assets in the event of liquidation.

Taking this into consideration, we also analyzed bond yields as a basis of comparison for the dividend yields on Machine Co., Inc.'s preferred shares. As of the valuation date, Moody's Aaa (highest quality) and Baa (moderate credit risk) corporate bonds were paying yields of 5.30 percent and 6.24 percent, respectively. These yields are below those of Machine Co., Inc.'s 8 percent cumulative preferred shares. The yield of The Company's 6 percent cumulative preferred shares falls below those of Moody's Baa Corporate bonds and above those of the Aaa bonds. Taking these factors into consideration, we believe that the yields offered on Machine Co., Inc.'s preferred shares are reasonable because both classes offer yields above those of Moody's Aaa bonds reflecting the additional risk associated with them. In addition, Machine Co., Inc.'s preferred shares offer yields either above or slightly below those of Moody's Baa Corporate bonds. An argument can be made that Machine Co., Inc.'s 6 percent cumulative preferred shares should offer a yield higher than Moody's Baa Corporate bonds due to The Company's lack of profitability and declining sales. However, The Company's cash and marketable securities balance was \$430,561 as of the valuation date, which is more than enough to fund the total par value of \$67,700 of The Company's preferred shares. Even after removing all of The Company's current liabilities, which have a balance of \$124,286, The Company would still have \$306,275 to fund its obligations to preferred shareholders. This essentially eliminates the risk that preferred shareholders would receive less than par value for their shares. Therefore, we believe that the yields on Machine Co., Inc.'s preferred shares are adequate to support par value and that no adjustments are necessary.

The next step in the analysis is to determine the amount of unpaid dividends owed to Machine Co., Inc.'s preferred shareholders. Before we can calculate the value of The Company's common equity, we must first deduct the value of the preferred shares and all unpaid dividends. The 8 percent cumulative preferred shares have a par value of \$15,000 (or \$100 per share) resulting in annual dividends of \$1,200 ( $\$15,000 \times 8\%$ ). The 6 percent cumulative preferred shares have a par value of \$52,700 (or \$100 per share) resulting in annual dividends of \$3,162 ( $\$52,700 \times 6\%$ ). Preferred dividends paid by Machine Co., Inc. since 2000 are as follows:

Year	6% Cumulative Preferred	8% Cumulative Preferred
2000	\$3,162	\$1,200
2001	3,162	1,200
2002	3,162	1,200
2003	3,162	1,200
2004	3,162	1,200
2005	3,162	—
2006	3,462	—
2007	3,462	—
2008	3,462	—
2009	—	—

<sup>1</sup> Shannon Pratt, *Valuing a Business*, 5th edition: 569.

### Exhibit 25.2 Preferred Stock Valuation

As the preceding data indicates, The Company stopped paying dividends on its 8 percent cumulative preferred stock in 2005. This amounts to five years of unpaid dividends, or \$6,000.

From 2006–2008, The Company paid \$300 extra on its 6 percent cumulative preferred for a total of \$900. No dividend payment was made in 2009. Therefore, The Company still owes \$2,262 (\$3,162 – 900) on these preferred shares.

Taking all of these factors into consideration, the value of Machine Co., Inc.'s common equity has been derived as follows:

Value of Total Equity	\$ 1,680,000
Less: Value of 6% Cumulative Preferred	(52,700)
Less: Unpaid Dividends—6% Cumulative Preferred	(2,262)
Less: Value of 8% Cumulative Preferred	(15,000)
Less: Unpaid Dividends—8% Cumulative Preferred	(6,000)
<b>Total Common Equity</b>	<b>\$ 1,604,038</b>

Therefore, the value of the common shares is calculated as follows:

Common Equity	\$1,604,038
Number of Common Shares	÷ 1,000
<b>Value per Common Share</b>	<b>\$ 1,604</b>

As a result of the preceding analysis, the values of the various subject interests are as follows:

6 Percent Cumulative Preferred	
Value Per Share	\$ 100
Number of Shares	277
<b>Value of 6 Percent Cumulative Preferred</b>	<b>\$ 27,700</b>

8 Percent Cumulative Preferred	
Value Per Share	\$ 100
Number of Shares	75
<b>Value of 8 Percent Cumulative Preferred</b>	<b>\$ 7,500</b>

500 Common Shares	
Value per Share	\$ 1,604
Appraisal Subject	500
<b>Value of Common</b>	<b>\$ 802,000</b>

## Debt Securities

Debt instruments come in many forms, including the following:

- Government bonds
- Corporate bonds
- Bank loans
- Promissory notes
- Stockholder loans
- Other related party loans

The fundamental concepts for valuing debt securities are no different than the valuation theory discussed throughout this textbook: The value of a debt security is equal to the present value of the future stream of income that the security is expected to generate, discounted back to present value using a discount rate that is reflective of the risks associated with the debt instrument. The valuation process involves the following steps:

- Determine the expected cash flows that the debt security is expected to generate
- Determine the appropriate required rate of return that should be used to discount the cash flows to present value

A debt security typically has both of the following features:

- A principal amount (or par value), which is the amount the borrower of the debt agrees to repay the debtholder by the maturity date
- A coupon (interest) rate, which is the rate that the borrower of the debt agrees to pay periodically

There are also zero coupon bonds, which are not contracted to make periodic payments. In this instance, the holder of the bond generates interest by purchasing the bond at a discount from par value.

In order to value a debt security, it is important to understand the relationship between interest rates and value. The price of a debt security moves in the opposite direction of the market rate of interest. When prevailing interest rates rise, newer debt securities become more attractive investments because they will offer higher yields. As a result, a current debt security with a fixed rate of interest becomes less valuable. When prevailing interest rates fall, current debt securities become more valuable because the yields on the current debt securities will be higher than the newer securities in the market place. In summary, the relationship of the par value, coupon rate, and market interest rate can be summarized as follows:

- If the coupon rate **equals** the required market rate of return, the price of the bond is **equal** to its par value.
- If the coupon rate **exceeds** the required market rate of return, the price of the debt security **exceeds** its par value.
- If the coupon rate is **lower** than the required market rate of return, the price of the debt security is **lower** than its par value.

To demonstrate, consider the following example. Suppose an investor buys a bond with a par value of 1,000, a coupon rate of 5 percent with 5 years to maturity. The future cash flows of the bond are as follows:

Year 1	\$ 50
Year 2	50
Year 3	50
Year 4	50
Year 5	1,050

Based on the preceding cash flows, consider the following three scenarios when the required market rate of interest is 3 percent, 5 percent, and 7 percent. The market value of the bond under each of these scenarios is calculated as follows:

	Cash Flows	Present Value at 3%	Present Value at 5%	Present Value at 7%
Year 1	\$ 50	\$ 48.54	\$ 47.62	\$ 46.73
Year 2	50	47.13	45.35	43.67
Year 3	50	45.76	43.19	40.81
Year 4	50	44.42	41.14	38.14
Year 5	1,050	905.74	822.70	748.64
<b>Market Value</b>		<b>\$1,091.59</b>	<b>\$1,000.00</b>	<b>\$918.00</b>

The calculations in the preceding table demonstrate the relationship between the market rate of interest and the value of the debt security. If the market rate of interest is 3 percent, the value of the bond exceeds its par value because the coupon interest being generated from the bond exceeds the market rate of interest. If the market rate of interest is 7 percent, the bond value declines.

Typically, the cash flows expected to be generated by the debt security can be calculated by analyzing the loan documents. There are situations in which the cash flows can be more difficult to predict (that is, variable rate debt, asset-backed securities, callable and putable bonds, and so on); however, these unique debt securities are beyond the scope of this textbook. The most challenging part of valuing a debt security is determining the appropriate required market rate of return.

Developing a discount rate for a debt security can be performed in the same manner that is used for equity securities. The valuation analyst can use a build-up method starting with a risk-free rate of interest (such as a Treasury security of similar maturity as the valuation subject) and applying risk premiums to account for the risk characteristics specific to the debt instrument. Common risk factors associated with debt securities include the following:

- *Interest rate risk.* The risk that a change in interest rates may reduce the market value of the debt security. This results from the inverse relationship between the market price of the debt security and the market rate of interest.
- *Default risk.* The chance that the borrower will be unable to make the required interest or principal payments, or both, on the debt obligations. In order to assess default risk, the valuation analyst should perform a detailed financial analysis of the subject company to determine the likelihood that the company will be unable to fund the debt obligations. The various debt ratios that were discussed in chapter 6 can be useful in analyzing default risk.
- *Prepayment risk.* This relates to the possibility that the debt security gets called or refinanced. When interest rates decline, the likelihood that a borrower pays off a loan and refinances the debt at a lower interest rate increases. In this instance, the investor in the debt security may not realize all the anticipated future cash flows that were expected to be generated from the investment.
- *Reinvestment risk.* This results when the debt security gets called or refinanced. When interest rates decline, and a borrower calls, pays off, or refinances the debt, the lender is now forced to reinvest the funds at a lower interest rate.

At a minimum, all of these risks should be considered when performing a valuation of debt securities. A challenge that valuation analysts typically encounter is quantifying these various risks. Luckily, with respect to debt securities, there is an abundance of information available related to yields on debt securities that can assist the valuation analyst in determining an appropriate required rate of return. The U.S. Treasury Department contains yields for Treasury securities, corporate bonds, bank loans, and various other market rates of interest over a

significant period of time. Furthermore, credit rating agencies such as Moody's and Standard & Poor's publish detailed bond rating reports that include financial ratios and yields for the securities classified under various credit ratings, which can assist the analyst in performing a comparative financial analysis. Furthermore, the analyst can look at public filings and use the borrowing rates for the guideline publicly traded companies as a basis to quantify the risk associated with an investment in the valuation subject. Duff & Phelps' *Valuation Handbook Industry Cost of Capital* also contains borrowing rates and debt ratios broken down by industry and size composite.

The valuation analyst should also consider the prevailing interest rate environment when valuing debt securities. The proper way to value the cash flows generated by a debt security is to use a different discount rate in each period that is reflective of the expected interest rate environment on a prospective basis. If economic forecasts indicate that interest rates are expected to steadily increase over the next several years, the valuation analyst should consider building the forecasts of future interest rates into the valuation of the debt security.

Nevertheless, there is a significant amount of data available to assist the valuation analyst in determining an appropriate rate of return for debt held by a closely held company. A sample report of a valuation of a promissory note is included in exhibit 25.3.

### EXHIBIT 25.3 Valuation of Debt

#### DESCRIPTION OF THE NOTES

On April 13, 1997, Sam Jones, Michael Jones Jr., and Sandy Jones (the Debtors) issued three unsecured promissory notes of \$1,216,856 each, payable to Michael Jones, Sr.

On October 1, 2002, the notes were assigned to Helen Jones (now deceased) as part of a court judgment regarding the Estate of Michael L. Jones, Sr., deceased. Further, The Court decreed accrued interest on each of the notes of \$172,855, resulting in a total balance due of \$1,389,711 from each note as of October 1, 2002.

As of the valuation date, the Estate of Helen Jones owned a fractional interest in the notes. As a result of transfers made by Helen Jones to family members, other individuals own fractional interests in each of the notes. The ownership of each note is shown in table 1.

**TABLE 1 Ownership of the Notes**

Notes Defined	Estate of Helen Jones Interest	Number of Additional Creditors	Total Fractional Interests Ownership
The "Sam Note"	79%	15	21%
The "Michael Jr. Note"	45%	11	54%
The "Sandy Note"	74%	13	26%

The notes do not require minimum monthly payments of interest or principal, and no such payments have been recorded since their issuance. Meanwhile, the notes are not secured by any assets of the debtors, and there are no covenants in place protecting the creditors of the notes. The notes simply state: "on demand, after April 13, 1987, I promise to pay to the order of Michael L. Jones \$1,216,856..."

Although the notes have no stated maturity date, they are payable on demand. However, the creditors may not attempt to collect on the notes unless they attempt in good faith to collect equally from all the other related debtors holdings similar notes. Additionally, an assignee of a fractional interest (such as the interest) cannot proceed unilaterally to enforce any particular note without joining the holders of all the other fractional interests. In effect, all 39 co-holders would have to act simultaneously in order for them to collect the notes.

**EXHIBIT 25.3 Valuation of Debt**

The notes' balances, subsequent to the October 1, 2002 judgment date, have accrued interest based on the rates set forth in the agreements. These rates varied from 7.5 to 3.5 percent. As of the valuation date, the total balance due on each note is \$2,238,740, as computed in table 2.

**TABLE 2 Computation of Accrued Interest on Notes**

	Measurement Date	Measurement Period (Years)	Interest Rate	Accrued Interest	Note Balance
Original Note Date	4/13/97				\$1,216,856
Accrued Interest	10/1/02			\$172,855	1,389,711
	1/1/03	0.2	7.50%	26,271	1,415,982
	1/1/04	1.0	5.50%	77,879	1,493,861
	1/1/05	1.0	3.50%	52,285	1,546,146
	1/1/06	1.0	3.50%	54,115	1,600,261
	1/1/07	1.0	5.50%	88,014	1,688,276
	1/1/08	1.0	5.50%	92,855	1,781,131
	1/1/09	1.0	5.50%	97,962	1,879,093
	1/1/10	1.0	5.00%	93,955	1,973,048
	1/1/11	1.0	5.50%	108,518	2,081,565
	1/1/12	1.0	6.00%	124,894	2,206,459
Valuation Date	3/31/12	0.2	6.00%	32,281	2,238,740

According to the representatives of Michael L. Jones, Jr., and Sandy Jones, only Michael has the financial means to repay his note. Sandy has reported a net worth of \$454,000 as of December 2012, which consists of fractional interests in various real estate holding companies. These fractional interests in real estate holding companies are considered to be noncontrolling and illiquid assets. Therefore, the fair market values of these interests are considered to be approximately \$340,000 on a controlling marketable basis.

As of the valuation date, Sam Jones is deceased, and all but an immaterial portion of his estate's assets have been distributed. As a result, for the creditors to collect from this estate, they would be forced to take legal action and assert a claim against the distributed assets. Although such an action would likely result in a favorable outcome for the creditors, the legal process could be both lengthy and costly, adversely affecting the value of the estate.

**VALUATION CALCULATIONS**

We have considered several methods in the process of valuing the notes. Valuation analysts typically group valuation methodologies into three broad categories known as the market, asset-based, and income approaches. The market approach involves analyzing transactions of assets similar to the one being valued to determine pricing multiples that can be used to estimate value. The asset-based approach, also known as the *cost approach*, focuses on the cost of the underlying assets of a valuation subject. Using this approach, a valuation analyst estimates the cost of duplicating or replacing the individual elements that constitute an asset. The income approach, sometimes referred to as an *investment value approach*, considers the future benefit stream to the holder of an asset. Under this approach, value is equal to the present value of the future expected benefit streams. The narrative that follows discusses the methodology employed within each approach.

(continued)

**EXHIBIT 25.3 Valuation of Debt** *(continued)***THE MARKET APPROACH**

We considered markets of various debt securities in an attempt to use the market approach. The market approach consists of a comparison between the appraisal subject and other securities with the same or similar characteristics that are publicly traded.

The valuation analyst performed a computerized search for corporate and agency non-investment-grade U.S. bonds. Generally, a bond is a debt instrument, similar to promissory notes, which is issued for a period of more than one year for the purpose of raising capital and a promise to repay the principal along with interest (coupons) on a specified date. Bonds are often divided into different categories based on tax status, credit quality, issuer type, maturity, and whether the bond is secured or unsecured.

The query resulted in a total of 50 bonds. Although there were some resemblances between the note and the bonds, we have not used a market approach to indicate value. The reasons for not using this approach are due to the unique characteristics of the notes, which created a disparity in risk profile between the debt securities and the fact that there is no available information regarding an active market for promissory notes.

**THE ASSET-BASED APPROACH**

The asset-based approach, sometimes referred to as the *replacement cost approach*, is an asset-oriented approach, rather than a market-oriented approach. Under this approach, we considered the face value of the promissory notes plus any accrued interest. We do not believe that the original face value of the notes plus their accrued interest represent the fair market value. In fact, the only foreseeable value of the notes depends on their expected cash flows or liquidation value, or both, which are addressed as part of the income approach.

**THE INCOME APPROACH**

The application of the income approach will be accomplished using the present value of the amounts estimated to be collected from the promissory notes, minus any collection costs involved in the process, taking into consideration the amount of time that it might take to collect the owed sums. In order to estimate the duration, costs, and probabilities of collecting the notes, the valuation analyst began the analysis by contacting a collection attorney.

According to attorney Peter Barnes, graduate of Harvard Law School, with more than 40 years of experience in the collection industry, the maximum amount to be collected from each note would be \$340,000, with an approximate collection time of 3 years. Moreover, he estimated a time of at least 200 hours at a rate of \$250 to \$350 per hour for a range of \$50,000 to \$70,000 for collection costs.

Mr. Barnes suggested that there is great likelihood that creditors will be unable to reach an agreement on how to proceed in collecting the notes. The solution is for the estate, as one of the creditors, to ask The Court for directions on how to proceed, assuming there are recalcitrant creditors. Additionally, the collection process requires a search for assets owned by the debtors. This can be done by the service of an information subpoena on the debtor, obtaining a court order requiring the debtor to answer questions under oath pertaining to his or her assets, and hiring an investigator to discover assets.

Based on the previously described facts of the promissory notes, it is known that Sandy Jones has very few liquid assets, and the other two debtors have sufficient assets to pay the notes, but one of them is deceased and his estate has been distributed. Although the Estate of Sam Jones has already been distributed, the payment of the promissory note could still be collected through a litigation process, which, if tried, could be as costly as the declaratory judgment litigation.

The collectibility of these notes is dependent on the financial status of the debtors and limited to the judge's order to collect equally. Therefore, the maximum collectible amount would come from the least affluent debtor. Sandy Jones has estimated assets of \$340,000, establishing a cap in the amount collectible from the other Debtors.

The fair market value of the promissory notes would be equal to the present value of the expected collectible amounts, after any collection costs. A collection cost of \$20,000 per note, or a consolidated \$60,000 for the three notes was deemed likely, according to Mr. Barnes's opinion. The estimated collectible amount from the notes would be discounted back to the present using a discount rate that embodies the risk associated with an investment in a similarly risky asset. In this case, a discount rate of 30.7 percent has been deemed applicable (see section of this report entitled "Discount Rates"). The formula for the present value of the debt security is:



**EXHIBIT 25.3 Valuation of Debt**

$$\text{Present Value} = \frac{\text{PMT}^1}{(1+K_d)^1} + \frac{\text{PMT}^2}{(1+K_d)^2} + \frac{\text{PMT}^3}{(1+K_d)^3} + \frac{\text{PMT}^n}{(1+K_d)^n} + \frac{\text{Face Value}}{(1+K_d)^n}$$

PMT= Payments

 $K_d$  = Market discount rate on debt

Because no minimum monthly payments of interest or principal are specified in the agreement and no such payments have been made under the notes since their issuance, we assumed that no payments will be made during the next three years, leaving the formula as follow:

$$\text{Note Value} = \frac{\text{Collectible amount}}{(1+K_d)^3}$$

$$\text{Present Value of Note} = (\$340,000)/(1+30.7)^3$$

Present Value of the Note	\$152,283
Less: Collection Costs	(20,000)
Value	\$132,283
Rounded	<b>\$132,000</b>

Note	Note Value	Estate of Helen Jones Interest	Fractional Values
The "Sam Note"	\$132,000	79%	\$104,280
The "Michael Jr. Note"	132,000	45%	59,400
The "Sandy Note"	132,000	74%	97,680
<b>Total</b>			<b>\$261,360</b>

**DISCOUNT RATES**

In order to apply an appropriate discount rate in this valuation, the valuation analyst searched for different categories of similar debt instruments as a guide to estimate the discount rate for the notes in this assignment. The valuation analyst deemed the use of non-investment-grade bonds' effective yield as the discount rate to be used for the promissory notes to be appropriate. The different credit rating categories for bonds are shown in table 3.

*(continued)*

**EXHIBIT 25.3 Valuation of Debt** *(continued)***TABLE 3 Credit Ratings**

Moody's	Standard & Poor's	Fitch	
Aaa	AAA	AAA	<b>Investment Grade</b>
Aa1	AA+	AA+	
Aa2	AA	AA	
Aa3	AA-	AA-	
A1	A+	A+	
A2	A	A	
A3	A-	A-	
Baa1	BBB+	BBB+	
Baa2	BBB	BBB	
Baa3	BBB-	BBB-	
Ba1	BB+	BB+	<b>Non-Investment-Grade</b>
Ba2	BB	BB	
Ba3	BB-	BB-	
B1	B+	B+	
B2	B	B	
B3	B-	B-	
Caa	CCC	CCC	
Ca	CC	CC	
—	C	C	
C	D	D	

To attract investors to buy distressed debt instruments, the issuer would have to compensate them for the attendant risks associated with the instrument by paying a higher rate of interest than bonds with higher investment-grade ratings. This, in turn, generates a higher "yield" for investors.

Although we have estimated that \$340,000 could be collected from each note at the end of a three-year period, there are still some risks that could affect the total amount that could be collected.

Based on the facts surrounding these notes, we have decided to use the stated yield to maturity of poor quality and the most speculative corporate bonds to determine our discount rate. We used the Standard & Poor's (S&P) credit ratings to select what we believe to be a reasonable proxy for these notes. S&P's ratings are based on the capacity and willingness of the obligor to meet its financial commitment on an obligation, the nature of and provisions of the obligation and protection afforded by the obligation in the event of bankruptcy, reorganization, or other arrangement under the laws of bankruptcy and other laws affecting creditors' rights.

**EXHIBIT 25.3 Valuation of Debt**

The valuation analyst searched Merrill Lynch's Index Systems for information regarding high-yield bonds, specifically C-rated bonds. This type of bond is described by S&P as applying to situations when a default has not yet occurred, but S&P Global Ratings expects default to be a virtual certainty, regardless of the anticipated time to default. According to Merrill Lynch's analysts, constrained indexes have a maximum weight of 2.0 percent per holding in their indexes.

Additionally, the valuation analyst searched the *Dow Jones Newswire* database for a list of high-yield bonds traded on March 28, 2013. The following table shows the bonds by name, ratings, coupons, maturity, and YLD—the lower of yield to maturity and yield to call.

**TABLE 4 High-Yield Bonds—March 28, 2013**

Name	Type/Rating	Coup.	Mat.	Yld.-y
ABC Co.	e/CCC	11.250	5/16	21.61
Vintage Co.	b/B	8.625	2/19	8.02
American Std.	a/BB+	7.375	2/18	5.47
XYZ Corp.	a/B	10.650	9/17	8.04
RMS, Inc.	a/CCC-	8.125	2/16	27.83
Manufacturing Co.	b/BB+	8.125	12/17	6.04
Property Co.	a/B+	7.875	8/18	9.33
Level 3	a/CC	9.125	5/18	16.77
Media Co.	a/NR	8.600	6/18	21.38
Global Co.	a/NR	9.625	5/18	z
Technology Co.	a/BB	9.875	5/17	9.87
Federal Co.	a/B+	9.375	2/19	6.76
Bank Corp.	e/NR	7.500	1/19	z
Charter, Inc.	a/CCC-	8.625	4/19	27.06
Packaging Co.	b/BB+	9.625	4/19	6.00
Waste, Inc.	b/B+	10.000	8/19	8.87
Crown, Inc.	e/CCC	10.750	8/21	12.20
Energy Co.	a/B+	8.125	4/21	7.03

Volume indicators are based solely on the traders' subjective judgement given the relative level of inquiry and trading activity on any given day. Price quotes follow accrued interest conventions. a-Senior. b-Senior Sub. c-Senior, Zero To Full. d-Senior, split Cpn. e-Secured. y-yield is the lower of yield to maturity and yield to call. z-omitted for reset or bankrupt bonds, negative yields, or yields above 35%.

*(continued)*

**EXHIBIT 25.3 Valuation of Debt** *(continued)*

The valuation analyst selected those bonds with CCC ratings or lower because they better mirror the notes to be valued. There was a total of five bonds with this rating, and a no-rating bond with YLD is considered to be similar to those with CCC ratings. The selected bonds are shown in table 5.

**TABLE 5 Selected High-Yield Bonds**

Name	Type/Rating	Mat	YLD.-y
ABC Co.	e/CCC	May-16	21.61
RMS, Inc.	a/CCC-	Feb-16	27.83
Level 3	a/CCC-	May-18	16.77
Media Co.	a/NR	May-18	21.38
Charter, Inc.	a/CCC-	Apr-19	27.06
Crown, Inc.	e/CCC	Aug-21	12.20
	Mean		21.14
	St. Deviation		5.99
	Lower Quartile		17.92
	Median		21.50
	Upper Quartile		25.70

Due to the uniqueness of the notes and the high uncertainty of collecting them, the valuation analyst has chosen to use 25.7 percent, the upper YLD quartile, as the starting point for the discount rate.

Some of the risks that could diminish the probabilities of collecting the notes are as follows:

- The need for all 39 co-holders to act simultaneously in order for them to collect the notes.
- Even after all creditors attempt to collect the notes simultaneously, the maximum collectible amount would come from the least affluent debtor.
- The most optimistic collectible estimate for the notes is derived from the assumption that the fractional interests owned by Sandy Jones in various real estate holding companies would be sold after three years for \$340,000.
- Because the Estate of Sam Jones has already been distributed, there is a chance of creditors not being able to collect any of the already assigned estate.

As a result, the valuation analyst increased the discount rate to 30.7 percent, an increase of 500 basis points, because of the higher risk of the Notes over the previously described bonds. Some of those high-yield bonds were considered to be secured because they were backed by collateral with larger and greater financial resources than the creditors of the notes.

## Early Stage Companies

Up to now, this chapter has discussed different types of securities. This section addresses the valuation of early stage companies. The valuation of early stage companies presents challenges to valuation analysts for a number of reasons, namely many of these companies have little to no revenues, no history of earnings, and have probably incurred significant operating losses. However, this does not mean that these companies do not have value. If you review companies whose shares trade in the public market, there are many instances

in which companies with no revenues or earnings have multi-billion dollar market capitalizations. Always remember that valuation is a prophecy of the future. As a result, the early stage companies should not be valued based on their performance to date but, rather, the expectation of the early stage company's future performance.

There are various reasons why early stage companies need to be valued. These include, but are not limited to, the following:

- Litigation
- Estate and gift tax
- Share based compensation
- Financing
- Financial reporting

Regardless of the purpose of the valuation, the same valuation approaches and methodologies should be considered.

I am only going to provide a general overview of the valuation of early stage companies. There are many books that address this topic. One such publication that I have in my library is *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, published by the AICPA.<sup>5</sup> Before I go into detail on the valuation approaches, I will provide some background information on the characteristics and stages of development for early stage companies.

## Stages of Development

When valuing an early stage company, the valuation analyst should first have an understanding of the early stages of a company's life cycle and where the subject company falls within these stages. A summary of the six stages of a company's life cycle is included in table 25.1.

**TABLE 25.1 Six Stages of a Company's Life Cycle**

Stage	Description
1	Enterprise has no product revenue to date and limited expense history and typically an incomplete management team with an idea, plan, and possibly some initial product development. Typically, seed capital or first-round financing is provided during this stage by friends and family, angels, or venture capital firms focusing on early-stage enterprises, and the securities issued to those investors are occasionally in the form of common stock but are more commonly in the form of preferred stock.
2	Enterprise has no product revenue but substantive expense history, as product development is under way and business challenges are thought to be understood. Typically, a second or third round of financing occurs during this stage. Typical investors are venture capital firms, which may provide additional management or board of directors' expertise. The typical securities issued to those investors are in the form of preferred stock.
3	Enterprise has made significant progress in product development; key development milestones have been met (for example, hiring of a management team) and development is near completion (for example, alpha and beta testing), but, generally, there is no product revenue. Typically, later rounds of financing occur during this stage. Typical investors are venture capital firms and strategic business partners. The typical securities issued to those investors are in the form of preferred stock.

*(Table continued)*

<sup>5</sup> American Institute of Certified Public Accountants, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, (New York, NY: American Institute of Certified Public Accountants, Inc., 2013).

**TABLE 25.1 Six Stages of a Company's Life Cycle** *(continued)*

Stage	Description
4	Enterprise has met additional key development milestones (for example, first customer orders, first revenue shipments) and has some product revenue but is still operating at a loss. Typically, mezzanine rounds of financing occur during this stage. Also, it is frequently in this stage that discussions would start with investment banks for an IPO.
5	Enterprise has product revenue and has recently achieved breakthrough measures of financial success such as operating profitability or break-even or positive cash flows. A liquidity event of some sort, such as an IPO or a sale of the enterprise, could occur in this stage. The form of securities issued is typically all common stock, with any outstanding preferred stock converting to common stock upon an IPO (and perhaps also upon other liquidity events).
6	Enterprise has an established financial history of profitable operations or generation of positive cash flows. An IPO could also occur during this stage.

(Source: Valuation of Privately-Held-Company Equity Securities Issued as Compensation.)

A company may go through other stages that are not included in table 25.1 or may fit the description of more than one of the stages discussed. Nevertheless, this table can assist the valuation analyst in performing the risk analysis and locating potential guideline public companies or transactions of similar types of companies.

Throughout the early stages of a company's development, the company may hit certain milestones. These various milestones, when met, could potentially increase the value of the company and reduce the amount of risk and uncertainty. According to *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, common milestones for early stage companies include the following:

- Finalizing the original business plan.
- Obtain an initial round of financing other than from family and friends.
- Beta test the product or service. At this point, the enterprise may begin to receive some cash inflows, demonstrating that customers are willing to buy the enterprise's product or service.
- Assemble the management team.
- Develop a manufacturing plan.
- Execute contracts with customers.
- Obtain regulatory approval (for example, U.S. Food and Drug Administration approval of a new drug for a pharmaceutical company).
- Achieve profitability.
- Achieve positive cash flows.
- Deliver the product or service to customers.<sup>6</sup>

Although this list is not all-inclusive, it gives the valuation analyst a starting point for the various types of factors that should be considered when analyzing the growth prospects and risk characteristics of the early stage company. Furthermore, the same level of analysis that is performed for any other company should also be performed for early stage valuations. This includes an analysis of the subject company (products and services, customers, suppliers, and so on), economic and industry conditions, competitive landscape, depth of management, and so on. No matter what stage of development a business is in, these same factors still need to be considered when performing a valuation.

## Valuation Approaches

Because chapters 9, 10, 11, and 12 include a detailed discussion of the three approaches to valuation, I am not going to repeat that stuff here. This section will include a discussion of how to apply the valuation approaches in the context of early stage companies and the different challenges that the valuation analyst will face in applying them.

<sup>6</sup> *Ibid.*, 19.

## Asset-Based Approach

The asset-based approach is typically not used in the valuation of companies in the later stages of development because it does not capture the value of the company as a going concern. Assets that you typically see on the balance sheet of a start-up company are capitalized costs related to research and development, software, and other similar start-up costs. Although a cost approach can be used to value certain assets, such as software, this process can be costly and rigorous, and it requires a significant amount of documentation that the valuation analyst's client may not have available.

In certain instances, the valuation subject may be a company in an earlier stage of development that has yet to generate any rounds of financing or revenues. An asset-based approach may provide an indication of value under this circumstance in the event that a reliable income approach or market approach cannot be performed.

## Market Approach

The two most commonly used valuation methodologies under the market approach are the *guideline public company method* and the *guideline transaction method*. Performing these methodologies for an early stage company can prove to be difficult for various reasons, including the following:

- Early stage companies typically lack the traditional revenue and earnings-based pricing metrics to perform these methodologies. (This explains the reason for the emergence of made up valuation metrics such as “price to clicks” and “price to page views” that were used in the late 1990s that created more problems than solutions in the era of the dot.com bust).
- It is difficult to find comparable companies that are in the same stage of development as the subject company and have similar risk and growth characteristics. Even if you are lucky enough to find some companies, chances are that there will not be enough information available to truly compare the subject to these companies.
- A public company has access to financing that the early stage closely held company may not. This may especially be true if the early stage company is a private company.
- In certain instances, early stage companies are either offering a new product or service or operating in an emerging industry. In these instances, publicly traded companies or transactions within the industry may not exist.
- There may not be sufficient data made public about the transactions of guideline companies that will allow the valuation analyst to calculate multiples and understand the terms of the transaction.
- If the guideline public companies are also in the early stages of development, they may also have no revenues or earnings, which makes it difficult to derive multiples that can be used in the valuation.

These are only some of the challenges that valuation analysts face in applying a guideline public company or guideline transaction method to an early stage company.

One of the more commonly used methodologies under the market approach that is used for early stage companies is the internal transaction method. If the early stage company has completed a recent round of financing, these internal transactions can be used as a basis to determine the implied value of the company.

The challenge that valuation analysts face is that early stage companies typically issue preferred stock, rather than common stock, to obtain financing. Preferred stock is not the same as common stock because the rights and liquidation preferences of these two classes of equity differ. Therefore, suppose a group of investors purchase a 10 percent preferred stock interest in a company for \$1 million. This does not imply that the value of the company is \$10 million. In order to determine what the implied value of the company was based on this transaction, the valuation analyst needs to consider the rights of common stockholders versus those of preferred stockholders.

A methodology to determine the implied value of a company based on a prior sale of preferred stock is commonly referred to as the *backsolve method*. According to *Valuation of Privately-Held-Company Equity Securities Issued as Compensation* “In many cases, it may be possible to use the price from a transaction to solve for the total equity value of the enterprise and the value of the other securities within the enterprise (the backsolve method).”<sup>7</sup>

.....  
<sup>7</sup> *Ibid*, 85.

The backsolve method models the equity value of the business as a series of call options. As discussed earlier in this chapter, a call option is the right, but not the obligation, to purchase a stock at a specific price (the exercise price) at a specific date in the future. For example, suppose an investor has a call option on a stock with an exercise price of \$100. This gives him or her the right to purchase the stock at \$100 at a certain point in the future. If the stock price is below \$100, the option will expire. If the stock price is \$120, the investor can exercise this option, purchase the stock for \$100, and earn a profit of \$20.

This pay-off structure also applies to the equity value of a business. If a liquidity event occurred, the common shareholders would not receive any cash until the preferred shareholders receive their liquidation preference. In the preceding example, if the liquidation preference for the preferred shareholders was \$100, the common shareholders would receive nothing unless the value of the business exceeded \$100. Due to the similarities in the pay-off structure between an option holder and an equity holder, an option model can be used to determine the implied equity value of the business. An example of a report where the backsolve method was used for a litigation assignment is included in exhibit 25.4. In this instance, the valuation subject was a start-up technology company that had completed the sale of preferred units shortly before the valuation date.

### EXHIBIT 25.4 Backsolve Method

The value of Software Startup using an income approach was determined to be \$5.2 million. Because Software Startup had some actual transactions in itself, we also considered what actual purchasers paid for an interest in The Company. Software Startup sold Series-A Preferred units to outside investors on or about March 15, 2013. The Company sold 111,110 shares at a purchase price of \$4.50 per unit, resulting in total proceeds of \$499,995. The sale represented a 10 percent interest in The Company. However, it should be noted that this is not an indication that the value of Software Startup is \$4,995,995 ( $\$499,995 \div 10\%$ ). In order to determine the implied equity value of The Company, we must consider the rights of the preferred units versus those of the common units.

According to *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, published by the AICPA, "In many cases, it may be possible to use the price from a transaction to solve for the total equity value of the enterprise and the value of the other securities within the enterprise (the backsolve method)."<sup>1</sup> Because Software Startup had closed on a sale of Series-A Preferred units, we have an actual arms-length transaction that can be used to determine the implied equity value of The Company.

As indicated previously, Software Startup sold 111,110 Series-A Preferred units, at a purchase price of \$4.50 (representing 10 percent of The Company) to outside investors for total proceeds of \$499,995. However, this does not mean that the implied value of The Company was \$4,999,995 ( $\$499,995 \div 10\%$ ). Because preferred units have different rights and preferences than common units, we must consider these differences in the valuation of the different units before determining the implied value of the total equity of The Company. After completion of the transactions, ownership in Software Startup was as follows:

Member	Type of Unit	# of Units	% of Total	Price Paid Per Share	Date of Transaction	Total Amount Paid
1	Common	640,000	57.6%	Founder		
2	Common	180,000	16.2%	Founder		
3	Common	180,000	16.2%	Founder		
4	Series-A Preferred	33,333	3.0%	\$4.50	3/15/2013	149,999
5	Series-A Preferred	11,111	1.0%	\$4.50	3/15/2013	50,000
6	Series-A Preferred	11,111	1.0%	\$4.50	3/15/2013	50,000
7	Series-A Preferred	22,222	2.0%	\$4.50	3/15/2013	99,999
8	Series-A Preferred	22,222	2.0%	\$4.50	3/15/2013	99,999
9	Series-A Preferred	11,111	1.0%	\$4.50	3/15/2013	50,000
<b>Total Units</b>		<b>1,111,110</b>				<b>499,995</b>

<sup>1</sup> AICPA, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, (New York, NY, 2013): 85.

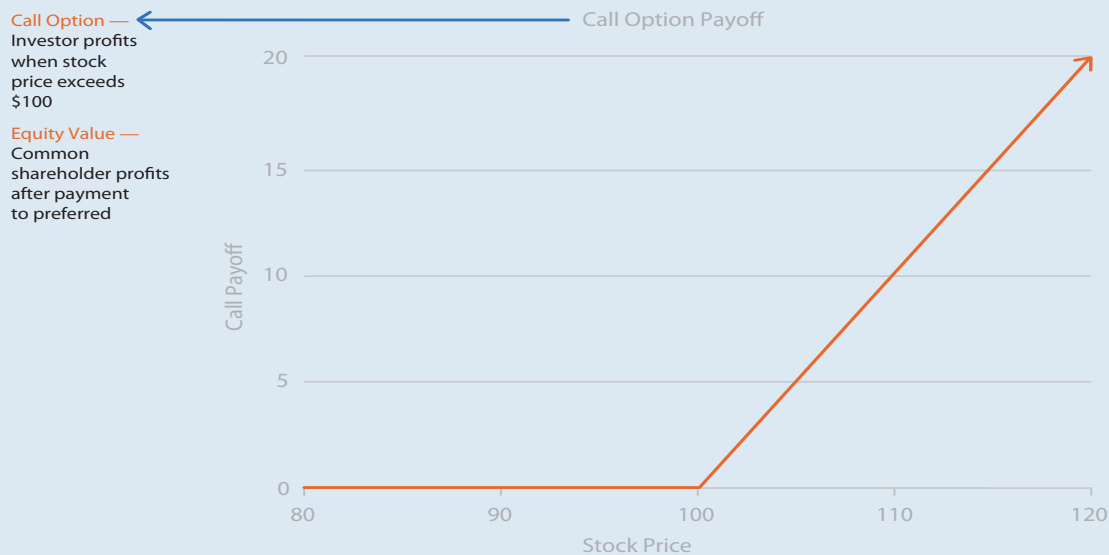


## EXHIBIT 25.4 Backsolve Method

Based on the sale price of the \$4.50 per preferred unit, we can determine the implied equity value of the business using what is referred to as the “backsolve method.” The AICPA defines the backsolve method as “a method within the market approach where the equity value for a privately-held company is derived from a recent transaction in the company’s own securities.”<sup>2</sup> The AICPA defines early-stage companies by stage of development. According to *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, the backsolve method should be considered regardless of which stage of development the company is in.<sup>3</sup>

The backsolve method models the equity value of the business as a series of “call options.” A call option is the right, but not the obligation, to purchase a stock at a specific price (the exercise price) at a specific date in the future. For example, suppose an investor has a call option on a stock with an exercise price of \$100. This gives him or her the right to purchase the stock at \$100 at a certain point in the future. If the stock price is below \$100, the option will expire worthless. If the stock price is \$120, the investor can exercise this option, purchase the stock for \$100, and earn a profit of \$20. This appears graphically in the next chart:

### Equity Value Is Similar to a Call Option



As indicated previously, at any price below \$100, the payoff of the option is \$0. At any price above \$100, the investor begins to earn a profit. This pay-off structure also applies to the equity value of a business. If a liquidity event occurred, the common shareholders would not receive any cash until the preferred shareholders receive their liquidation preference. In the preceding example, if the liquidation preference for the preferred shareholders was \$100, the common shareholders would receive nothing unless the value of the business exceeded \$100. Due to the similarities in the pay-off structure between an option holder and an equity holder, an option model can be used to determine the implied equity value of the business.

Therefore, we proceeded to determine the implied value of Software Startup based on The Company’s actual sale of Series-A Preferred units using the backsolve method. The steps that are required to apply this methodology are as follows:

- Step 1—Identify “breakpoints”
- Step 2—Estimate required inputs for option pricing model
- Step 3—Calculate enterprise value of the business
- Step 4—Apply premiums or discounts, or both, for control and marketability (if necessary)

#### Step 1—Identify “Breakpoints”

A *breakpoint* is the equity value at which the recipient of the sale or liquidation proceeds changes. In the preceding call option example, if the liquidation preference for the preferred shareholders is \$100, this would represent a breakpoint because at any point above \$100, the common shareholders begin to share the equity value of the business. In order to determine the breakpoints for the equity value of Software Startup, we must analyze The Company’s Operating Agreement (The Agreement) to determine the liquidation preferences for the various classes of equity. A summary of The Agreement is as follows:

**Classes of units:** The Company has two classes of membership units: Common Units and Series-A Preferred units. Each Series-A Preferred unit is convertible at a one-to-one ratio. This ratio can change if an additional round of equity financing occurs.

<sup>2</sup> *Ibid*, 223-224.

<sup>3</sup> *Ibid*, 97-101.

(continued)

### EXHIBIT 25.4 Backsolve Method *(continued)*

**Voting rights:** A majority vote of more than 50 percent of the unit holders is required to approve most matters. However, a supermajority vote of 70 percent of the unit holders is required to approve a sale of 5 percent or more of the business, borrow funds in excess of \$250,000, and change Software Startup's primary line of business. Furthermore, a supermajority vote is required to elect managers of The Company.

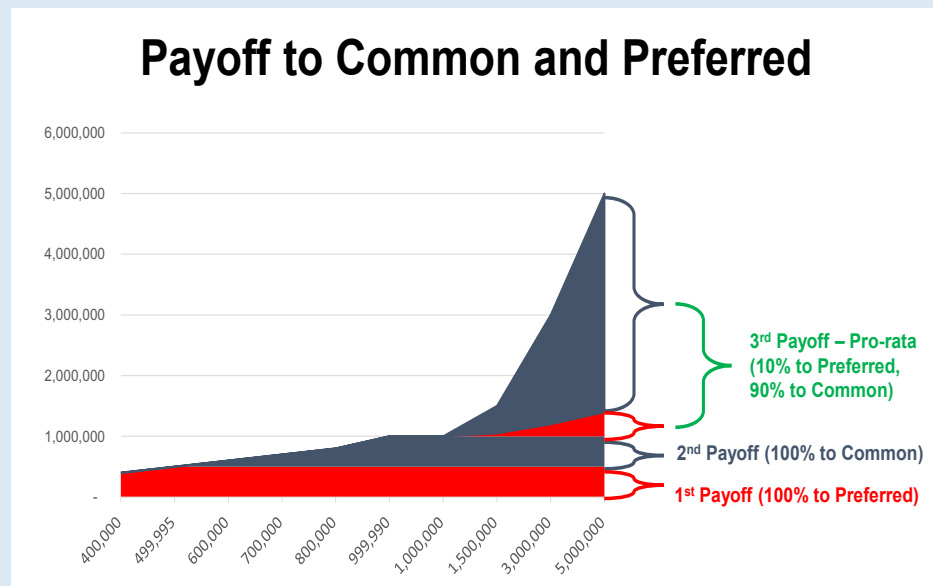
**Distributions and liquidation preferences:** Distributions of cash flow and proceeds from a liquidation or sale of the business are made in the following order:

1. Series-A Preferred Units. The liquidation preference for the preferred unit holders, which is equal to the initial capital contribution less any distributions received. In this instance, the common unit holders will not be paid until the preferred unit holders receive \$499,995.
2. Common Units. After the preferred unit holders recover their initial capital investment, the common unit holders are entitled to a catch-up accrual. A *catch-up accrual* is defined as "an amount equal to the amount distributed to each Series-A Preferred Unit then outstanding in connection with such Series-A Preferred Unit Distribution." A Series-A Preferred distribution can be a distribution of cash flow or a payment of proceeds in the event of liquidation. Therefore, once the preferred unit holders receive \$499,995, the common unit holders would be entitled to receive all amounts over and above \$499,995 until the amount of the total sales proceeds reaches \$999,990.
3. Pro rata. Once the preferred-unit holders receive their liquidation preference and the common unit holders receive their catch-up accrual, all amounts thereafter will be allocated pro rata based on percentage ownership. Therefore, any amounts over and above \$999,990, shall be distributed pro rata.

Based on our analysis of The Agreement, we determined that the breakpoints are as follows:

1. Liquidation Preference for Preferred Units 499,995
2. Catch-Up Accruals for Common Units 999,990

The payout structure appears graphically as follows:



#### Step 2—Estimate required inputs for option pricing model

The most widely accepted option pricing model is the Black-Scholes-Merton (BSM) option pricing model. The BSM model requires the following inputs:

**Exercise Prices**—We determined that the equity structure of Software Startup has two breakpoints: \$499,995 (Series-A Preferred Liquidation Preference) and \$999,990 (Catchup Accruals for the common units). These breakpoints will be the exercise prices in the option model.

**Term**—The BSM model requires an assumption about the term of the option. In this instance, the term needs to reflect the estimated amount of time that it would take Software Startup to reach a liquidity event. Median periods to liquidity were located in *Ernst & Young's Venture Capital Insights*®—2014. According to this publication, the median time to liquidity via initial public offering for United States-based companies ranged from 5–10 years, while the median time to liquidity via merger or acquisition ranged from 3–7 years from 2004 through June 2014. Furthermore, according to Software Startup's investor presentation, the performance target was 5 to 10 times the original investment within 5 years for the preferred units. Based on this information, a term of 5 years was selected for this analysis.

### EXHIBIT 25.4 Backsolve Method

**Volatility**—The BSM model requires an input for volatility, which is an indicator of the amount of variation in a stock price over a certain period of time. Since Software Startup’s units are not publicly traded, we turned to publicly-traded proxies.

We searched PitchBook/BVR’s Guideline Public Company Comps Tool for publicly traded companies that could be used as a benchmark for volatility for Software Startup. The search criteria were as follows:

- The company had to be classified under one of the following industry categories:
  - Information Technology—Software
  - Information Technology—Other
  - Standard Industrial Classification Code (SIC) 7374—Computer Processing and Data Preparation and Processing Services
  - SIC 7375—Information Retrieval Services
  - SIC 7372—Prepackaged Software
  - SIC 7379—Computer Services, Not Elsewhere Classified
- Revenues—We searched for companies with revenues of no more than \$25 million in order to develop a composite consisting of companies of similar size to Software Startup.
- Stock Price—The Company’s stock had to trade above \$1 on every trading day over the past five years or since inception, if five years of trading activity was not available.
- Companies that lacked sufficient volume and trading history were eliminated.

Our search returned seven companies that met our criteria. For each of these companies, volatility was calculated as the annualized standard deviation of daily stock returns for the five years leading up to March 15, 2013, the approximate date for the transaction. The average and median volatilities for these companies were 105.2 percent and 98.2 percent, respectively. We then compared Software Startup’s financial performance to those of the companies included in the composite. Although Software Startup was smaller, The Company was less leveraged than most of the companies included in the composite. Therefore, we used the median percentile volatility of 98.2 percent to account for Software Startup’s favorable leverage position.

**Dividends**—We assumed no dividends, as it was assumed that Software Startup would be reinvesting its cash flow over the next several years.

**Risk-Free Rate**—A risk-free rate of 0.84 percent was used, which was the rate of return for a five-year Treasury Note as of March 15, 2013.

#### Step 3—Calculate the enterprise value of the business

Once we determined the assumptions, we created the valuation model to determine the implied equity value of Software Startup based on The Company’s sale of Series-A Preferred units. The valuation model is summarized in the following chart:

		Enterprise Value	Breakpoint 1	Breakpoint 2	Residual
<b>INPUTS VARIABLES</b>		???	???	???	
Stock Price As of:					
Excise Price:		\$ 499,995	\$ 999,990		
Term (In Years):			5	5	
Volatility (Annual):			98.25%	98.25%	
Annual Rate of Quarterly Dividends:			0%	0%	
Risk Free Rate:			0.84%	0.84%	
Call Option Value			-	-	
Incremental Call Option Value			-	-	
Series A Preferred Stock			100%	0%	10.00%
Common Stock			0%	100%	90.00%
<b>Total</b>			<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
Series A Preferred Stock	499,995		-	-	-
Common Stock	???		-	-	-
<b>Total</b>	<b>???</b>		-	-	-

We solve for what is the implied enterprise value of the business based on a Series-A Preferred Stock sale of \$499,995?

(continued)

**EXHIBIT 25.4 Backsolve Method** *(continued)*

The Series-A Preferred equity had a value of \$499,995 as of March 15, 2013. However, this does not tell us what the value of the business was as of that date. We need to solve for this figure based on the rights and liquidation preferences of the various classes of equity and the assumptions in the option pricing model. The items highlighted in yellow reflect the assumptions of the option pricing model. Because we determined that there are two breakpoints, we needed to calculate the value of two different options; the first with an exercise price of \$499,995 and the second with an exercise price of \$999,990. Once we calculated the values of these options, the residual value could be determined, resulting in the amount that would be distributed to all of the members on a pro rata basis. Solving for the equity value of the business results in the following:

		Enterprise Value	Breakpoint 1	Breakpoint 2	Residual
Stock Price As of:		2,780,127	\$ 2,780,127	\$ 2,780,127	
Exercise Price:			\$ 499,995	\$ 999,990	
Term (In Years):			5	5	
Volatility (Annual):			98.25%	98.25%	
Annual Rate of Quarterly Dividends:			0%	0%	
Risk Free Rate:			0.84%	0.84%	
Call Option Value			\$ 2,516,521	\$ 2,363,888	
Incremental Call Option Value		2,780,127	\$ 263,606	\$ 152,632	\$ 2,363,888
Series A Preferred Stock			100%	0%	10.00%
Common Stock			0%	100%	90.00%
Total			100.00%	100.00%	100.00%
Series A Preferred Stock	499,995		\$ 263,606	\$ -	\$ 236,389
Common Stock	2,280,132		\$ -	\$ 152,632	\$ 2,127,499
<b>Total</b>	<b>\$ 2,780,127</b>		<b>\$ 263,606</b>	<b>\$ 152,632</b>	<b>\$ 2,363,888</b>

**Backsolve Method (as of 3/15/13)**

Based on the rights of the common and preferred units and the assumptions in the option pricing model, the implied enterprise value of Company was \$2,780,127

Based on the rights and preferences of the common and preferred units and the assumptions in the option pricing model, the implied equity value of Software Startup was \$2,780,127 as of March 15, 2013. The preceding calculations can be explained as follows:

1. The first row represents the implied equity value of the business based on a value of the preferred equity of \$499,995. This is the value that we solved for.
2. The yellow highlighted items are the assumptions that were input into the option pricing model.
3. Based on the assumptions, the values of the call options were calculated at each breakpoint. At the first breakpoint, the value of the call option is \$2,516,521. At the second breakpoint, the value of the call option is \$2,363,888.
4. Next, we calculated the incremental option value at each breakpoint. At the first breakpoint, the incremental option value was calculated as the equity value of the company (\$2,780,127) less the value of the option (\$2,516,521) representing an incremental option value of \$263,606. At the second breakpoint, the incremental option value was calculated as the option value at the first breakpoint of \$2,516,521 minus the value of the second option of \$2,363,888, resulting in an incremental option value of \$152,632. Once the incremental option values are allocated to each breakpoint, the residual can be calculated as the equity value of The Company minus each of the incremental option values.
5. The incremental option values and the residual amount were then allocated at the various breakpoints based on the liquidation preferences for the various classes of equity. At the first breakpoint of \$499,995, the preferred unit holders will receive 100 percent of the proceeds. Thereafter, up until the equity value reaches \$999,990, the common unit holders will receive 100 percent of the proceeds. Finally, the common and preferred unit holders will split the proceeds pro rata based on percentage ownership. At this stage, the preferred unit holders share 10 percent of the remaining proceeds, while the common unit holders share 90 percent.
6. Once the option values and the residual amounts are allocated among the various classes of equity, the amounts were totaled to derive the total equity value of The Company. As indicated previously, the amount allocated to the preferred unit holders totals the \$499,995 purchase price. The amount allocated to the common unit holders totals \$2,280,132. Summing these amounts results in a total equity value of \$2,780,127 for Software Startup as of March 15, 2013.

**Step 4—Apply premiums and discounts for control and marketability**

According to Software Startup's Operating Agreement, most major decisions require a majority vote of 50 percent or more of the unit holders, while a super majority vote of 70 percent is required for major actions such as the sale or liquidation of The Company. Therefore, the purchase price paid by the preferred unit holders is a minority interest because they purchased the units without any prerogatives of control. The preferred unit holders cannot appoint management, determine the amount of distributions, or sell or liquidate the business. Therefore, in order to reflect this transaction on a control basis, we applied a control premium to the implied equity value.

## EXHIBIT 25.4 Backsolve Method

We searched the Factset Mergerstat®/BVR Control Premium Study™ for data on acquisition premiums for SIC Codes 7372, 7375, and 7379 that took place between January 1, 2010 and March 15, 2013. The search returned 69 transactions with a median control premium of 31.5 percent.

Based on the data from Mergerstat, we applied a control premium of 31.5 percent to the implied equity value of \$2,780,127. This results in a control value of \$3,655,867 as of March 15, 2013.

The next step in the analysis is to bring this value forward to September 30, 2014. According to *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*

In applying the backsolve method, a valuation specialist should consider any events that were known or knowable as of the valuation date, including significant value-creating milestones, that could affect the value of the enterprise and that have occurred since the latest financing round (or that are expected to occur prior to the next financing round, if the next financing round is pending).<sup>4</sup>

From 2012 to the latest 12-month period ended September 30, 2014, Software Startup's revenues increased from \$107,938 to \$944,471, nearly 9 times. The Company increased its number of customers from 6 to 35 over this time period. Based on these factors, we determined that it was necessary to bring the value of The Company forward to reflect the increase in the implied value from March 15, 2013 to September 30, 2014. We looked at rates of return over this time period for several alternative investments. These are summarized as follows:

Cambridge Associates U.S. Venture Capital Index®	38.05%
Duff & Phelps Industry Cost of Capital (SIC 7374)	35.25%
Duff & Phelps Industry Cost of Capital (SIC 737)	38.40%
<b>Average</b>	<b>37.23%</b>

Based on the rates of return earned over the 1.5-year period in similar industry investments, the implied value of Software Startup as of September 30, 2014 was calculated as follows:

Implied Equity Value - Minority, Nonmarketable as of 3/15/13		\$ 2,780,127
Control Premium	31.50%	\$ 875,740
Indication of Value—Control, Nonmarketable as of 3/15/2013		\$ 3,655,867
Factor to Bring Value Forward to 9/30/14		37.23%
<b>Implied Equity Value—Control, Nonmarketable as of 9/30/14</b>		<b>\$ 5,017,069</b>
<b>Rounded</b>		<b>\$ 5,000,000</b>

Based on the subject company transaction method, the value of Software Startup was determined to be \$5 million as of September 30, 2014.

<sup>4</sup> *Ibid.*, 30.

(continued)

**EXHIBIT 25.4 Backsolve Method** *(continued)*

Several methodologies were used to calculate the value of Software Startup as of September 30, 2014. These are summarized as follows:

<b>Income Approach</b>	
Discounted Future Benefits Method	\$5,200,000
<b>Market Approach</b>	
Subject Company Transaction Method	\$5,000,000
<b>Final Conclusion of Value</b>	<b>\$5,100,000</b>

In this instance, both indications of value result in approximately the same value. Therefore, in our opinion, the lost value of Software Startup as a result of the actions of the defendant was approximately \$5.1 million.

Upon reviewing the example in exhibit 25.4, it should become obvious that performing the backsolve method requires a thorough understanding of the liquidation preferences and rights of the common and preferred shareholders. The dividend rights, liquidation preferences, and features of the various securities included in the company's capital structure form the basis for constructing the option model. This valuation methodology can become more complicated when a company has debt in its capital structure or the preferred shares have some of the features that were discussed earlier in this chapter.

When performing the backsolve method, the valuation analyst should be aware that the model is only as good as its inputs. Option models are extremely sensitive to the volatility and time to expiration variables. Therefore, a slight change in the volatility or the assumed holding period could have a significant impact on the implied value. Furthermore, it should be noted that the intended purpose of these option models is not to value closely held businesses but, rather, derivatives. Nevertheless, this model can be a useful tool to derive an indication of value for an early stage company, especially when the company's forecasts are unreliable and limited market data is available.

## Income Approach

When valuing early stage companies, the application of the income approach typically begins with analyzing business plans and forecasts that have been prepared by management. Refer to chapter 8 of this textbook for a complete discussion on forecasting and the factors that need to be considered when evaluating a forecast prepared by management.

The challenge in performing an income approach for an early stage company is that the valuation subject typically has a limited operating history and an unproven product and market. In certain instances, there may not be any companies or benchmark data available to assess the reasonableness of the projected profitability, capital spending, and working capital needs. Based on these factors, forecasts for early stage companies contain a significant amount of risk and uncertainty. There are two primary ways that the valuation analyst can account for these risks and uncertainties: 1) in the income stream or 2) in the discount rate.

When using an income approach to value an early stage company, one way to capture the risks and uncertainties is to perform various forecast scenarios and analyze the impact that changes to key variables have on value. These key variables can include the timing of when the company is expected to begin to generate revenue and the growth rates for revenues and operating expenses. One factor that valuation analysts need to consider is how long the company can continue to incur losses before an additional round of financing is needed. Start-up companies typically burn cash rapidly because these companies have significant working

capital and capital spending needs and incur significant overhead expenses before generating any revenues. As a result, when forecasting future cash flows for early stage companies, valuation analysts typically have to build the additional financing and required repayments into the valuation model.

At my firm, we typically perform best case, worst case, and most likely scenarios when forecasting future cash flows for early stage companies. In this instance, the worst-case scenario is usually a failure scenario in which the subject company does not hit its milestones, does not obtain any additional financing, and runs out of cash. Depending on the complexity of the forecast, we could end up with over 10 different forecast scenarios. When performing a scenario analysis, be careful not to double count the risks that have been captured in the cash flow streams in the discount rate.

Another manner in which to account for the risks and uncertainty in the forecasts of early stage companies is by accounting for these risks in the discount rate. Over the years, several studies of venture capital rates of return have been performed. A summary of these studies is presented in box 25.2.

<b>BOX 25.2</b>		<b>Venture Capital Studies</b>			
Stage of Development	Plummer <sup>1</sup>	Schleris and Sahlman <sup>2</sup>	Sahlman and Others <sup>3</sup>	Wetzel <sup>4</sup>	Ruhnka/Young <sup>5</sup>
Start-Up	50%-70%	50%-70%	50%-100%	50%	54.8%-73%
First Stage or Early Development	40%-60%	40%-60%	40%-60%	37.50%	42.20%
Second Stage or Expansion	35%-50%	30%-50%	30%-40%	30%	35%
Bridge/Initial Public Offering (IPO)	25%-35%	20%-35%	20%-30%	22.00%	35%

1 James L. Plummer, QED Report on Venture Capital Financial Analysis (Palo Alto: QED Research, Inc., 1987).  
 2 Daniel R. Schleris and Sam A. Sahlman, "A Method for Valuing High Risk, Long Term, Investments: The 'Venture Capital Method,'" Harvard Business School Teaching Note 9-288-006 (Boston: Harvard Business School Publishing, 1989).  
 3 Sam A. Sahlman et. al., *Financing Entrepreneurial Ventures, Business Fundamentals* (Boston: Harvard Business School Publishing, 1998).  
 4 Wetzel, W.E., 1981, "Informal Risk Capital in New England" in Vesper, K.H., ed., *Frontiers of Entrepreneurship Research*. Wellesley, MA, Babson College.  
 5 Ruhnka, J.C., and J.E. Young, 1991, Some Hypotheses about Risk in Venture Capital Investing. *Journal of Business Venturing* 6(2), 115-133.

The rates of return that appear in box 25.2 can be used as a starting point to deriving a discount rate for an early stage company. However, valuation analysts should use caution when relying on this data because some of these studies were performed over 20 years ago. There are various indexes that track rates of return for venture capital funds, including the Cambridge Associates U.S. Venture Capital Index.<sup>®</sup> However, these indexes typically track venture capital funds, which are diversified portfolios of venture capital investments. A portfolio of investments is less risky than a stand-alone early stage company. When performing a risk analysis for an early stage company, the valuation analyst should rely on as many sources as possible.

## Conclusion

Valuation analysts often encounter valuation engagements of other unique securities. At my firm, we have even valued legal settlements and loan guarantees. Life as a valuation analyst is a never-ending learning experience. When performing a valuation assignment of any kind, the valuation analyst should always keep in mind that the value of any asset is the present value of the anticipated future benefits that the asset is expected to generate, discounted by a rate of return that is reflective of the risk of the projected future benefits. With respect to the more complex valuation assignments, the various models should be looked at as tools that can assist the valuation analyst in forming a well-supported conclusion of value.





# Chapter 26

## Economic Damages

### Learning Objectives

In this chapter, I will attempt to explain the following:

- The similarities of an economic damages analysis to a business valuation assignment
- Types of economic damages claims
- How to perform a lost profits analysis
- Different methodologies available to perform a lost profits analysis
- Other types of damages measurements

### Introduction

Business damages can arise from many different situations, and it would be nearly impossible to cover every variation that the CPA, economist, or valuation analyst will encounter. Some damages may relate to lost profits, whereas others may relate to the diminution in value of the business enterprise. This chapter is intended to address some of the principles of business damages from the perspective of the CPA expert. In many instances, the services offered in this area of practice are similar to the application of business valuation techniques. For example, in a lost profits analysis, the expert may need to project the future income that might have occurred *but for* the actions of the defendant in the litigation. These lost profits are then discounted to present value. This should sound like the same process that I discussed in the application of a multi-period discounting model.

This type of service can also involve the valuation of the business enterprise if it was completely destroyed. Sometimes, both lost profits and lost business value may be applicable in the same assignment. The expert must be careful not to double count the elements of damages when doing this stuff. I will explain more about this in a little while.

Although this book is certainly not intended to cover all aspects of economic damages, I decided to add this chapter because many who offer business valuation services, particularly in a litigation setting, also are requested, from time to time, to address economic damages. As an expert, you are, once again, faced with finding out about the case law in the jurisdiction of the litigation. The expert should work with the client's attorney to get the most relevant cases. Enough of the introduction stuff—let's get on to the meat and potatoes.

### Lost Profits

A business enterprise may suffer lost profits when, as a result of someone's actions, any of the following takes place:

- Revenues are lower than they would have been had the act not occurred.
- Costs are higher than they would have been had the act not occurred.
- Some combination of revenues being lower and costs being higher.

## Elements of a Lost Profits Claim

I'm no lawyer, but let me provide some background on this stuff from my perspective. However, checking with a lawyer about this stuff would still be a good idea. In order to claim lost profits, a plaintiff must generally prove the following:

- The defendant breached a legal duty to the plaintiff.
- The defendant's actions or failures to act damaged the plaintiff.
- The plaintiff's damages are directly related to the defendant's actions or failures to act.

### Breach of a Legal Duty

A claim for lost profits can arise from either a broken contract between two parties, or a *tort* (that's "tort" and not "tart"—a tart is something you eat!). A breach of contract claim involves the alleged breach of an agreement between the parties. For example, a company might sue a general contractor for its lost profits due to the contractor's delay in completing renovations on the company's facility. A sales person may sue a manufacturer for breaching its exclusive marketing agreement in the designated territory. A medical group might sue a former employee/doctor for violating a non-compete agreement. The most common types of contractual disputes that lead to lost profit claims are listed in box 26.1. In a tort claim, the plaintiff accuses the defendant of owing a legal duty to the plaintiff and that the defendant breached that duty. For example, a self-employed individual might sue a gas company for the profits lost as a result of an explosion caused by the gas company's negligent repair that destroyed the plaintiff's business. I performed an assignment involving a pizza shop that got blown up because the gas company goofed. A movie studio might sue a movie critic for its lost profits resulting from the critic's malicious attempt to damage the movie studio by printing false allegations rather than honest opinions. See, if the movie really stinks, it is okay to say it. Honesty is a defense. However, you cannot just say the movie was horrible if the intent is to intentionally get others not to go and see it. The most common types of torts that lead to lost profit claims are listed in box 26.2.

BOX 26.1	Breaches of Contract That May Lead to Lost Profit Claims	BOX 26.2	Torts That May Lead to Lost Profit Claims
	<ul style="list-style-type: none"> <li>• Agency agreements, such as manufacturer's sales representatives</li> <li>• Breaches of express or implied warranties</li> <li>• Construction contracts</li> <li>• Non-compete agreements</li> <li>• Employment contracts</li> <li>• Failures to pay or provide services</li> <li>• Franchise agreements</li> <li>• Insurance contracts</li> <li>• Real estate transactions</li> <li>• Sales of businesses</li> <li>• Sales of goods (to which the Uniform Commercial Code may apply)</li> <li>• Sales of stock</li> </ul>		<ul style="list-style-type: none"> <li>• Acts of simple or gross negligence</li> <li>• Conversion or theft of funds</li> <li>• Damage to income producing property</li> <li>• Defamation</li> <li>• Fraud (for example, when a supplier pays kickbacks to a company's employees resulting in higher costs)</li> <li>• Intentional interference with business or contractual relationships</li> <li>• Malicious prosecution</li> <li>• Patent or trademark infringement</li> <li>• Professional malpractice</li> <li>• Unfair trade practices</li> </ul>

### Causation

The second element of a lost profits claim is causation. Whether a claim relates to a tort or a breach of contract, the plaintiff must prove that the defendant's actions caused the damage to the plaintiff. Although causation may seem obvious, proving this element of damages can frequently be challenging. For example, assume a defendant admits responsibility for the fire that closed the plaintiff's hardware store for six months. Also, assume, however, that The Home Depot opened across the street from the plaintiff's business six weeks before the fire. Although the plaintiff can demonstrate that the business was closed for six months and the lost profits during this period of time, the amount of profits lost due to the fire, and the amount of profits that would have been lost in any event due to the increased competition, is a matter of great uncertainty. I used

to get calls from business owners who wanted damages based on a claim that the telephone company left an ad out of the telephone book. Think about how to prove that there is a direct link between the ad being left out and the loss of earnings for the business. Unless really good records are maintained by the business about where customers come from, this is not easy. The more important question for many of the readers of this book is have you ever seen a telephone book? It was something that came in white and yellow pages and has mostly been replaced by the Internet.

## Damages Must Be Directly Related to the Defendant's Actions

The third element of proof that must be demonstrated by the plaintiff is the amount of damages that are directly related to the defendant's actions. This causal relationship is sometimes referred to as the *but for* rule. In other words, *but for* the actions of the defendant, the plaintiff would have made an additional \$2 million in profits. *But for* the defendant's negligence, the plaintiff would not have incurred \$650,000 in replacement costs and property damage. *But for* the breach of the contract, the plaintiff would have earned royalties of \$300,000. *But for* writing this book, I would be spending more time on vacation. (I'm only kidding! I would not let this book interfere with my vacations!)

In theory, a well-prepared *but for* analysis of the plaintiff's claim calculates the limit of damages related to the defendant's actions. However, even though we think the client got royally shafted, the law rarely allows the plaintiff's recovery to go that far. For example, assume a dairy farmer intentionally pollutes a competing dairy farmer's land in hopes of driving him out of business. The polluter does not know, however, that the competing farmer has a heart condition and that, upon seeing hundreds of his cows lying dead in the field, he has a heart attack and drops dead himself. There is probably no question that the polluter breached a legal duty to the poor guy who died and that his actions are what caused the decedent's loss of profits on the sale of dairy products, as well as his death. However, the law generally allows the decedent's estate to only recover for his loss of profits because the decedent's death was not a foreseeable consequence of polluting the field. Therefore, it can be said that damages are directly related to an act when they are foreseeable. You have to love this legal stuff to do these assignments. Some guy causes another guy to croak and the jury has to worry about his lost profits because of dead cows. So what if he had a heart attack along the way!

## Types of Damages

A typical lawsuit includes many types of damages. Some damages that might be awarded are classified as either *compensatory* or *punitive*. Damages can be compensatory or punitive in nature, depending on whether they are awarded as a measure of actual loss suffered or punishment for the behavior of the defendant. Let's hang the guy who killed the cows. Compensatory damages consist of what are referred to as *general* and *special damages*.

Consequential damages represent a special type of compensatory damages. *Consequential damages* do not flow directly and immediately from the act of the party but only from some of the consequences or results of the act. Lost profits as discussed in this chapter are consequential damages.

## The Lost Profits Analysis

Experts will frequently participate in many types of lost profits cases. Because the rules of recovery will vary from one jurisdiction to the next, and from one type of case to the next, the specific procedures that the expert will apply will also vary from case to case. The expert needs to make sure that he or she is working with a lawyer when he or she does this stuff. Many similarities are common to all lost profits engagements. In fact, the procedures that should be applied are basically the same, regardless of the facts of the case. (Dead cows, lost sheep, who cares!) Let's discuss the procedures for a lost profits analysis.

## Meet With the Client and Client's Attorney to Determine the Objectives of the Assignment

A good place to start is at the beginning. Sometimes, I start in the middle, but I get confused and lose track of what I am doing. It doesn't take a genius to realize that the plaintiff and the defendant have different objectives in the case. The plaintiff seeks to maximize the damages of his or her claim (the dead farmer's family wants lots of money or maybe revenge), whereas the defendant seeks to minimize or deny damages (the cows would have died from foot and mouth disease, so I did that farmer a favor). The expert's job in working with the plaintiff's attorney is to develop a carefully reasoned, well-justified damages estimate using accepted methodology in the field that will withstand pointed cross-examination and potential challenge by the other side. In other words, no "junk science" type of stuff.

In working with the defendant's attorney, the expert's job is to challenge the estimate prepared by the plaintiff's expert when it does not meet these objectives. For example, a four-month old business gets destroyed from an explosion at the business next door. The owners of the destroyed business purchased the assets four months ago for about \$200,000. The expert for the plaintiff calculates damages for this four-month old business totaling \$7 million. If you were working for the defendant's attorney, your job would be to show how absurd the other expert's opinion is. Think about it: a four-month old business, with no history, and an investment of about \$200,000 with damages of \$7 million? What is wrong with this picture?

## Determine the Known Facts and Assumptions of the Case

The client will usually have a pretty good idea of what is going on in the case, including details of the contract that was breached (or the nature of the tort that was committed) and the extent of financial damages that have been incurred. Therefore, the expert should discuss the known facts of the case with the client and the client's attorney as a means of gaining an overview of the situation.

If the expert ends up testifying to this stuff, he or she will probably have to make a series of assumptions. It is really important for the client's attorney to know all the key assumptions, as well as the basis for those assumptions. I like to lay them out in my report so that my process is clear to the reader of my report. This is not too different from including assumptions when the valuation analyst prepares a forecast. Common assumptions that the damages expert may rely on include the following:

- Assumptions about the facts
- Assumptions involving the opinions of other experts
- Economic and financial assumptions

## Assumptions About the Facts

Depending on the case, the expert will obtain certain information that is purported to be factual and be asked to assume it is correct. Generally, the attorney will give this stuff to the expert or the expert may pick it up by reading the complaint that alleges what happened. Sometimes, the information will be presented during a deposition or trial testimony. Some of these facts may need to be verified. The expert will have to use his or her judgment to decide which of these to verify.

## Assumptions Involving the Opinions of Other Experts

Additional experts may be employed to analyze different aspects of the damages claim. Other experts may include valuation analysts, industry experts, and engineering experts, among others. It may be necessary to consolidate all of these other opinions into an overall conclusion of the amount of damages.

## Economic and Financial Assumptions

A damages expert may also have to make general economic and financial assumptions in the analyses. This is the same stuff that we do in a business valuation assignment: research and support the assumptions.

## Plaster Your Files With Support

Documentary evidence is a critical element of all litigation services, including those involving lost profits. The expert must make sure that his or her working papers are loaded with support. The primary source of the documentation may be the plaintiff's business records. If the expert is representing the plaintiff, getting these records will generally not be a problem (unless, of course, the job is like the pizza joint that I did, where the records all got blown up in the explosion). If, however, the expert is engaged to represent the defendant, his or her client's attorney may need to use a request for production of documents or a subpoena to get this stuff. There should be some documentation that is available to everybody, including the following:

- The plaintiff's verified complaint, the defendant's answer, all counterclaims, and all third party demands.
- The answers to all interrogatories and requests for production of documents of all parties to the proceeding.
- Transcripts of the deposition testimony of all parties and witnesses.
- The plaintiff's financial and tax information for a period of years before the breach or tort occurred and for all subsequent periods through the present. This information would include income tax returns, sales tax returns, payroll tax returns, quarterly and annual financial statements, adjusted trial balances and detailed general ledgers (including adjusting journal entries), accounts receivable and payable subsidiary ledgers, depreciation schedules and other fixed asset reports, business plans and financial forecasts, loan documents and agreements, contracts involving the sales of assets, lease agreements, employment contracts, and all of the other stuff that we discussed in the valuation checklist in chapter 3.
- Copies of reports and working papers prepared by other experts involved in the litigation.

Usually, this type of financial information will only be provided for the plaintiff. This information is typically not needed for the defendant's business because the claim relates to the plaintiff's loss of profits. However, sometimes the damages expert may be able to measure the plaintiff's lost profits from the defendant's results of operations. For example, the defendant may have breached an agreement not to compete against the plaintiff for a period of time in a specified area. The easiest way for the plaintiff to prove its loss of profits may be to determine the amount of profits made by the defendant during the prohibited time in the prohibited location. Obviously, in this case, the plaintiff must have access to the defendant's records in order to prove the amount of the defendant's profits. This usually requires the lawyers to do their thing. No one seems to voluntarily turn over these records.

## Obtaining Documents and Records From the Opposing Side

The damages expert should ask for the records that will be required from the other side of the litigation to perform a proper analysis. Documents and records may be obtained from the other side by having the attorney send out a request for production of documents. This is really no different than using an information request in a business valuation assignment. The damages expert may need some different types of records because of the nature of the case.

Sometimes, the other side will object to the production of the information on the grounds that it contains proprietary or trade secret information. For example, a damages expert may request the source code from a rival software company to prove the rival copied the plaintiff's source code. Disclosure of the source code will require the disclosure of proprietary and trade secret information. When this kind of information is involved, the damages expert may have to sign a confidentiality agreement, or be subject to a court-imposed protective order, limiting the use of the materials to only the disputed issue. The protective order usually provides that the parties (including their attorneys and experts) will return all information produced subject to the order to the producing party at the conclusion of the litigation. In addition, a damages expert cannot blab about the substance of the information in any manner other than in using it to prove the claim or defense in the assignment. The damages expert must be careful not to violate a protective order. That's not a good thing.

## Should the Damages Expert Work With Original Documents or Copies?

Courts do not always require original documents to be presented as evidence. Generally, photocopies may serve as evidence unless the authenticity of a document is challenged. The client's attorney has to guide the analyst on this one. For example, in a lost profits case involving an alleged breach of contract, the defense may assert that the contract presented by the plaintiff has been forged or altered in some way. When one side to a dispute doubts the authenticity of a document that the opposing side presents as evidence, the court will usually insist that the original document, rather than a photocopy, be presented as evidence.

## Get Information From the Client and the Other Side

In addition to the written documentation, the damages expert can conduct management interviews aimed at getting more information that is needed to perform a proper analysis. This stuff begins to look like a business valuation assignment. Like I said before—it really is similar in many respects.

## Interviewing Client and Opposing Personnel

Rarely will a damages expert be able to draw accurate conclusions by only looking at a bunch of documents. It is also appropriate to interview client personnel. These are the folks who can provide explanations about the documents and answer any questions that the damages expert might have about the documents. Client interviews are especially important when the damages expert represents the plaintiff. Be careful, however, because the expert's client may provide information that, in many cases, needs to be reviewed for reasonableness. For example, a client tells the expert that *but for* the actions of the defendant the business could have achieved \$10 million in sales in the next two years. When the expert looks at the history of the business, the best year reflected sales of \$1.5 million. How realistic is the growth being forecasted if the expert finds out that the industry is expecting a downturn because of a change in a regulation affecting the use of the company's product?

In some cases, the damages expert may also be able to interview officers and employees of the other side. These interviews may help the expert to understand their positions. The interviews may enable the expert to uncover important information that should be considered in the analysis. If the damages expert can't interview officers or employees of the other side, there is no need to panic. The expert may have to depend on interrogatories and depositions to obtain needed information. The expert can get the information with the help of the attorney.

## Performing the Lost Profits Computation

Once the damages expert has received the documentation that has been requested (or at least once he or she realizes that they are not going to get any more documentation) and all of the interviews are completed, the damages expert should be in a position to start the number crunching. The assignment will probably require the damages expert to estimate the lost revenues, relevant costs, and determine if there is any appropriate mitigation of the damages. *Mitigation of the damages* is a legal concept that requires an injured party to do whatever is appropriate to reduce the ongoing damages. For example, if being fired from a job is the grounds for the damages, the injured party has an obligation to look for new employment, rather than stay unemployed and allow the damages to accrue. This process will also require the damages expert to determine these items by estimating the appropriate period of loss, possibly an appropriate discounting method, and the appropriate discount rate.

The specific components of the lost profits computation will vary somewhat from one engagement to the next, but damages experts will almost always be dealing with a pretrial and an after-trial component. The first step in computing lost profits is to determine the amount of lost revenues before the trial. This process also can be described as determining the revenues that the plaintiff could have earned *but for* the defendant's actions. There are three generally accepted ways to estimate lost revenues that can ultimately be used to calculate lost profits:

- The before and after method
- The yardstick method
- The *but for* method

## The Before and After Method

The simplest way to estimate revenues lost by the plaintiff as a result of the defendant's actions is to conduct a before and after analysis. Just like the name implies, the expert compares the plaintiff's revenues before the alleged breach or tort to the revenues after the event. Any reduction in revenues after the alleged breach or tort is presumed to be caused by the event. This, of course, assumes that the plaintiff's operations before and after the event were comparable, which requires the expert to analyze the business before and after the event to ensure comparability. Important differences (such as an owner who worked 60 hours per week in the business before the event and only works 20 hours per week after the event) should be considered in estimating the amount of lost revenues that relate to the event. The expert also should make sure that the business results are reported in a consistent manner. Somehow, our training as accountants gets us into this consistency thing.

To illustrate the use of the before and after method, assume John Smith is a salesman for ABC Electronics and he breaches his employment contract by establishing a competing business on January 1, 2014. Mr. Smith's contract required him to provide services to the company through December 31, 2015. The contract also contained a three-year non-compete clause. Therefore, under the terms of the contract, Mr. Smith was not supposed to compete with ABC Electronics through December 31, 2018. Mr. Smith is liable to the company for any damages from the breach. Assume the company's gross revenues were \$14 million in 2013 (the year before Mr. Smith began competing with the company) and dropped to \$10 million in 2014. Further, assume that the company recruited and hired a new salesman on January 1, 2015, to take Mr. Smith's place, and revenues returned to \$14 million in 2015.

Before Mr. Smith's breach, the company had revenues of \$14 million. After Mr. Smith's breach, the company had revenues of \$10 million. Under this fact pattern, it appears that Mr. Smith's actions caused the company to lose \$4 million of revenues in 2014. Damages in subsequent years were mitigated by the fact that the company hired a replacement for Mr. Smith in 2015, resulting in revenues returning to \$14 million in 2015. The *before and after* approach gives a quick and easy approximation of the amount of revenues lost by the company as a result of Mr. Smith's breach of contract. This, of course, assumes that all else remained constant during this time.

As a real-life example, we were once engaged to calculate the damages suffered by a business in the refuse industry (garbage pick-up) that had lost a portion of its customer base as the result of former employees downloading and distributing the company's customer list to a competitor. We determined that the before and after method was the most appropriate way in which to calculate lost profits in this matter. Damages were calculated by starting with the amount of revenues lost by the business and subtracting those expenses that would no longer be incurred by the company as a result of no longer having those revenues.

We began by analyzing information related to the company's lost customers. We determined that the best way to calculate damages was to first group the customers into different categories. Lost customers were broken down into the following categories:

- *Lost customers versus price roll-back customers.* In addition to losing a portion of its customer base, the company had other customers that forced it to reduce its prices for its services as the result of the alleged actions of the defendants. Therefore, we separated the company's customers into two categories: lost customers and price roll-back customers.
- *County.* We calculated damages separately for each of the three counties in which the company either lost customers or were forced to reduce its prices for its retained customers.
- *Cancellation notes.* Some customers cited service as a reason for the cancellation of its contract with the subject company. For these customers, we were unable to determine whether they changed service due to the alleged actions of the defendants or because of service issues with the subject company. Therefore, we categorized customers that had service notations separately.
- *Garbage truck type.* The type of garbage truck makes a difference in the expense structure and, therefore, requires separate calculations for each. In this instance, the business operated two types of trucks: front-load and rear-load. Oh, the things that we learn by being an expert!

The next step in our analysis was to determine the annual lost revenues. Because the company had less than one year of operating history available, we reviewed the monthly payments made by the customers, determined which appeared to be normal ongoing payments, and determined the average monthly revenue for that customer. We then annualized that amount.

The average lost revenues were calculated differently for the lost customers and the price roll-back customers. For lost customers, we calculated the monthly revenues that the company received prior to cancellation. For the price roll-back customers, we calculated the difference between the average monthly revenues before the roll-back minus the average monthly revenues after the roll-back. We calculated lost revenues over a 9.2-year period. In this instance, the company had an expert who would testify that the average customer life for this type of business was 9.2 years.

Once lost revenues were calculated, we had to determine the saved expenses to offset these revenues. For lost customers, incremental expenses were allocated to the revenues based on truck type. For price roll-back customers, no expenses were allocated because the company continued to have the same expenses for each one of these customers.

In calculating expenses, we analyzed the historical financial statements for the company and identified all variable and fixed expenses. We then reviewed these items further to determine those expenses that would be incremental to a damages analysis. After identifying these expenses, we then addressed labor costs, which were calculated separately from other operating expenses. First, we determined labor costs per hour from the company's internal financial reports. After that, we calculated labor costs as a percentage of revenues broken down by county, type of truck, and for all identified customers lost.

After performing this analysis, we calculated total lost profits consisting of the following three categories within each of the three counties:

1. Lost profits related to lost customers for front-load trucks
2. Lost profits related to lost customers for rear-load trucks
3. Lost profits related to price roll-back customers

After calculating lost profits for each county, we combined these totals and discounted them to present value to arrive at a total damages figure.

The preceding example shows the type of detailed analysis that is required in order to properly apply the before and after method. In this assignment, we had to analyze the company's historical sales and expense data into various groupings in order to ensure the proper matching of revenues and expenses. In addition, we had to make sure that the customers being included in our damages calculations were, in fact, customers that were lost or experienced price reductions due to the alleged actions of the defendants.

## The Yardstick Method

Another common approach to estimating revenues lost in this type of litigation assignment is known as the yardstick method. This method compares the plaintiff's earnings against those of a similar business, product, or comparable measure. Let's assume from an earlier example that the company demonstrated that Mr. Smith's 2014 and 2015 revenues were derived from former customers of the business. These revenues may approximate the amount of revenues the business lost as a result of Mr. Smith's breach of contract.

The best "yardstick" for a closely held business is a business of similar size and nature in the same geographic area as the plaintiff. If the plaintiff has multiple locations, the expert can compare a related entity's results of operations to the plaintiff's. The plaintiff's competitors are also a good source of comparative information, but they will not usually disclose confidential financial information. If the competitors are public companies, the



expert can use the great skills that were discussed in chapter 9 to find good guideline public companies. This also can be a perfect time to use Microbilt's Integra database. Gee, we can really get our money's worth from this product if we use it for all the different types of engagements that we perform (and no, I still do not own a piece of the database).

The biggest challenge in performing the yardstick method is identifying a company that is similar enough to the subject company to use as a basis for comparison. In one instance, we were involved in a litigation in which the opposing expert used a multimillion dollar public company that had a market share of over 80 percent as a yardstick for an unproven start-up company. These types of comparisons demonstrate a lack of understanding of the growth cycle of a start-up business. I will go into more detail about this example when I discuss the common errors made by damages experts.

### The *But For* Method

The methods already discussed can be used when the facts are fairly straightforward and the amount in controversy does not justify a more precise estimation of the revenues lost by the plaintiff *but for* the actions of the defendant. The problem with those methods is that they do not always consider other factors that might increase or decrease the amount of the plaintiff's lost earnings. To illustrate again using the ABC Electronics example, if Mr. Smith had not breached his employment contract, the revenue of the company could have far exceeded \$14 million in 2014 and 2015. Mr. Smith's efforts could have increased the company's customer base, leading to new referral business. What might really happen is that the other sales people's attention might be diverted from the business to help the attorney make the case for the lawsuit against Mr. Smith. On the other hand, other factors that reduced the company's revenues may have nothing to do with Mr. Smith's departure. For example, a change in the economy could have also reduced sales.

In a perfect world, a good *but for* analysis will consider as many of the potential factors as possible working in concert with each other that affect the plaintiff's earnings during the period under consideration and will, in turn, segregate those that were caused by the defendant from those that were not. This sometimes is easier said than done.

Exhibit 26.1 includes a *but for* analysis that we performed in a case of a supplement company that sued its supplier for manufacturing defective products. As you will see in this report, our report contained a detailed trend analysis of the sales of defective products and also incorporated industry data into the lost sales forecast.

#### EXHIBIT 26.1 The Lost Profits Analysis

The next element of damages results from Protein Supplements, Inc. being unable to sell recalled products. As a result, The Company lost its ability to continue to earn profits and build its brand.

We started our analysis by considering the products that were recalled. In order to properly identify these items within Protein Supplements, Inc.'s accounting system, we first had to determine the proper SKU numbers that were being used for these products. In order to determine the lost profits, we started our analysis by reviewing the potential revenues that would have been earned *but for* the actions of Supplement Manufacturing Company. Therefore, we reviewed the monthly sales data for the recalled and predecessor products for the same SKU numbers back to 2007. We summarized this data by month. It should be noted that the September 2011 sales reflected in this table are for a partial month because the recall took place at that time.

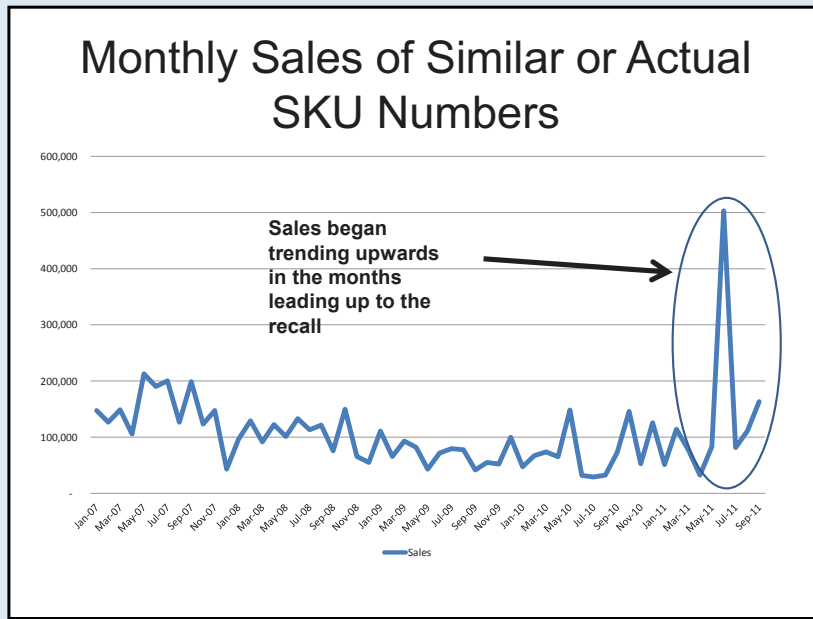
(continued)

**EXHIBIT 26.1 The Lost Profits Analysis** *(continued)***TABLE 1 Historical Sales of Similar Products**

Month	Sales	Month	Sales	Month	Sales
Jan-07	\$ 147,492	Aug-08	\$ 121,293	Mar-10	\$ 74,044
Feb-07	126,639	Sep-08	75,876	Apr-10	65,018
Mar-07	149,159	Oct-08	149,715	May-10	148,299
Apr-07	105,761	Nov-08	65,957	Jun-10	31,880
May-07	212,869	Dec-08	55,129	Jul-10	29,130
Jun-07	190,112	Jan-09	110,880	Aug-10	32,557
Jul-07	200,444	Feb-09	65,774	Sep-10	73,012
Aug-07	126,979	Mar-09	93,160	Oct-10	145,968
Sep-07	198,967	Apr-09	82,037	Nov-10	52,530
Oct-07	123,392	May-09	43,322	Dec-10	125,942
Nov-07	147,309	Jun-09	72,215	Jan-11	51,097
Dec-07	43,034	Jul-09	79,574	Feb-11	114,300
Jan-08	96,679	Aug-09	77,873	Mar-11	77,597
Feb-08	129,245	Sep-09	41,447	Apr-11	32,487
Mar-08	91,771	Oct-09	55,195	May-11	82,994
Apr-08	122,690	Nov-09	52,163	Jun-11	502,740
May-08	101,482	Dec-09	99,873	Jul-11	81,750
Jun-08	133,275	Jan-10	47,292	Aug-11	111,375
Jul-08	113,162	Feb-10	67,355	Sep-11	163,370

Graphically, the historical sales trend, although somewhat flat, started to significantly increase in 2011. As a result, we had to determine an appropriate methodology to use to forecast what the future sales would have been *but for* the actions of Supplement Manufacturing Company. That would be the starting point of our lost profits analysis.

**EXHIBIT 26.1 The Lost Profits Analysis**



Because the data had been relatively flat and then quickly accelerated in the most recent period, we felt that a linear regression model would overestimate the potential sales going forward. Instead, we decided that a moving average of this data would have the impact of “smoothing” the data over time and provide a more meaningful analysis for a forecast. A moving average (also called a *rolling average* or a *running average*) is the average value of the previous “x” number of data points. For example, a 4-month moving average is the average sales of the most recent 4 months. A moving average smooths out fluctuations in the data and shows the pattern of a trend more clearly. We calculated moving averages ranging from 2–24 months to see which monthly moving average most accurately forecasted the annual sales of the recalled SKUs. The results are as follows:

**TABLE 2 Moving Average Analysis**

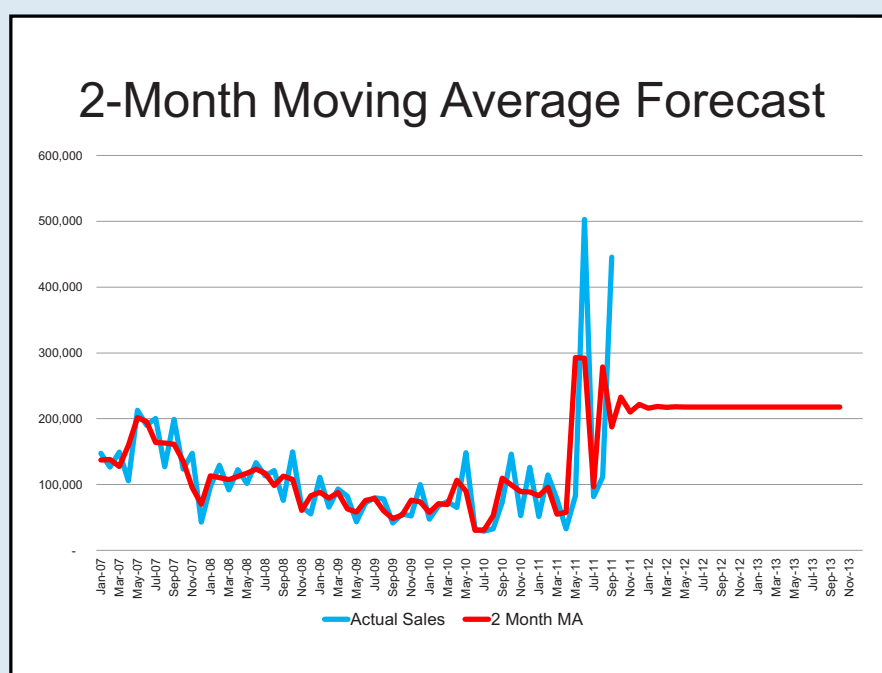
	2008	2009	2010	Jan.—Aug. 2011
Actual Sales	1,256,276	873,514	893,026	1,054,341
<b>Predicted Sales—Using Monthly Moving Average</b>				
2 Month MA	1,284,856	835,668	866,773	1,054,298
3 Month MA	1,289,640	869,473	836,454	930,504
4 Month MA	1,322,805	894,983	813,404	866,111
5 Month MA	1,343,842	918,973	808,637	827,490
6 Month MA	1,372,413	940,564	813,866	793,664
7 Month MA	1,400,940	964,710	823,364	757,728
8 Month MA	1,436,259	990,089	817,365	742,927
9 Month MA	1,461,848	1,014,345	814,590	724,645
10 Month MA	1,488,059	1,033,611	814,281	712,172
11 Month MA	1,509,266	1,055,144	813,885	694,819
12 Month MA	1,531,174	1,071,905	818,854	678,215

(continued)

**EXHIBIT 26.1 The Lost Profits Analysis** *(continued)*

The data contained in the preceding table is the actual data for Protein Supplements, Inc.'s sales of the 12 recalled products (and the predecessor products), as well as the moving averages that we calculated based on a 2- to 12-month basis. As a result of the significant upward trend during 2011, using a longer term moving average, results in a large margin of error when comparing the results to the actual sales figures. A similar error occurs in the 2009 data, when sales declined, because the moving average attempts to compensate for the decline in the sales. Given the upward trend in the sales leading up to the valuation date, we determined that the 2-month moving average would best capture the recent trends in The Company's sales of the recalled products.

The following graph illustrates the comparison of the actual sales with the moving average that we forecasted. The moving average takes the variability out of the forecast and provides a more stable estimate of near-term forecasted sales. The moving average forecast was extended through the end of 2013.



According to the expert report of John Smith of Professional Brands, Inc., it will take approximately three years for The Company to regain the level of brand awareness in the marketplace that was present before the recall had occurred, particularly because Protein Supplements, Inc. was without the recalled products for an extended period of time. Based on this information, we forecasted sales through the end of 2015. For the years 2014 and 2015, sales were increased by 4.54 percent per year; the forecasted growth rate for the nutrition and dietary supplement market from 2011–2016, according to *The US Nutritional and Dietary Supplements Market and Forecast to 2016: Edition 2012*, prepared by Ken Research.

Therefore, as a result of our analysis, the sales forecast from the date of the recall through the end of 2015 is shown in the following table.

**TABLE 3 Forecasted Revenues**

9/12/2001– 12/31/2011	2012	2013	2014	2015
\$981,151	\$2,608,914	\$2,613,964	\$2,732,638	\$2,856,700

**EXHIBIT 26.1 The Lost Profits Analysis**

The next portion of our analysis must now address what costs should be offset against the expected forecasted revenues.

Now that revenues for the recalled products have been forecasted, we must determine the gross profits that Protein Supplements, Inc. would have earned on these forecasted revenues. We analyzed sales and cost data for all the recalled products for the years 2010 and 2011, the period of time that Protein Supplements, Inc. was selling the Supplement Manufacturing Company products that were recalled. As shown in the following table, Protein Supplements, Inc. generated a gross profit margin of 30.5 percent, on average, on the recalled products during 2010.

**TABLE 4 2010 Gross Profit**

	Material	Invcd. qty	Cost	Sales	Gross Profit	Gross Profit (%)
10155.793	/Prol Pure Whey Straw 2LB V3	741	5,502.69	8,346.34	2,843.65	34.1%
20181.793	/Prol Whey Prot Isolate Van 2Lb V3	213	3,078.09	4,220.45	1,142.36	27.1%
20183.793	/Prol Whey Prot Isolate Straw 2Lb V3	182	2,679.66	3,567.60	887.94	24.9%
20185.793	/Prol Whey Prot Isolate Choc 2LB V3	232	3,283.24	4,754.27	1,471.03	30.9%
20187.793	/Prol Pure Whey Van 2Lb V3	1,054	7,992.22	10,816.19	2,823.97	26.1%
20188.793	/Prol Pure Whey Choc 2Lb V3	1,985	15,264.65	23,082.04	7,817.39	33.9%
20191.793	/Prol Pure Whey Van 5Lb V3	5,569	97,147.93	140,167.72	43,019.79	30.7%
20192.793	/Prol Pure Whey Choc 5Lb V3	2,674	47,757.64	67,912.00	20,154.36	29.7%
20193.793	/Prol Pure Whey Straw 5Lb V3	1,317	22,560.36	32,522.65	9,962.29	30.6%
<b>Total Sales of Recalled Items for 2010</b>			<b>205,266.48</b>	<b>295,389.26</b>	<b>90,122.78</b>	<b>30.5%</b>

In 2011, the gross profit margin that Protein Supplements, Inc. was generating on the recalled products increased slightly to 31.2 percent.

(continued)

**EXHIBIT 26.1 The Lost Profits Analysis** *(continued)***TABLE 5 2011 Gross Profit**

	Material	Invc'd. qty	Cost	Sales	Gross Profit	Gross Profit (%)
10155.793	/Prol Pure Whey Straw 2Lb V3	3,611	28,535.29	61,204.54	32,669.25	53.4%
20127.793	/Prol Adv Whey Prot Straw 2Lb V3	4,260	46,427.00	62,901.39	16,474.39	26.2%
20130.793	/Prol Adv Whey Prot Choc 2LB V3	3,683	41,765.22	59,780.61	18,015.39	30.1%
20134.793	/Prol Adv Whey Prot Van 2Lb V3	2,101	22,900.90	34,533.79	11,632.89	33.7%
20181.793	/Prol Whey Prot Isolate Van 2Lb V3	2,389	35,452.76	50,175.16	14,722.40	29.3%
20183.793	/Prol Whey Prot Isolate Straw 2Lb V3	2,022	29,824.50	42,352.35	12,527.85	29.6%
20185.793	/Prol Whey Prot Isolate Choc 2LB V3	3,232	47,542.72	61,326.56	13,783.84	22.5%
20187.793	/Prol Pure Whey Van 2Lb V3	5,527	43,198.20	89,478.91	46,280.71	51.7%
20188.793	/Prol Pure Whey Choc 2Lb V3	9,811	83,818.75	123,636.16	39,817.41	32.2%
20188.794	/Prol Pure Whey Choc 2Lb V4 HM	2,706	29,576.58	38,831.10	9,254.52	23.8%
20191.793	/Prol Pure Whey Van 5Lb V3	3,709	80,675.12	87,847.46	7,172.34	8.2%
20191.794	/Prol Pure Whey Van 5Lb V4 HM	3,979	103,769.58	110,063.39	6,293.81	5.7%
20192.793	/Prol Pure Whey Choc 5Lb V3	9,620	200,394.50	299,185.98	98,791.48	33.0%
20193.793	/Prol Pure Whey Straw 5Lb V3	5,391	114,089.76	198,961.29	84,871.53	42.7%
<b>Total Sales of Recalled Items for 2011</b>			<b>907,970.88</b>	<b>1,320,278.69</b>	<b>412,307.81</b>	<b>31.2%</b>

Gross profits were forecasted at a margin of 30.9 percent, the average gross profit margin on the recalled products for 2010 and 2011. Therefore, *but for* the actions of Supplement Manufacturing Company, had Protein Supplements, Inc. continued to sell the Supplement Manufacturing Company products, it is our belief that this average gross profit margin could have been maintained into the future. This is shown as follows.

**TABLE 6 Forecasted Gross Profit Margin**

2010	30.5%
2011	31.2%
<b>Average</b>	<b>30.9%</b>

**EXHIBIT 26.1 The Lost Profits Analysis**

We reviewed the financial statements of Protein Supplements, Inc. to determine if there were additional expenses that should be offset against the gross profit margin attributable to selling the recalled products. In our opinion, there were no other incremental expenses that could be directly allocable to these products. Because other products were sold to the same customer base, the other expenses were not avoidable. Therefore, the lost profits were unavailable for Protein Supplements, Inc. to use to cover many of the costs that had been covered using the contribution from the recalled products.

**TABLE 7 Lost Profits**

	9/12/11– 12/31/11	2012	2013	2014	2015
Sales	981,151	2,608,914	2,613,964	2,732,638	2,856,700
Gross Profit %	× 30.9%	× 30.9%	× 30.9%	× 30.9%	× 30.9%
<b>Loss Profits</b>	<b>302,875</b>	<b>805,354</b>	<b>806,913</b>	<b>843,547</b>	<b>881,844</b>

Lost profits were calculated by applying the 30.9 percent gross profit margin to the forecasted sales.

**Mitigation of Damages**

The plaintiff has a duty to mitigate its damages. This means that the plaintiff has a responsibility to do whatever it takes to reasonably overcome the damages caused by the defendant's breach or tort. In determining the plaintiff's lost earnings, the amount of earnings lost as a result of the plaintiff's failure to mitigate its own damages are not recoverable. The damages expert probably should speak to the client's attorney about this.

Returning to the ABC Electronics example previously discussed, the company mitigated its damages by replacing Mr. Smith on January 1, 2015. Had the company not replaced Mr. Smith, its claim for lost earnings might be reduced by the amount of money the replacement salesman could have generated over and above his or her salary and other benefits.

**Period of Recovery**

Because the plaintiff has a duty to mitigate damages, the plaintiff cannot expect to be awarded lost profits from the date of the harmful event until the end of time (although, I have seen some experts forecast damages until the plaintiff's great grandchildren might be born and become president). Somehow, forecasts of lost earnings for the next 62 years may be hard to support. The plaintiff is entitled to recover earnings lost as a result of the defendant's actions for that period of time directly related to those actions. The shorter the period, the easier it is to demonstrate a direct link to the defendant's acts. As the period increases, other factors may be responsible for the plaintiff's losses. These may include general economic conditions, increased competition, poor business judgment, or the plaintiff's failure to mitigate its damages. In the case of the supplement company example, which appears in exhibit 26.1, we relied on the opinion of a branding expert to assist us in the determination of the appropriate period of recovery. Other than in very special circumstances, it is usually difficult to establish the direct link between current earnings and the actions of a defendant more than only a few years into the past. Likewise, lost earnings are equally difficult to project more than a few years into the future without losing a direct link to the cause of the future losses. There are just too many variables that can affect the forecasts. This is where statistical analyses can come in handy if a strong relationship between variables can be shown.

## Variable Cost of Lost Revenues

Once the lost revenues have been determined, the next step is to estimate the variable costs that would have been incurred had the revenues not been lost. For example, assume that a plumbing distributor lost \$350,000 in gross revenues as a result of a breach of an exclusive distribution agreement by one of its major suppliers. Under the agreement, the distributor was to be the exclusive source for the supplier's merchandise in a particular market area. When the agreement was breached, the distributor didn't suffer \$350,000 in damages. Instead, the distributor actually lost revenues of \$350,000 less whatever variable costs (including cost of goods sold) it would have incurred to sell the \$350,000 of merchandise.

For the nonaccountants reading this book, a company's costs are usually divided into fixed and variable categories. Sometimes costs may be semi-fixed or semi-variable. Fixed costs remain the same regardless of how much revenue a company generates. Rent is an example of a fixed cost. You sign a lease and pay the rent whether you produce one widget or 200 widgets. Variable costs, on the other hand, vary with the company's revenues. The higher the company's sales, the higher the variable costs. Cost of goods sold, for example, is a variable cost.

In reality, many costs have both a fixed and a variable component and are referred to as *mixed costs* (semi-fixed or semi-variable—it's like asking, "Is the glass half full or half empty?"). For example, business rent may be a fixed cost assuming the current level of production. Once the level of production increases to a certain point, the existing facility may need to be expanded, thereby raising the rent expense.

Usually, mixed costs tend to be fixed when the damages period is short but exhibit mixed characteristics when the damages period is long. For example, if the defendant failed to supply goods to the plaintiff, which caused a 30-day shutdown of the plaintiff's production line, the rent paid by the plaintiff on its physical plant would probably remain fixed. Rent, therefore, would not be a variable cost saved by the plaintiff as a result of the defendant's actions. On the other hand, if the defendant's failure to supply goods prevented the plaintiff from opening a new production line in a new manufacturing plant, the rent saved by the plaintiff would be a variable cost, which must be netted against the plaintiff's lost revenues.

Determining whether an expense will vary with the level of revenues takes a great deal of judgment. The damages expert will need to analyze each expense item during the damages period and carefully assess whether the expense is fixed or variable. For those that are variable (or are mixed with a variable component), the damages expert will need to try to estimate the amount of the expense that would have been incurred during the damages period if the lost revenues had actually been generated. In many cases, the estimate can be based on historical ratios or percentages. For example, if a company's gross profit percentage has traditionally been 35 percent, it may be reasonable for the expert to estimate that cost of goods sold will be 65 percent (100 percent – 35 percent) of lost revenues.

## Incremental Revenues and Expenses—Not Fixed or Variable

There will be some assignments in which you will have to be concerned about incremental revenues and expenses, rather than variable or fixed expenses. The business may have expenses that would normally be considered variable, but adding revenues may not add all that much in expenses. An analysis from a report that we did is contained in exhibit 26.2. In this assignment, we were asked to critique the work of another expert. Not only will you see the incorrect treatment of incremental expenses but a whole lot of other errors, as well. This is a good example of what not to do in an assignment.



**Exhibit 26.2 Financial Results of Help Desk Company, Inc.**

In order to establish a baseline about Help Desk Company, Inc.'s operational performance, we have summarized the reported profitability as included in Help Desk Company, Inc.'s tax returns from 2005–2009. The 2010 tax return was not provided to us.

**TABLE 1 Comparative Financial Statements for the Years Ended December 31,**

	2005	2006	2007	2008	2009
Total Revenues	\$ 77,631	\$ 846,620	\$ 861,664	\$ 1,071,059	\$ 819,107
Operating Expenses					
Advertising	\$ 60,000	\$ 65,230	\$ 15,578	\$ 7,355	\$ 3,660
Bank Charges	52	5,487	210	1,880	4,642
Charitable Contributions	—	35,000	11,387	16,088	1,700
Depreciation	53,069	6,577	39,604	37,412	33,568
Entertainment	—	35,989	2,948	22,885	—
Officers' Compensation	—	—	—	—	—
Insurance—General	—	2,657	14,958	25,682	23,252
Miscellaneous	—	7,971	11,892	5,276	2,263
Office Expenses	9,941	41,821	12,257	12,887	11,279
Outside Services	15,800	65,922	106,971	145,466	77,485
Penalties	—	—	4,097	4,278	3,190
Rents	24,600	45,101	3,093	24,802	12,400
Repairs and Maintenance	—	—	70,761	21,890	22,000
Salaries & Wages	—	36,962	69,455	113,308	104,404
Taxes — Other	415	20,989	10,032	19,921	33,333
Taxes — Payroll	—	3,540	8,360	9,004	9,221
Travel	21,503	35,580	72,301	30,142	16,460
Utilities	3,632	8,635	48,849	24,660	23,719
Consultation Services	245,825	144,315	135,000	207,668	435,305
Subcontractors	30,000	52,000	76,220	48,635	30,542
Business Development	33,972	33,221	127,166	137,436	72,932
Dues & Subscriptions	—	3,200	13,209	300	700
Other Rent & Royalty Expense	—	5,199	17,755	36,898	40,445
Total Operating Expenses	\$ 98,809	\$ 655,396	\$ 872,103	\$ 953,873	\$ 962,500
Operating Income (Loss)	\$ 78,822	\$ 191,224	\$ (10,439)	\$ 117,186	\$ (143,393)

*(Table continued)*

**Exhibit 26.2 Financial Results of Help Desk Company, Inc. (continued)****TABLE 1 Comparative Financial Statements for the Years Ended December 31, (continued)**

	2005	2006	2007	2008	2009
Other Income					
Interest Income	\$ 1,367	\$ 3,438	\$ 10,092	\$ 998	\$ 249
Rental Income	—	4,982	72,554	97,048	98,038
Sponsor Revenue	—	—	—	25,500	68,500
Sublease Income	—	—	—	15,000	7,100
Other Income	—	—	—	415	93
<b>Total Other Income</b>	<b>\$ 1,367</b>	<b>\$ 8,420</b>	<b>\$ 82,646</b>	<b>\$ 138,961</b>	<b>\$ 173,980</b>
Total Other Expenses	—	8,286	44,943	63,873	53,855
<b>Total Other Income (Expenses)</b>	<b>\$ 1,367</b>	<b>\$ 134</b>	<b>\$ 37,703</b>	<b>\$ 75,088</b>	<b>\$ 120,125</b>
Income (Loss) Before Taxes	\$ 80,189	\$ 191,358	\$ 27,264	\$ 192,274	\$ (23,268)
Income Taxes	8,011	35,512	65,863	80,877	—
<b>NET INCOME (LOSS)</b>	<b>\$ 72,178</b>	<b>\$ 155,846</b>	<b>\$ (38,599)</b>	<b>\$ 111,397</b>	<b>\$ (23,268)</b>

(Source: Help Desk Company, Inc.'s Tax Returns.)

As shown in The Company's tax returns, Help Desk Company, Inc.'s profitability has ranged from a profit of \$155,846 to a loss of \$38,599. On a percentage basis, this range is from 18.41 percent to negative 4.48 percent. The profitability of The Company has not been stable.

Schedule E, Compensation of Officers, on these tax returns does not include any compensation for the 100 percent owner, Bob Smith. This means that if compensation was paid to Mr. Smith., the profit would be lower or the losses would be greater. If Mr. Smith received his compensation in the category called "consultation services," The Company appears to be violating the tax code by failing to pay payroll taxes on these amounts. The small amount of payroll taxes shown in table 1 would be insufficient to account for hundreds of thousands of dollars that are listed as "consultation services." Either way, expenses appear to be understated for The Company.

Our review of the deposition transcripts in this matter has made us aware of the fact that subsequent to the alleged breach of contract, Help Desk Company, Inc. has claimed that it has started to provide help desk services to two other companies. Both the Plaintiff and its expert are using the initial results of these services to support the ability of Help Desk Company, Inc. to generate a profit from its alleged contract with Mobile Services, Inc.

It appears that the requirements for the services provided to these two other companies, on a direct basis, are dissimilar to the requirements to perform help desk services that would have been outlined in the subcontractor agreement that would have been in existence with Mobile Services, Inc. According to the deposition testimony of Jason Parks, the HCI contract called for 12 employees, both full- and part-time, and the Capital Blue Cross documents only required two employees and their supervisors, or four employees in total. The Mobile Services, Inc. contract would have required 7 full-time, Tier 1 help desk employees with adequate coverage for overlap and employee vacancies. Furthermore, the actual scope of the Mobile Services, Inc. contract called for 13 help desk employees, meaning that Help Desk Company, Inc. was to supply only some of the people. These people would have been required to work in a different location than at Help Desk Company, Inc.'s offices in order for proper supervision of the entire help desk team to take place. Our review of the HCI Consulting Services Agreement also appears to provide for more of an outreach (telemarketing) type service as opposed to a true "help desk" service. There appear to be clear differences in the types of services being offered, and as such, there would be a different expectation of the type of individuals who would be required to staff the help desk.

## Exhibit 26.2 Financial Results of Help Desk Company, Inc.

Our review of the Blue Cross documentation indicates that the services offered are also extremely dissimilar from the help desk technical services required by Mobile Services, Inc. Therefore, there is no proper foundation for relying on the services being rendered under this dissimilar contract to help establish a baseline for damages calculations. The end result is that Help Desk Company, Inc. is a “new” business with no experience performing help desk services. This creates a large degree of risk associated with any potential forecasts, as well as The Company’s ability to provide the required services under the alleged contract with Mobile Services, Inc.

Another factor that raises doubt about the comparison with Help Desk Company, Inc.’s current operations is the relatively short time that it has been in operation. There is an inadequate amount of history to rely on because one contract started in April 2010 and the other in November 2010.<sup>1</sup>

### Page 4

The Opposing Expert Report includes four additional categories of expenses that are used to reflect the “Total Help Desk Operational Cost.” The first item, “Hiring and Screening,” is inconsistent with the spreadsheet provided in discovery by Help Desk Company, Inc. Page 12 of the Opposing Expert Report includes \$1,200 per employee for this category. The Opposing Expert Report only includes \$500 per employee and limits this expense, assuming little employee turnover for these low-paid positions.

The paragraph included on this page states the following:

Initial start up costs in year one include screening 13 employees at a projected cost of \$500 each for interviewing, selecting candidates, background checks and follow up towards hiring 3 full time employees and 4 part time employees. After year one, the projection includes at least 2 new hires per year due to employee turnover at a projected cost of \$500 each.

No documentation was provided to support a cost of only \$500 per employee. A review of the limited payroll documentation that was provided to us as part of the discovery in this matter reflects the fact that employee turnover is considerably greater than two employees per year.

According to the 2011 payroll records that were produced, the following 2010 employees were no longer employed by Help Desk Company, Inc.:

George Daniels  
Jennifer Curry  
Jerry James  
Steven Davis  
Cameron Neal  
Christina Samuels  
Barry Johnson

This indicates that employee turnover is much greater than the Opposing Expert Report provides for. It is not a surprise to see low-paid employees turn over at a rapid pace. This understates the expense that Help Desk Company, Inc. would incur relating to replacement personnel.

Later in this critique we will also use the \$1,200 per employee that Help Desk Company, Inc. included in its spreadsheets to recalculate this amount.

### Page 5

The Opposing Expert Report reflects an inconsistency in the number of call center employees from not only the cost data that was submitted to Mobile Services, Inc., but also the requirement of the alleged contract. For example, page 12 of the Opposing Expert Report, is consistent with the spreadsheet provided in discovery by Help Desk Company, Inc. This document includes seven full-time employees. Despite that, the Opposing Expert Report includes only three full-time and four part-time employees that account for seven positions. This would make it impossible to cover the seven employees required for the help desk on a full-time basis. Furthermore, there are no back-up employees listed to cover absences due to vacation, illness, lunch breaks, or other breaks. Therefore, the number of employees is understated, causing not only an understatement of wage expense, but also the cost of fringe benefits for those additional employees.<sup>2</sup>

<sup>1</sup> Jason Parks Deposition, pages 13 and 14.

<sup>2</sup> According to the actual contract, page 8, subsection 6 requires “1 Help Desk Team Lead plus 7 Full-time Desk Agents.” Furthermore, page 9 of this contract also requires: Subcontractor will provide an overlap of 1 hour between shifts of one resource per scheduled shift. Subcontractor will provide coverage over lunch, dinner and break periods.

(continued)

## Exhibit 26.2 Financial Results of Help Desk Company, Inc. (continued)

The possibility of Help Desk Company, Inc. being able to work with only seven full-time employees is highly unlikely. Just a simple issue of covering lunch breaks for seven full-time employees working on a single shift would require additional employees, probably at least three more people based on three separate lunch hours. This still does not account for vacations, sickness, and other employee absences.

In addition to the understated number of employees, the Opposing Expert Report also contains another error on this page. Under the column labeled “Benefits” there is an amount of \$4,800 shown. According to the paragraph under the table on this page, these benefits were based on an average cost of \$400 per month. That means that \$4,800 is merely the cost of one employee ( $\$400 \times 12 = \$4,800$ ) and not the three employees shown as full-time. Not only does the math need to be corrected for all full-time employees (at least 10), but we found the \$400 monthly amount for benefits to be incorrect as well.

We reviewed the invoices provided in discovery in order to determine the reasonableness of the \$400 average cost for the fringe benefits. The Opposing Expert Report includes this analysis on page 8 of that document. We will address this further under the subheading for page 8.

One other item that is highly questionable on page 5 of the Opposing Expert Report are the salaries listed for “Management.” According to a Labor Distribution Report, Jason Parks’ earnings are shown as \$37,000.08 for the period December 27, 2009 through December 25, 2010. This report also reflects only 640 hours worked. According to Mr. Parks’ deposition testimony, he became employed by Help Desk Company, Inc. in August 2009.<sup>3</sup> This means that the payroll report should have included closer to 2,000 hours worked for the year. This could mean that the \$37,000 is for only part of the year. We could not reconcile this difference based on the documents provided by Help Desk Company, Inc.

There is an allocation included on this page for an “Administrative” staff wage allocation that appears to be completely arbitrary because only 5 percent was allocated to this contract. However, there is no explanation about how this was derived. Included in that amount is 5 percent of the “Consultation Services” (discussed previously), which seems to relate to Mr. Smith’s compensation. It seems highly unlikely that only 5 percent of Mr. Smith’s time would be spent on the portion of The Company’s revenues that were expected to generate over \$500,000 per year. In 2009, company revenues were about \$819,000. This means that Mr. Smith was expected to only spend 5 percent of his time on what would amount to almost 38 percent of the total revenue ( $\$500,000 \div \$819,000$ ). This makes little sense. It would seem that an allocation of about 38 percent, based on revenues per business segment, would be more appropriate for this calculation.

### Page 6

The Opposing Expert Report contains an error on this page as well. Real estate taxes should have been \$10,958, rather than \$9,221. Although the rounded figure is unaffected, the figures are incorrect nevertheless. Furthermore, by using the 2009 figures, the Opposing Expert Report ignores the added costs that most likely exist relating to setting up the new help desks. An allocation is done relating to a level of expenses that does not include any expenses for the other two clients that were not picked up until various times in 2010 and not 2009. These amounts exclude at least all additional telephone, utilities, and office expenses related to the actual call centers located on the first floor of Help Desk Company, Inc.’s office building beginning in 2010. This makes these figures unreliable.

### Page 8

As previously discussed, the calculation of employee benefits is incorrect. We reviewed the underlying documentation that the Opposing Expert Report shows in the analysis of this expense that was supplied by Help Desk Company, Inc.

The average premium of \$400 ignores the actual trend that was evident by reviewing the monthly average premiums per employee.<sup>4</sup> In order to estimate the monthly average premium per employee, we used a linear forecast based on the actual figures included in the Opposing Expert Report. This appears as table 2.

<sup>3</sup> Deposition Page 11, Lines 2–3.

<sup>4</sup> The Opposing Expert Report incorrectly labels that column as “Cumulative Weighted Average Hourly Rate.”

**Exhibit 26.2 Financial Results of Help Desk Company, Inc.****TABLE 2 Linear Forecast—Health Benefits**

Period	Number of Employees	Monthly Premium	Average Monthly Premium per Employee
Jan-10			<b>318</b>
Feb-10	4	\$1,246	312
Mar-10	4	1,347	337
Apr-10	4	1,347	337
May-10	4	1,347	337
Jun-10	7	2,357	337
Jul-10	8	3,055	382
Aug-10	8	3,055	382
Sep-10	9	3,392	377
Oct-10	8	3,055	382
Nov-10	8	3,055	382
Dec-10	7	2,718	388
Jan-11	6	2,331	389
Feb-11	6	2,331	389
Mar-11	5	1,943	389
Apr-11	5	1,968	394
May-11	5	1,968	394
Jun-11	6	2,738	456
Jul-11	7	3,137	448
Aug-11	7	3,137	448
Sep-11			<b>447</b>
Oct-11			<b>453</b>
Nov-11			<b>460</b>
Dec-11			<b>466</b>

*(Table continued)*

**Exhibit 26.2 Financial Results of Help Desk Company, Inc.** *(continued)***TABLE 2 Linear Forecast—Health Benefits** *(continued)*

Period	Number of Employees	Monthly Premium	Average Monthly Premium per Employee
Jan-12			472
Feb-12			479
Mar-12			485
Apr-12			492
May-12			498
Jun-12			505
Jul-12			511
Aug-12			518
Sep-12			524
Oct-12			530
Nov-12			537
Dec-12			543
Jan-13			550
Feb-13			556
Mar-13			563
Apr-13			569
May-13			576
Jun-13			582
Jul-13			588
Aug-13			595
Sep-13			601
Oct-13			608
Nov-13			614
Dec-13			621

*(Table continued)*

**Exhibit 26.2 Financial Results of Help Desk Company, Inc.****TABLE 2 Linear Forecast—Health Benefits** *(continued)*

Period	Number of Employees	Monthly Premium	Average Monthly Premium per Employee
Jan-14			627
Feb-14			634
Mar-14			640
Apr-14			646
May-14			653
Jun-14			659
Jul-14			666
Aug-14			672
Sep-14			679
Oct-14			685
Nov-14			692
Dec-14			698
Jan-15			704
Feb-15			711
Mar-15			717
Apr-15			724
May-15			730
Jun-15			737
Jul-15			743
Aug-15			750
Sep-15			756
Oct-15			762
Nov-15			769
Dec-15			775

*(Table continued)*

**Exhibit 26.2 Financial Results of Help Desk Company, Inc.** *(continued)***TABLE 2 Linear Forecast—Health Benefits** *(continued)*

Period	Number of Employees	Monthly Premium	Average Monthly Premium per Employee
Jan-16			<b>782</b>
Feb-16			<b>788</b>
Mar-16			<b>795</b>
Apr-16			<b>801</b>
May-16			<b>808</b>
Jun-16			<b>814</b>
Jul-16			<b>820</b>
Aug-16			<b>827</b>
Sep-16			<b>833</b>
Oct-16			<b>840</b>
Nov-16			<b>846</b>
Dec-16			<b>853</b>
Jan-17			<b>859</b>
Feb-17			<b>866</b>
Mar-17			<b>872</b>
Apr-17			<b>878</b>
May-17			<b>885</b>
Jun-17			<b>891</b>
Jul-17			<b>898</b>
Aug-17			<b>904</b>
Sep-17			<b>911</b>
Oct-17			<b>917</b>
Nov-17			<b>924</b>
Dec-17			<b>930</b>

*(Table continued)*



## Exhibit 26.2 Financial Results of Help Desk Company, Inc.

**TABLE 2 Linear Forecast—Health Benefits** *(continued)*

Period	Number of Employees	Monthly Premium	Average Monthly Premium per Employee
Jan-18			<b>936</b>
Feb-18			<b>943</b>
Mar-18			<b>949</b>
Apr-18			<b>956</b>
May-18			<b>962</b>
Jun-18			<b>969</b>
Jul-18			<b>975</b>
Aug-18			<b>982</b>
Sep-18			<b>988</b>
Oct-18			<b>994</b>
Nov-18			<b>1,001</b>
Dec-18			<b>1,007</b>
Jan-19			<b>1,014</b>
Feb-19			<b>1,020</b>
Mar-19			<b>1,027</b>
Apr-19			<b>1,033</b>
May-19			<b>1,040</b>
Jun-19			<b>1,046</b>
Jul-19			<b>1,052</b>
Aug-19			<b>1,059</b>
Sep-19			<b>1,065</b>
Oct-19			<b>1,072</b>
Nov-19			<b>1,078</b>
Dec-19			<b>1,085</b>

Bolded figures are the result of a linear trendline being calculated continuing the trend established by the actual data.

*(continued)*

**Exhibit 26.2 Financial Results of Help Desk Company, Inc. (continued)**

As the data in table 2 indicates, the trend is much greater than \$400 per month per employee. This is understandable when we look at the cost of health care and health insurance premiums over time. We will recalculate the average annual benefits per employee based on this trend line. The results are as follows for the 10-year projection:

Year	Average Monthly Premium per Employee	Growth Rate
2010	\$ 356	
2011	428	20.19%
2012	508	18.78%
2013	585	15.23%
2014	663	13.22%
2015	740	11.67%
2016	817	10.45%
2017	895	9.46%
2018	972	8.65%
2019	1,049	7.96%

As indicated by the data in table 3, the trend in health insurance premiums is much greater than the 3 percent used in the Opposing Expert Report.

**ONE ADDITIONAL ITEM**

In the overall summary included on page 2, the Opposing Expert Report includes revenues with no expenses relating to a “Project Manager” position. According to the Help Desk Company, Inc. spreadsheets submitted in this matter, this item relates to the lobbying activities that Help Desk Company, Inc. expected to provide for Mobile Services, Inc. No expenses were allocated to these amounts as the Opposing Expert Report indicates in the assumptions that it has accepted management’s representation that there are no other expenses to be incurred by The Company. These assumptions are highly questionable in light of the fact that Mr. Smith testified in his deposition that he was ill. Surely, Mr. Smith’s illness may incapacitate him for periods of time, which will require others to complete his duties with respect to the services to be rendered for Mobile Services, Inc. This not only would potentially add to the expense, but it also raises a doubt about whether his company could have fulfilled its obligations under a seven-year contract with three, one-year extensions.

Despite this statement, economic damages are not intended to provide a windfall to an injured party. Therefore, it is the profit, and not the revenues, that must be considered in determining the alleged damages. If current employees are used to provide these services, they would no longer be available to perform services elsewhere. Therefore, there is a cost for these employees to provide additional services. There are also overhead costs that would most likely increase due to additional services being rendered, such as office expense, telephone, entertainment, automobile, and so on.

According to the Microbilt/Integra benchmarking database, firms in Standard Industrial Classification Code 8743, defined as “Public Relations Services,” reported an operating income of 2.4 percent to 2.9 percent during the years 2006–2010. This data includes 4,000 companies. Even if we accept the notion that Help Desk Company, Inc. can operate more efficiently than the 4,000 companies included in this database, it does not seem likely that the profitability of these services would exceed 15 percent. To support this estimate, we turned to Help Desk Company, Inc.’s 2005 through 2009 tax returns presented earlier in this report.

**Exhibit 26.2 Financial Results of Help Desk Company, Inc.**

	2005	2006	2007	2008	2009
Revenues	\$577,631	\$846,620	\$861,664	\$1,071,059	\$819,107
Operating Profit	78,822	191,224	(10,439)	117,186	143,393
Percentage	13.6%	22.6%	—	10.9%	17.5%

**IMPACT OF CORRECTING THE VARIOUS ERRORS IN THE OPPOSING EXPERT REPORT**

As a result of the various errors that have previously been discussed, table 4 provides a corrected calculation using the model from The Opposing Expert Report of alleged economic damages as suffered by Help Desk Company, Inc. if liability is proven:

**TABLE 4 Recalculation of Lost Profits Based on the Opposing Expert Report**

Contract Year	Help Desk Operating Profit	+	Revenue Earned Manager and Change Analyst	+	Revenue Earned Projected Manager	-	Fixed Overhead Allocation	=	Total Operating Profit
2010	\$ (148,112)		\$ 181,500		\$ 14,775		\$ 33,000		\$ 15,163
2011	(118,134)		186,945		15,218		33,990		50,039
2012	(129,681)		192,553		15,675		35,010		43,537
2013	(140,929)		198,330		16,145		36,060		37,486
2014	(162,488)		204,280		16,629		37,142		21,280
2015	(163,606)		210,408		17,128		38,256		25,674
2016	(175,038)		216,720		17,642		39,404		19,921
Subtotal	\$(1,037,988)		\$1,390,736		\$113,213		\$252,861		\$213,100
2017	(186,533)		223,222		18,171		40,586		14,274
2018	(208,346)		229,919		18,717		41,803		(1,514)
2019	(209,976)		236,816		19,278		43,058		3,061
<b>Total</b>	<b>\$(1,642,843)</b>		<b>\$2,080,693</b>		<b>\$169,379</b>		<b>\$378,308</b>		<b>\$228,921</b>

An explanation of how the figures in table 4 are calculated is required to properly understand the figures. We will address each column separately. The derivation of the "Help Desk Operating Profit" begins with table 5.

(continued)

**Exhibit 26.2 Financial Results of Help Desk Company, Inc. (continued)****TABLE 5 Calculation of Projected Operating Profit on the Help Desk Portion of the Mobile Services, Inc. Contract**

Contract Year	Help Desk Contract Revenue	-	Help Desk Labor Costs	+	Help Desk Operational Costs	=	Help Desk Total Costs	=	Help Desk Operating Profit
2010	\$ 372,400		\$ 476,912		\$43,600		\$ 520,512		\$ (148,112)
2011	383,572		498,556		3,150		501,706		(118,134)
2012	395,079		521,610		3,150		524,760		(129,681)
2013	406,932		544,711		3,150		547,861		(140,929)
2014	419,139		568,227		13,400		580,627		(162,488)
2015	431,714		592,170		3,150		595,320		(163,606)
2016	444,665		616,553		3,150		619,703		(175,038)
Subtotal	\$2,853,501		\$3,818,739		\$72,750		\$3,891,489		\$(1,037,988)
2017	458,005		641,388		3,150		644,538		(186,533)
2018	471,745		666,691		13,400		680,091		(208,346)
2019	485,898		692,474		3,400		695,874		(209,976)
<b>Total</b>	<b>\$4,269,149</b>		<b>\$5,819,292</b>		<b>\$92,700</b>		<b>\$5,911,992</b>		<b>\$(1,642,843)</b>

The data in table 5 reflect the recalculation of the Help Desk Operating Profit. Changes made to the Opposing Expert Report include labor costs and operational costs. Our revisions to these calculations are included in table 6.

**TABLE 6 Calculation of Total Wages**

Year	Total Hours	×	Wage	=	Total Hourly Wages Paid	+	Manager Salaries	+	Administration Staff	=	Total Wages Paid
2010	20,800		\$10.25		\$213,200		\$62,000		\$132,593		\$407,793
2011	20,800		10.56		219,596		63,860		136,571		420,027
2012	20,800		10.87		226,184		65,776		140,668		432,628
2013	20,800		11.20		232,969		67,749		144,888		445,607
2014	20,800		11.54		239,958		69,782		149,235		458,975
2015	20,800		11.88		247,157		71,875		153,712		472,744
2016	20,800		12.24		254,572		74,031		158,323		486,927
2017	20,800		12.61		262,209		76,252		163,073		501,534
2018	20,800		12.98		270,075		78,540		167,965		516,580
2019	20,800		13.37		278,178		80,896		173,004		532,078

**Exhibit 26.2 Financial Results of Help Desk Company, Inc.**

The total number of hours was recalculated to include 10 full-time employees to cover the help desk pursuant to the alleged contract. Because the Opposing Expert Report also included the “Manager Salaries” and “Administrative Salaries” in the calculation of Help Desk Labor, we kept it here, as well. The Administrative Salaries were adjusted from the Opposing Expert Report to include 38 percent of these expenses, rather than only 5 percent. This new percentage was based on the approximate proportion of Mobile Services, Inc.’s revenues to the entire revenues for Help Desk Company, Inc. (based on 2009). We also made one other adjustment: We removed \$200,000 from Mr. Smith’s compensation to lower the amount chargeable in this calculation. We did this to avoid double-counting when we allocated expenses against the “Program Manager” portion of the damages.

After making these adjustments, we also had to adjust fringe benefits, payroll taxes, and workers’ compensation insurance costs that must now include the increased number of people at the newly calculated levels of compensation. We also recalculated the fringe benefits costs based on the data that was provided in table 3.

**TABLE 7 Projection of Help Desk Labor Costs**

Year	Total Wages	+	Number of Employees	×	Annual Benefits per Employee	=	Total Benefits	+	Payroll Taxes	+	Workers’ Compensation (.33 of every \$100)	=	Total Labor Cost
2010	\$407,793		10		\$ 4,269		\$ 42,688		\$25,085		\$1,346		\$476,912
2011	420,027		10		5,131		51,306		25,837		1,386		498,556
2012	432,628		10		6,094		60,942		26,612		1,428		521,610
2013	445,607		10		7,022		70,223		27,411		1,471		544,711
2014	458,975		10		7,950		79,504		28,233		1,515		568,227
2015	472,744		10		8,879		88,785		29,080		1,560		592,170
2016	486,927		10		9,807		98,066		29,953		1,607		616,553
2017	501,534		10		10,735		107,348		30,851		1,655		641,388
2018	516,580		10		11,663		116,629		31,777		1,705		666,691
2019	532,078		10		12,591		125,910		32,730		1,756		692,474

Payroll taxes were calculated as indicated in table 8.

(continued)

**Exhibit 26.2 Financial Results of Help Desk Company, Inc. (continued)****TABLE 8 Payroll Tax Calculation**

Employee	Total Wages	FICA/MED Tax (7.65%)	Number of Employees	Federal Unemployment (0.8% on first \$7,000/Employee)	PA Unemployment (3.5% on first \$8,000/Employee)	Total Unemployment	Total Payroll Taxes
<i>Call Center Operations</i>							
3 FT Employees	\$63,960	\$4,893	3	\$168	\$ 840	\$1,008	\$ 5,901
4 FT Employees	85,280	6,524	4	224	1,120	1,344	7,868
3 FT Floaters	63,960	4,893	3	168	840	1,008	5,901
<i>Management</i>							
1 FT Manager	25,000	1,913	1	56	280	336	2,249
1 FT Project Supervisor	37,000	2,831	1	56	280	336	3,167
<b>Total</b>							<b>\$25,085</b>

Payroll tax expense has been grown by 3 percent in the years subsequent to 2010 in the same manner as the Opposing Expert Report. Workers' compensation has been assumed at \$0.33 per \$100 of wages paid (as assumed in the Opposing Expert Report).

Help desk operational costs were recalculated and are presented in table 9. The revised figures are based on a cost of \$1,200 for the "hiring and screening" of new employees. The Opposing Expert Report reflected only \$500 per individual in this category. Furthermore, the Opposing Expert Report assumed an employee turnover rate of only two people per year. Although we kept this assumption constant, we have already demonstrated the high degree of employee turnover suffered by Help Desk Company, Inc. from 2010–2011.

**TABLE 9 Projected Operational Costs for Help Desk**

Contract Year	Hiring and Screening	Computer Equipment	Office Furniture	Cabling, Electrical, and Miscellaneous	Total Help Desk Operational Costs
2010	\$15,600	\$ 6,000	\$20,000	\$2,000	\$43,600
2011	2,400	500	—	250	3,150
2012	2,400	500	—	250	3,150
2013	2,400	500	—	250	3,150
2014	2,400	6,000	4,000	1,000	13,400
2015	2,400	500	—	250	3,150
2016	2,400	500	—	250	3,150
Subtotal	\$30,000	\$14,500	\$24,000	\$4,250	\$72,750
2017	2,400	500	—	250	3,150
2018	2,400	8,000	2,000	1,000	13,400
2019	2,400	500	—	500	3,400
<b>Total</b>	<b>\$37,200</b>	<b>\$23,500</b>	<b>\$26,000</b>	<b>\$6,000</b>	<b>\$92,700</b>

**Exhibit 26.2 Financial Results of Help Desk Company, Inc.**

Revenues earned for the Manager and Change Analyst, as shown in table 4, were kept consistent with the assumptions used in the Opposing Expert Report. The Revenue Earned for the Project Manager was reduced to account for the expenses associated with The Company's expected lobbying efforts. This has been previously explained in this report.

Fixed Overhead Allocations in the Opposing Expert Report failed to include all expenses, updated expenses, and a proper allocation for the Mobile Services, Inc. help desk operations. We recalculated these items in table 10.

**TABLE 10 Calculation of Fixed Overhead Allocation**

	2009	Est. 2010	Allocation Based on Building Usage	Allocation Based on Operation	Total Allocated Expense
Depreciation Expense	\$21,981	\$ 22,640	33.3%	40.0%	\$ 3,016
Real Estate Taxes	10,958	11,287	33.3%	40.0%	1,503
Insurance	23,252	25,577		38.0%	9,719
Office Supplies and Expenses	11,279	12,407		38.0%	4,715
Telephone and Utilities	23,719	35,579		38.0%	13,520
Total	\$91,189	\$107,490			\$32,473
				<b>Rounded</b>	<b>\$33,000</b>

The Company's operations in 2009 only included lobbying activities. Thus, expenses in that year do not account for any additional expenses generated by help desk operations. As a result, expenses in 2010 must be increased. Overhead expenses in 2009 were increased by the following growth rates:

Depreciation Expense	3%
Real Estate Taxes	3%
Insurance	10%
Office Supplies and Expenses	10%
Telephone and Utilities	50%

The preceding growth rates are an estimate because the 2010 tax return was not provided to us in discovery. The real estate expenses grew due to an inflationary factor, whereas the other expenses would be expected to grow due to the increased business volume of The Company. Telephone and utilities would be expected to grow considerably as a result of the call centers being established.

The 2010 building expense (depreciation expense and real estate taxes) were allocated based on facility usage. The Mobile Services, Inc. help desk operations, according to the Opposing Expert Report, would be located on the first floor of the North Street facility, which is a three-story building located in Fort Myers, Florida. Because the Mobile Services, Inc. help desk would share the first floor with two other call centers, we allocated approximately 40 percent of the first-floor building expenses to the Mobile Services, Inc. help desk operation based on an estimated headcount of the employees.

(continued)

**Exhibit 26.2 Financial Results of Help Desk Company, Inc. (continued)**

Operating expenses (insurance, office supplies and expenses, and telephone and utilities) were allocated based on the Mobile Services, Inc. help desk's contribution to The Company's total revenues (38 percent). We believe that this is a more appropriate allocation of those expenses.

The adjusted calculations reflect such a large difference from the results provided in the Opposing Expert Report that the finding in the Opposing Expert Report would not provide the trier of fact with a useful determination of alleged economic damages suffered by the Plaintiff. Of course, we respectfully defer to The Court to decide upon its usefulness. It should be noted, however, that the preceding calculations are only intended to provide rebuttal calculations based on the information that was made available to us. Because the 2010 financial information was not provided to us, nor used in the Opposing Expert Report, we cannot calculate the alleged damages suffered by Help Desk Company, Inc. within a reasonable degree of economic certainty. However, we believe that the Opposing Expert Report does not meet this important requirement either.

## Should Lost Net Earnings Be Reduced for Income Taxes?

Remember the discussion that we had in the conventional business valuation chapters about pretax and after-tax stuff? Here, it really matters. Although income taxes are considered to be a variable expense, it is usually not subtracted from lost revenues to arrive at lost net earnings. Most commercial lost profits calculations are based on pretax amounts because damages awards are usually taxable to the plaintiff. That is the extent of the tax stuff that I plan to discuss. The damages expert should find out how the jurisdiction of the litigation handles taxes, but don't forget to remember Uncle Sam. If the expert is unsure, he or she should consult with a tax person. At a minimum, ask the client's attorney!

## Prejudgment Interest

Once the lost profits are calculated, the damages expert may need to calculate prejudgment interest. This is intended to compensate the plaintiff for not having the use of the lost profits from the time that the damages were sustained until the recovery of the damages (usually the trial) is made. However, prejudgment interest is not allowed in all jurisdictions. In addition, many attorneys would rather keep the interest out of the calculations, even though they expect the courts to award it. Before computing prejudgment interest, the damages expert should find out from the attorney if he or she should calculate it. The expert also may want to find out if there is a statutory interest rate that is required to be used. I had one case when the statutory rate was 11 percent at a time when interest rates were about 4 percent. The damages recovery was a good investment once the client got past the aggravation of the litigation. Other items that the damages expert should probably speak to the attorney about include when the interest begins to run and should the interest be compound or simple.

## Projected Lost Revenues After Trial

Many times, the damages will extend to after the trial date. This component of the damages involves obtaining estimated future revenue and expense amounts from the plaintiff and reviewing the estimates for reasonableness. In some cases, if financial forecasts are not available from the plaintiff, the damages expert may have to prepare them. Because such estimates are based on events that have not yet occurred, the expert must be careful. This is like doing a discounted cash flow analysis under the income approach. Make sure that the assumptions that enter into the forecast are reasonable. If they are too speculative, the judge may throw them out.

When the damages expert estimates future damages, a two-step approach can be used. First, project the future gross revenues, assuming the breach of contract or tort had never occurred. This projection should include gross revenues but for the defendant's acts. Second, a forecast of the future gross revenues actually expected to be realized should be prepared. This forecast should include the reduced gross revenues that result from the defendant's acts.



## Discounting Projected Lost Profits After Trial to Present Value

After estimating the amount of future lost revenues and variable expenses that relate to the defendant's actions, the damages expert will probably have to discount the projected lost net earnings to present value as of the trial date. This can be done in a number of ways. There is a great deal of controversy about what discount rate should be used in a lost profits case. Some experts prefer to apply a risk-free rate of return (that is, a personal injury type model). Others prefer to include business risk in their calculations (that is, use a business valuation model). The damages expert can use the guidance from chapter 13 to help him or her develop the appropriate discount rate. The only decision that I cannot help the expert with is whether he or she should use a risk-free rate or an equity discount rate. This will depend on the jurisdiction as well as the facts and circumstances of the case.

## Ex-Ante Versus Ex-Post

When performing a lost profits analysis, the damages expert must consider the following:

- What information should be considered in the damages calculation? Only that information that was known or knowable as of the date of the alleged wrongdoing? Or all information that was available up through the date of the trial?
- Should the damages be measured as of the date of the alleged breach or as of the date of the trial?

The preceding questions highlight the primary differences between the ex-ante and the ex-post methodologies to calculating damages.

The term *ex-ante* is Latin for "before the fact." Under the ex-ante methodology, only that information that was known or knowable as of the date of the alleged breach is to be considered. All future lost profits are discounted back to present value as of the date of the alleged breach. In other words, after performing the damages calculation, you will have calculated a lump sum (the present value of all future lost profits) as of the date of the alleged breach. Depending on the jurisdiction, prejudgment interest can be applied to this lump sum to reflect its present value as of the date of the trial. The known or knowable concept behind the ex-ante methodology to calculating damages is similar to the concept used in business valuation.

As an example, consider an economic damages assignment in which a contract was breached on November 15, 2014. The trial date for this assignment is February 12, 2017. Under the ex-ante methodology, only that information that was known or knowable as of November 15, 2014, is to be considered in the analysis. When projecting future lost profits, the starting point for the forecast and the measurement date for the damages calculations would also be November 15, 2014. In other words, all future lost profits would be discounted back to November 15, 2014, resulting in a total damages figure as of that date. Once this damages figure is calculated, depending on the jurisdiction, prejudgment interest would be applied to this amount up until the February 12, 2017 trial date.

An argument for the use of the ex-ante methodology is that it accounts for the various risks, uncertainties, and circumstances that existed at the time of the alleged wrongdoing. In the preceding example, the plaintiff could have owned an asset as of November 15, 2014, that could have been sold for cash. Therefore, in order to make this individual whole, an argument can be made that the plaintiff would have to be compensated in such a way that awards him or her the value of the damaged asset as of November 15, 2014, plus interest. Events that occurred subsequent to November 15, 2014, may not be relevant because the plaintiff could have exchanged the damaged asset for cash prior to these events taking place. In addition, by determining the value as of the date of the breach, the damages expert is probably incorporating the various risks, expectations, and uncertainties into the damages figures.

The ex-ante methodology also prevents the defendants from attempting to minimize the amount of damages by destroying the value of the asset in question. For example, in a case involving lost business value, the defendants could intentionally perform actions against the best interests of its shareholders in order to lower the value of the company. If information after the date of the alleged wrongdoing is to be considered, these destructive actions would lower the amount of damages due to the plaintiff. By definition, the ex-ante

methodology does not factor in information that was not known or knowable as of the date of the alleged wrongdoing so these actions by the defendant would not be considered in the damages process.

The most apparent disadvantage of applying the ex-ante method is the fact that you would be ignoring what actually happened in the marketplace between the date of the alleged breach and the date of the trial. This can be problematic, especially when pertinent information subsequent to the alleged breach becomes available such as a severe economic downturn, which adversely affects the business, or a sale of the company, at a significant premium over its fair market value. These are just some of the issues that could potentially arise when applying the ex-ante methodology to calculating damages.

The term *ex-post* is Latin for “after the fact.” The ex-post methodology allows all information that is known or knowable up until the date of trial to be considered. Under this methodology, lost profits are measured as of the date of the trial. In most instances, the damages expert will have pretrial lost profits (lost profits that occurred before the trial date) and post-trial lost profits (lost profits that occurred after the trial date). Depending on the jurisdiction, prejudgment interest would be applied to pretrial lost profits up until the date of the trial, while post trial lost profits would be discounted back to the date of the trial.

In the case of an economic damages assignment in which a breach of contract took place on November 15, 2014, with a trial date of February 12, 2017. Under the ex-post methodology, all information that was available up until the February 12, 2017, the trial date is to be considered. As is the case with the ex-ante approach, the starting point for the lost profits forecast would be November 15, 2014. However, the measurement date for the damages would be as of the February 12, 2017, the trial date. Pretrial lost profits would be those that occurred between November 15, 2014, (the date of the breach) and February 12, 2017 (the trial date). Prejudgment interest would be applied to these amounts up until the trial date. Post-trial lost profits would be those lost profits that occurred after the February 12, 2017 trial date. These amounts would be discounted back to present value as of the February 12, 2017 trial date.

An argument in favor of the ex-post methodology is that it gives the damages expert the luxury of 20-20 hindsight. The expert can make the plaintiff whole by calculating a damages award that provides him or her the actual economic benefits that were generated by the damaged asset during the period in question. All information up until the trial date can be considered, which removes some of the speculation associated with the damages figures.

The disadvantage of the ex-post methodology is that it allows the defendant to destroy the value of the damaged asset in order to minimize the amount of damages that could be awarded to the plaintiff. The ex-post methodology also does not account for the risks and uncertainties involving the economic benefits that would expect to be generated by the damaged asset at the time of the alleged wrongdoing. For example, let’s again assume that at the time of the alleged wrongdoing, the plaintiff held an asset that could be exchanged for cash. The value of this asset as of that date would be the economic benefits that it would be expected to generate over its economic life at that particular point in time. It may not be proper to incorporate information subsequent to the alleged wrongdoing into this value.

In some instances, it may be appropriate to apply a hybrid approach. In this instance, as is the case with the ex-ante method, all future lost profits are discounted back to the date of the alleged breach. However, like the ex-post methodology, all information that was available up to the date of the trial can be considered. In other words, a hybrid approach allows for the use of ex-post information, while using an ex-ante measurement date. A hybrid approach might be appropriate in instances in which it is determined that the economic benefits that were actually generated by the contract during the period in question cannot be ignored.

Referring back to our original example, under the hybrid approach, all information that was available as of the February 12, 2017 trial date could be considered. However, the measurement date for the damages would still be as of November 15, 2014.

The differences between the ex-ante, ex-post, and hybrid approaches relate to the use of information subsequent to the alleged breach, the date in which damages are calculated, and the discounting of future

damages. Whether or not to use the ex-ante, ex-post, or hybrid approach will depend on the facts and circumstances of the particular case. No single approach will be appropriate in all instances. Before selecting which approach to use, the damages expert should have a clear understanding of the facts of the case and all relevant case law in the jurisdiction of the litigation.

## Don't Forget to Check the Lost Profits Computation for Reasonableness

After completing the last step, the damages expert should have an idea of the damages involved in the case. Before reporting the results to the client and the client's attorney, however, he or she must review the results of the computations and make sure that the results are reasonable. After all, the expert may have to defend the computations and his or her underlying assumptions under aggressive cross-examination from the opposing attorney if the case goes to trial.

## Other Situations

Sometimes the damages expert may be faced with more than just a lost profits calculation. The entire business may have been destroyed. Other times, the expert may have a relatively new business that has been affected by a defendant. Here are some tips about those situations.

### Destruction of a Business

If the business has been completely destroyed, most courts have ruled that the proper measure of damages is the fair market value of the business on the day of the loss. The theory behind this rule is that the plaintiff who recovers damages equal to the value of the business has, in effect, sold the business to the defendant. The plaintiff should not be able to recover future lost profits, as well as the value of the imputed sale.

In this instance, the damages expert will most likely be asked to value the business. Use all of the stuff that was explained in the earlier chapters of this book to get there. If it's already been forgotten, re-read it!

### Start-Up Businesses

In a lost profits case, the plaintiff's damages must be proven to a reasonable certainty and may not be based merely on speculation or conjecture. Most new business ventures fail. Accordingly, the *new business rule* generally precludes a start-up business from recovering lost profits, because there is usually no evidence that the business would have been able to generate a profit, *but for* the defendant's actions.

The new business rule does, however, have some exceptions. Some of the more common exceptions include the following:

- If the new business has begun operations, it may be able to demonstrate that it is capable of producing revenues and profits. If this is the case, its projection of lost revenues and profits may be based on more than mere speculation.
- If the new business is a franchise operation or a new location of an existing business, it may be able to demonstrate the historical revenue and profit results of similar franchises or locations. If the plaintiff has a demonstrated track record of success with similar endeavors, its projection of profits lost from the new business may rise to the level of a reasonable certainty.
- If the new business would have enjoyed a competitive advantage over existing businesses in the industry, projecting this advantage in terms of lost profits over and above existing competitors' results of operations may be accepted as reasonable. Any such projection should be limited to the period of time it would have taken the competition to "catch up" to the new business.

If the damages expert represents the plaintiff, he or she must be extremely creative to overcome the new business rule. All financial data that implies that the plaintiff's new business could have made a profit should be referred to and relied upon in projecting the lost profits of a start-up business. A list of factors that damages experts should consider in assessing the likelihood of the plaintiff's success is contained in box 26.3.

A lost profits analysis for a software start-up company is included in exhibit 26.3. In this instance, we determined that the actions of the defendant's in this matter caused a total destruction of the plaintiff's business and, as a result, lost business value was the appropriate measure of damages. As you will see in this example, we received an extremely aggressive forecast from management and had to perform a thorough analysis to determine the reasonableness of management's assumptions. It should be noted that in this assignment, the software company had recently completed a sale of Series A preferred shares to a group of unrelated investors. Therefore, we were able to use this sale of preferred shares as the basis for a market approach to substantiate the indication of value derived using the income approach.

**BOX 26.3****Factors to Consider in Assessing the Likelihood of the Plaintiff's Success**

- The plaintiff's business plan
- The availability of the required capital for the business
- The plaintiff's prior experience in the area
- The plaintiff's level of expertise
- The plaintiff's subsequent experience
- Barriers to entry in the industry
- The quality of the available records
- The economy in which the business operates
- The experience of other similarly situated businesses

(Source: Richard A. Pollack et. al., AICPA Practice Aid No. 06-4, Calculating Lost Profits (2006): 51.)

**Exhibit 26.3 Lost Profits or Lost Value?**

In early 2013, as Software Startup was positioning itself for growth, management decided to raise some capital by selling shares of preferred stock to investors. In order to accomplish this, management had prepared the following forecast that was shared with potential investors.

Revenues	2013	2014	2015	2016	2017
Clients (Traditional)	100	200	300	400	500
Average Fee (Traditional)	\$ 30,000.00	\$ 30,000.00	\$ 30,000.00	\$ 30,000.00	\$ 30,000.00
<b>Total Fee (Traditional)</b>	<b>\$ 3,000,000.00</b>	<b>\$ 6,000,000.00</b>	<b>\$ 9,000,000.00</b>	<b>\$ 12,000,000.00</b>	<b>\$ 15,000,000.00</b>
Clients (New Industry)	\$ —	20	100	200	400
Average Fee (New Industry)	\$ —	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00
<b>Total Fee (New Industry)</b>	<b>\$ —</b>	<b>\$ 160,000.00</b>	<b>\$ 800,000.00</b>	<b>\$ 1,600,000.00</b>	<b>\$ 3,200,000.00</b>
<b>Annual Revenue</b>	<b>\$ 3,000,000.00</b>	<b>\$ 6,160,000.00</b>	<b>\$ 9,800,000.00</b>	<b>\$ 13,600,000.00</b>	<b>\$ 18,200,000.00</b>
<b>Annual Expenses</b>	<b>\$ 773,400.00</b>	<b>\$ 1,329,650.00</b>	<b>\$ 1,949,522.50</b>	<b>\$ 2,654,811.13</b>	<b>\$ 3,352,025.93</b>
<b>NET INCOME</b>	<b>\$ 2,226,600.00</b>	<b>\$ 4,830,350.00</b>	<b>\$ 7,850,477.50</b>	<b>\$ 10,945,188.88</b>	<b>\$ 14,847,974.07</b>

On February 13, 2013, management made a presentation to potential investors for a Series-A Preferred unit offering. Because this forecast was included as part of a presentation to potential investors, we analyzed this forecast as a starting point in order to perform the income approach. Management's assumptions in this forecast were as follows:

- Traditional clients would increase from 100 in 2013 to 500 in 2017.
- Traditional clients would pay an average fee of \$30,000.
- The Company would break into a new industry in 2014. Clients in this new industry would grow from 20 in 2014 to 400 in 2017.
- Clients in the new industry would pay an average fee of \$8,000.
- Operating expenses were forecast based on management's estimated new hires and other general and administrative expenses necessary to achieve projected growth.

**Exhibit 26.3**

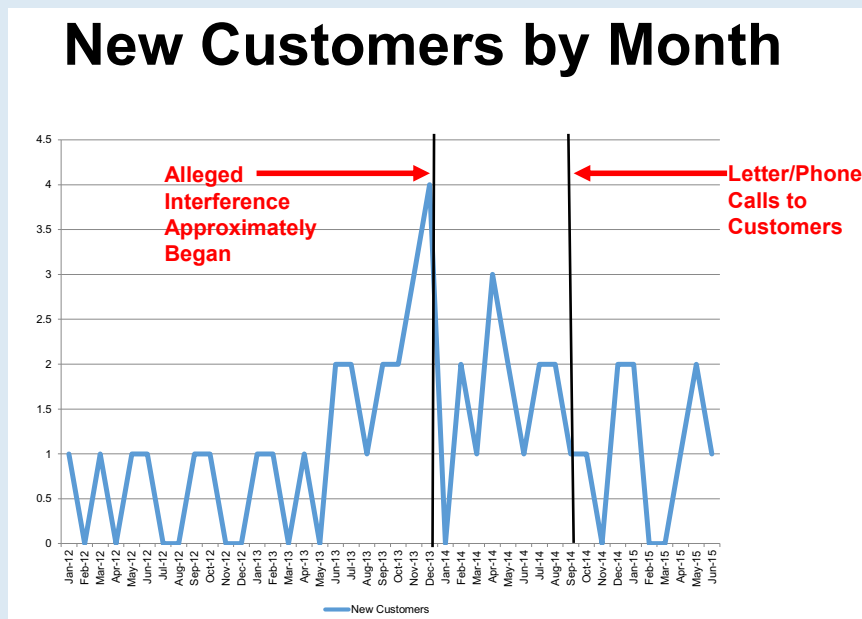
We tested the assumptions that appeared in management’s forecast by analyzing the historic trends in new customers obtained in the months leading up to September 30, 2014. In particular, we calculated several moving averages over various periods of time to determine the trends in the number of new customers that Software Startup was generating on a monthly and quarterly basis. We performed these calculations on a monthly and quarterly basis so that we had enough data points to provide a reasonable statistical basis for our analysis. Of particular note was the growth that was taking place over the last 12-month period prior to the problems with the Defendant.

The monthly new clients being picked up by Software Startup were as follows:

**TABLE1 New Customers By Month**

Month	New Customers	Month	New Customers	Month	New Customers
Jan-13	1	Jan-14	0	Jan-15	2
Feb-13	1	Feb-14	2	Feb-15	0
Mar-13	0	Mar-14	1	Mar-15	0
Apr-13	1	Apr-14	3	Apr-15	1
May-13	0	May-14	2	May-15	2
Jun-13	2	Jun-14	1	Jun-15	1
Jul-13	2	Jul-14	2		
Aug-13	1	Aug-14	2		
Sep-13	2	Sep-14	1		
Oct-13	2	Oct-14	1		
Nov-13	3	Nov-14	0		
Dec-13	4	Dec-14	2		

Graphically, this appears as follows:

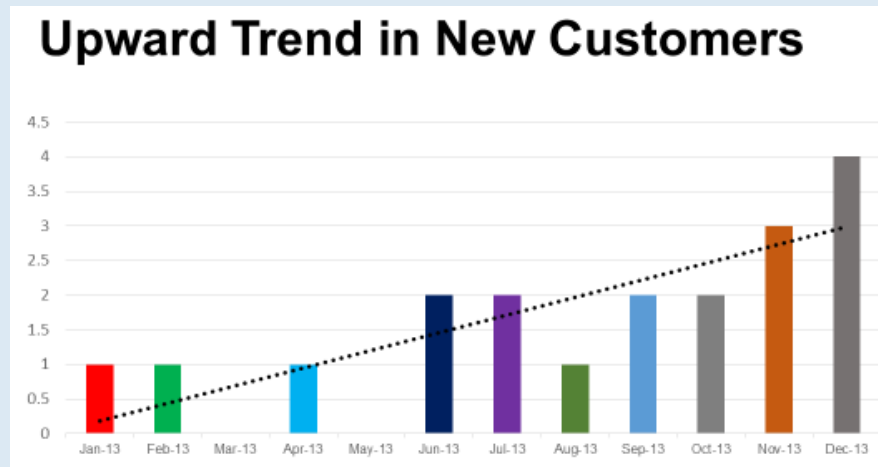


(continued)

**Exhibit 26.3** (continued)

As illustrated in the preceding graph, Software Startup was in the midst of a growth spurt at the time that the Defendant began interfering with its business. An immediate impact can be seen regarding the picking up of new customers by Software Startup. The final decline occurred when the Defendant began its campaign to contact Software Startup’s customers by letter or telephone about “illegal activities” being alleged against Software Startup. The Company’s ability to pick up new customers not only slowed down considerably, but it was only smaller, fee-paying customers that came on board. This has sent Software Startup into an unrecoverable downward spiral.

The trend in new customers can be seen in the following graph.



As the dotted line indicates, during 2013, Software Startup was on a significantly upward trend. In fact, although we thought that management’s projections used for its investor presentation may have been aggressive, the trend indicates that management may have had a good indication of the market and its ability to bring on new customers.

We calculated moving annual averages, this time using only the 2013 figures, and the forecast that results from that time period indicates the following:

Time Period	Annual Trend
2 Month Moving Average	44
3 Month Moving Average	40
4 Month Moving Average	37
5 Month Moving Average	34
6 Month Moving Average	32
7 Month Moving Average	31
<b>8 Month Moving Average</b>	29
<b>9 Month Moving Average</b>	27
<b>10 Month Moving Average</b>	26
<b>11 Month Moving Average</b>	24
<b>12 Month Moving Average</b>	23

**Using moving averages to measure the trend in new customers**

**Exhibit 26.3**

The annual trend in new customers is heavily skewed when the moving average is shorter due to the growth that was taking place towards the end of 2013. We used the longer time periods to generate our own forecast for Software Startup for the determination of lost value of the company. Our assumptions were as follows:

- Traditional client growth was increased based on the 8–12 month moving average analysis.
- The average fee was increased by 5 percent per year based on historic levels.
- Assumed that Software Startup would not generate revenues from clients from the new industry because The Company has no experience in this field.

Our revenue forecast appears as follows.

	LTM 2014	2015	2016	2017	2018	2019
Clients	35	58	82	108	135	164
Client Growth		23	24	26	27	29
Average Fee	\$ 26,985	\$ 28,334	\$ 29,751	\$ 31,238	\$ 32,800	\$ 34,440
Revenues	\$944,471	\$1,643,380	\$2,439,569	\$3,373,745	\$4,428,040	\$5,648,211

The revenue forecast adds a slower customer growth trend than management forecasted in its own investor presentation. We also grew the average fee by 5 percent per year, a growth rate that was considerably less than the actual growth in the average fees being experienced by Software Startup.

We forecasted operating expenses using benchmark data from companies in the same industry as Software Startup. Because Software Startup was a relatively young company, we did not feel that it would be prudent to use The Company's actual expense structure to forecast future operating expenses. Historic expenses included many expenses that were incurred as a startup that would most likely not be repeated prospectively. Because management's forecast included many expenses that were based on much greater revenue growth, we also did not feel that this would be appropriate to use in this forecast. Therefore, operating expenses were forecast using the Risk Management Association's *Annual Statement Studies* (RMA).

In this instance, we determined that Software Startup's appropriate industry classification code was North American Industry Classification System Code 518210: Data Processing, Hosting and Related Services. The RMA data contained 34 companies with sales ranging from \$1 million to \$3 million and 31 companies with sales ranging from \$3 million to \$5 million. The only item that we segregated was depreciation expense because we determined that the difference between the RMA data and Software Startup's actual fixed asset depreciation was too great to use the benchmarking data for. The result would have been skewed profitability.

The following chart presents our estimation of operating expenses using the benchmark data.

**TABLE 3 Operating Expenses (Based on Industry Benchmark Data)**

	2015	2016	2017	2018	2019
Revenues	\$1,643,380	\$2,439,569	\$3,373,745	\$4,428,040	\$5,648,211
G&A Expenses (RMA)	1,452,748	2,156,579	3,019,502	3,963,096	5,032,556
RMA (SG&A Less Depr.)	88.4%	88.4%	89.5%	89.5%	89.1%

(continued)

**Exhibit 26.3** (continued)

This results in a determination of profitability as follows:

**TABLE 4 Income Statement Forecast**

	2015	2016	2017	2018	2019
Sales	\$1,643,380	\$2,439,569	\$3,373,745	\$4,428,040	\$5,648,211
Operating Expenses	1,452,748	2,156,579	3,019,502	3,963,096	5,032,556
EBITDA	\$ 190,632	\$ 282,990	\$ 354,243	\$ 64,944	\$ 615,655
Depreciation	13,185	13,185	13,185	13,185	13,185
<b>New Operating Profit</b>	<b>\$ 177,447</b>	<b>\$ 269,805</b>	<b>\$ 341,058</b>	<b>\$ 451,759</b>	<b>\$ 602,470</b>

Because Software Startup operates as a Limited Liability Company, no taxes would be paid at the enterprise level. Therefore, we have not included taxes in the forecast. Using a discount rate of 14.6 percent, calculated using a classic build-up method, we determined the value of Software Startup to be as follows under the income approach:

**TABLE 5 Indication of Value**

	Net Income	14.6% PV Factors	PV Net Income
2015	\$ 177,447	0.9341	\$ 165,753
2016	269,805	0.8151	219,918
2017	341,058	0.7113	242,595
2018	451,759	0.6207	280,470
2019	602,470	0.5416	326,298
Terminal Value	7,425,793	0.5416	4,021,810
<b>Market Value of Invested Capital</b>			<b>\$5,256,780</b>
Less Interest Bearing Debt			(27,716)
<b>Indication of Value</b>			<b>\$5,229,064</b>
<b>Rounded</b>			<b>\$5,200,000</b>

These types of assignments can be extremely time consuming, and it may be very difficult for the damages expert to estimate fees. I know that none of my clients are ever happy with the concept of giving me an open checkbook, but other than charging on an hourly basis for our time, it is sometimes impossible to know how much time you will spend on the analysis. The damages expert needs to be very careful that he or she does not get trapped into quoting a fixed fee when there is a large unknown such as how much time will be required to perform the assignment. The expert may find that the job becomes a real loser.



## Lost Profits or Lost Business Value?

A topic that has been up for debate among damages experts is the relationship between lost profits and lost business value. A lost profits analysis and the income approach to business valuation have similar principles. Both involve forecasting future economic benefits and discounting them to present value using a rate of return reflective of the riskiness of the benefits stream. However, these two measurements of damages will often be different for a variety of reasons. These differences primarily lie in the stream of economic benefits, period of damages, discount rate, the treatment of taxes, and the use of post-valuation date information.

A major difference between a business valuation and a lost profits analysis lies in the economic benefits stream that is being forecast into the future. In a business valuation, the forecasted economic benefit stream is usually the net cash flow or the net earnings of the entire business that a buyer would expect the company to generate prospectively. The revenues generated by the business are offset by all variable and fixed expenses that the business would likely incur as a going concern. In a lost profits analysis, the economic benefits stream represents only that income lost by the plaintiff *but for* the actions of the defendant, mitigated by the costs that would need to be incurred in order to achieve that level of income. Oftentimes, with a lost profits calculation, only those avoided variable expenses would be used to offset the lost revenues because fixed costs would have been incurred regardless of whether the business was damaged. There are some instances in which it may be appropriate to include fixed costs in a lost profits calculation. Examples include a lost profits calculation for a start-up operation with no operating history or an instance in which the acquisition of additional office space, equipment, and so on is needed to achieve the projected revenues for the damaged asset.

Once the economic benefits stream is forecast, the next question becomes, how long would the plaintiff continue to receive these benefits? In a business valuation, economic benefits are forecast until the business reaches stability. Once the business reaches stabilization, a terminal value is calculated, which represents the value of the company's stabilized operations into perpetuity. The damages period for a lost profits analysis depends on the facts of the case and the relevant case law in the jurisdiction of the litigation but is usually calculated over a finite period of time. For example, the time period for a lost profits calculation can be the life of the contract or the estimated economic life of the damaged asset. In these instances, the present value of the future lost profits will typically not include the value of a perpetual stream of income.

When performing a business valuation, the discount rate is based on the cost of equity or the weighted average cost of capital for the entire company. The discount rate is the required rate of return reflecting the risk of not achieving the projected benefits stream. Although this same concept can often apply to lost profits calculations, it is not always the case. Some jurisdictions require that future lost profits be discounted to present value using a risk-free rate. The damages expert should seek legal guidance to assist himself or herself in determining the appropriate manner in which to discount future lost profits back to present value.

Another difference that can arise relates to the treatment of taxes. Damages awards to the plaintiff are usually taxable and, as a result, it may not be appropriate to tax affect the earnings in a lost profits calculation. In contrast, a business valuation in a litigation setting involves calculating the lost value to a partner, member, or shareholder. In some instances, the available earnings or cash flow available to the owner of a business interest will be received after payment of federal and state income taxes. Nevertheless, the damages expert should also seek legal guidance regarding the treatment of taxes.

Lastly, the use of post valuation date information differs between a business valuation and a lost profits analysis. A business valuation typically involves an ex-ante methodology, whereas a lost profits analysis frequently involves an ex-post methodology.

There is another issue that is constantly coming up for debate among damages experts as we meet at the local tavern. That issue is whether or not the present value of the lost profits can exceed the value of the business. Some experts argue that lost profits damages can exceed the value of the business, whereas others

have taken the opposite position. Based on the differences between a business valuation and a lost profits analysis discussed previously, it is clear that the value of the business and lost profits damages can differ and, in some circumstances, it is possible that the present value of lost profits may be higher. However, some argue that the value of a business interest is the present value of the future economic benefits that the owner can receive from his or her interest. As a result, if a plaintiff is awarded damages that exceed that value, he or she would be receiving an award greater than the value of what he or she lost. So, the answer to whether or not lost profits damages can exceed the value of the business is “it depends.” The relationship between lost profits damages and business value depends on the facts and circumstances of the case and the relevant jurisdictional case law.

## Other Types of Damages Measurements

A damages expert may need to calculate other types of damages that do not include commercial lost profits or lost business value. These types of damages can include such items as out-of-pocket expenses and personal economic damages related to lost compensation. There are others, but this book is already long enough without adding more pages to it.

## Out-of-Pocket Expenses

Oftentimes, a plaintiff may have incurred out-of-pocket expenses related to the issue that caused the economic damages. For example, the plaintiff could have incurred various costs related to construction, financing, advertising, and labor in preparation for the launch of a venture that the defendant interfered with. In these instances, the damages expert may need to accumulate the out-of-pocket expenses to be reimbursed as part of the damages in order to make the plaintiff whole.

When calculating out-of-pocket expenses, the damages expert should always try to obtain a sufficient amount of supporting documentation and not merely rely on the client’s say-so. This documentation can include invoices, canceled checks, receipts, bank statements, wire transfer confirmations, or any combination of these documents. The damages expert should have enough documentation to show that the expense was legitimate and actually incurred by the plaintiff. Because out-of-pocket expenses occur before the trial date, it is often appropriate to apply prejudgment interest to these expenses through the trial date.

In some jurisdictions, the plaintiff is allowed to claim lost profits and out-of-pocket expenses, whereas other jurisdictions do not allow the plaintiff to claim both. Whether or not to account for out-of-pocket expenses as a separate item or to combine it with lost profits damages depends on the facts and circumstances of the case and the relevant jurisdictional case law. The damages expert should seek legal counsel to determine how to deal with out-of-pocket expenses.

## Personal Economic Damages

A damages expert may be asked to calculate economic damages for an individual related to a number of different circumstances, including but not limited to, medical malpractice, wrongful termination, sexual discrimination, personal injury, employment discrimination, and so on. When calculating personal economic damages, the damages expert must quantify the economic losses, net of any applicable mitigation that has been suffered by the plaintiff. Examples of the various economic and monetary losses in personal damages cases appear in box 26.4.

### BOX 26.4

#### Economic and Monetary Losses in Personal Damages Cases

- Earnings
- Fringe benefits
- Other income, costs, or both
- Household services that can no longer be performed
- Medical and rehabilitation costs
- Personal consumption

(Source: AICPA Practice Aid No. 98-2, Calculation of Damages From Personal Injury, Wrongful Death, and Employment Discrimination (1999): 6.)

A personal economic damages assignment usually begins with an information-gathering stage. For example, in the case of a wrongful termination claim, the damages expert should obtain documentation, such as employment contracts, personal tax returns, and W-2 forms, to determine the plaintiff's historical earnings. The expert should also obtain information on the types of fringe benefits that the plaintiff received from his or her employer. Ideally, enough information should be collected so that the expert can identify trends in the plaintiff's historical earnings.

If possible, the employment history should also be obtained so that a review of past wages can be analyzed from the standpoint of raises due to promotions versus merely cost-of-living increases. A list of the types of data that are generally obtained for any personal damages engagement is included in box 26.5.

Depending on the type of damages suffered by the plaintiff, the damages period for a personal economic damages assignment is usually the plaintiff's life expectancy (how long the individual is expected to live) or work-life expectancy (how long the individual is expected to work). Information related to the life expectancy of an individual (or, in some cases, the joint life expectancy of two individuals) can be found in various sources, including but not limited to, the IRS, Bureau of Labor Statistics, and various state publications. Information related to the work-life expectancy of an individual can be found in various scholarly journals related to forensic economics.

When calculating personal economic damages, there are various factors that should be considered in the calculation of lost earnings. These include the following:

- Historical actual annual earnings of the plaintiff before the injury
- Historical information regarding the plaintiff's job positions, performance ratings, salary, and benefit information, including information on positions held before the position at the date of the loss incident
- The plaintiff's employment status before the injury
- Actual or expected occupation or position, including likelihood that the plaintiff would have enjoyed future advancement
- Information concerning the efforts extended by the plaintiff to find alternative employment
- Actual or expected educational level of the plaintiff
- Actual earnings of individuals working in comparable employment positions
- Actual earnings of individuals working in similar industries<sup>1</sup>

A personal damages assignment may require the damages expert to forecast the plaintiff's economic and monetary losses into the future. In forecasting future earnings or losses to the plaintiff, the expert can use many of the forecasting methods referenced in chapter 8 of this book, such as trend line models and historical averages. In the case of wrongful termination claims, employment contracts, if any, may also provide guidance to what the plaintiff's earnings would have been going forward. In certain situations, the expert may be able to obtain the payroll records or payroll chart that pertains to comparable positions in the same company. Sometimes, the plaintiff's compensation could be a function of the company's financial performance. If this is the case, the expert should get the financial records from the employer and attempt to establish some sort of relationship between the employer's financial performance (perhaps revenues or earnings) and the plaintiff's compensation.

**BOX 26.5****Types of Information Generally Obtained for Any Personal Damages Assignment**

- Name of plaintiff
- Date of birth, race, and sex
- Date of injury, death, or incident
- Educational level of plaintiff
- Professional licenses or certifications held by plaintiff
- Marital status of plaintiff
- Spouse's name and date of birth
- Income tax returns
- Forms W-2 and 1099
- Personal employment records
- Educational records
- Medical records
- Vocational report
- Report of independent medical examiner
- Depositions
- Lawsuit complaint or petition; pleadings
- Report of opposing experts

(Source: AICPA Practice Aid No. 98-2, Calculation of Damages From Personal Injury, Wrongful Death, and Employment Discrimination (1999): 15.)

<sup>1</sup> AICPA Practice Aid No. 98-2, *Calculation of Damages From Personal Injury, Wrongful Death, and Employment Discrimination* (1999): 7.

Once lost wages and fringe benefits are calculated, the damages expert should consider mitigation of the damages by (1) all compensation that the plaintiff actually earned or costs that the plaintiff may have saved during the damages period and (2) in some instances, all compensation that the plaintiff could receive from obtaining alternative employment. Compensation and wage growth information related to alternative employment can be obtained from industry salary surveys, salary websites, and postings of similar jobs, as well as from employment experts. When calculating mitigation, it may be appropriate to make an assumption about how long it would take the plaintiff to find new employment, particularly in an unfavorable job market.

Once all economic and monetary losses, net of all applicable mitigation, has been forecast, the damages expert would then discount these amounts to present value. Experts often use risk-free rates to discount lost compensation as measured by U.S. Treasury securities. The assumption here is that the plaintiff has the ability to earn a rate of interest on his or her earnings from the safest investments. As is the case with a business valuation, the discount rate should reflect a rate of return reflective of the investment horizon. For example, if the plaintiff has a long (short) work-life expectancy, long- (short-) term Treasury bonds should be used. Another factor to consider is how interest rates are expected to change going forward. In order to account for anticipated interest rate fluctuations, it may be appropriate to calculate a historical average Treasury rate as opposed to using the rates that are currently present in the marketplace.

The plaintiff may have incurred out of pocket costs such as job search costs, commuting costs, or other out of pocket expenses. Depending on the jurisdictional case law, the plaintiff may be able to claim these expenses plus prejudgment interest in addition to other economic and monetary losses suffered.

There are many cases in which a working shareholder of a business would want to claim lost profits or lost business value related to his or her ownership interest in the business, as well as lost wages and fringe benefits. In these instances, damages experts will be asked to calculate commercial damages related to either lost profits or lost business value for a working shareholder, as well as personal damages related to wrongful termination. These situations can be tricky due to the interaction between officer's compensation and business value. If the damages expert determines that the market rate of compensation for the plaintiff is rather high, this will result in a lower value for his or her lost profits damages or business interests.

An example of a personal economic damages assignment is presented in exhibit 26.4. This assignment was a wrongful termination claim and involved the forecasting of lost wages and fringe benefits, as well as various commuting costs and other expenses.

## EXHIBIT 26.4 Damages Related to a Wrongful Termination Claim

### BACKGROUND

According to the allegations included in the complaint filed in this matter, Ms. Hale was hired by The Hospital as the Associate Director of Patient Care for Mental Health Service on March 24, 2008. Ms. Hale was promoted to “Acting” Director of Patient Care Services on April 16, 2008. On April 18, 2008, Ms. Hale was terminated from her position at The Hospital.

### DAMAGES

Damages have been calculated based on the underlying documentation that was reviewed in this matter. We have assumed that liability will be proven, and we are not offering any opinion regarding the legal claims.

The damages calculated in this matter are based on the salary and fringe benefits that Jane Hale would have earned at The Hospital throughout the balance of her career based on the work-life expectancy indicated in Mr. Boston’s report. These expected earnings and benefits have been offset by actual and expected amounts that Ms. Hale will now earn using her actual earnings for 2008 and 2009 and estimated earnings using the highest indication of Ms. Hale’s earning power as presented by Mr. Boston. We are relying on Mr. Boston’s experience and expertise in this area.

Assumptions and facts entering into these calculations include the following:

1. Ms. Hale’s starting salary at The Hospital was \$115,000.
2. The base salary would have grown annually until retirement by a cost-of-living increase averaging 2.82 percent.<sup>1</sup>
3. Ms. Hale began employment on August 8, 2008, with New Hospital as a Nurse Practitioner within the State
4. After New Hospital did not succeed in securing the contract with State, Ms. Hale assumed the same position at Correctional Facility, which became the new provider of health care services for the Department of Corrections in July 2009.
5. Ms. Hale provided her services at the Correctional Facility
6. Ms. Hale resigned from her position at Correctional Facility in December 2009. This position, which involved working with prisoners, caused such severe stress that Ms. Hale was forced to seek medical care.
7. Certain fringe benefits provided by The Hospital were also provided by Ms. Hale’s subsequent employers.
8. Damages relating to lost fringe benefits are caused by the benefits that are solely calculated as a percentage of wages, as well as two specific items<sup>2</sup> that were offered by The Hospital and not the subsequent employers.
9. An additional element of damages relates to the cost to mitigate at the new employers. Instead of taking the train to The Hospital at a cost of \$71.25 per month, Ms. Hale had to drive 56 miles per day, commuting back and forth from her home. Commuting costs were calculated using the IRS’s annual standard mileage rates for business miles driven.
10. Future mitigation was assumed to take place at the highest indicated level of earnings as a General Duty Nurse based on Mr. Boston’s report.
11. Growth in mitigation wages was based on average annual increases of 4.65<sup>3</sup> percent.
12. Discount rate used in this report is based on the average 10-year U.S. Treasury Security for the period 1999–2008.

<sup>1</sup> Average percent change in the consumer price index from 1999–2008.

<sup>2</sup> Leadership allowance and flex dollars.

<sup>3</sup> Calculated based on data included in Advance for Nurse Practitioners, “2009 National Salary & Workplace Survey, Good News in Troubled Economy,” January 2010.

*(continued)*

**EXHIBIT 26.4 Damages Related to a Wrongful Termination Claim** *(continued)*

Using the foregoing assumptions and facts, damages have been calculated as follows:

Period Beginning	Period Ended	Wages			Fringe Benefits			Loss			Present Value	
		Would Have Earned	Mitigation	Loss	Would Have Earned	Mitigation	Loss	Wages	Fringe Benefits	Total Loss	Total Loss	PV Lost Earnings
4/18/2008	4/17/2009	\$115,000	\$61,209	\$53,791	\$25,742	\$14,249	\$11,492	\$53,791	\$11,492	\$65,283	\$65,283	\$ 66,419
4/18/2009	4/17/2010	118,248	64,503	53,744	26,073	14,586	11,487	53,744	11,487	65,232	65,232	64,860
4/18/2010	4/17/2011	121,587	69,250	52,337	26,414	15,070	11,344	52,337	11,344	63,681	63,681	60,477
4/18/2011	4/17/2012	125,021	72,473	52,548	26,765	15,399	11,365	52,548	11,365	63,913	63,913	57,977
4/18/2012	4/17/2013	128,551	75,846	52,706	27,125	15,744	11,381	52,706	11,381	64,087	64,087	55,525
4/18/2013	4/17/2014	132,182	79,376	52,806	27,496	16,104	11,391	52,806	11,391	64,198	64,198	53,123
4/18/2014	4/17/2015	135,914	83,070	52,845	27,877	16,481	11,395	52,845	11,395	64,240	64,240	50,775
4/18/2015	4/17/2016	139,753	86,936	52,817	28,269	16,876	11,393	52,817	11,393	64,210	64,210	48,472
4/18/2016	4/17/2017	143,699	90,982	52,718	28,672	17,289	11,382	52,718	11,382	64,100	64,100	46,223
4/18/2017	4/17/2018	147,757	95,216	52,542	29,086	17,722	11,364	52,542	11,364	63,906	63,906	44,012
4/18/2018	5/1/2018	5,843	3,833	2,011	1,135	699	436	2,011	436	2,447	2,447	1,610
<b>Total</b>											<b>\$549,471</b>	

### EXHIBIT 26.4 Damages Related to a Wrongful Termination Claim

In addition to the lost earnings and fringe benefits, Ms. Hale incurred an additional expense relating to her commutation to her new employment. Using the automobile allowance rate published by the IRS of \$0.505 and \$0.550, for 2008 and 2009, respectively, the additional cost to commute to the new place of employment during these years was estimated as follows:

2008 Commute to Correctional Facility		2009 Commute to Correctional Facility	
Miles Driven per Day	56	Miles Driven Per Day	56
Miles Driven Per Month (22 work days/month)	1,232	Miles Driven Per Month (22 work days/month)	1,232
Months Worked	5.29	Months Worked	11.74
Total Miles Driven	6,518	Total Miles Driven	14,466
IRS Mileage Rate-2008	0.505	IRS Mileage Rate-2009	0.550
Driving Cost	3,291	Driving Cost	7,956
Tolls Paid (\$3.50 per work day)	407	Tolls Paid (\$3.50 per work day)	904
<b>Total Commute Cost</b>	<b>\$3,699</b>	<b>Total Commute Cost</b>	<b>\$8,860</b>
2008 Commute to The Hospital		2009 Commute to The Hospital	
Monthly Cost-Train	71.25	Monthly Cost-Train	71.25
Number of Months at The Hospital	8.4	Number of Months at The Hospital	12
Cost of Metrorail-2008	\$598.5	Cost of Metrorail-2009	\$855
<b>Total Damages</b>	<b>\$3,100</b>	<b>Total Damages</b>	<b>\$8,005</b>

Using the same rate to discount these amounts to present value results in the present value of the commuting damages to be \$11,199.

#### FINAL DETERMINATION OF DAMAGES

The final determination of damages in this matter to a reasonable degree of economic certainty is as follows:

Lost Wages and Benefits	\$549,471
Cost to Commute	11,199
<b>Total Damages</b>	<b>\$560,670</b>

We reserve the right to update this report if additional information is provided to us.

### Plaintiff or Defense?

The damages expert may be called upon to work for the plaintiff or the defense in a damages litigation. Obviously, as stated earlier, the objectives of both sides are very different. If the expert represents the plaintiff, his or her job is to help establish the actual amount of damages. The damages expert is not the liability expert, so the expert wants to keep the analysis to the economics of the situation (unless his or her role is also as a liability expert). It is always a good idea to state early in the report that the report assumes that there is liability,

but the damages expert is not offering an opinion in that regard. If there is no liability found, the numbers are meaningless.

When the damages expert works for the defense, his or her job will frequently be to shoot holes in the plaintiff's expert's report and, sometimes, conclude his or her own estimate of damages. The damages expert can use his or her skills and resources as a business valuation analyst to his or her advantage if he or she really tries.

## Common Mistakes Made By Damages Experts

In litigation assignments, my firm is often retained to critique the work of another damages expert. In performing these critiques, we often come across significant errors made by experts. Some of the more common errors that we see over and over again will be discussed in the following sections.

### Unsupported Lost Revenue Assumptions

One of the most common errors in lost profits analyses are unsupported revenue assumptions. When preparing a revenue forecast for a lost profits analysis, the damages expert should perform the same detailed analysis that he or she would perform as if the assignment was a business valuation. This means understanding the current economic environment and future outlook, the outlook and growth prospects for the industry, and the amount of competition prevalent in the marketplace. This also means analyzing historical revenues and profitability for the damaged asset when such information is available. We often see revenue forecasts that assume an unproven start-up operation will immediately penetrate a saturated market and steal a significant percentage of market share from a group of large, mature companies. These types of assumptions demonstrate a lack of understanding of the industry in which the company was trying to operate.

### Improper Use of Statistics

Statistics can be a valuable tool to quantitatively support different assumptions in a lost profits analysis. However, the use of statistics can also be dangerous when applied improperly. As a real-life example, there was one instance in which an opposing expert used a correlation coefficient to help support a statistical relationship between the decline in the performance of the NASDAQ Composite Index and the decline in the performance of the valuation subject. However, the expert did not calculate a correlation coefficient. Instead, he determined that a correlation coefficient of 0.50 was appropriate based on his "judgment." In addition, during cross-examination, the expert stated that the possible range for a correlation coefficient was from 0 to 1. The problem is that the possible range is actually  $-1$  to  $1$ . This expert's opinion was eventually thrown out of the case because he was determined not to be an expert in statistics. Ouch!

This example demonstrates the importance of having an understanding of all the pieces of information that go into forming an opinion on damages. If the damages expert is planning to use a statistical analysis to help support an opinion, he or she must take the time to understand the strengths and weaknesses of such analysis and be prepared to be questioned heavily about it during testimony. At a minimum, if the damages expert does not have a statistics background, he or she should hire good staff!

### Understatement of Costs

Oftentimes, when reviewing an opposing expert's report, we will encounter a damages calculation that will underestimate the costs that were avoided *but for* the actions of the defendant. These costs can relate to labor, advertising, maintenance, insurance, and other variable expenses.

When performing a lost profits calculation, the lost revenues should be offset by all expenses that are tied directly to the damaged asset. If the lost revenues relate to a business unit or a contract, the damages expert will need to allocate all the variable expenses and, in some cases, fixed expenses that would relate to that particular revenue stream. The best way to determine these expenses is to look at the company's historical financial records, if such information is available. Alternatively, he or she can attempt to locate benchmarking data for companies with similar operations.



## Not Obtaining All Necessary Documentation

Before performing an economic damages analysis, it is imperative that the damages expert obtain all relevant back-up documentation related to the matter. There are some instances in which attorneys will attempt to spoon-feed only those pieces of documentation that the attorney feels the expert will need to perform the analysis. The expert must insure that he or she does not get caught in this situation. It is the expert's reputation that will be damaged if he or she ignores important information.

## Things Not to Do If the Expert Wants to Get It Right

A sample critique of a plaintiff expert's work is provided in exhibit 26.5. This should provide the damages expert with a starting point if he or she has never done this stuff before.

### EXHIBIT 26.5 Critique of An Expert's Report

#### PART 1—CRITIQUE OF THE OPPOSING EXPERT REPORT

We have been asked to comment on the economic damages issues contained in the reports issued by the Opposing Expert Economics Group (Opposing Expert Report) dated September 16, 2010 and December 31, 2012, and not issues relating to legal liability in this matter. Our comments are limited to the damages calculations.

#### OPINIONS REGARDING THE OPPOSING EXPERT REPORT

In our opinion, the Opposing Expert Report does the following:

1. Improperly calculates damages resulting from the alleged actions of the defendants
2. Is based on unsupported assumptions
3. Is highly speculative
4. Reaches illogical conclusions
5. Blindly relies on expert reports of others without any independent verification of the merits of the conclusions of the other experts
6. Reaches opinions that are not within any degree of economic certainty
7. Is fatally flawed because the damages calculated in the Opposing Expert Report would provide a substantial windfall to the Plaintiff, rather than make it whole for its *true* economic loss, if any

The balance of this section of the report is intended to highlight the deficiencies in the Opposing Expert Report. In order to provide the reader with an easy format to follow, we will address the Opposing Expert Report in page order of that report.

#### IMPROPER MEASURE OF DAMAGES

The Opposing Economics Group performs a lost profits calculation as its primary determination of the economic damages suffered by T&C Marketing Services, Inc. (T&C). In this instance, this method of determining economic damages is improper. It is our understanding that T&C is no longer in business. The Plaintiff claims that it was put out of business as a result of the alleged actions of the defendants.

According to Patrick Gaughan

A number of cases involving firms that went out of business due to the actions of the defendant have held that the value of the damages is equal to the market value of the business on the date the operations ceased.<sup>1</sup>

Gaughan also states

When a defendant damages a plaintiff to such an extent that the plaintiff's business fails, the question arises: *How should damages be valued?* Given that the plaintiff has lost profits, should estimated past and projected future profits be the manner in which damages are measured? Abundant case law clearly states that **the proper measure of damages is the value of the business, not projected profits**. When this is the case, then the methodological approach to measure damages is different from in a typical business interruption case.<sup>2</sup> (Emphasis added).

<sup>1</sup> Gaughan, Patrick A., *Measuring Business Interruption Losses and Other Commercial Damages*, 2nd ed., (John Wiley & Sons, Inc. 2009): 71.

<sup>2</sup> *Ibid*, 285.

(continued)

## EXHIBIT 26.5 Critique of An Expert's Report *(continued)*

According to Robert Dunn, Esq.

If a business has not been just injured, but has been destroyed, almost all of the few cases in point hold that lost profits damages are not recoverable. The measure of damages is said to be the market value of the business on the date of destruction, less any salvage value in the assets. This measure of damages may also be expressed as the difference in the value of the business before and after its destruction.<sup>3</sup>

According to Thomas Burrage

A business damages claim may be properly calculated as either the lost profits of the business or the lost value of the business. Courts have stated the general rule permitting the alternate theories of recovery as follows:

[I]f a business is completely destroyed, [then] the proper total measure of damages is the market value of the business on the date of the loss. If the business is not completely destroyed, then it may recover lost profits. A business may not recover both lost profits and the market value of the business.<sup>2</sup>

Stated another way:

Numerous jurisdictions hold to the view that when the loss of business is alleged to be caused by the wrongful acts of another, damages are measured by one of two alternative methods: (1) the going concern value; or (2) lost future profits. [T]he courts allow a plaintiff to recover either the present value of lost future earnings or the present market value of the lost business, but not both. The 'going concern value' is the price a willing buyer would pay and a willing seller would accept in a free marketplace for the business in question. It measures damages by awarding the difference between the going concern value and the price actually received by the plaintiff upon sale of the business.<sup>3</sup>

Footnotes in Quote:

<sup>2</sup> *Montage Group, Ltd. v. Athle-Tech Computer Systems, Inc.* 889 So.2d 180, 191 (Fla. App. 2004) (internal citations omitted).

<sup>3</sup> *Protectors Insurance Service, Inc. v. U.S. Fidelity & Guaranty Co.*, 132 F.3d 612 (10th Cir. 1998) (Disallowing jury award of lost profit damages in addition to lost business value as improper double recovery.) *But see Cooper Distributing Co. v. Amana Refrigeration, Inc.*, 180 F.3d 542 (3rd Cir. 1999) (Damages should be valued according to either the present value of lost future earnings or the present market value of the lost business, but not both. However, in a case in which defendant's breach caused the plaintiff to lose profits prior to the date at which the defendant's actions destroyed the franchise, nothing in the general rule prohibits proof of lost profits prior to destruction to make the plaintiff whole.) For more discussion on whether the plaintiff is entitled to both classes of damages, see "Comparative Summary of Lost Profits vs. Lost Business Claims" in this chapter.<sup>4</sup>

PPC's *Guide to Litigation Support Services* states the following:

If the business has been completely destroyed, many courts have ruled that the proper measure of damages is the value of the business on the day of the loss. [*True North Composites, LLC v. Trinity Industries, Inc.*, 191 F. Supp. 2d 484 (D. Del. 2002)] The measure of damages for destruction of a business is the value of that business.] The theory behind this rule is that the plaintiff who recovers damages equal to the value of the business has, in effect, sold the business to the defendant.<sup>5</sup>

Furthermore, in a paper delivered at the AICPA's 2004 National Business Valuation Conference, Brian Brinig, JD, CPA presented the following:

**Profits and Value.** In its simplest conceptual form, value is the present sum of all anticipated profits.

1. When anticipated profits are discounted at a risk-adjusted rate commensurate with the security of the investment, their present sum equals the value of the business.
2. In some circumstances, particularly *small* businesses, the risk-adjusted rate may be dramatically different from the risk-free rate.
  - a. In very small businesses, it is not unusual to conclude that an appropriate risk-adjusted discount rate is 40%, 50%, or even as high as 100%. (Stated inversely, these discount rates amount to multiples of income of 2.5x, 2.0x, and 1.0x, respectively).

<sup>3</sup> Dunn, Robert L., *Recovery of Damages for Lost Profits*, 6th ed., Lawpress Corp., 2005 with annual supplements: 538.

<sup>4</sup> Burrage, Thomas, *The Comprehensive Guide to Lost Profits Damages for Experts and Attorneys*, Nancy Fannon, Editor, 2011 ed., (Business Valuation Resources, LLC): 457.

<sup>5</sup> Brinig, Brian, et al., *PPC's Guide to Litigation Support Services*, Volume 1, 17th ed. (Thomson Reuters, 2012): 403.94.

**EXHIBIT 26.5 Critique of An Expert's Report**

3. **Given the relationship of value to profits (value equals PV of profits), the present value of a business' lost profits cannot logically exceed the value of the business.**
4. **If the present value of lost profits exceeds the value of the business, a plaintiff would be compensated for more than it lost.**<sup>6</sup> (Emphasis added).

In this instance, the literature is clear that a complete destruction of a business would lead to a lost business value calculation and not lost profits. Therefore, the Opposing Expert Report uses an inappropriate methodology for the calculation of damages.

**OTHER PROBLEMS WITH THE OPPOSING EXPERT REPORT****Page 2<sup>7</sup>**

The Opposing Expert Report lists the documents reviewed in the preparation of the analysis. Considering the thousands of pages of discovery that were furnished from both sides and the third-party defendant in this action, the list of documents contained in the Opposing Expert Report demonstrates that only a superficial analysis could have been done. There is no indication that any depositions were reviewed, even of the stockholder of T&C, Mr. Jones, let alone all the other individuals who the Plaintiff is relying on in this matter.

Furthermore, general ledgers and other accounting-type documents were not reviewed for the purpose of verifying the reasonableness of the tax returns and financial statements that were relied on in performing a profitability analysis and damages calculations. As will be discussed in much greater detail later in this report, the records reflect many problems that should have been addressed before a proper calculation of damages could have been performed within a reasonable degree of economic certainty.

**Page 4**

The most recent version of the Opposing Expert Report indicates that the purpose of the appraisal is "to evaluate the economic loss to T&C Marketing Services, Inc. and Mr. Jones, as a result of the action of defendants."

Mr. Jones was added to the preceding statement because he was not in the previous version of the Opposing Expert Report. However, Mr. Jones is nothing more than a third-party defendant to this lawsuit and would not be entitled to a damage recovery. The Opposing Expert Economics Group has been in practice for many years. As such, the authors of the Opposing Expert Report should know that damages can only be awarded to T&C and not Mr. Jones because it was the corporation, and not the individual, that had a contract with the defendants. Although, as damages experts, we are not attorneys, our vocation tells us that it would be unreasonable to allow an individual to operate behind a corporate veil, and we should allow that individual to step out from behind the corporation to recover damages, if any, that might belong to the corporation.

**Page 5**

In the changes made to this version of the Opposing Expert Report, the authors state the following:

It was later revealed that ABC Labs had engaged in a massive marketing campaign which was never disclosed or contractually approved by T&C. It is reported that T&C was never given the opportunity to rebill and issue additional invoices based on the additional marketing activity that was planned and contracted for by ABC Labs several months before the start of ABC Benefits. [SOURCE: *Complaint with Jury Demand*, October 14, 2009]

The source reference in this quote is the *Complaint with Jury Demand*, dated October 14, 2009. However, this allegation does not appear in the Complaint. Besides having an incorrect reference, there is no rational basis for making this statement other than attempting to introduce new elements of damages that were based on unsupported calculations that the authors of The Opposing Expert Report rely on from the *Fifth Addendum to Operations Analysis of ABC Labs/Pharmacy Co. ABC Benefits Program* signed by Mr. Parker. We will address the Parker calculations later in this report.

<sup>6</sup> Brinig, Brian, J.D., CPA, "Business Damages: Lost Profits or Lost Business Value?," AICPA National Business Valuation Conference, 2004: 12-8.

<sup>7</sup> This page reference, as well as all future page references, refer to the page of the Opposing Expert Report dated December 31, 2012.

(continued)

**EXHIBIT 26.5 Critique of An Expert's Report** *(continued)*

The Opposing Expert Report states that "It is reported that T&C was never given the opportunity to rebill and issue additional invoices based on the additional marketing activity that was planned and contracted for by ABC Labs several months before the start of ABC Benefits." There is no support for this statement because the Opposing Expert Report cannot even tell the reader by whom "it is reported." Furthermore, T&C would have benefitted from any increased call volume resulting from additional programs due to the markup on its charges to ABC Labs. This would be part of the almost \$1.9 million that ABC Labs paid to T&C for the program that started out as being for \$218,251. This will be discussed further at the appropriate time.

**Page 6**

The Opposing Expert Report states the following:

In addition, T&C experienced significant difficulty marketing the traditional version of DollarRewards to other potential sponsors. These problems led T&C to have compromised relationships with other clients and ultimately to pull the DollarRewards program entirely.

There are several problems with this statement. First, the Opposing Expert Report provides no data or analysis that supports the phrase, "These problems led T&C to have compromised relationships with other clients..." The Opposing Expert Report does not indicate that any investigation was performed to prove that any client relationships were "compromised" as a direct result of the actions of the defendants. In fact, our review of the Opposing Expert files that were submitted during discovery indicate that the Opposing Expert Economic Group failed to review any of the underlying documentation that was provided by their own client.

Even if the preceding phrase is assumed to be correct, the Opposing Expert Report provides no data or analysis that supports the subsequent phrase, "...and ultimately to pull the DollarRewards Program entirely." The Opposing Expert Report provides no support for the fact that the DollarRewards Program (its original program) had to be terminated. Even if there were problems with the ABC Labs/Pharmacy Co. ABC Benefits Program, the Opposing Expert Report presents no data or analysis to support that T&C had "to pull the DollarRewards program entirely." Furthermore, the damages that were calculated in the Opposing Expert Report are not based solely on the loss of the DollarRewards Program, but other programs as well. Yet, The Opposing Expert Report does not even mention these other programs and the cause for their supposed failures.

**Page 7**

At the top of this page, the Opposing Expert Report includes the following table:

Year	Revenue	Expenses	Net Profit/ (Loss) [(2)-(3)]	Accounting Adjustment	Adjusted Net Profit/ (Loss) [(4)-(5)]
(1)	(2)	(3)	(4)	(5)	(6)
2002	\$ 472,081	\$ 379,255	\$ 92,826	\$ 9,580	\$ 83,246
2003	291,196	202,946	88,250	357	87,893
2004	378,472	294,720	83,752	1,800	81,952
2005	542,278	458,227	84,051	456	83,595
2006	447,900	352,966	94,934	9,437	85,497
2007	865,412	795,584	69,828	10,833	58,995
2008	1,970,246	1,887,750	82,496	1,094	81,402
2009	254,064	69,845	184,219	—	184,219
2010*	7,500	14,074	(6,574)	—	(6,574)

\* Through May.

**EXHIBIT 26.5 Critique of An Expert's Report**

T&C's revenues, expenses, and profits and losses during the years 2002–2009, as well as the period January through May 2010, are shown in table 1.<sup>8</sup> A review of this data indicates that T&C's revenues during 2007 and 2008 were significantly greater than during any previous year. This is because of the substantial payments ABC Labs made to T&C in excess of the original ABC Benefits Program contract amount. By failing to address why T&C's revenues were so much larger in 2007 and 2008, the Opposing Expert Report leaves the reader with an inaccurate impression regarding T&C's ability to generate revenues. The Opposing Expert Report uses this extraordinary revenue amount to calculate damages in this matter. We will address this item shortly.

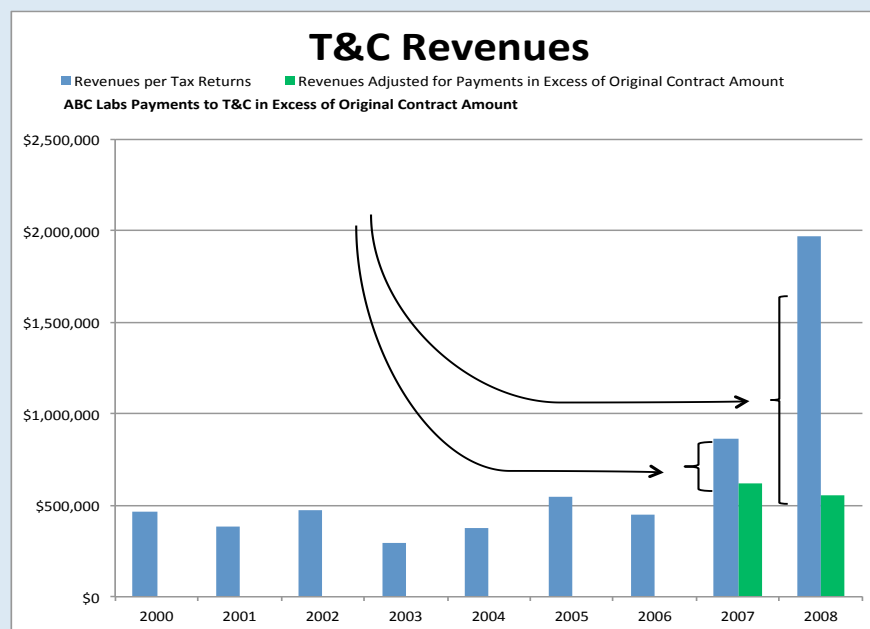
During the period 2002–2006, T&C's revenues ranged from \$291,196 to \$542,278 and averaged \$424,897. In order to understand T&C's ability to generate revenues, the amounts that ABC Labs paid to T&C in excess of the original contract amount should have been subtracted from the amounts shown for 2007 and 2008 in the Opposing Expert Report. Only then can the reader see a more normal level of revenues that might have been used as a base in the damages calculations employed in the Opposing Expert Report.

According to the original ABC Benefits Program contract, ABC Labs was to pay T&C a flat fee of \$218,251.10. Instead, T&C recognized revenue from the ABC Benefits Program of \$467,100 and \$1,415,325, during 2007 and 2008, respectively. A determination of T&C's revenues, adjusted for ABC Labs's excess payments, are calculated as follows:

**TABLE 2 T&C Revenue Adjusted for ABC Labs' Excess Payments**

	2007	2008
T&C Revenues per Tax Return	\$865,412	\$1,970,246
Revenues From ABC Labs	(467,100)	(1,415,325)
Original ABC Benefits Contract Amount	218,251	0
Adjusted Revenue	\$616,563	\$ 554,921

T&C's 2007 and 2008 adjusted revenues are more consistent with 2000–2006 revenues as depicted in figure 1.



<sup>8</sup> Under the column "Adjusted Net Profit/(Loss)," the Opposing Expert Report shows the 2008 amount to be \$81,402. However, both T&C's tax return and financial statements show this amount to be \$81,372. Despite referencing our reports, the Opposing Expert group never bothered to make this correction in its new report.

(continued)

### EXHIBIT 26.5 Critique of An Expert's Report *(continued)*

On this page, the Opposing Expert Report discusses compensation paid to management of T&C. The Opposing Expert group changed the wording from its original report, which stated

For the purpose of our analysis, we add compensation to management to net profit to arrive at adjusted net profit (loss) before compensation...

to

Because T&C is wholly owned by Mr. Jones, for the purpose of our analysis, we add compensation to management to net profit to arrive at adjusted net profit (loss) before compensation...

First, the change was made in an attempt to claim that Mr. Jones, as the sole shareholder of T&C, is the same as T&C, the corporation. If this was permissible under the law, there would never be a distinction between a corporation and its shareholders. It does not matter whether there is one stockholder or many. According to BusinessDictionary.com, the definition of *corporation* is as follows:

Firm that meets certain legal requirements to be recognized as having a legal existence, as **an entity separate and distinct from its owners**. Corporations are owned by their stockholders (shareholders) who share in profits and losses generated through the firm's operations, and have three distinct characteristics (1) Legal existence: a firm can (like a person) buy, sell, own, enter into a contract, and sue other persons and firms, and be sued by them. It can do good and be rewarded, and can commit offence and be punished. (2) Limited liability: a firm and its owners are limited in their liability to the creditors and other obligors only up to the resources of the firm, unless the owners give personal-guaranties. (3) Continuity of existence: a firm can live beyond the life spans and capacity of its owners, because its ownership can be transferred through a sale or gift of shares.<sup>9</sup> (Emphasis added).

This is an inappropriate manner in which damages to the corporation should be estimated. All expenses incurred in generating the program revenues must be subtracted in determining the net profit of the corporation. By adding back the management compensation, the Opposing Expert Report is calculating damages to the management of T&C, in addition to T&C, despite the fact that the management of T&C is not a party to the litigation. Not only does this provide a windfall to a nonparty to the litigation, it is an incorrect manner in which to calculate damages to T&C.

According to Robert Dunn, Esq.

Small businesses sometimes pay no compensation, as such, to the proprietor for services. However, the value of the proprietor's services, even if not directly compensated, should be included as labor costs and deducted when relevant to compute net profits. A calculation that does not deduct reasonable proprietor's compensation is, in effect, an impermissible attempt to recover gross profits, rather than net profits.<sup>10</sup>

The true profitability of a business must be measured after compensating management for the services that it provides to the business. The benefits of managerial efforts are reflected in the revenues and operational efficiency of the business. Management costs must be matched to revenues and operations. In fact, the Opposing Expert Report makes the point that "Any projected revenue must be reduced by the expenses associated with earning that revenue." However, the Opposing Expert Report reflects profitability in a manner that is inconsistent with the author's own statement.

The following excerpts from professional treatises indicate that the actual level of officer's compensation should be replaced with a market level of compensation:

- The item that most often begs adjustment on the income statement of a privately held entity is the compensation to the owners. Actual compensation tends to be based on what the entity can afford or how the owners desire to be compensated and may bear little or no relationship to the economic value of the services the owners actually perform.
- The general idea of the compensation adjustment is to substitute the cost of hiring and paying a nonowner employee for the compensation actually paid to the owner to perform the same function. Another way to look at it is to compare the actual compensation paid to some average amount that other people normally are compensated for performing similar services. For example, if we are valuing a small restaurant where the owner is being paid \$50,000 per year, and if a competent, full-charge manager could be hired for \$30,000 to perform the same services, the owner's compensation would be adjusted downward by \$20,000 on the adjusted income statement, resulting in a \$20,000 addition to pretax profit.<sup>11</sup>

<sup>9</sup> See [www.businessdictionary.com/definition/corporation.html](http://www.businessdictionary.com/definition/corporation.html) (accessed January 3, 2013).

<sup>10</sup> *Recovery of Damages for Lost Profits*: 514.

<sup>11</sup> P. Schweih, *Valuing Small Businesses & Professional Practices*, 3rd ed. (New York, McGraw-Hill, 1998): 118.

### EXHIBIT 26.5 Critique of An Expert's Report

- In closely held companies, compensation and perquisites to owners and managers may be based on the owners' personal desires and the company's ability to pay, rather than on the value of the services these individuals perform. How much to adjust the earnings base to reflect discrepancies between compensation paid and value of service performed depends on the valuation's purpose.<sup>12</sup>
- For example, in one case, the plaintiff sued for \$1,030,000 in lost profits, including wages lost by its anesthesiologists under a contract their practice had with the hospital. The trial court awarded only \$14,883, which represented the practice's lost income, net of expenses saved. *'We therefore conclude that professional corporations must be treated like other corporations for purposes of calculating damages. Unpaid salaries of corporate shareholders ought to be treated as saved expenses.'*<sup>13</sup>

The last quote addresses saved expenses, but it should be obvious that the determination of profits should include a deduction for compensation.

In documents submitted in this litigation, T&C invoiced ABC Labs for Mr. Jones's managerial efforts at a rate of \$400 per hour. Thus, T&C ascribes value to the services provided by Mr. Jones. This shows that managerial compensation should be subtracted as a necessary expense of doing business. However, the amount of compensation, just as the amount that was billed to ABC Labs, needs further examination. We address the amount billed to ABC Labs in the next part of this report. However, we find it to be very curious that the Opposing Expert Report expects T&C to bill ABC Labs for Mr. Jones's time, but then takes the position that he should not be compensated by T&C. This would amount to a double recovery if it was permitted to occur.

To demonstrate how far off the Opposing Expert Report is, due to the addback of total management compensation, we will use data available in the *Executive Assessor* database provided by the Economic Research Institute (ERI). ERI provides executive compensation information for positions across numerous industries throughout the United States. Using the ERI data for marketing firms located in California, we recalculated the profitability that was reflected in the Opposing Expert Report.

**TABLE 3 Restated Profitability from Opposing Expert Report**

Year	Adjusted Net Profit/(Loss) Before Compensation <sup>1</sup>	-	Market Replacement Cost for Mr. Jones <sup>2</sup>	=	Corrected Net Profit/(Loss)
2002	\$208,246		\$151,513		\$56,733
2003	212,893		155,914		56,979
2004	204,085		160,281		43,804
2005	169,345		164,600		4,745
2006	207,572		168,789		38,783
2007 <sup>3</sup>	385,632		173,060		212,572
2008 <sup>3</sup>	864,434		209,456		654,978
2009	205,636		182,044		23,592
			<b>'02-'06 Minimum</b>		<b>\$ 4,745</b>
			<b>'02-'06 Average</b>		<b>40,209</b>
			<b>'02-'06 Maximum</b>		<b>56,979</b>

*Notes:*

1. The Opposing Expert Report page 6
2. Economic Research Institute
3. Distorted due to ABC Labs payments to T&C

12 Shannon P. Pratt, Alina V. Niculita, *Valuing a Business—The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York, McGraw-Hill, 2008): 146.

13 Nancy J. Fannon, *The Comprehensive Guide to Lost Profits Damages—For Experts and Attorneys*, 2009 ed. (Portland, Oregon: Business Valuation Resources, LLC, 2009): Intro-10.

(continued)

**EXHIBIT 26.5 Critique of An Expert's Report** *(continued)*

Once net profit (loss) is correctly determined, it is apparent that T&C was minimally profitable, even using a market rate of salary, rather than the entire management fee that was removed from the business. During the period 2002–2006, T&C's net profit (loss) ranged from \$4,745 to \$56,979, and averaged \$40,209. At this point, it is appropriate to ask, "How could a company that was generating an average net profit of \$40,209 have lost profits of \$8.4 million?"

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At the top of this page, the Opposing Expert Report includes the following table:

**TABLE 4 From Opposing Expert Report**

Year	Revenue	Adjusted Profit/(Loss) Before Compensation	Profit/(Loss) as Percentage of Revenues
(1)	(2)	(3)	(4)
2002	\$ 472,081	\$ 208,246	44.11%
2003	291,196	212,893	73.11%
2004	378,472	204,085	53.92%
2005	542,278	169,345	31.23%
2006	447,900	207,572	46.34%
2007	865,412	385,632	44.56%
2008	1,970,246	864,434	43.87%
2009	254,064	205,636	80.94%
2010*	7,500	(6,574)	–87.66%

\* Through May.

The purpose of this table is to show how profitable T&C was as a percentage of revenue. However, the column titled "Profit/(Loss) as Percentage of Revenue" is incorrectly labeled. This column is not calculated based on T&C's profit (loss). Instead, the column should have been correctly labeled as "Profit/(Loss) Before Owner's Compensation as Percentage of Revenue." As a result of the mislabeling, the percentages presented in the Opposing Expert Report give the false impression that T&C was much more profitable than its actual profitability. In reality, if a company does not pay any of its officers, it will always be more profitable. Damages to the corporation are supposed to be calculated after and not before officers' compensation.

In table 5 we contrast T&C's actual profit percentages with the profit percentages used in the Opposing Expert Report. During the period 2002–2006, T&C's net profit (loss) as a percentage of revenues ranged from 0.9 percent to 19.6 percent, and averaged 10.5 percent. Again, it is important to note that the profit percentages from 2007 and 2008 were distorted by ABC Labs's excess payments to T&C. Just because T&C took advantage of the program changes as a reason to overcharge ABC Labs and generate much more profit than ever before is no reason to assume that T&C would be able to generate these excessive amounts of revenue and, therefore, profits, from every new client it works for in the future. History demonstrates that this has not been the case. In fact, several of the prospective clients told T&C that their program was too expensive.



## EXHIBIT 26.5 Critique of An Expert's Report

TABLE 5 Contrast of Historical Profits With the Opposing Expert Report

Year	Corrected Net Profit/(Loss)	÷	Revenue	=	T&C's Actual Profit Percentage	Opposing Expert Report Profit Percentage
2002	\$ 56,733		\$ 472,081		12.0%	44.11%
2003	56,979		291,196		19.6%	73.11%
2004	43,804		378,472		11.6%	53.92%
2005	4,745		542,278		0.9%	31.23%
2006	38,783		447,900		8.7%	46.34%
2007 <sup>1</sup>	212,572		865,412		24.6%	44.56%
2008 <sup>1</sup>	654,978		1,970,246		33.2%	43.87%
2009	23,592		254,064		9.3%	80.94%
					<b>'02-'06 Minimum</b>	<b>0.9%</b>
					<b>'02-'06 Average</b>	<b>10.5%</b>
					<b>'02-'06 Maximum</b>	<b>19.6%</b>

## Notes:

1. Distorted due to ABC Labs payments to T&C.

The Opposing Expert Report states the following:

Between 2006 and 2008, T&C retained approximately 44% of revenue as adjusted net profit before management compensation. We use this figure to determine the profitability of the alleged lost business.

Clearly, there are several problems with this statement from the Opposing Expert Report. The years 2007 and 2008 were distorted by ABC Labs' excess payments to T&C. Damages calculations for years subsequent to 2008 should not be based on data from 2007 and 2008 because these were not typical years. The only reason that the excessive profits were earned during 2007 and 2008 was due to the overcharges that were made to ABC Labs by T&C. These overcharges will be addressed in the next part of our report as part of the damages stemming from ABC Labs' counterclaim against T&C.

T&C did not "retain" the percentages indicated by the Opposing Expert Report. Most of the amounts that the Opposing Expert Report indicates as "retained" were actually paid to Mr. Jones. As previously discussed at length, a company's actual profitability is determined after subtracting a market level of compensation for managerial time and effort. Thus, T&C's profitability was nowhere close to the 44 percent indicated in the Opposing Expert Report; T&C's actual net profit as a percentage of revenues averaged 10.5 percent during the period 2002–2006. Even if T&C is able to prove liability by the defendants, T&C should be returned to the position that it was in before the damages took place. The purpose of economic damages is not to provide a windfall to the plaintiff.

In the section of the Opposing Expert Report titled "T&C Lost Clients," the Opposing Expert Report cites two documents that were relied on to draw the conclusion that T&C would lose business: "Marketing Analysis of ABC Labs/Pharmacy Co. ABC Benefits Program, prepared by Marketing Co. Limited, undated," and "Operations Analysis of ABC Labs/Pharmacy Co. ABC Benefits Program, prepared by XYZ Services, undated." The Opposing Expert Report's reliance on these documents is extremely problematic.

(continued)

## EXHIBIT 26.5 Critique of An Expert's Report *(continued)*

The XYZ Report provides opinions without documented support, data, or analysis as a basis for those opinions. Additionally, other documents submitted for this litigation showed that the author of the XYZ Report invoiced T&C for services rendered to T&C from September 2007 through October 2008. We will address invoices submitted by XYZ later in this report. What seems abundantly clear is that the president of XYZ is not independent and should not be given any credibility as an expert.

The same problems exist with the second report. Mr. Parker, the author of the second document, also provides opinions without documented support, data, or analysis. He also provides opinions that are clearly out of his area of expertise and, yet, the Opposing Expert Report relies on this information. We will address the Parker Report shortly. T&C invoiced ABC Labs for Mr. Parker's services from May 2007 through August 2008. His invoices appear as problematic as those from XYZ. Once again, the authors of the Opposing Expert Report relied on another report that lacks independence and credibility.

### Page 9

At the top of this page, the Opposing Expert Report states the following:

T&C has prepared a list of clients that were allegedly lost due to the actions of the defendants. The list is divided into two (2) groups: 1) Contract Stage and 2) Proposal Stage. The 'Contract Stage' group consist of clients who had approved of proposals made by T&C and were in the process of preparing contracts for T&C to execute marketing strategies on their behalf.

The Opposing Expert Report's lost income calculation is based on a level of revenues that is not only unsupported, but also unrealistic. The list of clients that were allegedly lost because of ABC Labs is nothing more than a list of proposals that were made to prospective clients for a variety of programs that were to be administered by T&C.

According to a document that references a "Preliminary Report from Opposing Expert Economics Group," prepared by or on behalf of T&C, discussing the DollarRewards Rewards Program, "For this program, which is relatively new to the marketplace, closure rate has been 20% (1 in 5)." Of course, there is no support provided that the closure rate is accurate. The same document discusses the fact that once an agreement is provided to the client, "Closure rate at this stage for all T&C programs has historically exceeded 90%." Here also, there was no support provided for the closure rate. Instead, the Opposing Expert Report blindly accepts these percentages and uses them to determine lost income based on the unsupported list provided to them of the proposals that T&C made during late 2007–2009. This was used as a basis to estimate lost revenues until 2015.

The same T&C document also discusses that "Another new property in development was QRS Program..." This new program was included in the proposals sent to prospective clients that the Opposing Expert Report blindly relies on to account for the lost revenues of the DollarRewards program. Despite there being no experience with this new "property" in the marketplace, the Opposing Expert Report uses the same unsupported closure percentages for a program that is speculative, at best, in accounting for about 14 percent of the quoted program dollars that were lost by T&C, despite not having anything to do with the DollarRewards program.

Furthermore, had the Opposing Expert Economics Group reviewed the back-up documents that were provided by T&C, they would have realized that the figures that were provided to them included the highest end of any proposal that either contained a range of fees (for example, \$75,000 to \$150,000 used \$150,000, T&C07900), or different alternatives for the client to consider (for example, Tier 1-\$464,800, Tier 2-\$550,750 or Tier 3-\$624,587 used \$624,587, T&C07855). The figures were purposely skewed to provide the highest estimate of damages that could be calculated without ever disclosing the truth about the alternatives.

In addition, the chronology of the documents provided by T&C indicates that many of these proposals were not going to occur in the time frame that was provided to Opposing Expert by T&C. Many of these proposals continued to have unanswered questions from the clients, clients that were too busy to set up quick appointments, multiple presentations to the same client, and budgetary constraints for the clients.

What is also clear is that the Opposing Expert Report is claiming lost profits for programs that have not been tested in the marketplace, as well as including programs, such as one for Big Diversified Co. (\$2,300,000) that is greater in size than the level of revenues reported by T&C during the last two decades. Even if they got lucky and hit the lottery on this assignment, what would be the likelihood that this would occur every year from 2009–2015 based on T&C's own historical experience? It is also worth noting that the \$2,300,000 figure that T&C provided to Opposing Expert was also based on an assortment of alternatives, with that being the highest figure.

Opposing Expert's lack of review of the T&C documents also did not let Opposing Expert know that after T&C provided a presentation prepared by OMC Company dated June 10, 2008, Jen Barber, from OMC, sent an email to Lisa Stern from T&C on June 11, 2008, that said "thanks for the info. (sic) the costs are too great for me to consider." This had nothing to do with T&C's reputation.

### EXHIBIT 26.5 Critique of An Expert's Report

In the T&C notes of its telephone conversation with Barbara Smith of Bottling Co, on June 25, 2008, the meeting review section included the following summary:

- Barbara presented the program to ABC Bottling Co. Their comments were: expensive, would have to squeeze in program, table it and put on calendar for holiday season.
- Barbara too felt the price was high and thought if we brought the value of the program down to \$15 or \$20 it would not be so top heavy.

What is really interesting about all the documents produced by T&C is the fact that there is only one mention about Pharmacy Co. not providing good feedback to Big Diversified Co. about its experience with T&C and, yet, Big Diversified Co. continued to have discussions with T&C and permitted T&C to do a presentation about one month later. There does not seem to be anything in the documents provided by T&C, including its own notes, that demonstrates not getting any of the proposals because of the ABC Benefits program issues. The Opposing Expert Report blindly includes the biased, unsupported data provided by T&C in its analysis. It appears that the Opposing Expert Report merely relied on T&C for this information without any due diligence about the likelihood that this business would have occurred *but for* the actions of the defendants.

The Opposing Expert Report states the following:

We assume, for the purpose of this analysis, that there is a high degree of probability that T&C would have secured business from 'Contract Stage' clients. We further assume T&C would have recognized 90% of the income from this group. This is consistent with the historical success rate T&C has reportedly experienced in securing clients in the 'Contract Stage.'

This statement further demonstrates that the Opposing Expert Report contains blind assumptions. Despite this statement, there is nothing contained in the Opposing Expert Report, as well as its files that were produced, that demonstrates that any statistical analysis was performed to support a "high degree of probability" that T&C would have secured this business. Claiming that there is a high degree of probability that something will occur should be based on a statistically valid analysis that is not mentioned in the Opposing Expert Report. The only reference that we see in the Opposing Expert Report, which originally had us wondering if anything was done, is the Opposing Expert Report's reference to "Preliminary Report from Opposing Expert Economics Group, undated." We had requested this document, but we had been informed that it does not exist. This document was finally produced, and we confirmed that it is a document that was created by T&C. Now we know that nothing was done by Opposing Expert other than blind acceptance.

Considering the fact that T&C only averaged \$424,897 in revenues from 2002–2006, before billing ABC Labs for the ABC Benefits Program in 2007 and 2008, T&C is a relatively small company. Even after adjusting the excess charges to ABC Labs for the amounts over and above the original contract amount, T&C still only had adjusted revenues of \$616,563 and \$554,921, for 2007 and 2008, respectively. The Opposing Expert Report reflects revenues that would make T&C a much larger business than it ever was in the recent past.

The Opposing Expert Report fails to support the premise that not only *would* T&C get this new level of business, but that T&C *could* have performed this level of business, with or without adding a considerable level of fixed costs to its operations. This entire analysis is speculative, at best.

The Opposing Expert Report provides no empirical support that 90 percent of the income from the "Contract Stage" clients would have been realized by T&C. Furthermore, there is no discussion about the time frame that this new work would have occurred over. There also is absolutely no proof provided that the reason for any of these contracts falling through had anything to do with the actions of the defendants in this matter. Considering the state of the economy, it appears just as likely that some of these major clients could have made business decisions to cut back on these programs due to the economy.

The Opposing Expert Report also provides no support for the statement that "This is consistent with the historical success rate T&C has **reportedly** experienced...." (Emphasis added). Where is the analysis that reflects T&C's historical success rate? We asked for documents regarding the historical proposals and were informed that they do not exist.

Addressing the possible revenues that were not at the "Contract Stage," the Opposing Expert Report states the following:

Therefore, we assume T&C would have secured approximately 20% of the revenue from these clients. This is consistent with the historical success rate T&C has reportedly experienced in securing clients in the 'Proposal Stage.'

(continued)

**EXHIBIT 26.5 Critique of An Expert's Report** *(continued)*

The Opposing Expert Report also provides no calculations, data, or analysis to support the conclusion that "...T&C would have secured approximately 20% of the revenue from these clients." It appears that the Opposing Expert Report merely relied on T&C for this information. This calculation requires a statistical analysis that is, once again, not mentioned in the Opposing Expert Report as having been performed. The fallacy of this assumption is that T&C has never had this many jobs going on at one time (based on its revenues), nor has it been at the level of revenues that the Opposing Expert Report now reflects for the damages calculations during the last two decades, if ever. With no historical track record to rely on, this is little more than mere speculation.

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One of the important elements of a damages analysis is the selection of an appropriate discount rate to discount the forecasted lost profits to present value because these monies will not be received until sometime in the future. The discount rate is supposed to reflect a risk-adjusted rate of return that considers the risk associated with the income stream that is being discounted to present value. The Opposing Expert Report contains several technical errors.

The Opposing Expert Report discusses the build-up method as being "regularly used in the field of business valuations." Although we completely agree with them on this point, the manner in which the discount rate was built up contains errors and violates proper business valuation practice and standards.

The first component that is discussed in the Opposing Expert Report is the determination of the risk-free rate. The Opposing Expert Report states "As of December 20, 2012, the rate of return on 20-year U.S. Treasury bonds is estimated at 2.57%."

Even though valuation theory, for a long time, suggested the use of U.S. government securities to measure these risk-free rates, the theory has changed over the past several years due to the distressed economy that has been experienced since late 2007. Roger Grabowski, a well-known authority and author regarding the cost of capital, discussed the problem with using these securities.

Although the use of the 20-year U.S. government bond has historically been the most widely used estimate of the risk-free rate, the assumption that this rate was the best estimate of the risk-free rate began to change beginning in September 2008, as the financial crisis started to unfold. Long-term U.S. government bond yields, the typical benchmark used in cost of equity models, became abnormally low for several months, resulting in unreasonably low estimates of the cost of equity capital (if the analyst used historical realized risk premiums as an estimated equity risk premium) as of the important valuation date, December 31, 2008.<sup>14</sup>

The valuation community recognizes the fact that with U.S. Treasury rates at an all-time low, plugging them into a build-up model understates the true cost of equity for most investors. Twenty-year Treasury rates have yielded about 5 percent historically. An increase in this component of the discount rate would reduce the damages calculated in the Opposing Expert Report.

The next component of a discount rate is known as the equity risk premium. This portion of the discount rate is supposed to represent the premium that an investor requires due to the added risk of investing in a portfolio of large stocks instead of U.S. Treasury securities. The theory behind this rate requires an analyst to properly match the appropriate time horizons of the stocks and Treasury securities. For example, when valuing a closely-held business because it is considered to be a long-term investment, the equity risk premium is measured by comparing the returns of stocks over a long time horizon to the returns of government bonds over the same time horizon. This time horizon could be anywhere from 20 to 80 years.

The Opposing Expert Report states the following:

The selected rate, 2.6%, is based upon the short-horizon expected equity risk premium as calculated by taking S&P total returns minus 30-day Treasury bill total returns for the years 2005–2011 as published in *Market Results for Stocks, Bonds, Bills and Inflation 1926–2011*, Morningstar, Inc. (p. 145). This rate represents the premium that common stockholders require in the public marketplace over investors in short-term government bills.

The teachings of all the leading business appraisal organizations agree that it is inappropriate to use an equity risk premium calculated from 30-day Treasury bills and add it to the yield on 20-year Treasury bonds. The risk-free rate used to determine the equity risk premium must match the risk-free rate to which the equity risk premium is applied. Equity risk premiums calculated from 30-day Treasury bills should only be added to the yield on 30-day Treasury bills. Likewise, when using 20-year Treasury bonds as the risk-free rate, the equity risk premium must be calculated using 20-year Treasury bonds. The data must be derived and applied using the same reference to a risk-free rate. In this instance, a longer term time horizon makes more sense.

<sup>14</sup> Roger J. Grabowski and Shannon P. Pratt, *Cost of Capital: Applications and Examples*, 4th ed., John Wiley & Sons, Inc. 2011.

### EXHIBIT 26.5 Critique of An Expert's Report

The Opposing Expert Report uses the phrase "...short-horizon expected equity risk premium..." (underline added for emphasis). Actually, the 2.6 percent rate used in the Opposing Expert Report was the short-horizon realized equity risk premium. We agree that the expected equity risk premium should be used to determine the discount rate, but that is not what was done in the Opposing Expert Report.

Another problem with the Opposing Expert Report is that the equity risk premium used is based on returns only during the period 2005–2011. Seven years is much too short a time period for determining the expected equity risk premium. The Opposing Expert Report referenced *Market Results for Stocks, Bonds, Bills and Inflation 1926–2011* for its cost of capital data. The following quote is from that publication:

The estimate of the equity risk premium depends on the length of the data series studied. A proper estimate of the equity risk premium requires a data series long enough to give a reliable average without being unduly influenced by very good and very poor short-term returns. When calculated using a long data series, the historical equity risk premium is relatively stable. Furthermore, **because an average of the realized equity premium is quite volatile when calculated using a short history, using a long series makes it less likely that the analyst can justify any number he or she wants.**<sup>15</sup> (Emphasis added).

To further illustrate the aberration in the data that occurs from using a shorter time period in the development of a discount rate, Morningstar includes the following table in its publication:

Length (Yrs.)	Period Dates	Large Company Stock Arithmetic Mean Total Return (%)	Long-Horizon Equity Risk Premium (%)
86	1926–2011	11.8	6.6
80	1932–2011	12.5	7.2
70	1942–2011	12.8	7.2
60	1952–2011	11.9	5.7
50	1962–2011	10.7	3.9
40	1972–2011	11.5	4.2
30	1982–2011	12.5	5.5
20	1992–2011	9.6	4.1
15	1997–2011	7.5	2.4
10	2002–2011	5.0	0.5
5	2007–2011	2.4	–1.7

Data from 1926–2011.

<sup>15</sup> *Market Results for Stocks, Bonds, Bills and Inflation 1926–2011 - 2012 Valuation Yearbook* (Chicago: Morningstar, Inc., 2012): 59.

(continued)

## EXHIBIT 26.5 Critique of An Expert's Report *(continued)*

Using only a seven-year period distorts the equity risk premium, regardless of whether a short-term or long-term horizon is used. The Opposing Expert Report contains a flawed methodology for its calculation of the discount rate.

During the period 1926–2011,<sup>16</sup> the short-horizon equity risk premium was 8.1 percent.<sup>17</sup> Thus, making this change, while holding all other things constant, would add 5.5 percent ( $5.5\% = 8.1\% - 2.6\%$ ) to the discount rate used in the Opposing Expert Report.

The Opposing Expert Report also incorrectly uses the short-horizon equity risk premium. The equity risk premium horizon should match the damages horizon as closely as possible. The alleged damages horizon in the Opposing Expert Report is seven years (2009–2015). Thus, the equity risk premium horizon that most closely matches the damages horizon is the intermediate-horizon of five years. “In theory, when determining the risk-free rate and the matching equity risk premium, an analyst should match the risk-free security and the equity risk premium with the period in which the investment cash flows are expected.”<sup>18</sup>

During the period 1926–2011, the intermediate-horizon equity risk premium was 7.1 percent.<sup>19</sup> Thus, making this change, and again, holding everything else constant, would add 4.5 percent ( $4.5\% = 7.1\% - 2.6\%$ ) to the Opposing Expert Report's discount rate.

Regardless of which corrected rate is used, the value of the lost profits calculated in the Opposing Expert Report will be reduced considerably. We will illustrate the error rate in the Opposing Expert Report at the end of this critique.

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The next component of the build-up method is the *size premium*, also known as the *small company risk premium*. The Opposing Expert Report has made a technical error regarding this component, as well.

The Opposing Expert Report states “The micro-cap size premium from 2005 to 2011 has averaged 2.7%”. First, the Opposing Expert Report incorrectly uses the “micro-cap” size premium. The micro-cap size category represents returns from companies in the 9th and 10th deciles, or the lowest 20 percent, of the stock market. The size premium should be determined from returns of companies that are similar in size to T&C. Under a heading titled “Choosing the Right Size Premium,” Morningstar, Inc. states the following:

The process of selecting a size premium may lead you down paths with different outcomes. An example of this would be where the estimated equity value is close to the top breakpoint of the 10b category, toward the middle of the 10th decile, and toward the bottom of the Micro-cap. In this case, the statistically conservative choice is the 10th decile because it is in the middle. We need to balance the confidence that our subject firm actually falls within a particular size category with the need to tailor that size grouping as tight as possible to make the peers relevant to our analysis. **The Micro-cap category is too broad for this case, since the subject firm falls in the lower range of the category, and 10b is too narrow since our subject company would barely squeeze in under the top breakpoint before sliding into 10a. We can say with confidence that the 10th decile puts our company among the most peers of similar size.**<sup>20</sup> (Emphasis added).

The Opposing Expert Report uses the “micro-cap” size category, which includes companies that had equity values as great as \$422,811,000.<sup>21</sup> Obviously, these companies dwarf T&C when it comes to size. This is another serious error in the determination of the appropriate discount rate to be used for the damages analysis. Based on the manner in which Morningstar reports its size premium data, the size category that most closely matches T&C's size is the “10b” category (the lower half of the 10th decile), which still includes companies that have equity values as great as \$128,672,000,<sup>22</sup> which are far greater in size than T&C. However, if it is determined that T&C would best fit into this category, the “10b” size premium is 9.8 percent<sup>23</sup> and not 2.7 percent, as reflected in the Opposing Expert Report. This amounts to another error in the Opposing Expert Report of at least 7.1 percent ( $7.1\% = 9.8\% - 2.7\%$ ). Even using the entire 10th decile would result in a size premium of 6.7 percent and not 2.7 percent. Either way, the Opposing Expert Report is wrong.

<sup>16</sup> This is the period of time that most business valuation analysts use because it is the time period reflected in the equity risk premium calculated in the Morningstar publication. Sometimes an analyst may also use a supply-side equity risk premium reported by Morningstar. Either way, the Opposing Expert Report fails to use those rates that are more generally accepted in the valuation community.

<sup>17</sup> *Market Results for Stocks, Bonds, Bills and Inflation 1926–2011 - 2012 Valuation Yearbook*: 141.

<sup>18</sup> *Cost of Capital—Applications and Examples*: 119.

<sup>19</sup> *Market Results for Stocks, Bonds, Bills and Inflation 1926–2011 - 2012 Valuation Yearbook*: 135.

<sup>20</sup> *Ibid.*, 92.

<sup>21</sup> *Ibid.*, 87.

<sup>22</sup> *Ibid.*, 90.

<sup>23</sup> *Ibid.*, 92.

### EXHIBIT 26.5 Critique of An Expert's Report

The Opposing Expert Report contains yet another technical error in the determination of the appropriate discount rate. The problem is that the small company risk premium used is based on returns during the period 2005–2011. Seven years is, once again, much too short a time period for determining the expected small company risk premium for the same reasons cited previously.

The final component of the build-up method in the Opposing Expert Report is the “Specific Company Risk Premium.” This is the component that is supposed to capture all the additional risk that relates to the subject company (T&C) from an investment perspective. The Opposing Expert Report includes a rate of 5 percent, which “is based upon our judgment of the company’s relative financial risk, diversification of operations, cash flow and other operational characteristics.” However, there is no analysis included in the Opposing Expert Report that allows the reader to understand how this figure is derived. This appears to be nothing more than a “trust me” statement that is not based on empirical evidence.

The Opposing Expert Report estimates that equity investors in a company the size of T&C had a required rate of return of 12.87 percent ( $12.87\% = 2.57\% + 2.6\% + 2.7\% + 5\%$ ) as of December 20, 2012. The Opposing Expert Report also states, “We note that this discount rate is based on rates of return on minority interest investments in publicly traded companies.” Once again, The Opposing Expert Report strays from generally accepted valuation theory. According to *Market Results for Stocks, Bonds, Bills and Inflation 1926–2011 - 2012 Valuation Yearbook*, the very publication that is cited in the Opposing Expert Report:

Since most companies in the S&P 500 and the NYSE are minority held, some assume that the risk premia derived from these return data represent minority returns and therefore have a minority discount implicit within them. However, **this assumption is not correct.** The returns that are generated by the S&P 500 and the NYSE represent returns to equity holders. While most of these companies are minority held, there is no evidence that higher rates of return could be earned if these companies were suddenly acquired by majority shareholders. The equity risk premium represents expected premiums that holders of securities of a similar nature can expect to achieve on average into the future. **There is no distinction between minority owners and controlling owners.**<sup>24</sup> (Emphasis added).

Not only is the Opposing Expert Report filled with technical errors, but by its own admission, the authors are comparing the rates of return for a small privately owned company, such as T&C, to “investments in publicly traded companies.” Clearly, this roughly \$500,000 *revenue* company (without ABC Labs revenues) should not be compared to these behemoth public companies with *equity* values in excess of \$100 million.

A required rate of return of 12.87 percent for companies as small as T&C is inconsistent with all available data. Historically, companies the size of T&C have had long-term annual returns of 22.82<sup>25</sup> percent. The largest companies, such as those in the S&P 500, have had long-term annual returns of 11.68 percent.<sup>26</sup> The required rate of return on an equity investment in a company as small as T&C must be considerably greater than the required rate of return on large public companies. In an earlier quote from Brian Brinig, JD, CPA, he said

In very small businesses, it is not unusual to conclude that an appropriate risk-adjusted discount rate is 40%, 50%, or even as high as 100%.<sup>27</sup>

Certainly, 13 percent makes no sense for as small a company as T&C. We will demonstrate the severity of this error in the Opposing Expert Report conclusion shortly.

At the bottom of this page, the Opposing Expert Report begins a new section titled “Calculation of Lost Profit.” As indicated earlier in this report, the first underlying premise raised in the Opposing Expert Report is incorrect when it states “In this section we calculate the **profit before management compensation** that T&C would have received but for the defendants’ actions.” (Emphasis added). Although the calculations provided in the Opposing Expert Report extend out for greater than a six-year period, the Opposing Expert Report indicates that the exact term of the loss will be “left to the trier-of-fact.”

<sup>24</sup> *Ibid.*, 61.

<sup>25</sup> Roger J. Grabowski, *Duff and Phelps Risk Premium Report—2012* (Chicago: Duff and Phelps, LLC, 2012): Exhibit A-1.

<sup>26</sup> *Ibid.*, 23.

<sup>27</sup> “Business Damages: Lost Profits or Lost Business Value?": 12-8.

(continued)

### EXHIBIT 26.5 Critique of An Expert's Report *(continued)*

The Opposing Expert Report also states the following:

We establish T&C's projected 2009 revenue at \$888,283, based on the 'Contract Stage' clients allegedly lost. We further assume that contracts acquired in 2009 would be renewed in 2010 and would provide revenue in addition to that associated with 'Proposal Stage' clients.

There are some incredible "leaps of faith" and speculation in these underlying assumptions. The Opposing Expert Report assumes that all the "contract stage" revenue would be received in 2009, as opposed to a portion being received in 2009 and portions being received in subsequent periods. It also assumes that all the same contracts received in 2009 would be renewed in all subsequent periods. This is contrary to history. On page 8 of the Opposing Expert Report, yearly revenues for T&C are shown as follows:

**TABLE 6 Revenues Per Opposing Expert Report**

Year	Revenue
2002	\$472,081
2003	291,196
2004	378,472
2005	542,278
2006	447,900

The information contained in the Opposing Expert Report contradicts its own assumption about the ability to renew contracts in subsequent periods. Revenues dropped considerably from 2002–2003 and again from 2005–2006. This undermines the unsupported assumption in the Opposing Expert Report that contracts would be renewed in subsequent years. This is part of the unsupported, speculative forecast that is the underlying premise in the Opposing Expert Report.

The Opposing Expert Report provides no data or analysis to support its conclusion that the entire amount of hypothetical "contract stage" revenue would be received in 2009. After adjusting T&C's revenues for the excess payments made by ABC Labs during 2007 and 2008, the maximum amount of T&C's revenues during 2002–2008 was \$616,563. The Opposing Expert Report assumes that T&C's revenues in 2009 will be more than 44 percent greater than T&C's best historical year.

The Opposing Expert Report continues by stating "We further assume that contracts acquired in 2009 would be renewed in 2010 and would provide revenue in addition to that associated with 'Proposal Stage' clients." Although T&C had never achieved the Opposing Expert Report's assumed level of 2009 revenues, the Opposing Expert Report also assumes that these 2009 revenues will recur in 2010 and provide a base onto which even more revenues will be added.

Adding to the speculation, the Opposing Expert Report states "Revenue in 2010 from 'Proposal Stage' clients allegedly lost are projected at \$2,655,631. Application of the aforementioned information yields total estimated revenue in 2010 of \$3,543,914 (\$888,283 + \$2,655,631)."

The Opposing Expert Report assumes that all the "proposal stage" revenues would be received in 2010 as opposed to a portion being received in 2010 and portions being received in subsequent years. The Opposing Expert Report provides no data or analysis to support its conclusion that the entire amount of hypothetical "proposal stage" revenues would be received in 2010. Again, this is speculative, at best.

After adjusting T&C's revenues for the excess payments made by ABC Labs during 2007 and 2008, the maximum amount of T&C's revenues during the period 2002–2008 was \$616,563. The Opposing Expert Report assumes that T&C's revenues in 2010 will be **more than 574 percent greater** than T&C's best historical year.

After creating a speculative revenue forecast, the Opposing Expert Report discusses its analysis to calculate the lost profits. The Opposing Expert Report states "Projected profit before management compensation is estimated at 44% of revenue." As previously discussed, T&C's actual net profit as a percentage of revenues averaged 10.5 percent during the period from 2002–2006. The Opposing Expert Report's assumption results in unsupported conclusions that lack reliability.



**EXHIBIT 26.5 Critique of An Expert's Report**

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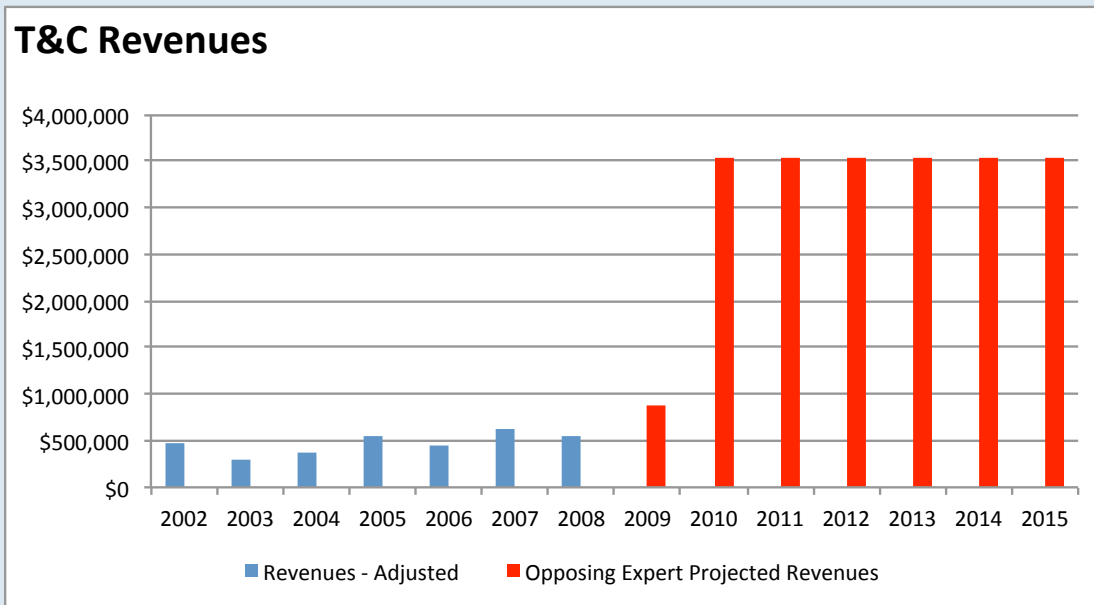
The Opposing Expert Report includes the following table:

**TABLE 7 Present Value Per Opposing Expert Report**

Year	Projected Revenue	Profit Before Management Compensation	Present Value (@ 13%)	Cumulative Present Value
(1)	(2)	(3)	(4)	(5)
2009	\$ 888,283	\$ 390,844	\$ 340,035	\$ 340,035
2010	3,543,914	1,559,322	1,356,610	1,696,645
2011	3,543,914	1,559,322	1,356,610	3,053,255
2012	3,543,914	1,559,322	1,356,610	4,409,865
2013	3,543,914	1,559,322	1,356,610	5,766,475
2014	3,543,914	1,559,322	1,379,931	7,146,406
2015	3,543,914	1,559,322	1,221,178	8,367,584

There are several problems with the data presented in this table. The Opposing Expert Report incorrectly assumes that the extremely high level of revenues projected for 2010 will recur in each year from 2011–2015. The Opposing Expert Report provides no data or analysis to support this conclusion.

Illustrated in figure 2 is the speculative forecast contained in the Opposing Expert Report; it contrasts the Opposing Expert Report's projected revenues with T&C's historical revenues as adjusted for 2007 and 2008.



As indicated in figure 2, the forecast of revenues in the Opposing Expert Report has absolutely no relationship to historical revenues. This is nothing more than a “hockey stick” forecast based on nothing but speculation.

(continued)

**EXHIBIT 26.5 Critique of An Expert's Report** *(continued)*

The Opposing Expert Report also fails to account for the fact that many companies reduced marketing expenditures during the recession, as shown in the following:

2009 created a lot of tough financial situations for businesses all across the United States. Many of them, as a result, have decreased the size of their marketing budgets drastically. In fact, in 2008, businesses in the US had spent \$77 billion. In 2009 however, businesses only spent \$67 billion dollars.<sup>28</sup>

Our Q1 2009 Global CMO Recession Online Survey reveals marketing leaders under pressure to deliver results while enduring budget cuts in excess of 20%.<sup>29</sup>

The Opposing Expert Report fails to link the loss of revenues to the alleged actions of the defendants. Instead, the report is based on unsupported assumptions that ignore current economic conditions. The Opposing Expert Report overstates forecasted revenues and understates expenses, resulting in overstated lost profits. It then compounds the loss by using an understated discount rate to reduce the inflated lost profits to present value.

The Opposing Expert Report also contains errors in the calculation of the present value of the profit before management compensation. Because the Opposing Expert Report contains insufficient narrative to properly understand the intended calculations, we did not attempt to correct the figures. We know that they are wrong because the first line is discounted, the next four lines are the same, and 2014 goes up instead of down. The calculations in this table are wrong and cannot be relied on.

We are including the following tables to highlight the magnitude of the various errors in the Opposing Expert Report that we have discussed, particularly what is reflected in table 7. These tables are solely for illustration and should not be considered our opinion of damages that T&C has allegedly suffered as a result of the actions of the defendants. We were informed that many of the documents that we requested do not exist. However, these documents would be required to perform this analysis properly and provide an opportunity for an expert to opine on this matter within a reasonable degree of economic certainty.

**TABLE 8 Damages With Opposing Expert Speculative Revenues, Incorrect Profitability, And More Reasonable Discount Rate**

Year	Profit Before Management Compensation	×	Present Value Factors @ 25%	=	Present Values
2009	\$ 390,844		1.00000		\$ 390,844
2010	1,559,322		1.00000		1,559,322
2011	1,559,322		1.00000		1,559,322
2012	1,559,322		1.00000		1,559,322
2013	1,559,322		0.80000		1,247,458
2014	1,559,322		0.64000		997,966
2015	1,559,322		0.51200		798,373
<b>Adjusted Total</b>					<b>\$8,112,607</b>
<b>Margin of Error</b>					<b>3.1%</b>

<sup>28</sup> Prager Microsystems, Inc., "Marketing Budgets Feel the Pinch in 2009 Recession," [www.pragermicrosystems.com/blog/articles/marketing-budgets-feel-the-pinch-in-2009-recession](http://www.pragermicrosystems.com/blog/articles/marketing-budgets-feel-the-pinch-in-2009-recession) (accessed February 28, 2010).

<sup>29</sup> Forrester Research, "Marketing Budgets Suffer Significant Cuts," [www.forrester.com/rb/Research/marketing\\_budgets\\_suffer\\_significant\\_cuts/q/id/47951/t/2](http://www.forrester.com/rb/Research/marketing_budgets_suffer_significant_cuts/q/id/47951/t/2) (accessed February 28, 2010).

**EXHIBIT 26.5 Critique of An Expert's Report**

By only adjusting the discount rate to a more reasonable level, the Opposing Expert Report results provide a conclusion that is off by 3.1 percent. This is the best-case scenario but is still plagued with errors in the forecasted revenues and expenses, as well as the present value calculation.

**TABLE 9 Damages With Opposing Expert Speculative Revenues and Corrected Profitability and More Reasonable Discount Rate**

	Projected Revenue	×	T&C's Historical Profitability	=	Corrected Net Income	×	Present Value Factors @ 25%	=	Present Values
2009	\$ 888,283		10.5%		\$ 93,612		1.00000		\$ 93,612
2010	3,543,914		10.5%		373,476		1.00000		373,476
2011	3,543,914		10.5%		373,476		1.00000		373,476
2012	3,543,914		10.5%		373,476		1.00000		373,476
2013	3,543,914		10.5%		373,476		0.80000		298,781
2014	3,543,914		10.5%		373,476		0.64000		239,025
2015	3,543,914		10.5%		373,476		0.51200		191,220
<b>Adjusted Total</b>									<b>\$1,943,067</b>
<b>Margin of Error</b>									<b>330.6%</b>

Correcting the profitability and using a more reasonable discount rate demonstrates that the Opposing Expert Report results are off by a margin of 330.6 percent. This cannot be relied upon.

**TABLE 10 Damages With Historical Revenues, Profitability, and More Reasonable Discount Rate**

	Historical Revenues	×	T&C's Historical Profitability	=	Corrected Net Income	×	Present Value Factors @ 25%	=	Present Values
2009	\$554,921		10.5%		\$58,481		1.00000		\$ 58,481
2010	554,921		10.5%		58,481		1.00000		58,481
2011	554,921		10.5%		58,481		1.00000		58,481
2012	554,921		10.5%		58,481		1.00000		58,481
2013	554,921		10.5%		58,481		0.80000		46,784
2014	554,921		10.5%		58,481		0.64000		37,428
2015	554,921		10.5%		58,481		0.51200		29,942
<b>Adjusted Total</b>									<b>\$348,076</b>
<b>Margin of Error</b>									<b>2304.0%</b>

The final set of calculations use historical revenues, profitability, and a reasonable discount rate and truly show the absurdity of the conclusions reached in the Opposing Expert Report. The margin of error is so great that it proves that there cannot be any basis for relying on the Opposing Expert Report because it is too unreliable.

## Conclusion

If I did my job, the information provided in this chapter about economic damages should be somewhat clearer. Hopefully, the realization is now that a person with the same skills that allows him or her to perform business valuation assignments can also perform economic damages assignments. Although this chapter is not going to make anyone an expert in the field of economic damages, it should provide more of an understanding of what an expert does in performing these assignments by using the same skill set that was discussed in the first 25 chapters of this book. Good luck!

# Chapter 27

## My Favorite Court Cases

### Learning Objectives

In this chapter, I am going to discuss some of my favorite court cases. These include the following:

- *Estate of Joyce C. Hall v. Commissioner*
- *Estate of Samuel I. Newhouse v. IRS Commissioner*
- *Charles S. Foltz et al. v. U.S. News & World Report, Inc., et al.*
- *Bernard Mandelbaum v. IRS Commissioner*
- *Mad Auto Wrecking v. IRS Commissioner*
- *Delaware Open MRI Radiology Associates, P.A. v. Howard B. Kessler, et al.*

All of these cases were included in the last edition of this book. They are still my favorite cases when it comes to teaching important valuation concepts. I keep saying that “if it ain’t broke, don’t fix it.” This is certainly true with regard to these cases. Just remember that as with all case law, the valuation analyst needs to make sure that he or she is working with an attorney if he or she plans to apply legal concepts in the assignment.

### Introduction

In order to be successful as a valuation analyst, he or she must be hungry for guidance in the stuff that he or she does for a living. I keep reading everything that I can get my hands on in the hopes that I will get better at it. The one lesson that I have learned over the past almost 35 years of doing business valuations is that on occasion, a court ruling gets issued that is well thought out and well written. I’m not being critical of the judiciary, but most opinions do not really help me understand what they did to reach the opinion.

In all fairness to the judges, many expert reports, and much of the expert testimony rendered before the courts, quite frankly, stinks. These poor judges are being asked to rule, in many cases, using expert testimony and expert reports that are *anything but* expert work. I give the judges a lot of credit (no cash, but a lot of credit) for doing their jobs as well as they do. As valuation analysts, we read court cases and do not fully appreciate how little good information was presented to the court for it to rule on.

In this chapter, I am going to discuss some of the court cases that I have found to be very helpful in doing my job because they are instructional. I find that I keep going back to them in order to get some really good valuation guidance. Just keep in mind that a valuation analyst is usually not an attorney, so he or she should not be relying on these decisions without proper guidance from an attorney.

Although I am only going to cover certain aspects of these cases, you really should read the entire court opinion. Enough of the introduction, let’s do it!

## Estate of Joyce C. Hall v. Commissioner<sup>1</sup>

### Issue: What Makes a Guideline Company?

This case involves a well-known company, Hallmark Cards, Inc. (the greeting card company) and the determination of the decedent's interest in that privately held company. The main issue that I want to discuss is the treatment given to the guideline public company method, in particular, the search for guideline public companies. Revenue Ruling 59-60 states as number 8 on the hit parade that the valuation analyst should consider

the market price of stocks of corporations engaged in the same or similar line of business and having their stocks actively traded in a free and open market, either on an exchange or over the counter.<sup>2</sup>

If you reread this statement, the guideline companies are supposed to be in the *same or similar line of business* as the subject company. Notice the word *similar*. That's what this case is all about.

In the battle between the experts, all the experts agreed on one thing: There was only one good publicly traded *comparable* company, American Greetings Corporation. The petitioner's experts selected additional guideline public companies from other industries because they believed that using only one guideline public company could be misleading—sort of like taking a poll and asking only one person who will win an election. Not a very meaningful result!

The IRS's expert made his determination based only on American Greetings (surprise, surprise!). He also ended up with values per share of the three classes of stock at more than two times those of the other two experts.

The taxpayer's initial expert, from First Boston, selected five companies as guidelines in addition to American Greetings. They were as follows:

- A.T. Cross Co. (the pen and pencil people)
- Avon Products, Inc. (the world's largest manufacturer of cosmetics, fragrances, and fashion jewelry)
- Coca-Cola Co. (the soda people)
- Lenox Inc. (the fine china folks)
- Papercraft Corp. (a manufacturer of gift wrap items)

These companies did not sell greeting cards. However, First Boston felt that these would be good guideline companies because they

- produced brand-name consumer goods,
- were leading companies in their respective industries,
- had publicly traded stocks, and
- had business and financial characteristics similar to Hallmark.

The lesson to be learned from this is if the valuation analyst looks for an exact fit, he or she will probably never find one. However, to apply the guideline public company method, the valuation analyst needs to use some imagination to set parameters for a search other than the subject company's Standard Industrial Classification (SIC) code. Sometimes, better guideline public companies may exist in different industries.

The second expert for the estate, Shearson Lehman, believed that considering several guideline public companies reduced the probability that individual characteristics, temporary market inefficiencies, or aberrations relating to one company might bias the valuation analysis.

Despite American Greetings being Hallmark's closest publicly held competitor, Shearson looked for a broad group of companies that shared one or more of the following traits with Hallmark:

<sup>1</sup> *Estate of Joyce C. Hall v. Commissioner*, 92 TC 312(RIA) (1989).

<sup>2</sup> Revenue Ruling 59-60 (1959-1 C.B. 23).

- Sold low-cost, consumer, nondurable goods through channels similar to those used by greeting card companies
- Had a stable, high-profile, quality reputation with the consumer and a leading brand name
- Sold products in which the images of both the product and the company, and the product's function, were differentiable from those of its competitors
- Sold products that involved some element of social expression

In addition to companies that met the preceding criteria (the opinion does not tell us which companies), Shearson picked four other companies that they considered comparable to Hallmark in that they were leaders in their industries. They were as follows:

- McDonald's
- Anheuser Busch
- IBM
- Coca-Cola

Hamburgers, beer, computers, and soda! Many individuals could argue that these companies are not comparable to Hallmark. This is the reason that we now call them "guideline companies." The idea is to get guidance from the market about the investing public's perception of companies that have similar investment characteristics. These companies were highly regarded by the investment community for their quality management, leading market position, and excellent financial condition. Shearson Lehman also believed that if Hallmark was a public company, it would enjoy a similar reputation.

The lesson that comes out of this case can be highlighted through some of the sections of the court's ruling. These are as follows:

- "Moreover, it is inconceivable to us that a potential buyer of Hallmark stock would consider only one alternative 'comparable,' i.e., American Greetings stock."
- "Respondent argues that it is 'simply wrong as a matter of law' to look beyond the single, publicly held company engaged in the sale of greeting cards to other companies engaged in the sale of other types of consumer nondurable goods or having similar financial characteristics. Respondent's argument too narrowly construes the concept of comparability and ignores the use of 'similar' as well as 'same' in section 2031(b). Respondent relies on *Northern Trust Co., Transferee v. Commissioner*, 87 TC 349, 376 (1986), aff'd sub nom. *Citizens Bank & Trust Co., Transferee v. Commissioner*, 87 TC 349, 376 1249 (7th Cir. 1988). That case, however, rejected expert opinions based on companies that were found to be noncomparable and concluded that 'the market comparable approach is not available in this case.' 87 TC at 377. That opinion does not justify using a market comparable approach based on a single competitor."
- "Overall, we can only conclude that PCA [the IRS expert] was instructed to prepare and did prepare an analysis that led to an artificial and excessive value for the Hallmark stock. In contrast to PCA, petitioner's experts acted reasonably in selecting comparable companies in the similar business of consumer nondurable goods, in drawing conclusions based upon careful comparisons of Hallmark with individual comparables."

So, what does this tell us? Similar does not mean an exact fit. Using the guideline public company method requires the valuation analyst to look beyond the obvious in the search for companies that can provide guidance from the market. This case is excellent in reiterating the very essence of the market approach.

## ***Estate of Samuel I. Newhouse v. Commissioner*<sup>3</sup>**

### **Issue: Different Classes of Willing Buyers Result in Different Values**

This was in an earlier chapter, but it is worth repeating here. This case is another excellent learning tool. The theme that I am going to highlight is only a small, but important, part of the case. Valuations that are performed for estate tax purposes must use the fair market value standard of value. Valuation theory tells us that fair market value assumes a hypothetical transaction between a hypothetical willing buyer and a hypothetical willing seller. This case addresses the issue of fair market value "to whom."

<sup>3</sup> *Estate of Samuel I. Newhouse v. Commissioner*, 94 TC 193(RIA) (1990).

Fair market value deals with the hypothetical willing buyer and willing seller. This case addressed the issue of which class of willing buyer should be considered in the determination of fair market value. Valuation analysts frequently use terms such as strategic or synergistic buyer. We immediately respond by stating that if there is a strategic or synergistic buyer involved, the value determined would represent investment value and not fair market value. This is not always correct.

Part of the determination of fair market value requires the valuation analyst to determine the likely market for the property. Clearly, the willing seller, if prudent, will look to sell the property in the market that would bring him or her the greatest price.

The Newhouse case examined four classes of potential investors. They were as follows:

- Passive investor
- Active investor
- Control investor
- Public investor

Goldman Sachs analyzed these four categories of investors as all being valid willing buyers in the definition of *fair market value*. The court's opinion discusses the different types of investors. The subject company of the valuation is referred to as "Advance." Important descriptions from the opinion are excerpted in box 27.1.

#### **BOX 27.1**      **Classes of Potential Investors**

- A passive investor would not be interested in managing Advance and would not attempt to wrest control from management. Expecting to realize value from dividends and private resale, the passive investor would not expect to extract value from Advance through liquidation, merger, or public offering. The passive investor would consider that Advance's stock was not publicly traded, which would depress expectations of resale value. Due to this illiquidity, lack of control, and the uncertainties and constraints affecting the purchase, Goldman Sachs concluded that the passive investor would have offered 30 percent less than the public trading market value of the common stock and, thus, only \$141 million for the common stock.
- The active investor would be inclined to pursue action, short of seeking control, that would quickly maximize the return on his investment. One course of action would be to declare a dividend of Advance's excess cash and any funds that could be obtained through borrowing. Because of the high prevailing interest rate and planned capital expenditures, the common shareholder could extract no more than \$74 million of excess cash plus loan proceeds. Advance also had \$145 million of excess cash, which could be distributed with the loan proceeds. Because of the time and uncertainty involved in this plan of action, the active investor would pay no more than 85 percent of the amount he hoped to extract. This figure would be far less than the \$141 million the passive investor would be willing to pay.

Alternatively, the active investor might cause the excess cash to be distributed immediately and then cause Advance to pay dividends at the highest possible level. Assuming that the active investor would insist on an after-tax yield on his investment of about 13 percent or 14 percent, Goldman Sachs concluded that the active investor would be willing to pay \$150 million for the Advance common stock.

- A control investor would have purchased the Advance common stock with the goal of acquiring 100 percent of the equity ownership and control of the company. A control investor would hope to realize value from his purchase by dividend distributions, liquidation, or merger, but Advance's unusual capital structure would prevent the latter two courses of action without eliminating the preferred stock or securing their consent. The preferred had the right to block liquidation. Because the common's power to effect a merger adverse to the preferred's interests was so uncertain, Goldman Sachs concluded that any willing buyer, as a matter of sound business judgment, would analyze the value of the common as if that option were foreclosed. Goldman Sachs' analysis is persuasive.
- Goldman Sachs concluded that only another media company would be interested in acquiring Advance and that none of the major media companies would have considered buying the common stock without first eliminating the claims of the preferred shareholders. Because the control investor would assume that he could not receive anything except 22 percent of the highest level of dividends declared, he would be in the same position as the active investor and would pay no more than what the active investor would pay, that is, \$150 million.

*(Box continued)*



**BOX 27.1****Classes of Potential Investors** *(continued)*

- Goldman Sachs concluded that an underwritten public offering would be the best way to sell the Advance common stock, requiring the three different types of stock to be recapitalized into a single class. Goldman Sachs' research indicated that in approximately half of the transactions in which voting control was transferred, the buyers paid a premium for control. Goldman Sachs concluded that no control premium was warranted. Goldman Sachs then determined that, after exchanging the class A common stock 1 for 3, and the class B common and the preferred stock one for one, the offering price would be \$25 per share, subject to a 7 percent discount. The price for all the shares would be \$778 million, and for petitioner's shares, it would be \$176 million.
- Because the benchmark value for a public offering, \$176 million, was the highest value, Goldman Sachs concluded that the value of petitioner's Advance common stock was \$176 million on February 29, 1980.

In an older AICPA self-study program that is no longer being sold, *Business Valuation Methods*, Alan Zipp discussed the categories of investor. He stated the following:

***The Passive Investor***

A passive investor would not be interested in managing the business. He would expect to realize value from dividends and resale and not from liquidation, merger, or public offering. Although, the passive investor neither controls management, business operations, nor cash flow, he would expect to have some influence on management to increase dividends in the future. The passive investor would consider a depressed resale value because a closely held company is not publicly traded. Due to this illiquidity, lack of control, the uncertainties of future dividends, and constraints affecting a resale, a passive investor would be willing to purchase the business only at a substantial discount, of perhaps 30% or more.

***The Active Investor***

The active investor would be inclined to pursue action, short of seeking control, that would quickly maximize the return on his investment. One course of action would be to pressure the control interest to declare a dividend. Continuous pressure on management to promote business growth and to distribute dividends would be the role of the active investor. Because of the time and uncertainty involved in this plan of action, the active investor would pay no more than 85% of the amount he hoped to extract as dividend distributions.

***The Control Investor***

The control investor would purchase an interest in a business with the goal of acquiring 100% of the equity ownership and control of the company. A control investor would hope to realize value from his purchase through excess salary and fringe benefits, dividend distributions, liquidation, merger, or perhaps a public offering. A control investor, being in a position to determine the timing and amount of dividend distributions, salary and fringe benefits, and liquidation or sale prospects, would be willing to pay about 90% of the amount he expects to receive.

***The Public Investor***

The public investor would purchase a business interest with the full acceptance of being a minority stockholder and having no influence over business operations. The public investor would hope to realize value from his purchase in the appreciation in value of the investment, along with dividends received. The public investor would only consider historical dividends, even though the company had the ability to pay higher dividends, because the public investor is not inclined to seek larger distributions. The public investor, unlike the passive investor, would make the investment only if the company planned to make a public or private offering creating a market for the shares. Therefore,

in addition to a substantial discount for the lack of control and influence, illiquidity, uncertainty of future dividends, and risk of liquidation, the public investor would want a discount for the costs associated with the underwriting of a public or private offering, from 5% to 20%. Hence, the public investor in a closely held business would expect a discount from 35% to 55% or more.

The importance of this case is that it explicitly contends that the willing buyer of a company can be any number of possible buyers with varying intentions and return on investment requirements. The result of such a conclusion is the creation of an awareness that one type of buyer, based on his or her intentions, will pay a much different price than that of another buyer. As discussed previously, there are many different traits and factors that must be considered. The review of such issues is not relegated only to those mentioned within this case summary. The motivations for investment for the different classes of willing buyers can vary greatly. The difficult part of this exercise is to identify as many of the different classes of buyers as possible. Identifying the numerous reasons why one investor differs from another will support the existence of a difference in value even for the same company.

Although this portion of the willing buyer analysis is rational and sound, it is frequently overlooked. The process of valuation must consider all factors, regardless of whether they are used in the final conclusions of the report. Ensuring that all variables have been analyzed will justify conclusions better than by ignoring them.

The valuation analyst is faced with the challenge of defining the market for the subject interest being valued. Just keep in mind that the market should represent a rational, knowledgeable buyer and not the biggest fool who will pay the most for the property. Fools don't count!

## Charles S. Foltz v. U.S. News & World Report, Inc.<sup>4</sup>

### Issue: Excess Asset and the Minority Interest

These lawsuits are oldies but goodies. They were brought by retirees of *U.S. News & World Report* who felt they were underpaid at retirement because the stock of *U.S. News & World Report, Inc.*, a closely held company, was undervalued by the independent valuation analysts for the nine-year period from 1973–1981. I wonder why they woke up after nine years?

Well, this case got everyone sued, the company, certain directors, the profit-sharing plan that held the stock, and the valuation analyst. Not sure why anyone would really want to do this stuff.

Some quick background—*U.S. News* had a profit-sharing plan that worked like an employee stock ownership plan (ESOP). When employees retired, they were paid fair market value for their shares. As time went by, the company purchased real estate near its headquarters located in Washington, D.C. The value of this real estate started to climb during the 1970s. There were discussions about developing the real estate for alternative uses, but nothing was done about it until 1981.

In the court's opinion, Judge Barrington D. Parker stated that "the central issue requiring resolution in this litigation has always been the propriety of the methodology employed in appraising the *U.S. News* stock." The primary valuation issues in the case are outlined in box 27.2 and discussed in the following sections.

#### BOX 27.2

#### Case Issues

- Control versus minority valuation basis
- Discount for lack of marketability (DLOM)
- Importance of real estate and other assets
- Subsequent events

### Control Versus Minority Valuation Basis

The annual valuations valued the stock on a minority basis. Plaintiffs contended that the stock should have been valued on a control basis.

<sup>4</sup> *Charles S. Foltz, et al., v. U.S. News & World Report, Inc., et al., and David B. Richardson, et al., v. U.S. News & World Report, Inc., et al.* U.S. District Court, District of Columbia, Civil Actions No. 84-0447 and 85-2195, June 22, 1987. (The Foltz case, a class action, dealt with the years 1973–1980; the Richardson case, not a class action, covered 1981.)

## Discounts for Lack of Marketability

Almost all the annual valuations applied a 10 percent discount for lack of marketability (DLOM). The plaintiffs contended that no DLOM should have been applied. Unlike today's ESOPs, the stock had no put option. The company had a call option at the conclusion of value, which it exercised consistently to retire stock from the stock bonus plan when employees left. Most of the calls were for cash, but on occasion, the company exercised its option to purchase the stock on extended terms, at a low interest rate, which the call option permitted.

## Importance of Real Estate and Other Assets

The annual valuations placed various weights on the real estate values in different years, depending on the facts and circumstances at that time. In all valuations, the primary emphasis was on the earnings power of the company. Plaintiffs contended that more weight should have been given to the analysis and values of the real estate and other assets.

## Subsequent Events

The annual valuations valued the stock on a going concern basis, taking into consideration only facts and circumstances that were known or knowable as of the valuation date. Plaintiffs contended that prospects for future changes, such as a synergistic buyer of the company who might be willing to pay more for the company, should have been considered and reflected in the annual valuations. The company was sold in 1984 for a lot more than the conclusion of value.

Judge Parker's decision is good reading as a learning tool. The court concluded, "After consideration of the expert testimony presented, The Court is not persuaded that the per-share price arrived at each year by American Appraisal did not fall within a reasonable range of acceptable values." Let's hear it for the valuation analysts!

## Control Versus Minority

On this point, The Court stated the following:

Because the terms of the U.S. News plan did not contemplate anything other than a series of minority-interest transactions... the valuation of its stock on a minority basis does not offend ERISA...

Various individuals concurrently held undivided, minority interests in a control block of stock... The mere fact that Plan members' interests, if added together, amounted to a majority of the outstanding shares in the company, does not, standing alone, entitle them to a pro rata control value.

The judge not only discussed the control versus minority issue, but he also strongly supported the acceptance of valuation analysts' judgment when reasonable alternatives were available:

Clearly, in the absence of any statutory, administrative, or judicial authority for the proposition that a control value might have been indicated, defendants cannot be faulted for employing a minority valuation...ERISA does not require plan fiduciaries to maximize the benefits of departing employees...; it only requires them to make a reasonable choice from among possible alternatives.

The court also noted that the minority interest valuation was consistent with the valuation methodology used when the plan purchased its stock in 1962 and 1966. Consistency is the key in this business. With respect to the voting trust that was part of the profit-sharing plan, the court noted the following:

It is well recognized that, not only does the existence of a voting trust fail to make the underlying stock more valuable, it most often decreases the value of those shares... Defendants would have been justified in reducing the value of the company's stock to reflect the impediment that the trust placed against the full enjoyment of the rights that would ordinarily have attached to the stock.

## Discounts for Lack of Marketability

Here, The Court noted that

the Company was under no obligation to repurchase the stock. It had, rather, an option to call the stock... Moreover, ... the Company could—and from time to time did—exercise its option . . . to pay for the stock on terms that would not have been accepted gladly by an outside investor... The modest 10 percent marketability discount that American Appraisal applied generally to the U.S. News stock in the aggregate was perfectly appropriate.

## Real Estate and Other Assets

Judge Parker said the following:

In a minority valuation... assets may or may not play an important part in arriving at a per-share figure, because a minority shareholder cannot reach those assets... Generally speaking, if the valuation being undertaken is of a business, such as U.S. News, that produces goods or services, primary consideration will be given to the earnings of the company and the resultant return on a shareholder's investment.

## Subsequent Events

In this regard, The Court found that

the approach to be used is not retrospective, but prospective. One must look at the situation as of the time that each employee separated from the Company. Therefore, the appropriate inquiry is whether the Company was properly valued during the class period, not whether former employees become eligible for a greater share of benefits upon the contingency of a subsequent sale.

With respect to possible future development of the real estate holdings, Judge Parker cited testimony that

[a]ny realizable value should be attributed to the real estate only “if it was evident that the controlling interest had a firm and clear intent to dispose of the real estate within a very short or reasonable period of time [, that is,] absolute evidence... not mere development plans.”

Several valuable lessons can be learned from this case. One of the most important lessons is the concept that because a minority stockholder does not have the ability to reach the underlying assets of the corporation, only a minor amount of weight, if any, should be given to the value of these assets. Modern valuation theory addresses this as one of the prerogatives of control.

Another lesson is that valuation is a prospective process and not a retrospective process. I strongly urge you to read the entire case. We cite a portion of the opinion when we value minority interests (see exhibit 27.1).

### EXHIBIT 27.1 Partial Discussion—Minority Interest Report

**DESCRIPTION OF THE ASSIGNMENT.** Trugman Valuation Associates, Inc. was retained by Howard Bros., Inc. to determine the fair market value of Howard Bros., Inc., a New Jersey corporation, on a minority basis as of December 19, 2000. The purpose of this valuation is to determine the value of the shares for potential gifts that will be made.

**THE ASSET-BASED APPROACH.** The asset-based approach, sometimes referred to as the cost approach, is an asset-oriented approach, rather than a market-oriented approach. Each component of a business is valued separately and then summed up to derive the total value of the enterprise.

The valuation analyst estimates value, using this approach, by estimating the cost of duplicating or replacing the individual elements of the business property being appraised, item by item, asset by asset.

### EXHIBIT 27.1 Partial Discussion—Minority Interest Report

The tangible assets of the business are valued using this approach, although it cannot be used alone because many businesses have intangible value, as well, to which this approach cannot be applied.

This approach is generally inappropriate for a minority interest unless the shareholder has the right to liquidate or sell off the assets and liabilities of the company. Because minority shareholders cannot realize the value of the net assets, regardless of the amount of appreciation that may have taken place, it is inappropriate for the valuation analyst to apply this methodology for most minority stock valuations. This concept was discussed by The Court in *U.S. News & World Report, Inc.*,<sup>1</sup> in which the plaintiffs claimed that they were underpaid for the value of their shares of stock in the company.

The essence of the case was the fact that there was significantly appreciated real estate that had not been considered by the valuation analyst when the shares of stock were valued on a minority basis. In this matter, the court cited testimony that

Any realizable value should be attributed to the real estate only if it was evident that the controlling interest had a firm and clear intent to dispose of the real estate within a very short or reasonable period of time....

This same process applies to all balance sheet items because the minority shareholder cannot realize proceeds from an event that he or she cannot control.

<sup>1</sup> *Charles S. Foltz, et al., v. U.S. News & World Report, Inc., et al., and David B. Richardson, et al., v. U.S. News & World Report, Inc., et al.*, U.S. District Court, District of Columbia, Civil Actions No. 84-0447 and 85-2195, June 22, 1987.

## Bernard Mandelbaum, et al. v. IRS Commissioner<sup>5</sup>

### Issue: Discount for Lack of Marketability

Many court cases involve multiple issues. However, *Bernard Mandelbaum et al. v. Commissioner* relates to only one aspect of the valuation universe, namely the DLOM.

In discussing the DLOM and how it fits in with this case, let's first discuss some of the background regarding the opposing arguments. There were six dates in which shares of the valuation subject (Big M), were gifted from shareholders to other parties. These gifts required the filing of gift tax returns covering dates from 1986–1990.

One issue needs to be mentioned here. The Big M stock was subject to two shareholder agreements. The first agreement required that any positions on the board that became vacant be filled by current members and that the new directors be either current shareholders or their spouses. Upon death, the shares were to be sold to Big M, and the company had sole discretion over what period of time they would pay for the shares. The company also had a right of first refusal for live shareholders (as opposed to dead ones), and again, could determine the time period for the purchase. The company had 90 days to decide whether it would exercise its purchase option.

The second agreement was pretty similar to the first, but if someone wanted out, they had to offer their shares to family members before they could sell to outsiders. These types of agreements are not terribly unusual, except for the provision that allows the company to have sole discretion over the time period for the payout.

To support its determination of value and, therefore, calculation of the taxpayers' deficiency, the respondent's expert concluded an applicable DLOM of 30 percent for the gifted shares on the 6 dates in question. This discount level was calculated relying on three of the restricted stock studies discussed in chapter 15. These studies provided a range of DLOMs between 30 percent and 35 percent.

<sup>5</sup> *Bernard Mandelbaum et al. v. IRS Commissioner*, TC Memo 1995-255(RIA).

On the other side, the petitioner, Bernard Mandelbaum and family, utilized the services of another expert to support the values reported on their gift tax returns for the specified dates. To find an applicable DLOM, the petitioner's expert employed a similar analysis to that of the respondent's expert. However, the petitioner's expert used 10 studies, including the three used by the respondent's expert, to determine an acceptable range of DLOMs. Furthermore, the petitioner's expert also took into account the details of Big M's shareholder agreements and prior events involving the company and shareholders. Based upon these considerations, and the 10 studies that included seven restricted stock studies and three pre-IPO studies, the petitioner's expert concluded that a 75 percent DLOM applied for the valuation dates from 1986–1989, and a 70 percent DLOM was applicable for the dates in 1990.

The discounts that were concluded were substantially higher than the discounts included in the 10 studies analyzed because of the petitioner's expert's analysis of the restrictions placed upon the company's shares by the shareholders' agreements. Also, he interviewed employees of investment firms to determine the required rate of return of potential investors. These returns ranged from 25 percent to 40 percent. As a result of this, the petitioner's expert determined that a rate between 35 percent and 40 percent would be appropriate for Big M.

After listening to both experts, Judge David Laro gave no weight to either side's expert. First, the court discussed the respondent's expert, his determination of a DLOM, and the resulting value of the gifted shares for the subject dates. Judge Laro did not like the fact that the respondent's expert compared this private company's shares to restricted stocks of public companies, while choosing to ignore the shareholders' agreements.

Also, The Court found additional fault with the respondent's expert's conclusions because of his use of such a limited number of restricted stock studies when several others existed. Using the studies as the basis of a range without considering the inherent differences between the subject company and the companies included in the analyses did not conform to what The Court felt was a reasonable and justified comparison. To say the least, the judge did not seem impressed.

Analyzing the petitioner's expert, The Court found several faults with the basis of his conclusions. He was less impressed with the petitioner's expert. It was determined that the expert put too much weight on the shareholders' agreement within the conclusion of the DLOM. While Judge Laro stated that the respondent's expert's conclusions mistakenly left out the effect of the agreements, he felt that the petitioner's expert placed too much emphasis upon them.

The biggest problem that The Court found with the petitioner's expert's opinion is that his analysis did not look at both a willing seller and a willing buyer, it only considered the hypothetical buyer. Judge Laro felt that no shareholder would be willing to sell Big M stock at such a large discount. He was probably correct! The Court also was not too thrilled with the petitioner's expert's analysis that indicated that the shareholders would be stuck holding the stock for a 10- to 20-year period.

The second theme that Judge Laro discusses in his opinion is how closely the experts followed the valuation guidelines set forth by the definition of fair market value. In critiquing the petitioner's expert, The Court stated that his analysis lacked the consideration of a willing seller. The judge did not believe that a willing seller would have accepted such a large discount. Also, when trying to reflect the characteristics of a willing buyer, the petitioner's expert erred in developing a comparable group of possible investors. According to The Court, the group of investors that the petitioner's expert attempted to use as a surrogate did not reflect a good sample of willing buyers. For these reasons, Judge Laro did not hold either analysis in high regard and, for the most part, left them out of his resolution of the correct DLOM value.

Because Judge Laro did not find any value in either experts' analysis, he took on the responsibility of concluding a DLOM for application to the value of Big M's share price on each of the valuation dates. This is where I take my hat off to Judge Laro. Although I may not agree with all the factors that he discusses in his opinion, it is clear that he gave more thought to getting at a reasonable DLOM than either expert did. When you read this opinion, think of the 11 factors from the Moroney article that I discussed in chapter 15. Judge Laro attempted to do a similar analysis with some slightly different factors.

The reason that I like this opinion is not because of the conclusion. Reading this opinion provides me with a great idea of what the judge was thinking when pure mathematics would not allow him (or a valuation analyst) to quantify the DLOM. He looked at qualitative factors and elaborated on each regarding the impact on the DLOM. This is exactly what I suggested the valuation analyst do to support his or her opinion.

Before I tell you what I don't agree with (and why), let's look at the factors considered by Judge Laro (box 27.3) and discuss each item.

## Private Versus Public Sales of the Stock

This factor was used by the court because the studies reflect transactions of securities with similar attributes to that of privately held stock. *Restricted stock* is stock of a public corporation, but to avoid dilution and registration costs, is not registered for trading within the public market. However, these shares of stock can be traded privately, mirroring the transaction characteristics of a closely held company. Because these transactions were required to be registered with the SEC until 1990, analysis was permitted, resulting in the creation of the studies. As a result, Judge Laro started his analysis by using the 35 percent to 45 percent discounts from these studies as a benchmark.

### BOX 27.3

#### Factors Considered by Judge Laro

- Private versus public sales of stock
- Financial statement analysis
- Company's dividend policy
- Nature of the company, its history, its position in the industry, and its economic outlook
- Company's management
- Amount of control in transferred shares
- Restrictions on transferability of stock
- Holding period for stock
- Company's redemption policy
- Costs associated with making a public offering

## Financial Statement Analysis

The purpose of including this factor in the analysis was to reflect the notion that a company with favorable financial characteristics would be attractive to willing investors. This attractiveness will result in added marketability. On the other hand, if the company's financial position is weak, it would be less marketable.

Because companies are involved in their own respective industries, this analysis should be done according to publicly traded industry competitors that share similar operating characteristics so that the subject company can be rated accordingly. The purpose of using this factor is to rate and highlight the financial characteristics of a firm according to such items as income, liquidity, and debt. This sounds like a guideline public company analysis.

## Company's Dividend Policy

In determining a company's attractiveness, most investors will look to see what type of dividend-paying history the company has. Investors purchase a company's stock for one of three reasons:

1. To realize capital appreciation in the stock's price
2. To receive dividend payments over the course of owning the security
3. To realize a combination of reasons 1 and 2

The company's dividend policy, either payment history or capacity for payment, as in this case, will increase the attractiveness and, therefore, marketability of a firm's stock. If an investor can receive dividend payments on top of potential appreciation, there may be additional individuals who want to purchase the stock. This has the potential of increasing marketability, resulting in a decreasing effect upon a DLOM for a privately held stock.

## Nature of the Company, Its History, Its Position in the Industry, and Its Economic Outlook

In general, business performance varies in relationship to the economy. Businesses can be affected by global, national, and local events. For industry purposes, changes in regulatory environments and market forces will also have an impact upon the attractiveness of a company.

Investors will analyze a company's background, industry, and the economic factors that affect it, so that they will have a better idea of what to base future expectations on. This is done to determine where the company is heading and how that will affect its attractiveness to potential investors.

## Company's Management

Because the operations and goals of a company are determined by management, their experience and involvement are fundamental when assessing attractiveness. The management team is responsible for the company's performance. If investors lack confidence in a company's management, the organization will lose marketability because some investors will not be interested in stock ownership. Based upon the conclusion of the management team's effect upon operations and financial performance, according to Judge Laro, this factor's effect upon the DLOM can be determined.

## Amount of Control in Transferred Shares

When a company's stock is transferred in blocks, a block that represents control will have additional appeal over a block without such control. This is true because, as a block of stock has more control, a potential investor will have the ability to direct and run a company using his or her procedures and guidelines (or whims!).

This will affect the attractiveness of a company's stock, depending on the type of investor. In some, but not all occasions, investors will not address this factor in determining the attractiveness of a company because control is not an issue.

## Restrictions on Transferability of Stock

The more restrictive it is to transfer shares, the less marketable the shares will be. This is why we see so many attorneys who draft family limited partnership agreements put in these really stringent restrictions, for example, you cannot sell your shares unless the sky becomes pink with yellow polka dots. In this case, the judge felt that because the shareholder agreements did not fix a price, there was less of a restriction in selling to an outsider.

## Holding Period for Stock

In some instances, a company's stock may have to be held for a period of time so that the benefits of ownership can accumulate to create a sufficient profit for the investor. Such an event would cause the security to lose some of its marketability because of the need to maintain ownership. This increases market risk while marketability decreases. The holding period is essential for calculating marketability levels and the resulting DLOM because it is a direct determinant of how quickly an individual can purchase a stock and turn around and sell it in the future.

## Company's Redemption Policy

This factor is important because it will determine if the company can purchase shares from shareholders so that they can gain access to cash. This analysis will indicate how the company can aid in, or detract from, its stock's liquidity. This is especially important for privately held firms because of the nonexistence of a ready market. If a company readily buys back shares, this will increase the liquidity of those shares, thereby increasing marketability. However, if the opposite is true, then the stock of the company is less marketable because another option for sale is removed.

## Costs Associated With Making a Public Offering

When determining the value of a privately held stock, the cost to make a public offering is typically incorporated within the analysis. This is due to the need for determining which party is required to realize the costs of registering the security. In the case in which the buyer must bear the expense, marketability will decrease because some investors will not consider such a transaction as an option because of the cost. This event causes the pool of potential investors to decrease. If the investor does not have to absorb this cost when making the purchase, the marketability of the stock will be greater. This factor is directly related to economics because as the expense of purchases goes up, demand will decrease and vice-versa.



I mentioned before that I do not agree with everything in this case. In my humble opinion, I believe that Judge Laro mixed up some issues that affect risk and not liquidity. Although there may be a fine line, and possibly an overlap, I think that many of the factors discussed by Judge Laro affect the freely traded value of the stock, and liquidity, to a much lesser degree. The factors that bother me the most are as follows:

- Financial statement analysis
- Dividend capacity and growth prospects
- Nature of company, its history, its position in the industry, and its economic outlook
- Management

If you read Revenue Ruling 59-60, you'll recall that it indicates that eight factors assist us in the valuation of the closely held stock. The four factors that I have listed previously affect the underlying valuation. They should not affect both the freely traded value and liquidity. Although I fully agree that dividends will lower the DLOM due to the mitigation of the holding period risk, dividend-paying capacity is considered in valuing an interest in a company.

However, overall, I still think that this is a great case to read.

## **Mad Auto Wrecking Inc. v. Commissioner<sup>6</sup>**

### **Issue: Reasonable Compensation**

The case of *Mad Auto Wrecking Inc. v. Commissioner* deals with the subject of reasonable compensation for key personnel within a privately held business. Although this is not a business valuation case, I really like this one because as valuation analysts, we are always dealing with reasonable compensation. Before we begin, let me just make one comment. Reasonable compensation issues arise in a different context for income tax purposes than valuation matters do. Income tax cases generally address the reasonableness of the compensation based on the requirements for deductibility under IRC Section 162. The issue becomes one of a historical nature. Valuation, on the other hand, is prospective in nature. The issue that we generally deal with is what *will* be the cost of replacing the officers, rather than what should they have received in the past.

Despite it being an income tax case, *Mad Auto Wrecking* is a really good case because it gives valuation analysts great guidance about the factors to consider in assessing reasonable compensation. Just remember the context of the case.

Mad Auto Wrecking is a high volume, wholesale scrap business that purchases automobiles, removes usable parts, and offers the frames up for sale as scrap metal. The company then takes the reusable parts and sells them at wholesale prices.

As with the vast majority of small businesses, owners must put in a lot of time to ensure that the business remains productive and profitable. This situation was no different. The 2, equal owners worked between 60 and 70 hours per week, 52 weeks per year.

The issue in this case involved the reasonableness of the officers' compensation for the years 1989, 1990, and 1991. Mad Auto's compensation figures are shown in table 27.1 on the following page. As you can see from the data in table 27.1, officers' compensation was a pretty high percentage of gross receipts. The IRS was not happy with this and felt that less should be allowed, and the excess should be treated as a dividend. We accountants call that *double taxation*.

<sup>6</sup> *Mad Auto Wrecking Inc. v. Commissioner*, TC Memo 1995-153(RIA).

**TABLE 27.1 Mad Auto Wrecking Compensation Figures: 1989–1991**

	Gross Receipts	Taxable Net Income	Officers' Compensation
1989	\$2,554,942	\$67,690	\$856,000
1990	2,169,125	56,974	606,000
1991	1,884,853	(22,199)	711,000

The concept of reasonable compensation is something that depends on the facts and circumstances. Judge Laro (the *Mandelbaum* judge) wrote another really good opinion in this case. The judge was very methodical in the opinion and cites other good case law, and eventually concluded that the compensation paid was reasonable. The elements considered by the court are summarized in box 27.4.

**BOX 27.4 Factors Considered by the Court**

- The employee's qualifications
- The nature, extent, and scope of the employee's work
- The size and complexities of the employer's business
- A comparison of salaries paid with the employer's gross and net income
- The prevailing general economic conditions
- A comparison of salaries with distributions to shareholders and retained earnings
- The prevailing rates of compensation for comparable positions in comparable concerns
- The salary policy of the employer for all employees
- The amount of compensation paid to the particular employee in previous years
- The employer's financial condition
- Whether the employer and employee dealt at arm's length
- Whether the employee guaranteed the employer's debt
- Whether the employer offered a pension plan or profit-sharing plan to its employees
- Whether the employee was reimbursed by the employer for business expenses that the employee paid personally

To effectively understand how each of these factors aided the court in this decision, and how it helps valuation analysts, we will look at the summaries of each factor.

## Employee's Qualifications

The first pertinent factor that requires analysis is to determine whether an employee's background is applicable to the fiscal status of the company for which he or she works. This background includes several aspects of an employee's familiarity with various components of the type of business in which he or she is involved. These essential items include experience, training, and education in a field related to the operations at hand. As with the vast majority of business and organizational positions, these three fundamentals are the basis for a conclusion about the degree that a worker is qualified for the function in which he or she is delegated. This preliminary detail in the reasonableness of compensation analysis allows a valuation analyst to locate a foundation on which to create an opinion of an employee's value to the organization.

## Nature, Extent, and Scope of the Employee's Work

This factor is analyzed so that it can be seen how important and involved an employee is in relation to the operations of the business. To analyze this factor, the positions and responsibilities of those positions are looked at to determine the number and depth of tasks completed by the employee.

In addition to viewing the positions held by the employee, and the resulting obligations inherent with the positions, one must also look at the effects of the employee's activities on the business' bottom line, as well as

the consequences if the worker was to leave the organization. By completing these examinations, an analyst will be able to better estimate the employee's impact upon the company, both positive and negative. This will allow the forecast of various scenarios of the employee's employment status so that a clear explanation of the value of the employee can be given.

### Size and Complexities of the Employer's Business

This element of the overall inspection of reasonable compensation is utilized to further affect the previous two factors. A small, simple operation will require a less-experienced, less-involved employee than one on the opposite side of the spectrum. The degree of an employee's specialization is also affected by this element. The replaceability of an employee can be resolved through the analysis of this factor in relation to the earlier ones.

Also of note within this section of the analysis is how the employee, using his or her qualifications in tandem with the comprehensiveness of the employee's position, affected the actual procedures of the business. With regard to key employees, the skills and abilities they hold are typically not shared by those under their control. Therefore, it is advisable for one doing this analysis to consider how the employee has worked to implement his or her knowledge in creating efficient and simplified procedures so that other, lower-level employees can be quickly replaced to ensure that the time that operations are interrupted, as a result of an employee change, is minimal.

### Comparison of Salaries Paid to Net and Gross Income

This factor is included to determine whether these values can be considered excessive in light of the concluded status of the previously discussed elements of reasonable compensation. Had those factors necessitated a conclusion that a key employee was not as vital as specified by the company, the values seen in this portion of the analysis would be expected to be low. However, had the employee been favored by inspection of the prior factors, it would be expected that these percentages would be somewhat higher. Again, as with the previous factor, this analyzed component is based upon the conclusions reached earlier.

### General Economic Conditions

Examining whether the employee's involvement affected the operation is completed by reviewing the company's performance during varying economic conditions. Analyzing the results of the business processes will determine whether, based upon their degree of involvement, a key employee has important skills to buoy financial results. This factor is important within the analysis because it enables an analyst to find out how the existence of the employee within the organization can direct and dictate the success of a firm's operations during times of uncertainty.

### Comparison of Salaries With Distributions to Shareholders and Retained Earnings

This part of the reasonable compensation analysis is done to conclude whether some of the compensation paid is actually dividends. This may be done, especially when the key employees are the only shareholders.

This analysis must be done, keeping in mind the importance of the key employees in relation to the level of growth realized by the company. Its dividends are paid out of funds that could be kept for reinvestment and expansion. If growth of operations is absent, the conclusion that parts of compensation are really dividend payments may be viable when no dividend history exists.

### Prevailing Rates of Compensation for Comparable Positions in Comparable Companies

Over the course of this analysis, some weight must be given to the activities of competing comparative companies. This is done to resolve whether, in the specific situation at hand, the levels of compensation of the key employee are normal for the specific industry.

In completing this segment, one should look to find companies that are closest to the subject company in terms of several business characteristics deemed important in the operations, whether it be organizational traits, product type, customers, and so on.

Once this comparison is completed, it will be determined if the levels of compensation for the key employees are reasonable. However, adjustments to this comparison must be made to assess the differing characteristics between the guideline firms and the subject company. After these individual adjustments are completed, then a final conclusion can be made. This almost sounds like valuation, doesn't it?

## Employer's Salary Policy for All Employees

Regardless of the employee's involvement, qualifications or ownership status, he or she should be compensated on the same basis as other workers. It is expected that because of his or her key importance, he or she will be given a greater amount of compensation. However, the basis should be relatively the same for all workers. Employees overcompensated in relation to the provisions of their services and the salaries of other employees will be apparent upon completion of this analysis.

These individuals and their respective compensation should be viewed in a framework of substitution. This analysis requires the estimation of the reasonableness of the compensation in the event the position was filled by another individual with more generic attributes. Also, some consideration should be given to the determination of compensation if the employee in question is an owner and decides his or her salary. This characteristic should be removed to conclude whether a hypothetical owner would act in the same way.

## Compensation Paid in Prior Years

Analyzing the levels realized in previous time periods will allow for the development of a trend analysis. This is done to determine if any of the subject periods show up as exceptions to a developed pattern. If one does exist, it must somehow be related to the performance of the company because this will almost always affect a key employee's level of compensation. Changes in any of the employee's responsibilities should also be reviewed because this will also adversely affect the subject year's compensation value in relation to any developed trend.

Don't overlook whether payments for services are accrued according to services performed in the past or expected to be done in the future period. This event would constitute a normalization of compensation to correctly match the payment with the initiation and completion of the services.

## Employer's Past and Present Financial Condition

The company's fiscal performance will generally be attributable to the actions of a key employee. This consideration is important because the financial condition of the company will allow greater or lesser amounts of compensation to be paid.

Basically, as the performance and profitability of the subject company varies, so should the level of the key employee's salary and bonus. It is rather obvious if a poorly performing company is paying an exorbitant amount of money to a key employee that reasonable compensation is not being paid.

## Whether Employer and Employee Deal at Arm's Length

This factor is not always applicable because it usually applies only if the key employee is also a shareholder who determines his or her own level of compensation. If that is the case, a valuation analyst must use a substitute to determine if an independent owner would do the same for the same employee. This portion of the analysis can take into consideration levels seen in comparable companies, as well as the overall effect on the financial standing of the organization of making these payments.

## Whether Employee Guaranteed Employer's Debt

If an employee assesses the risk of personally guaranteeing his or her employer's debt, it is the general opinion of the courts that this employee does deserve compensation above what would normally have been paid. I certainly could not get my employees to guarantee my debt. If they would, I would pay them more.

## Absence of Pension Plan and Profit-Sharing Plan

Since World War II, benefits outside of normal salary and bonus considerations have become expected. Because of this, courts have typically opined that in the absence of such benefits as pension or profit-sharing plans, a certain level of additional payments would be considered normal compensation.

Again, like the previous factor, this element of the analysis will allow for some slack when such plans are non-existent. This is allowed by the courts primarily because it is understood that such measures must be taken by organizations to keep employees, as chances are, competitors will offer similar or alternative benefits.

## Lack of Reimbursement of Business Expenses

In the course of performing services for an employer, employees are sometimes required to pay expenses out of their own pocket. In such instances, it is normal for the employer to require a receipt and the employee to be reimbursed for the amount upon presentation of the documentation of payment. However, in some situations, employees and employers may have an agreement for the worker to receive a fixed amount of additional compensation instead of dealing with expense reimbursements. This is typical when the key employee is also an owner of the company.

As a result of using these factors to develop an analysis of whether a key employee's compensation is reasonable, a logical conclusion can be reached. The early steps form the basis for elements later in the analysis. A reasonable compensation analysis that we performed that addresses these issues is contained in exhibit 27.2.

### EXHIBIT 27.2 Reasonable Compensation

**DESCRIPTION OF ASSIGNMENT.** Trugman Valuation Associates, Inc. was retained by Decorative Stone Co., Inc. (hereafter referred to as Decorative Stone or the company) to determine if the level of compensation paid to Bob Richardson, president of the company, for the fiscal years ended December 31, 2002, 2003, and 2004, is reasonable. It is our understanding that this report will be used in regard to an audit of the company by the state taxing authority.

Section 162(a)(1) of the IRC allows a corporation to deduct "a reasonable allowance for salaries or other compensation for personal services actually rendered." In order for compensation to be deductible under Section 162(a)(1), there is a two-prong test that must be met. The first part is the amount of compensation must be reasonable. The second part of the test, which is more subjective in nature, is the payments must be purely for services. This means that it cannot be disguised as a return on equity or some other type of payment.

Many court cases have arisen in the area of reasonable compensation. Guidance can be obtained from the opinions in many of these cases. One of the best cases that can be used for guidance in the determination of reasonable compensation is *Mad Auto Wrecking, Inc. v. Commissioner*, TC Memo 1995-153. This well-thought out opinion by Judge Laro of the U.S. Tax Court provides the necessary guidance for factors to consider in the assessment of reasonable compensation. This case cited numerous other cases that support the judge's opinion. In particular, *Elliotts, Inc. v. Commissioner*, 52 AFTR 2d 83-5976 is cited in this opinion, another excellent case to be used for guidance in this area. In order to allow this report to follow in a logical sequence, the factors outlined in these cases will be addressed.

**FACTUAL HISTORY.** Decorative Stone Co., Inc. began business in about 1952. The company was incorporated in the State on June 25, 1956, and was started by Charles Brown and Bob Richardson. Mr. Brown and Mr. Richardson were stone mason contractors. They installed stone at schools, churches, and other such structures. At the inception of the business, and for several years thereafter, the company used to store materials at Mr. Richardson's home in City, State. After a while, these materials became too voluminous to store at Mr. Richardson's home, and as a result, the business was moved to 123 Main Street, City, State, its present location. At that time, Mr. Brown and Mr. Richardson began bringing in more materials and started to stock a greater amount of inventory. By the early 1960s, they needed trucks, forklifts, and other personnel in order to carry on the business.

For years, the company operated with no accounts receivable. Once they moved to their current location and began selling inventory, they started billing for their materials. The company got into financial trouble because of the slow collection of accounts receivable. In fact, the company almost went out of business. The only reason the company survived was because Mr. Brown and Mr. Richardson barely took any salary. Mr. Brown was single and only took enough money each week to survive. This included food money and money for rent, but not much more than that.

*(continued)*

**EXHIBIT 27.2 Reasonable Compensation** *(continued)*

Mr. Richardson remembers taking as little as \$100 per week for his compensation because he had no mortgage. He basically took enough at that time to cover groceries, taxes, and so on. Mr. Richardson remembers the lean years lasting well into the 1970s. In the early 1980s, Mr. Brown retired at age 65, leaving Mr. Richardson to take over his responsibilities, as well as continuing with his own. Mr. Brown had responsibility for being the yard supervisor, assisting with customer sales, and providing some dispatching. Mr. Richardson continues to operate the company today at age 79, working more than a full-time job. Decorative Stone, by his own admission, has been his passion in life. He has worked countless hours towards building this business and creating an exceptionally profitable company.

During the late 1980s and into the early 1990s, business was down, but through Mr. Richardson's efforts of making displays, having seminars, and opening up longer hours, he managed to keep the business going. Mr. Richardson's duties generally remained the same for a considerable number of years. Besides being the CEO and president of the company, he acts as the general manager, sales manager, purchasing manager, dispatcher, and foreman. Mr. Richardson opens the doors of the business at the start of the day and closes the doors at the end of the day. In addition, he performs all required paperwork and analysis at home in the evenings. Store hours are generally from 7:00 a.m. to 4:30 p.m., Monday through Friday, with Saturday hours in the winter months from 7:00 a.m. to 12:00 noon, and during the summer months from 7:00 a.m. to 3:00 p.m. During other times, store hours are frequently expanded to 8:00 or 9:00 p.m. during the week. On average, during the period under examination, store hours were approximately 52 hours per week. Besides the store hours, Mr. Richardson works at least one extra hour at the business each day and approximately two hours at home in the evenings. Because Mr. Richardson dispatches the trucks, he generally arrives prior to the actual retail store opening.

Mr. Richardson's commitment and management style has benefitted the company in that the company maintains long-term employees who work long hours resulting from the dedication of Mr. Richardson to his employees.

Counting Mr. Richardson, the employee count for the years under examination was as follows:

2002	23
2003	24
2004	26

Mr. Richardson works 70 hours per week on average. The company's growth has exceeded industry growth and the level of profitability is far beyond the industry. This will be discussed later in the report.

During the tax years in question, Mr. Richardson received the following levels of compensation from Decorative Stone:

2002	\$1,042,713
2003	1,243,912
2004	1,414,200

During the years in question, Mr. Richardson received compensation as follows:

	2002	2003	2004
Base Salary (paid weekly)	\$ 42,713	\$ 43,912	\$ 44,200
Bonus—May	300,000	200,000	300,000
Bonus—July	0	300,000	300,000
Bonus—September	300,000	300,000	300,000
Bonus—October	0	225050,000	0
Bonus—November	400,000	125,000	350,000
Bonus—December	0	25,000	120,000
<b>Total</b>	<b>\$1,042,713</b>	<b>\$1,243,912</b>	<b>\$1,414,200</b>

## EXHIBIT 27.2 Reasonable Compensation

In addition to salary, Mr. Richardson receives the same health insurance coverage as all other employees of Decorative Stone. He also receives the same three-week vacation as every other employee. He receives no pension benefits, life insurance, disability insurance, travel and entertainment allowances, or automobile allowances. Basically, his compensation is intended to include all forms of compensation that would customarily be paid to an executive of a company.

There are no other employees who have any managerial responsibilities for the company. As such, Mr. Richardson constitutes the entire management team, while continuing to also perform many of the functions in the daily operations of the company. At our visit to the business establishment, we observed the fact that Mr. Richardson does not have a private office and he conducts his sales, purchasing, dispatching, and other functions from a front counter in the retail storefront. In fact, when entering the business establishment, the first person visible from the entrance is Mr. Richardson.

**USING A JUDGE'S METHODOLOGY.** Judge Laro begins his opinion in *Mad Auto Salvage* with the following:

This is another case pertaining to whether amounts paid by a closely held corporation to its shareholders/employees are deductible compensation under section 162(a)(1). Inherently, there is a natural tension between: (1) Shareholders/employees who feel that they are entitled to be paid from a corporation's profits, even to the exhaustion thereof, of an amount that reflects their skills and efforts, and (2) a provision in the tax law that conditions the deductibility of compensation on the concept of reasonableness. What is reasonable to the entrepreneur/employee often may not be to the tax collector. Accordingly, this and other courts are repeatedly asked to examine the relevant facts and circumstances of the business and the underlying employment relationship in order to render an opinion as to whether the compensation paid was reasonable. **In so doing, we must be careful not to define the term "reasonable" too narrowly. The dynamic nature of business, the entrepreneurial spirit, and the dedication of purpose all play a role in the composition of reasonable compensation. We must not rigidly apply form over substance when we measure one's contribution to the success of his or her business.** Of course, it may be argued that when an individual chooses to conduct business in the corporate form, he or she is obligated to observe all of the corporate formalities inherent in that form, including the standard that to be deductible, the compensation paid must be reasonable. The term "reasonable," however, must reflect the intrinsic value of employees in the broadest and most comprehensive sense. [emphasis added]

Citing the tax law, Judge Laro points out that "Section 162(a)(1) allows a corporation to deduct 'a reasonable allowance for salaries or other compensation for personal services actually rendered' as an ordinary and necessary business expense. To be deductible under Section 162(a)(1), compensation must be both: (1) reasonable and, (2) paid purely for services rendered to the corporation."

### 1. Was the Compensation Paid Reasonable?

According to the judge, "Reasonable compensation is determined by comparing the compensation paid to an employee with the value of the services that he or she performed in return. Such a determination is made with respect to employees individually, rather than with respect to the compensation paid to all employees collectively. Such a determination is a question of fact."

In discussing the various cases concerning reasonable compensation, the judge indicates that there are many factors to be considered in making this factual determination. He indicated

The factors which may be considered, none of which is controlling in itself, include: (a) The employee's qualifications; (b) the nature, extent, and scope of the employee's work; (c) the size and complexities of the employer's business; (d) a comparison of salaries paid with the employer's gross and net income; (e) the prevailing general economic conditions; (f) a comparison of salaries with distributions to shareholders and retained earnings; (g) the prevailing rates of compensation for comparable positions in comparable concerns; (h) the salary policy of the employer as to all employees; (i) the amount of compensation paid to the particular employee in previous years; (j) the employer's financial condition; (k) whether the employer and employee dealt at arm's length; (l) whether the employee guaranteed the employer's debt; (m) whether the employer offered a pension plan or profit-sharing plan to its employees; and (n) whether the employee was reimbursed by the employer for business expenses that the employee paid personally.

#### a. *Employee's Qualifications*

Mr. Richardson is exceptionally qualified for Decorative Stone's business by virtue of his experience and dedication, as well as his understanding and control of every aspect of the operations. He is highly motivated and extremely productive as an employee and is clearly the primary reason for the company's success. His outstanding qualifications justify high compensation. Decorative Stone's profitability rests upon its sales, and Mr. Richardson's ambition, inventiveness during slow times, and energy (as opposed to his investment in capital) are the primary reasons for Decorative Stone's sales, growth, and success.

(continued)

**EXHIBIT 27.2 Reasonable Compensation** *(continued)***b. Nature, Extent, and Scope of the Employee's Work**

The nature, extent, and scope of the work performed by Mr. Richardson is fundamental, substantial, and all-encompassing. He performs all the company's executive and managerial functions and formerly performed, but now oversees all of its manual labor. Mr. Richardson also supervises the daily operations, including supervising and directing the other employees, and makes all of the business decisions. Given the vital role played by Mr. Richardson in Decorative Stone's operations and success, and the long hours that he has dedicated to the business, he is indispensable to the business. Decorative Stone's growth and prosperity are due directly to his skills, dedication, and creativity. If the business was to lose him, it would be in a rough situation until a suitable replacement (if any) could be found.

**c. Size and Complexities of the Employer's Business**

Decorative Stone is not necessarily the most complex business around, but because it primarily involves building and construction-type materials, its operations demand expertise to compensate for changing economies. The success and growth of the business even during poor economic periods demonstrates the value that has been added by Mr. Richardson. Based on data extracted from Integra Information's Business Profiler product for companies in the same Standard Industrial Classification (SIC) Code as Decorative Stone, the company has grown to be one of the larger businesses of this type. Integra data includes 3,501 companies broken down as follows:

Sales Range	Business Count	Percent of Total
All sales ranges	3,501	100.00%
Less than \$250,000	1,115	31.85%
\$250,000–\$499,999	728	20.79%
\$500,000–\$999,999	346	9.88%
\$1,000,000–\$2,499,999	540	15.42%
\$2,500,000–\$4,999,999	429	12.25%
\$5,000,000–\$9,999,999	207	5.91%
\$10,000,000–\$24,999,999	84	2.40%
\$25,000,000–\$49,999,999	27	0.78%
\$50,000,000–\$99,999,999	17	0.49%
\$100,000,000–\$249,999,999	1	0.03%
\$250,000,000–\$499,999,999	7	0.20%
More than \$500,000,000	0	0.00%

According to the Integra data, Decorative Stone, based on revenues, falls in the top 9.81 percent of its peer group.

**d. Comparison of Salaries Paid to Net and Gross Income**

The percentage of officers' salaries to gross receipts for 2002, 2003, and 2004 was 15.2, 17.0, and 17.5, respectively. The percentage of officers' salaries to book net income (before deducting officers' compensation) for 2002, 2003, and 2004 was 94.7, 100.65 and 92.08, respectively.

Based on the state tax returns reviewed, the entire net income before net operating loss deductions was \$58,218, \$7,236, and \$122,295, despite the deduction of officer's compensation. This means that the company would have been subject to tax and would have paid taxes based on net income had it not been for the net operating loss deduction that it used as an offset to the income. In addition, Mr. Richardson reported his compensation on his tax returns and paid taxes on these amounts.



## EXHIBIT 27.2 Reasonable Compensation

e. *General Economic Conditions*

During the years under audit, the economy was reasonably strong. Part of the company's growth during this period could be attributable to the economy. However, a good part of the success is also attributable to the solid foundation that Mr. Richardson has created for the business over the years. Mr. Richardson's financial commitment to this business has also allowed a substantial amount of inventory to be stocked by the company, assisting in the production of sales. If the product was not in inventory, the customer may have gone elsewhere.

f. *Comparison of Salaries with Distributions to Shareholders and Retained Earnings*

Quoting from another case, Judge Laro points out "The absence of a dividend history is a significant factor that may suggest that some of the amounts paid as compensation to a shareholder/employee is really a dividend." Although he also said, "Such an absence (and inference), however, does not automatically convert compensation that would otherwise be reasonable into a dividend. Corporations are not required to pay dividends."

Judge Laro went on to state the following:

Instead, an individual shareholder may participate in the success of a corporation through the appreciation in the value of his or her stock brought on by retained earnings and the possibility of a future return. Thus, a corporate employer with little or no dividend history may be able to pay and deduct large amounts of compensation if the court is convinced that a reasonable person would still have invested in the corporation. Courts sometimes apply a hypothetical investor test to determine whether a reasonable person would have invested in the corporation. Critical to this test is whether the shareholders of the corporation received a fair rate of return (without taking into account any compensation) from the total of their initial and subsequent investments.

This analysis was also discussed in detail in *Elliott, Inc. v. Commissioner*, which was referenced by Judge Laro. A financial analysis will be presented later in this report addressing the issue of a hypothetical investor. We believe that this further substantiates the level of compensation that should be deemed reasonable for Mr. Richardson.

g. *Prevailing Rates of Compensation for Comparable Positions in Comparable Companies*

In a perfect world, we could look at other companies that are similar to Decorative Stone to determine what rate of compensation is paid for comparable positions in these comparable companies. However, we do not believe that this is possible in this instance. First and foremost, closely held companies do not readily volunteer this information. Secondly, in order for a company to be comparable to Decorative Stone, we believe that consideration must also be given to the level of growth and profitability exhibited by the company. There can be no doubt that management is frequently compensated for success. Stock option plans and bonuses are regularly made available to key executives. In fact, there are many industries in which the stock option compensation or the bonuses are much greater than the executive's base pay.

Our review of the Integra industry composite data will be discussed in more detail as part of our financial analysis. It will become obvious that Decorative Stone is not really comparable to its industry peer group. We believe that it is unreasonable to try to compare Mr. Richardson's compensation to another executive in a privately owned company who either brings a different skill set, work ethic, level of expertise, or proven track record for success to that company. We do not believe that composite industry data adequately allows a meaningful analysis to be performed.

h. *Employer's Salary Policy Concerning All Employees*

There is no written salary policy concerning all the company's employees. Because there are also no other employees besides Mr. Richardson who participate in management, we could not determine whether Mr. Richardson was compensated differently than the other employees merely because of his status as a shareholder.

i. *Compensation Paid in Prior Years*

The compensation (including bonuses) paid by Decorative Stone to Mr. Richardson prior to the years in issue ranged from \$825,797 to \$1,192,713 from 1996–2001, with 1997 and 1998 dipping to \$649,203 and \$675,798, respectively. As the company has been growing, Mr. Richardson's compensation has been adjusted to compensate him for his success. During the downturn of the 1990s, Mr. Richardson took less salary.

j. *Employer's Past and Present Financial Condition*

Decorative Stone has grown and is very profitable. Its shareholder's equity has grown from \$1,457,497 in 2001 to \$1,628,841 in 2004. This will be discussed in the financial analysis later in this report.

k. *Whether Employer and Employee Dealt at Arm's Length*

Mr. Richardson was paid high compensation as the company's principal employee. Given his relationship to the company as its only shareholder, consideration should be given to whether an independent investor would have paid Mr. Richardson the amount of compensation that he received during the years in issue. This will be addressed as part of the financial analysis.

(continued)

**EXHIBIT 27.2 Reasonable Compensation** *(continued)*

An interesting quote from Mad Auto Salvage that was referenced by Judge Laro in his opinion was when one of the shareholders discussed the work habits of the other shareholder. The quote was as follows:

Dick [Andrews] is more like a workaholic. And anybody that works that hard has got to be compensated for the work that they do. If you don't do that, your business is going to suffer because the guy that is putting in more hours and not receiving any money—he is definitely going to reject the idea, not work as hard.

Substituting Mr. Richardson in the preceding quote accurately describes this situation as well.

**i. Whether Employee Guaranteed Employer's Debt**

According to Judge Laro, "Courts have considered whether an employee personally guaranteed his or her employer's debt, in determining whether the employee's compensation was reasonable. In certain situations, an employee's personal guarantee of his or her employer's debt may entitle the employer to pay a greater salary to the employee than the employer would otherwise have paid."

In this instance, Mr. Richardson does not guarantee any corporate debt. However, instead of using borrowed funds to provide an extraordinary balance sheet and financial condition, Mr. Richardson has actually loaned the Company over \$3 million, interest-free, which the company has used to take advantage of buying opportunities, favorable vendor pricing, and other such items that have significantly contributed to the success of Decorative Stone.

Over the past several years, had interest been paid to Mr. Richardson, his compensation would have been lower because he would have received interest payments instead. In fact, Mr. Richardson has foregone the following interest to the benefit of the company:

Year	Value of Stockholder	Two-Year Average Rate Loan	Balance	Prime Prime Rate + 2%	Interest Saved
2001	\$1,905,074				
2002	2,375,739	2,140,407	8.27%	10.27%	219,820
2003	2,681,945	2,528,842	8.44%	10.44%	264,011
2004	3,135,147	2,908,546	8.35%	10.35%	301,035

This illustrates the fact that Mr. Richardson's compensation should be considered to include at least these amounts because he has loaned this money to the company without interest being paid to him.

**m. Absence of Pension Plan and Profit-Sharing Plan**

Mr. Richardson was not a participant in any pension plan or profit-sharing plan offered by the company. Courts have considered the absence of a pension plan or a profit-sharing plan in determining reasonable compensation. These same court cases have indicated that "Such an absence may allow the employer to pay the employee more compensation than the employer would have paid had the employer offered the employee a pension plan or a profit-sharing plan."

**n. Lack of Reimbursement of Business Expenses**

Mr. Richardson does not really incur any material out-of-pocket expenses on behalf of Decorative Stone. This point is insignificant.

## 2. Was Compensation Paid for Services Rendered?

There can be no doubt that Mr. Richardson works long hours for the company. All of his services are rendered on behalf of Decorative Stone and no other entity.

**FINANCIAL ANALYSIS.** In order to determine whether a hypothetical investor could have received a comparable return on investment from Decorative Stone Co., Inc., a financial analysis of the company was performed. Because specific financial data could not be obtained about similar closely held companies, due to the privacy of the financial data, we turned to the Business Profiler CD-ROM product produced by Integra Information for comparative composite data.

Decorative Stone falls into SIC Code 5032, described as Wholesale Trade—Brick, Stone and Related Materials. Using the Business Profiler software, we searched for data for companies located in SIC Code 5032, with sales between \$5,000,000 and \$9,999,999 for use in our comparison. There were 207 companies included in this data.

## EXHIBIT 27.2 Reasonable Compensation

Historically, Decorative Stone's reported profitability has been as follows:

**TABLE 1 Historic Income Statement for the Years Ended December 31,**

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total Revenues	\$4,435,719	\$4,041,345	\$4,748,289	\$5,420,974	\$6,243,002	\$6,260,609	\$6,849,980	\$7,324,031	\$8,090,785
Total Cost of Sales	2,557,828	2,453,132	3,199,281	3,433,818	4,105,862	3,943,259	4,761,688	5,219,165	5,571,673
Gross Profit	\$1,877,891	\$1,588,213	\$1,549,008	\$1,987,156	\$2,137,140	\$2,317,350	\$2,088,292	\$2,104,866	\$2,519,112
Total Operating Expenses	1,905,125	1,637,241	1,698,665	2,078,653	2,241,108	2,391,839	2,120,739	2,252,688	2,570,892
Operating Income (Loss)	\$ (27,234)	\$ (49,028)	\$ (149,657)	\$ (91,497)	\$ (103,968)	\$ (74,489)	\$ (32,447)	\$ (147,822)	\$ (51,780)
Total Other Income	113,065	86,275	103,422	91,555	28,230	42,046	90,229	139,772	173,392
<b>Income (Loss) Before Taxes</b>	<b>\$ 85,831</b>	<b>\$ 37,247</b>	<b>\$ (46,235)</b>	<b>\$ 58</b>	<b>\$ (75,738)</b>	<b>\$ (32,443)</b>	<b>\$ 57,782</b>	<b>\$ (8,050)</b>	<b>\$ 121,612</b>

Table 1 reflects the figures reported in the company's tax returns, adjusted for those items that were either reported on Schedule K (directly to the stockholder) or Schedule M-1 (reconciling adjustments). These figures are now comparable to the Business Profiler (Integra) figures.

**TABLE 2 Historic Common Size Income Statement for the Years Ended December 31,**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	Integra
Total Revenues	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Total Cost of Sales	57.66%	60.70%	67.38%	63.34%	65.77%	62.99%	69.51%	71.26%	68.86%	82.79%
Gross Profit	42.34%	39.30%	32.62%	36.66%	34.23%	37.01%	30.49%	28.74%	31.14%	17.20%
Total Operating Expenses	42.95%	40.51%	35.77%	38.34%	35.90%	38.20%	30.96%	30.76%	31.78%	15.10%
Operating Income (Loss)	-0.61%	-1.21%	-3.15%	-1.69%	-1.67%	-1.19%	-0.47%	-2.02%	-0.64%	2.10%
Interest Expense	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.82%
Total Other Income	2.55%	2.13%	2.18%	1.69%	0.45%	0.67%	1.32%	1.91%	2.14%	0.16%
<b>Income (Loss) Before Taxes</b>	<b>1.93%</b>	<b>-0.92%</b>	<b>-0.97%</b>	<b>0.00%</b>	<b>-21.21%</b>	<b>-20.52%</b>	<b>0.84%</b>	<b>-20.11%</b>	<b>1.50%</b>	<b>1.46%</b>

Note: Figures may not add due to rounding.

(continued)

**EXHIBIT 27.2 Reasonable Compensation** *(continued)*

Based on the reported figures, Decorative Stone was slightly less profitable before taxes than the peer group. During the years under audit, Decorative Stone was weaker in 2002 and 2003, but stronger in 2004.

However, further analysis is required to properly determine the investment attributes of the company. Officer's compensation has been reported as follows:

		Growth
2001	\$1,192,713	
2002	1,042,713	-12.58%
2003	1,243,912	+19.30%
2004	1,414,200	+13.69%

During this same time period, stockholder's equity grew as follows:

		Growth
2001	\$1,457,497	
2002	1,515,279	+3.96%
2003	1,507,229	-0.53%
2004	1,628,841	+8.07%

Revenue growth for Decorative Stone surpassed the industry group during this same period as depicted in the following table:

	2002	2003	2004
Decorative Stone	9.41%	6.92%	10.47%
Integra	8.93%	2.38%	6.30%

On an unadjusted basis, Decorative Stone was compared to the Integra data in terms of key financial ratios. This is presented in table 3.

**TABLE 3 Historic Financial Ratios**

	2002	2003	2004
<b>LIQUIDITY / SOLVENCY</b>			
Quick Ratio	14.31	16.81	15.49
Quick Ratio—Integra	0.95	0.96	0.97
Current Ratio	21.52	23.90	21.46
Current Ratio—Integra	1.72	1.76	1.76

*(Table continued)*

**EXHIBIT 27.2 Reasonable Compensation****TABLE 3 Historic Financial Ratios** *(continued)*

	2002	2003	2004
<b>TURNOVER</b>			
Fixed Asset Turnover	51.44	45.03	41.53
Fixed Asset Turnover—Integra	17.82	18.06	18.51
Payables Turnover	29.55	29.21	28.03
Payables Turnover—Integra	12.71	12.57	13.22
<b>DEBT</b>			
Times Interest Earned	N/A	N/A	N/A
Times Interest Earned—Integra	2.71	2.65	2.58
Total Liabilities to Total Assets	0.63	0.65	0.67
Total Liabilities to Total Assets—Integra	0.64	0.64	0.64
Short-Term Debt to Equity	0.00	0.00	0.00
Short-Term Debt to Equity—Integra	0.43	0.42	0.43
<b>PROFITABILITY</b>			
Pretax Return on Assets	0.01	0.00	0.02
Pretax Return on Assets—Integra	0.03	0.03	0.03
Pretax Return on Equity	0.04	-0.01	0.07
Pretax Return on Equity—Integra	0.09	0.08	0.08
Pretax Return on Net Sales	0.01	0.00	0.02
Pretax Return on Net Sales—Integra	0.01	0.01	0.01

As demonstrated previously, Decorative Stone reflects substantially higher liquidity than its peer group. The company is turning over its fixed assets and payables much faster than the industry, as well. The debt ratios are solid, particularly because the only debt is financed interest free by Mr. Richardson. Profitability is relatively in line with the industry even after Mr. Richardson's compensation.

In order to provide a more meaningful analysis, or what we believe to be more helpful in the assessment of reasonable compensation, we have added back the officer's compensation in its entirety. Table 4 reflects the adjusted common size income statements for 2002–2004 for Decorative Stone.

*(continued)*

**EXHIBIT 27.2 Reasonable Compensation** *(continued)***TABLE 4 Common Size Income Statement with Officer's Compensation Removed**

	2002	2003	2004
Total Revenues	100.00%	100.00%	100.00%
Total Cost of Sales	69.51%	71.26%	68.86%
Gross Profit	30.49%	28.74%	31.14%
Total Operating Expenses	15.74%	13.77%	14.30%
Operating Income	14.75%	14.97%	16.84%
Total Other Income	1.32%	1.91%	2.14%
<b>Income Before Taxes</b>	<b>16.07%</b>	<b>16.87%</b>	<b>18.98</b>

In order to compare these figures with the Integra data, we have also added back the officer's compensation reflected by Integra. This appears in table 5.

**TABLE 5 Common Size Add-Back of Officer's Compensation**

	Decorative Stone	Integra
<b>2004</b>		
Pretax Income	1.50%	1.40%
<i>Add: Officer's Compensation</i>	17.48%	1.60%
<b>Adjusted Pretax Income</b>	<b>18.98%</b>	<b>3.00%</b>
<b>2003</b>		
Pretax Income	-0.11%	1.50%
<i>Add: Officer's Compensation</i>	16.98%	1.70%
<b>Adjusted Pretax Income</b>	<b>16.87%</b>	<b>3.20%</b>
<b>2002</b>		
Pretax Income	0.84%	1.50%
<i>Add: Officer's Compensation</i>	15.22%	1.70%
<b>Adjusted Pretax Income</b>	<b>16.06%</b>	<b>3.20%</b>

**EXHIBIT 27.2 Reasonable Compensation**

Officer's compensation, as a percentage, has been added back to both Decorative Stone and Integra. The Integra data provides a percentage for officer's compensation but cannot be used by itself to properly assess reasonable compensation. The reported data does not allow the analyst to answer many important questions about this percentage, for example, in what part of the country are these businesses located? Are there other individuals who performed various duties that may be reflected in other expense categories (for example, cost of sales or general and administrative) that should be added to officer's salary to be comparable?

After making the adjustment to both sets of data, it becomes obvious that Decorative Stone is substantially more profitable than the industry group. This demonstrates, in part, the effectiveness of Mr. Richardson in running this company. One test for reasonableness of compensation would be to determine how much compensation the company could afford to pay the officer, rewarding him for his efforts and performance, while continuing to produce a return on equity that would be consistent with the industry. This test is illustrated in table 6.

**TABLE 6 Income of Decorative Stone with Adjustments to Officer's Compensation Which Will Bring the Return on Equity of the Company in Line with the Integra Industry Estimate**

	2002	2003	2004
Historic Net Income (Table 1)	\$ 57,782	\$ (8,050)	\$ 121,612
Adjustments			
Officer's Compensation—Add-back	\$ 1,042,713	\$ 1,243,912	\$ 1,414,200
Officer's Compensation—Reasonable	(971,696)	(1,110,762)	(1,403,876)
<b>ADJUSTED PRETAX NET INCOME</b>	<b>\$ 128,799</b>	<b>\$ 125,100</b>	<b>\$ 131,936</b>
Decorative Stone Historic Return on Equity	3.81%	-0.53%	7.47%
Integra Return on Equity	8.50%	8.30%	8.10%
Decorative Stone Return on Equity with Compensation Adjustment	8.50%	8.30%	8.10%

Table 6 illustrates that an investor could get a comparable return on equity to the industry while compensating Mr. Richardson as follows:

2002	\$ 971,696
2003	1,110,762
2004	1,403,876

This would bring Decorative Stone's comparison to the industry as illustrated in table 7. Table 7 reflects the common size comparison to Integra after adjusting Decorative Stone's earnings for the level of officer's compensation that would allow a shareholder to receive a return on equity in line with the industry. After making this adjustment, Decorative Stone becomes more profitable than the industry group in all three years.

(continued)

**EXHIBIT 27.2 Reasonable Compensation** *(continued)***TABLE 7 Adjusted Common Size Income Statement with Compensation Adjusted to Match Company Return on Equity to Industry Figures**

	2002	2003	2004	Integra
Total Revenues	100.00%	100.00%	100.00%	100.00%
Total Cost of Sales	69.51%	71.26%	68.86%	82.79%
Gross Profit	30.49%	28.74%	31.14%	17.20%
Total Operating Expenses	29.92%	28.94%	31.65%	15.10%
Operating Income (Loss)	0.56%	-0.20%	-0.51%	2.10%
Interest Expense	0.00%	0.00%	0.00%	0.82%
Total Other Income	1.32%	1.91%	2.14%	0.16%
<b>Income Before Taxes</b>	<b>1.88%</b>	<b>1.71%</b>	<b>1.63%</b>	<b>1.46%</b>

**CONCLUSION.** After considering the facts and circumstances of Decorative Stone, using guidance from the U.S. Tax Court, we believe that reasonable compensation for Mr. Richardson is as follows:

2002	\$ 971,696
2003	1,110,762
2004	1,403,876

These levels of compensation would provide the shareholder of the company with the same return on equity as other shareholders in the industry, while compensating Mr. Richardson for his long hours, significant contribution to the growth and profitability of the company, as well as the \$200,000 to \$300,000 of foregone interest expense on the substantial loans made to the company over the years.

As you can see from exhibit 27.2, this court case provided great guidance in analyzing reasonable compensation. By the way—the taxing authority accepted our figures!

## **Delaware Open MRI Radiology Associates P.A. v. Howard B. Kessler, et al.<sup>7</sup>**

### **Issue: Treatment of S Corporation Taxes in Fair Value**

Among other things, this case deals with the issue of how to handle income taxes for a pass-through entity in a shareholder dispute. Personally, I think the judge did a great job in deciding this matter.

The issue is, should we tax the S corporation earnings, and if so, by what rate? Sound familiar? In the court's opinion, Chancellor Strine addressed the issue of "is it appropriate to tax affect the earnings of Delaware Radiology in order to determine its fair value?"

<sup>7</sup> *Delaware Open MRI Radiology Associates, P.A., Petitioner, v. Howard B. Kessler, et al., Respondents, and Howard B. Kessler, et al., Plaintiffs, v. George J. Broder, et al., Defendants*, in the Court of Chancery of the State of Delaware, in and for Newcastle County, Consolidated, C.A. No. 275-N.



The expert on one side of this litigation treated Delaware Radiology as if it were a regular tax-paying entity (a C corporation) when he performed the valuation that the Broder Group used to set the merger price. In fact, he applied a 40 percent tax rate. Not to be surprised, the expert on the other side asserted the position that because Delaware Radiology was an S corporation, it faced no corporate-level income taxes. Relying on this as Delaware Radiology's operative reality, the expert did not tax affect its earnings in performing his valuation. Any taxes, he reasoned, would be paid at the stockholder level and should not be considered in valuing Delaware Radiology as an entity.

Chancellor Strine opined the following:

This dispute raises an interesting question of valuation, which has elicited a fair amount of attention from judges, appraisers, and academics.<sup>8</sup> After careful consideration, I conclude that neither of the experts has taken the most reasonable approach to valuing Delaware Radiology.

The problem with Reed's approach of treating Delaware Radiology as a C corporation is obvious. Delaware Radiology is a very small entity. The record reveals no set of circumstances in which it is likely that Delaware Radiology will convert to C corporation status. It is a highly profitable entity that generates and distributes income well in excess of the stockholder level taxes its stockholders must pay. The S corporation tax status is a highly valuable attribute to the shareholders of Delaware Radiology, given its profitability and the affluent status of its physician stockholders, who face top marginal tax rates.

This starts to sound like the facts in the Gross case from the U.S. Tax Court. The court indicated that under Delaware law, an appraisal petitioner is "entitled to be paid for that which has been taken from him . . ."<sup>9</sup> In trying to reach a fair and equitable solution regarding the tax issue, Chancellor Strine reviewed the U.S. Tax Court cases and decided that an all or none situation, with regards to taxes, was wrong.

In this case, the departing group was involuntarily deprived of the benefits of continuing as stockholders in a profitable S corporation in which the benefits were comprised materially of the favorable tax treatment that accompanies S corporation status. As a matter of fairness, the merger price had to take into account these benefits and provide fair compensation for the Kessler Group's loss. The company analyst's approach denied the Kessler Group members the value they would have received as continuing S corporation stockholders in Delaware Radiology and, therefore, ensured that the merger price was lower than fair value.

However, Chancellor Strine also found that the Kessler Group's analysis was equally flawed and overstated the value fairly belonging to the Kessler Group. He said

[t]he value of the S corporation structure is one that is experienced at the stockholder level and that is easy to overstate. If an S corporation is to be sold, for example, it will receive no premium over a C corporation if the universe of buyers is principally comprised of C corporations.<sup>10</sup> There is an obvious reason for this: unless the buyer of the S corporation can retain and benefit from that tax status, then the buyer will value an S corporation at the value it would have as a C corporation. Therefore, it would be highly misleading to do a market-based comparable acquisition valuation of an S corporation using sales of comparable C corporations to C corporations, and then assume that the S corporation would be sold at a higher price because of its tax status. In other words, I am not trying to quantify the value at which Delaware Radiology would sell to a C corporation; **I am trying to quantify the value of Delaware Radiology as a going concern with an S corporation structure and award the Kessler Group their pro rata share of that value.** [Emphasis added.]

<sup>8</sup> See, for example, *In re Radiology Assocs.*, 611 A.2d 485 (Del. Ch. 1991); *Adams v. Commissioner of Internal Revenue*, 2002 WL 467235 (U.S. Tax Ct. Mar. 28, 2002); *Heck v. Commissioner of Internal Revenue*, 2002 WL 180879 (U.S. Tax Ct. Feb. 5, 2002); *Gross v. Commissioner of Internal Revenue*, 1999 WL 549463 (U.S. Tax Court. July 29, 1999); *Franklin M. Fisher et. al., The Sale of the Washington Redskins: Discounted Cash Flow Valuation of S-Corporations, Treatment of Personal Taxes, and Implications for Litigation*, 10 Stan. J.L. Bus. & Fin. 18 (2005) (hereinafter Fisher); Z. Christopher Mercer, *S Corporation Valuation Issues*, The American Society of Appraisers 22nd Annual Business Valuation Conference (Oct. 17, 2003) (hereinafter Mercer).

<sup>9</sup> *Tri-Continental Corp. v. Battye*, 74 A.2d 71, 72 (Del. 1950).

<sup>10</sup> See Mercer 9–14.

Consistent with today's thinking in the valuation community, Chancellor Strine indicated that

[t]o capture the precise advantage of the S corporation structure to the Kessler Group, it is necessary to use a method that considers the difference between the value that a stockholder of Delaware Radiology would receive in Delaware Radiology as a C corporation and the value that a stockholder would receive in Delaware Radiology as an S corporation. By using that method, I can make my best estimate of the value that is relevant in this case—the going concern value in an S corporation that was taken from the Kessler Group in the merger.

The Court not only discussed the reliance on the previous decisions of the Tax Court, but he also cites another Delaware fair value case. He said that

[i]n undertaking this analysis, I embrace the reasoning of prior decisional law that has recognized that an S corporation structure can produce a material increase in economic value for a stockholder and should be given weight in a proper valuation of the stockholder's interest.<sup>11</sup> That reasoning undergirds not only holdings of the *Adams*, *Heck*, and *Gross* cases in the U.S. Tax Court, but an appraisal decision of this court, which coincidentally also involved a radiology business.<sup>12</sup> The opinion in *In Re Radiology Associates* noted that “under an earnings valuation analysis, what is important to an investor is what the investor ultimately can keep in his pocket.”<sup>13</sup> In that case, on the record before it, the court held that the way to implement that insight was to ignore tax completely.<sup>14</sup> The *In Re Radiology Associates* decision comported with decisions of the U.S. Tax Court, which has given life to the advantages of S corporation status by refusing to tax affect the corporation's earnings at all.<sup>15</sup>

The difference in this case was at the level of implementation, rather than at the level of principle. In this context, the court found that when minority stockholders have been forcibly denied the future benefits of S corporation status, they should receive compensation for those expected benefits and not an artificially discounted value that disregards the favorable tax treatment available to them. However, the minority shareholders should not receive more than a fair S corporation valuation. It was determined that refusing to tax affect at all produces a windfall.

What can I say? This judge really got it. He truly addressed the tax issues like it was never done before. Rather than paraphrase bits and pieces of the balance of his opinion, this is what he said:

The Internal Revenue Code states that “[t]he taxable income of an S corporation shall be computed in the same manner as in the case of an individual...”<sup>16</sup> This tax, though assessed at individual rather than corporate tax rates, is dependent solely upon the corporation's net earnings. Even if Delaware Radiology were to retain 100% of its earnings annually, its stockholders still would owe taxes on Delaware Radiology's income even though they received no distributions. Affording a remedy to the Kessler Group that denies the reality that each shareholder owes taxes on his proportional interest in Delaware Radiology would result in the Kessler Group receiving a higher per share value from the court than it could ever have realized as a continuing shareholder.<sup>17</sup>

The amount that should be the basis for an appraisal or entire fairness award is the amount that estimates the company's value to the Kessler Group as S corporation stockholders paying individual income taxes at the highest rates—an amount that is materially more in this case than if

11 See *Adams*, 2002 WL 467235; *Heck*, 2002 WL 180879; *Gross*, 1999 WL 549463.

12 *In re Radiology Assocs.*, 611 A.2d at 495.

13 *Ibid.*

14 *Ibid.*

15 In this regard, the case of *Gross v. Commissioner* is a good example. In *Gross*, the Tax Court held that “[w]e believe that the principal benefit that shareholders expect from an S corporation election is a reduction in the total tax burden imposed on the enterprise. The owners expect to save money, and we see no reason why that savings ought to be ignored as a matter of course in valuing the S corporation.” *Gross*, 1999 WL 549463 (page reference unavailable on WL). The Tax Court refused to allow a “hypothetical corporate tax rate in excess of the zero-percent actual corporate tax rate” to be considered in valuing an S corporation and, instead, required that no corporate tax be applied to the S corporation's earnings. *Id.*

16 26 U.S.C.A. § 1363 (2005).

17 See, for example, *Fisher*.

Delaware Radiology was a C corporation. In coming to a determination of how the Kessler Group's interest in Delaware Radiology would be valued in a free market comprised of willing buyers and sellers of S corporations, acting without compulsion, it is essential to quantify the actual benefits of the S corporation status. That is also essential in order to determine the value of what was actually taken from the Kessler Group as continuing stockholders.

Assessing corporate taxes to the shareholder at a personal level does not affect the primary tax benefit associated with an S Corporation, which is the avoidance of a dividend tax in addition to a tax on corporate earnings.<sup>18</sup> This benefit can be captured fully while employing an economically rational approach to valuing an S corporation that is net of personal taxes.<sup>19</sup> To ignore personal taxes would overestimate the value of an S corporation and would lead to a value that no rational investor would be willing to pay to acquire control.<sup>20</sup> This is a simple premise—no one should be willing to pay for more than the value of what will actually end up in her pocket—that can best be firmly grasped through a concrete example.

Assume that Delaware Radiology receives \$100 in annual earnings. If Delaware Radiology was organized as a C corporation, its earnings after tax would be \$60, assuming, as is the usual custom, that the effective corporate tax rate is 40%. Then, assume that Delaware Radiology distributes all of its post-tax earnings to its shareholders in the form of a dividend. The shareholders would receive total post-tax distributions of \$51, after an assumed dividend tax of 15% is applied to the \$60 after-tax earnings. That is, a shareholder would experience an effective tax rate of 49% after corporate income and dividend taxes.

Now, consider the post-tax benefits of \$100 in income to Delaware Radiology's stockholders, using its actual status as an S corporation. In that scenario, the shareholders would receive all \$100 in earnings as distributions and be subject only to one shareholder-level tax. Thus, the shareholders would be responsible for paying taxes on the \$100 at their individual tax rates. I will also assume that rate to be 40% because the Broder and Kessler Groups are comprised of affluent physicians who pay at the highest marginal rate.<sup>21</sup>

Therefore, every dollar of Delaware Radiology's earnings would be taxable at the stockholder level at the highest marginal tax rate. The shareholders in Delaware Radiology, an S corporation, would be able to pocket \$60 after tax if all earnings were distributed. The difference is clear: Delaware Radiology's status as an S corporation allowed the shareholders to pocket \$60 of \$100, whereas if Delaware Radiology was a C corporation, the shareholders could pocket only \$51 of the \$100.<sup>22</sup>

Therefore, in valuing Delaware Radiology, it would overstate the value taken from the Kessler Group to require the Broder Group to pay the Kessler Group \$37.50 for its share of every \$100 of future pretax earnings. That cash flow, after the favorable S corporation tax treatment, would not be worth \$37.50 to the Broder Group,

18 See, for example, *Byrne v. Commissioner of Internal Revenue*, 361 F.2d 939, 942 (7th Cir. 1966) ("We agree with the observation of the Tax Court that the [S Corporation] statute is designed to permit a qualified corporation and its shareholders to avoid the double tax normally paid when a corporation distributes its earnings and profits as dividends and this is accomplished in a specified manner which does not involve ignoring the corporate entity."); Practising Law Institute, 546 PLI/Tax 249 *Organizing the Corporate Venture* § 1301 (2002) ("This reinversion of rates lessened the S corporation shareholder's advantage of being taxed directly on corporate income. Yet, the primary tax advantage of being an S corporation shareholder—i.e., the ability to receive corporate income with only a single level of tax imposed C remains intact. This must be compared to the double tax paid on a C corporation's income (i.e., once at the corporate level, and again at the shareholder level when distributed) in considering the tax benefit of using an S corporation, rather than a C corporation, for business operations."); Mercer, 9 ("The S election relieves one layer of taxation at the corporate level, providing the potential for greater cash flow at the shareholder level.")

19 *Fisher*, 22.

20 *Ibid.*, 18 ("[W]e demonstrate that ignoring taxes in a DCF analysis when valuing an S corporation potentially leads to an overestimation of value."); 22 ("A rational investor will only pay up to the present value of an investment's expected cash flows, net of personal taxes.")

21 Currently, at the federal level, the highest personal tax rate is 35 percent, and the highest corporate tax rate is 38 percent. Thus, taking into account state taxes, it is reasonable to assume a 40 percent personal tax rate.

22 This would not be the case if (1) no distributions were being paid by the S corporation to its shareholders or (2) distributions only sufficient to cover tax liability were being distributed to shareholders. The relative value of an S corporation, vis-à-vis a C corporation, to its shareholders is dependent upon the level of distributions paid. For a useful model and analysis, see, e.g., Chris Treharne, *et al.*, *Valuation of Pass-Through Entities*, American Society of Appraisers 23rd Annual Advanced Business Valuation Conference (Oct. 8, 2004). As recognition of the fact that their stockholders must pay taxes on non-distributed earnings, most, if not all, S corporations distribute a sufficient amount of their profits to cover shareholder tax obligations. Mercer, 17 ("S corporations who attempt to retain all earnings and not pass through the shareholders' tax distributions will likely find themselves C corporations again, as their shareholders arrange to become ineligible to hold S corporation stock.") This makes intuitive and commercial sense. If all earnings are retained, the S corporation's shareholders must dig into their own pockets to fund the tax liability. If all earnings are retained in a C corporation, the entity is responsible for the corporate level tax. If S corporation shareholders elect to receive no distributions, that can be viewed as a reinvestment of their tax savings in that enterprise.

but only \$22.50. The issue, though, is that tax affecting Delaware Radiology at a 40 percent level (or C corporation level) would not recognize any S corporation value that flowed to the Kessler Group or compensate the Kessler Group for its involuntarily removal as shareholders in a profitable S corporation. To be consistent with Delaware law, I must tax affect Delaware Radiology's future cash flows at a lower level that recognizes the full effect of the Kessler Group's ability to receive cash dividends that are not subject to dividend taxes.

In order to accurately capture the value to the Kessler Group of Delaware Radiology's S corporation status, I have estimated what an equivalent, hypothetical "pre-dividend" S corporation tax rate would be. The following table presents that calculation:

	C Corp.	S Corp.	S Corp. Valuation
Income Before Tax	\$100	\$100	\$100
Corporate Tax Rate	40%	—	29.4%
Available Earnings	\$ 60	\$100	\$ 71
Dividend or Personal Income Tax Rate	15%	40%	15%
Available After Dividends	\$ 51	\$ 60	\$ 60

This calculation allows me to treat the S corporation shareholder as receiving the full benefit of untaxed dividends by equating its after-tax return to the after-dividend return to a C corporation shareholder. I will, therefore, apply an effective tax rate of 29.4 percent to the earnings of Delaware Radiology to measure with the greatest practicable precision the fair value of the Kessler Group's interest in the going concern value of Delaware Radiology.

I have to commend Chancellor Strine for getting this opinion correct with respect to taxes. Most state court judges shy away from this very complex issue, and he really got it dead on. In fact, his opinion was so instructive that our firm has started following this very methodology. In fact, I really like the logic behind these calculations because it is simple and easy to explain. This is an actual excerpt from a report prepared for a shareholder dispute.

### EXHIBIT 27.3 S Corporation Taxes—Normalized

We have recalculated income taxes based on the fact that The Smith Entities are pass-through entities for income tax purposes. This means that The Smith Entities do not pay tax at the corporate level. Over the past several years, the business valuation community has acknowledged that the conventional wisdom of taxing these pass-through entities as if they were taxpaying C corporations is no longer an automatic thing to do. In fact, the U.S. Tax Court opened up this issue in several court cases.<sup>1</sup> Since that time, many authors have contributed to the valuation literature with ideas about how to treat these non-tax-paying enterprises. In one instance, it was stated

In valuing a controlling ownership interest in an S corporation, the analyst should assess the probability that the likely buyers of a controlling interest will be able to avail themselves of continuing the S corporation status. In other words, is the likely buyer a qualified S corporation shareholder who could continue S corporation status indefinitely? Or, is the likely buyer a C corporation? If the pool of likely buyers is made up of qualified S corporation shareholders, then those buyers of a controlling interest can realize all three of the above-listed economic benefits (i.e., no double taxation, pass-through basis adjustment, and increased proceeds upon sale of assets).<sup>2</sup>

<sup>1</sup> *Gross v. Commissioner*, TC Memo. 1999-254, affd. 272 F.3d 333 (6th Cir. 2001), *Heck v. Commissioner*, T.C. Memo. 2002-34, Filed February 5, 2002, and *Adams v. Commissioner*, T.C. Memo. 2002-80, Filed March 28, 2002.

<sup>2</sup> Roger J. Grabowski, and William P. McFadden, "Applying the Income Approach to S Corporation and Other Pass-Through Entity Valuations," *The Handbook of Business Valuation and Intellectual Property Analysis*, Robert F. Reilly and Robert P. Schweih, editors, (McGraw Hill: 2004): 97.

**EXHIBIT 27.3 S Corporation Taxes—Normalized**

In this valuation, we are valuing an interest in a going concern that is being taken from the departing shareholder. Fair value attempts to place a value on what is being taken from him. In this instance, the remaining shareholders will most likely continue the S status (and other pass-through status of the other entities within the group), particularly since the S election was recently made as of January 1, 1998. This means that the remaining shareholders will continue to enjoy the benefits of the S election. Furthermore, the remaining shareholders have not expressed any intention to sell the company. Therefore, we will proceed with the calculation of taxes based on the reality of the situation.

In many of the court cases that have addressed the issue of tax affecting an S corporation, the appraisers on opposite sides have taken an *all or none* position. They have either taxed the S corporation as if it was a regular tax-paying C corporation, or they have taken the position that because the S corporation does not pay taxes at the corporate level that no tax should be computed. We do not believe that an *all or none* position is always warranted. We will use a simple illustration to help demonstrate the appropriate level of tax to be applied to The Smith Companies.

Assume that The Smith Entities had a pretax profit of \$100. If 100 percent of the earnings was being distributed to the shareholders, the difference between being a C corporation and an S corporation can be explained by the following table.

	C Corporation		S Corporation	
Annual Earnings		\$100		\$ 100
Corporate Income Tax	40%	40	0%	0
Net Income Available to Shareholders		\$ 60		\$100
Dividends		\$ 60		\$100
Personal Income Tax	40%	24	40%	40
Net cash flow to Shareholders		\$ 36		\$ 60
<b>Benefit of being an S Corporation</b>				<b>\$ 24</b>

The preceding table reflects the fact that in a situation where all the after corporate tax profits are being distributed to the shareholders, the effective corporate tax rate for an S corporation is 0 percent. At the valuation date, the tax rates in effect would have required the shareholders of a C corporation to pay a 40 percent personal income tax after the corporation would have paid the same rate. The amount of money available to the shareholders after all taxes were paid would have been \$36.

As an S corporation, the shareholders avoid a corporate tax, but they pay personal taxes on the pass-through, regardless of the amount of dividends. Because only one, 40 percent tax is paid, the shareholders would end up with \$60 in their pockets after all taxes are paid.

Now we must deal with the realities of The Smith Entities. Historically, 100 percent of the earnings have not been paid to the owners each year. In fact, we had to analyze the deemed dividends and distributions in order to apply the same type of tax-affecting analysis as shown previously. Dividends and deemed distributions have been as follows:

(continued)

**EXHIBIT 27.3 S Corporation Taxes—Normalized** *(continued)*

	1996	1997	1998	1999	2000
	(In \$000)				
Financial Statement Dividends	\$ 0	\$ 3,500	\$ 3,500	\$ 5,750	\$ 5,000
Officers' Compensation—Add-back	4,364	9,614	10,637	8,779	2,114
Officers' Compensation—Reasonable	(927)	(956)	(985)	(1,016)	(1,047)
Shareholder and Partner Loan Movement: ABC	(662)	(3,959)	(3,669)	7,605	4,012
Unconsolidated Entities	1,141	360	1,518	1,897	6,225
<b>Total Distributions</b>	<b>\$ 3,916</b>	<b>\$ 8,559</b>	<b>\$ 11,001</b>	<b>\$ 23,015</b>	<b>\$ 16,304</b>
Adjusted Pretax Profits	\$ 8,776	\$ 12,219	\$ 19,090	\$ 19,308	\$ 15,375
<b>% Distributions to Pretax Profits</b>	<b>44.63%</b>	<b>70.05%</b>	<b>57.63%</b>	<b>119.20%</b>	<b>106.04%</b>

Note: Figures may not add due to rounding.

Dividends were included based on the amounts reflected on the financial statements for the consolidated entities. Excess officers' compensation was also considered to be a form of dividend for this analysis. In addition, we included the year-to-year movement in the shareholder and partner loan accounts for ABC and the unconsolidated entities. These monies flow to the owners. In reality, they are a form of distribution.

Comparing the total distributions to the adjusted pretax profits reflects the fact that distributions in any given year have ranged from 44.63 percent to 119.20 percent of the adjusted profit. The average for this five-year period was about 80 percent. This is the amount of distributions that we will now use to recalculate the effective tax rate as an S corporation. The result is as follows:

	C Corporation		S Corporation	
Annual Earnings		\$100		\$100
Corporate Income Tax	40%	40	0%	0
Net Income Available to Shareholders		<u>\$ 60</u>		<u>\$100</u>
Earnings Retained in Company		\$ 12		\$ 20
Dividends	80%	48	80%	80
Personal Income Tax	40%	19	40%	40
Net Cash Flow to Shareholders		<u>\$ 29</u>		<u>\$ 40</u>
<b>Benefit of being an S Corporation</b>				<b><u>\$ 11</u></b>

**EXHIBIT 27.3 S Corporation Taxes—Normalized**

	C Corp.	S. Corp.	S Corp. Valuation
Income Before Tax	\$100	\$100	\$100
Corporate Tax Rate	40%	0%	33.33%
Available Earnings For Distributions	\$60	\$100	\$80
Distributions	\$48	\$80	\$80
Personal Income Tax Rate	40%	40%	40%
Net Available After Dividends	\$29	\$40	\$40

Because only about 80 percent of the pretax earnings have been distributed historically, we used this amount in our model. Recalculating the net amount available to the shareholders after taxes considers the benefits of the S election.<sup>3</sup> For the purpose of this valuation, the shareholders should be placed in the same position that they would be in after paying tax as an S corporation shareholder. In the preceding example, they would end up with 40 cents on the dollar. The mathematical calculation to determine the implied S corporation tax rate is as follows:

$$[(1 - X) \times (1 - 40\%)] = 40\%$$

$$X = 33.33\%$$

In order for the shareholders of The Smith Entities to be placed in a neutral tax position, a 33.33 percent corporate tax rate is appropriate. This is the rate that we have used in the normalization process.

<sup>3</sup> This model does not take into consideration the added benefit that the shareholders will receive as a result of the undistributed income of the companies. Because income taxes are paid, and in this model, calculated on the available earnings, regardless of whether they are actually distributed, the shareholders of the S corporation can remove the undistributed profits without taxation in subsequent periods. If they do not remove the distributions, they receive a step-up in the basis of their investment and will pay less capital gains, if and when they sell their interest in the company.

## Conclusion

There are great lessons to be learned from reading court cases. A well-written judicial opinion can provide the valuation analyst with significant guidance on many topics, even when they are not necessarily valuation cases. Although it is not our intention to perform legal research, particularly for the purpose of taking a position in a litigation, the well-seasoned valuation analyst will be aware of how the court thinks.





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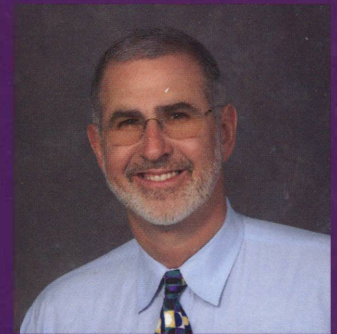
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