2007

Focus, vol. 3 no. 3, May/June 2007

American Institute of Certified Public Accountants. Business Valuation and Forensic & Litigation Services Section

FOCUS

May/June 2007
Vol. 3, No. 3

Newsletter of the AICPA
Business Valuation and
Forensic & Litigation Services Section

What's Inside

Another ADR Format

A divorcing couple can increase their chances of reaching a respectful and equitable resolution to their conflict by participating in the Collaborative Practice process. The following article describes the process and the roles of the divorcing couple and the professionals they may engage, including CPAs, to assist in the process.

Collaborative Practice is the term used by the International Academy of Collaborative Professionals (IACP) to refer to divorce proceedings and other settlement arrangements that take place outside the court system. The process for these proceedings has developed as an alternative to proceedings that usually are, at the very least, unpleasant if not lengthy, antagonistic, litigious ordeals that can drain the parties emotionally and financially. Helping divorcing couples to reach a more positive and productive resolution is one of the missions of Collaborative Practice.

Collaborative Practice is based on collaborative law, a process in which lawyers and their clients contractually agree to pursue nonadversarial means of resolving disputes and reaching agreement without going to court.

About Collaborative Practice, IACP president Sue Hansen said, ". . . the emphasis is on improving communication to help couples work through all the legal, financial, and emotional issues in a divorce, including the needs of children. Collaborative Practice gives clients control of decisions as well as access to the problem-solving skills of lawyers, financial specialists, divorce coaches, and child specialists—a full gamut of efficiency and expertise that one is not privy to in the court without the potential of great emotional and financial expense."

According to Hansen, this voluntary, private, out-of-court process often costs less than litigation. The Collaborative process allows couples to steer their divorce by pledging mutual respect and openness, determining the timetable, and working with the Collaborative team towards a settlement they determine together.

Lori Tricaro, a client of Collaborative Practice, cites the benefit of this approach in her case. "Working together with trained professionals," she said, "enabled us to pursue an amicable relationship and to walk away from each meeting without anger. I truly believe this was a positive alternative to moving from one stage of our lives to another that essentially sets the tone for the future of everyone involved."

In Collaborative Practice, a husband and wife are each represented by an attorney trained in the Collaborative Practice process. Attorneys and clients enter into a contract called a "participation agreement." According to the agreement, clients will disclose all information relative to their decision to divorce as well as all of their assets and liabilities. The goal of subsequent meetings between attorneys and clients is that each party understands his or her financial needs and the impact of the divorce on available finances, as well as the resolution of other issues, including parental responsibilities, before they reach a final agreement.

"A plan for the future" is how Steve Kaplan, CPA/ABV, MBA, describes the final agreement. The divorcing couple can formulate the agreement terms themselves. Kaplan, who is with Eisman, Zucker, Klein, & Ruttenberg, LLP, White Plains, NY, is a member of the Board of Directors and is treasurer of the New York Academy of Collaborative Professionals, which is the main group of collaborative professionals in the Metropolitan New York area. Kaplan describes how a team of professionals helps the couple to get to that point of final agreement. From the outset, they have the support of professionals in addition to their

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FOCUS,
MAY.JUNE 2007, Volume 3, Number 3. Published by the American Institute of Certified Public Accountants.

attorneys. "Collaborative Practice gives them the tools to support their getting through the process," Kaplan says. Early in the process, for example, each spouse has access to a "divorce coach," whose role is to help the parties maintain productive communication throughout the process, coaching them to be positive and to use appropriate words. With the coaches, the couples can explore and bring important issues and concerns to the surface so that they can understand each other's interests and concerns.

Couples with children have access to a Child Specialist to help raise and resolve issues associated with parenting. As a mental health professional, the Child Specialist also provides the couple's children the benefit of having someone to talk to about the situation, Kaplan says.

Financial specialists

Included in the team are neutral financial professionals. Many of these professionals, like Kaplan, are CPAs. A member of the interdisciplinary Board of the New York Academy of Collaborative Professionals, Kaplan represents financial professionals. In Collaborative Practice, Kaplan emphasizes that the financial specialist's role differs in an important way from his or her typical role in providing other litigation support services. The financial professional's role, he says, is to educate the divorcing couple on matters related to the financial consequences of their divorce.

Depending on the couple's financial situation, one or several financial professionals may be involved. In Collaborative Practice, neutral financial specialists are educators who help spouses understand the impact of and the options related to their financial circumstances. They may help a spouse to assess and forecast finances and support, to understand how their new status will affect their taxes and budgeting, or to calculate or verify the value of their property, businesses, and other assets.

Another CPA who participates in Collaborative Practice is Joseph W. Davis, CPA/PFS, CFP, CSA, a founding partner with Davis, Monk, & Company in Gainesville, Florida. In the Collaborative Practice process, Davis says, the CPA is careful to be neutral, as he or she serves as the financial expert for both sides. He says, "the CPA needs to obtain the total of their collective assets and liabilities. The cash flow needs of each party, along with their specific individual desires, such as possession of the marital home, allocation of retirement accounts, and ownership of business interests need to be addressed. If valuations are needed, the CPA can orchestrate the selection of one expert who is acceptable to both parties, thereby saving money from not having to hire competing experts." Davis adds, "Listening to the parties as to their wants and needs is a much needed virtue, along with being creative about possible solutions using the parameters present. The CPA has to understand the impact of these issues on the couple, who are probably uncertain about various things."

A similar approach was cited by Tracy B. Stewart, CPA/PFS, CFP. Ms. Stewart is a sole practitioner in College Station, Texas. She is an Executive Board member of the Texas Society of CPAs and a member of the Collaborative Divorce Professionals Allliance. She has recently been elected to the Board of Trustees for the Collaborative Law Institute of Texas and is the only CPA on the board.

Serving as a neutral financial expert, says Ms. Stewart, is "primary and consistent" and is "the biggest part of what I do and what has the most value." One of the "overarching issues" she addresses with the divorcing couple is the validity of numbers related to property and debt. She says among the common issues that she works on with clients are postdivorce budgeting, dealing with the tax issues and other financial issues related to brokerage accounts and finding creative ways for alimony to be paid. In general, she works to help clients be as well off as they can be.

Sometimes she, too, has had to call in other financial professionals. For example, she asked for help from an expert in foreign tax laws, who provided information on the impact on taxes of one spouse's moving to Europe.

People skills

In addition to their expertise in a particular discipline, the Collaborative team members usually have some training that will assist them in the Collaborative Practice process. All of the practitioners mentioned in this article have financial specialty credentials and have also undergone training to strengthen their "people skills" in working on Collaborative Practice teams. Steve Kaplan, for example, underwent what he calls "three-day multiple training" to prepare him for his role, as well as intensive mediation training. Jody Davis underwent mediation training and basic collaborative law

The Other Busy Seasons

In December, 2006, the International Academy of Collaborative Professionals (IACP) found that divorce filings are related to specific times in the calendar year. A survey of more than 100 Collaborative law attorneys found the holidays leading up to the New Year to be the busiest time for divorce filings. Nearly 70% of Collaborative professionals surveyed about their divorce practices indicated January and February as their busiest season, and 40% of respondents cited the back-to-school season as the second heaviest period for divorce initiation.

IACP concludes that divorcing couples choose periods when routines resume and people look ahead.

"Couples with children often postpone separation or divorce discussions until after the family holiday gatherings. Most parents don't want their children's holiday memory to be learning about their parents' divorce. We tend to see an upsurge in consultations after the New Year," said Sue Hansen, a Milwaukee, Wisconsin attorney and President of IACP.

training in addition to earning the "Certified Family Mediator" credential. Along with having advanced mediation training and basic interdisciplinary training, Tracy Stewart has also earned the "Certified Divorce Financial Analyst" credential.

The various professionals involved in a Collaborative Practice case work together as teams. Steve Kaplan refers to the teams as "pods." They communicate among each other, sending summaries of their efforts and results to other team members. Sometimes the teams, like the ones that Tracy Stewart works with, hold regular team meetings.

A "Growth" Industry

Collaborative Practice is being chosen more frequently by divorcing couples. As would be expected, most professionals associated with Collaborative Practice groups are attorneys, who may recommend other professionals. Steve Kaplan sees more and more work developing in this area through referrals, including word-of-mouth referrals from clients who have used the process and have success stories to share. He also has observed that judges have added Collaborative Practice to the dispute resolution approaches, such as mediation, that they suggest to divorcing couples before proceeding with a court case. Tracy Stewart's experience is that engagements also come from attorney recommendations. At times, however, she is the entry point for her own clients.

In addition to its growing popularity in North America, Collaborative Practice is growing rapidly in the United Kingdom, and chapters have been established in Australia, France, and Switzerland. In some areas of the U.S., such as Texas, California, and Massachusetts, Collaborative practitioners also are generating models which can be used in different types of legal cases, including business and employment disputes and probate and estate matters.

Is It Worth Your Time?

Although Collaborative Practice benefits divorcing couples by helping them to resolve their situation usually at less expense than that of a court battle, some CPA practitioners do not think that the financial impact on their practices is necessarily negative. Jody Davis says that ordinarily a Collaborative Practice engagement consumes less time than a traditional court engagement. Consequently, the practitioner probably can do more Collaborative Practice cases, and thus, offset revenues that might have come from court case engagements.

"Practitioners involved in a Collaborative Practice engagement may have more assurance of getting paid than if providing service in a court case," says Tracy Stewart. As part of periodic team meetings for the cases she is involved in, the professionals are asked if they've been paid by the clients, which is one of the ground rules for proceeding.

Skeptics and critics contend that Collaborative Practice encourages an outcome of divorce because the process is easy and less stressful. Some attorneys contend that a rigorous defense for a divorcing spouse is the best representation for them. Other critics point out that Collaborative Practice doesn't always work when there is deep distrust. Others say that the outcome may be disappointing to the divorcing parties. The latter two contentions, of course, can be the outcome in court divorce cases. Collaborative Practice, on the other hand, does increase the likelihood of a respectful and equitable outcome.

The success of Collaborative Practice has encouraged applying the process and its principles to other forms of dispute resolution matters. *Forbes* reports that the IACP has formed a task force to apply the process to resolve business disputes related to probate and estate work, employee disputes, nonprofit and religious institutional disputes, and medical error. ●

Resources on Collaborative Practice

International Academy of Collaborative Practice

www.collaborativepractice.com

"Alternative Dispute Resolution: Collaborative Law Works," by Larry R. Cook, CPA/ABV and "Collaborative Divorce: Better for Everyone" by Sharyn Maggio, CPA/ABV. Both of these articles appeared in the September 2006 issue of the *Journal of Accountancy* in a special section titled "A Fast-Moving Practice Niche." They can be accessed at www.aicpa.org/PUBS/jofa/sep2006/special.htm.

"Collaboration is critical," by Janet Kidd Stewart, *Chicago Tribune,* February 9, 2005

"Collaborating on Divorce," by Elizabeth A. Reingold, *Forbes.com*

"Understanding the Basics of Collaborative Family Law," by Sherri Goren Slovin LPA, *DivorceNet,* January 12, 2005 www.divorcenet.com/states/ohio/understanding_the_basics_of_collaborative

The Application of Regression Analysis to the Direct Market Data Method Part 4

By Mark G. Filler, CPA/ABV, CBA, AM, CVA, and James A. DiGabriele, D.P.S., CPA/ABV, CFE, CFSA, DABFA, Cr.FA, CVA

Should we treat the value driver Annual Revenue in the same manner as we treat Seller's Discretionary Earnings?

For as long as transaction databases have been available, the received wisdom has been that Annual Revenue (AR) is at least as good a predictor of value, if not better than, Seller's Discretionary Earnings (SDE). In this fourth of a series of articles, we will examine this assertion, and if the valuation analyst truly needs to include AR as part of the valuation equation, we will suggest a more appropriate model than merely regressing selling price against AR.

There are a number of reasons, some practical and some logical, for not using AR as the sole predictor of value. In the practice arena, if we use the 14 data points remaining from our third article as shown in Figure 1, and simply regress selling price against AR, we get the graphic results shown in Figure 2. Notice how dispersed the data points are around the trend line. Many of the data points look like they might be outliers, but the degree of dispersion is so great that they are all within two standard errors of the trend line. This ocular conclusion is ratified by the very low R^2 of .29, indicating that AR only explains 29% of selling price. Not shown is the standard error of the estimate (SEE) of 50.38, an amount almost double that derived from using SDE as the X variable. This is a fairly typical result, and the authors have found that after performing the outlier removing process demonstrated in Part 3 of this series on scores of SIC Code No. databases, AR rarely has better metrics than the SDE of the same data set. (Part 3 was published in the March/April 2007 issue.)

A maxim of financial valuation is that investors buy cash flow. Therefore, when AR is the value driver, it is only serving as a proxy for cash flow, the underlying assumption being that the buyer can repair or reconstruct the company's cost structure so as to produce the necessary cash flow to justify the purchase price. The fact that some buyers will pay a seller a premium for the right to make the company (more) profitable might account for some of the outliers in the databases.

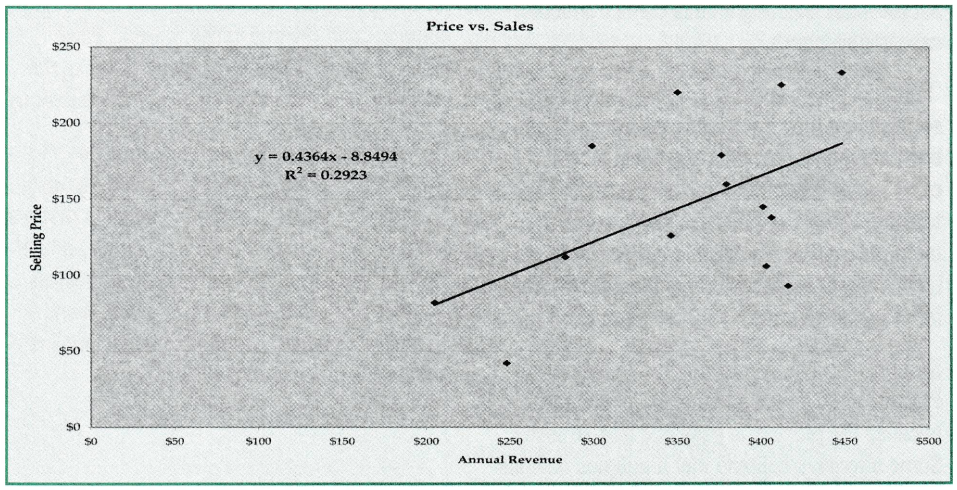
The final and most compelling reason not to use AR as the value driver in a regression equation can best be demonstrated with the following question: Should the assets of two companies sell for the same price when they both have AR of $1,000,000 each, but one of them has SDE of $350,000, and the other has SDE of $200,000? The answer is, *of course not!* Somehow, the selling price of each must reflect its own degree of profitability. Professor Aswath Damodaran, in his textbook, *Investment Valuation,* says that "the key determinant of a revenue multiple is the profit margin – the net margin for price-to-sales ratios and operating margins for value-to-sales ratios." He goes on to say that other "key determinants of the revenue multiple of a firm are its expected risk, payout ratios, and growth characteristics." Unfortunately, these last three determinants are not available to us through any of the transaction databases. But profit margin, the most important determinant, is available through the medium of SDE as found in Bizcomps.

All this, of course, begs the question of why use AR in any case if it is inferior to SDE as a

Figure 1

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1				BIZCOMPS DATA												-1.97745	-1.729071				2.5
2		Data No.	SIC CODE #	Business Type	Annual Revenue	SDE	Sales Date	Selling Price	Price/AR	SDE/AR	Trend	Array Formula Output	Residual	Standardized Residual		Trans-formed X	Trans-formed Y	Predicted Y	Residual	Standardized Residual	Delete if X
3		1	2396	Silk Screen Printing	205	50	8/31/1993	82	0.40	0.24	91.90	91.90	-9.90	-0.434		16.28	4.876	91.18	-9.18	-0.28	
4		2	2396	Silk Screen Printing	248	33	8/13/1999	42	0.17	0.13	57.65	57.65	-15.65	-0.668		53.97	21.551	50.52	-8.52	-0.26	
5		3	2396	Silk Screen Printing	283	58	9/23/1998	112	0.40	0.20	105.40	105.40	6.60	0.236		22.97	4.967	99.28	12.72	0.39	
6		4	2396	Silk Screen Printing	299	89	9/30/1998	185	0.62	0.30	165.34	165.34	19.66	0.766		10.98	2.294	179.05	5.95	0.18	
7		5	2396	Silk Screen Printing	346	83	6/30/1994	126	0.36	0.24	152.41	152.41	-26.41	-1.105		16.83	5.735	150.33	-24.33	-0.75	
8		6	2396	Silk Screen Printing	350	122	12/7/2001	220	0.63	0.35	228.24	228.24	-8.24	-0.367		8.04	2.232	274.69	-54.69	-1.69	
9		7	2396	Silk Screen Printing	376	88	6/12/2001	179	0.48	0.23	161.34	161.34	17.66	0.685		17.67	3.609	157.85	21.15	0.65	
10		8	2396	Silk Screen Printing	379	78	10/22/2002	160	0.42	0.21	141.79	141.79	18.21	0.707		22.78	4.442	133.70	26.30	0.81	
11		9	2396	Silk Screen Printing	401	84	10/1/1998	145	0.36	0.21	152.89	152.89	-7.89	-0.353		22.00	5.806	144.82	0.18	0.01	
12		10	2396	Silk Screen Printing	403	53	5/31/2002	106	0.26	0.13	92.47	92.47	13.53	0.517		55.23	10.066	80.94	25.06	0.77	
13		11	2396	Silk Screen Printing	406	84	4/26/2002	138	0.34	0.21	152.76	152.76	-14.76	-0.632		22.55	6.461	144.23	-6.23	-0.19	
14		12	2396	Silk Screen Printing	412	88	4/16/2002	225	0.55	0.21	160.38	160.38	64.62	2.592		21.17	2.846	152.70	72.30	2.23	
15		13	2396	Silk Screen Printing	416	65	9/12/2002	93	0.22	0.16	115.49	115.49	-22.49	-0.946		39.28	13.334	103.20	-10.20	-0.31	
16		15	2396	Silk Screen Printing	448	138	1/20/2000	233	0.52	0.31	256.79	256.79	-23.79	-0.998		10.26	3.097	283.53	-50.53	-1.56	
18																					
19					400	45				0.113	76.973	76.973				75.21		66.59			
20								Average	0.4092	0.224											
21				SUMMARY OUPUT								Mean	0.80					Mean	0.00		
22				Coefficient - SDE	1.947	-0.027		Coefficient - Intercept				Std Dev	24.624					Std Dev	32.377		
23				Standard Error - SDE	0.299	0.069		Standard Error - Intercept				SEE	25.644					SEE	33.699		
24				R Square	0.779	0.068		Standard Error				R^2	0.8170					R^2	0.7622		
25				F stat	42.391	12		Residual df				COV	17.55%					COV	23.06%		
26				Regression Sum of Squares	0.195	0.055		Residual Sum of Squares													
27																					

Figure 2



value driver? The answer is that there are some fact-specific situations in which the correct use of AR combined with SDE gives one the best answer available. For example, consider the situation in which the seller has expended great effort in developing sales, but for one reason or another, the company has a way below average profit margin. Valuing the company based on sales would certainly overvalue it, while valuing it based on SDE alone would under-value it. Is there some way to value the company so that the seller is rewarded for building sales, but punished for not doing it profitably enough? There is, and the remainder of this article will be devoted to showing you how to account for low profitability coupled with AR by use of a formula that adjusts the price-to-sales ratio upwards or downwards based on the degree of profitability, measured as SDE/AR, of the subject company relative to its peers in the data set.

Once more, let's use the same data set that we left off with at the end of Part 3 of this series, the one with 14 data points as shown in Figure 1, data nos. 1-13 and 15, having eliminated data no. 14 as an outlier. First we'll do this as a linear regression, and then we'll do it a second time using the transformation techniques we learned in Part 3. As we are adding new columns to the worksheet, we removed enough columns to the right of the label "Selling Price" such that the label "Trend" winds up in column I. Put the cursor in column I and insert two columns to the left. Label column I "Price/AR", and label column J "SDE/AR." In cell I3, enter the formula +H3/E3, and in cell J3, enter the formula +F3/E3, and then copy cells I3 and J3 down to row 16. Figure 3 indicates that there is a definite linear relationship between the two variables. However, a linear relationship is not necessary for this model to work. In fact, the beauty of the model is that it will work even when R^2 drops to as low as .50.

First, let's make some more room for ourselves in the spreadsheet by moving the block of cells R19:S23 down two rows to R21:S25. Make the references to column H absolute in cells S23, S24, and S25, and then copy this block of cells to L21:M25. Put the cursor in row 18 and insert one row.

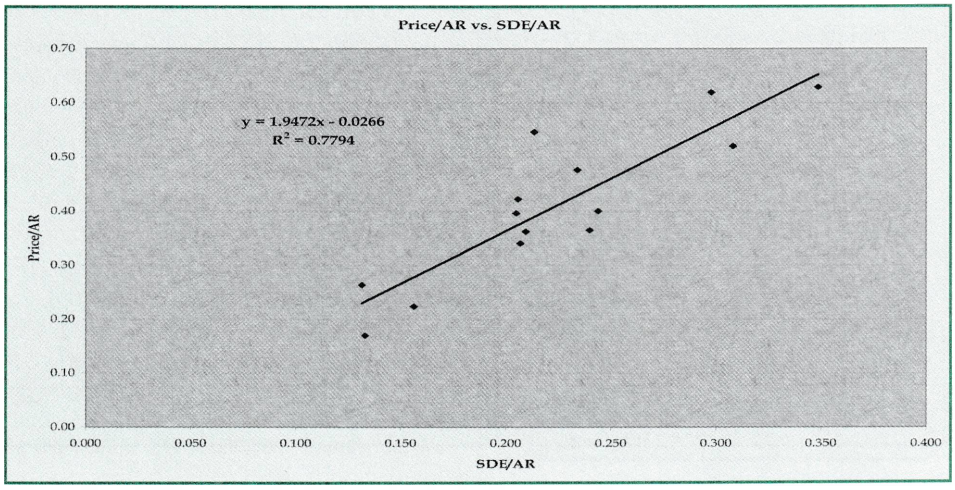
In cell K3, change the formula to read: =TREND($I$3:$I$16,$J$3:$J$16,I3, TRUE)*E3, and then copy cell K3 down to row 16. Change the array formula in cells E22:F26 to read: =LINEST(I3:I16,J3:J16, TRUE,TRUE). Remember to highlight all 10 cells and make your changes to the formula and then hit Control, Shift, and Enter simultaneously to alter the array. In cell L3, change the formula to read =(+$F$22+$E$22*J3)*E3 and then copy cell L3 down to row 16. Now let's create some variables for our subject company by entering 400 in cell E19 and 45 in cell F19. Then copy cells J16, K16, and L16 down to row 19 (skip rows 17 and 18). In cells I20 and J20, compute the averages of rows I3:I16 and J3:J16, respectively.

This valuation model produces a value of $76,973. If our subject company was deemed to have average profitability as measured by SDE/AR, then its value would have approximated $164,000, obtained by multiplying the AR of $400 by the average Price/AR ratio of .4092. But since our subject company's profitability is 50% of the average of those companies in the data set, its Price/AR ratio has been reduced by the regression model to .1924 (76.973/400) to reflect this low degree of profitability relative to sales. Also notice that with the use of a linear model, data no. 12 is an outlier. Rather than immediately removing this data number, let's try a transformation procedure as we did in Part 3 to see if we can keep this data number in the model, and at the same time, obtain superior metrics.

Reset both cells P1 and Q1 to .1. In cell P3, change the formula to read =J3 ^ $P$1. In cell Q3, change the formula to read =I3 ^ $Q$1. In cell R3, change the formula to read =TREND($Q$3:$Q$16,$P$3:$P$16,P3,TRUE) ^ (1/$Q$1)*E3. Check to be sure that cell S3 contains the formula H3-X3 and that cell T3 contains the formula =STANDARDIZE (S3,$S$21,$S$22). Now copy cells P3:T3 down to Row 16 and then copy cells P16 and S16 down to cells P19 and S19 (skipping rows 17 and 18). Next, click on Tools, Solver, and click on Solve (again, Solver remembers your previous settings). Since Solver always searches for the perfect answer, it will frequently destabilize the model attempting to provide a solution. As this is probably what you have just experienced, we need to place some constraints on the model so that the best does not become the enemy of the good, and we get a meaningful solution. Click on Tools, Solver, Add, in "Cell reference" put P1:Q1, in the next box choose <=, and in "constraint" place 1. Repeat this process with the same cell references, choose >=, and make the constraint: -5. This limits how far Solver can roam in its search for a solution. Why did we choose these constraints? Trial and error. By substituting various values in cells P1 and Q1, we can estimate the points at which the model will destabilize and then place these estimates in the Solver function. While each data set will have its own set of constraints, the authors never set theirs higher than 5 or lower than –5, and very often, as in this case, one or the other constraint will be

Continued on page 6

Figure 3



Continued from page 5

Figure 4

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1				BIZCOMPS DATA												-1.43031	-1.373775				2.5	
2		Data No.	SIC CODE #	Business Type	Annual Revenue	SDE	Sales Date	Selling Price	Price/AR	SDE/AR	Trend	Array Formula Output	Residual	Standardized Residual		Trans-formed X	Trans-formed Y	Predicted Y	Residual	Standardized Residual	Delete if X	
3		1	2396	Silk Screen Printing	205	50	8/31/1993	82	0.40	0.24	89.56	89.56	-7.56	-0.449		7.52	3.521	88.04	-6.04	-0.28		
4		2	2396	Silk Screen Printing	248	33	8/13/1999	42	0.17	0.13	53.90	53.90	-11.90	-0.703		17.90	11.467	50.88	-8.88	-0.42		
5		3	2396	Silk Screen Printing	283	58	9/23/1998	112	0.40	0.20	101.80	101.80	10.20	0.590		9.65	3.573	97.14	14.86	0.70		
6		4	2396	Silk Screen Printing	299	89	9/30/1998	185	0.62	0.30	162.47	162.47	22.53	1.312		5.66	1.934	169.34	15.66	0.74		
7		5	2396	Silk Screen Printing	346	83	6/30/1994	126	0.36	0.24	148.41	148.41	-22.41	-1.318		7.71	4.006	145.37	-19.37	-0.91		
8		6	2396	Silk Screen Printing	350	122	12/7/2001	220	0.63	0.35	225.48	225.48	-5.48	-0.327		4.52	1.892	252.69	-32.69	-1.54		
9		7	2396	Silk Screen Printing	376	88	6/12/2001	179	0.48	0.23	156.93	156.93	22.07	1.285		7.98	2.772	152.94	26.06	1.23		
10		8	2396	Silk Screen Printing	379	78	10/22/2002	160	0.42	0.21	136.98	136.98	23.02	1.340		9.59	3.270	130.78	29.22	1.37		
11		9	2396	Silk Screen Printing	401	84	10/1/1998	145	0.36	0.21	147.85	147.85	-2.85	-0.173		9.35	4.045	141.48	3.52	0.17		
12		10	2396	Silk Screen Printing	403	53	5/31/2002	106	0.26	0.13	86.35	86.35	19.65	1.143		18.20	6.263	81.58	24.42	1.15		
13		11	2396	Silk Screen Printing	406	84	4/26/2002	138	0.34	0.21	147.61	147.61	-9.61	-0.569		9.52	4.404	141.03	-3.03	-0.14		
14		13	2396	Silk Screen Printing	416	65	9/12/2002	93	0.22	0.16	109.52	109.52	-16.52	-0.973		14.23	7.831	102.83	-9.83	-0.46		
15		15	2396	Silk Screen Printing	448	138	1/20/2000	233	0.52	0.31	252.64	252.64	-19.64	-1.156		5.39	2.455	266.89	-33.89	-1.59		
17																						
18					400	45				0.113	70.637	70.637				22.76		67.86				
19								Average	0.3987	0.225												
20				SUMMARY OUPUT								Mean	0.12					Mean	0.00			
21				Coefficient - SDE	1.981	-0.046		Coefficient - Intercept				Std Dev	17.091					Std Dev	21.254			
22				Standard Error - SDE	0.225	0.053		Standard Error - Intercept				SEE	17.851					SEE	22.199			
23				R Square	0.875	0.051		Standard Error				R^2	0.9057					R^2	0.8895			
24				F stat	77.236	11		Residual df				COV	12.74%					COV	15.85%			
25				Regression Sum of Squares	0.202	0.029		Residual Sum of Squares														
26																						

Figure 5

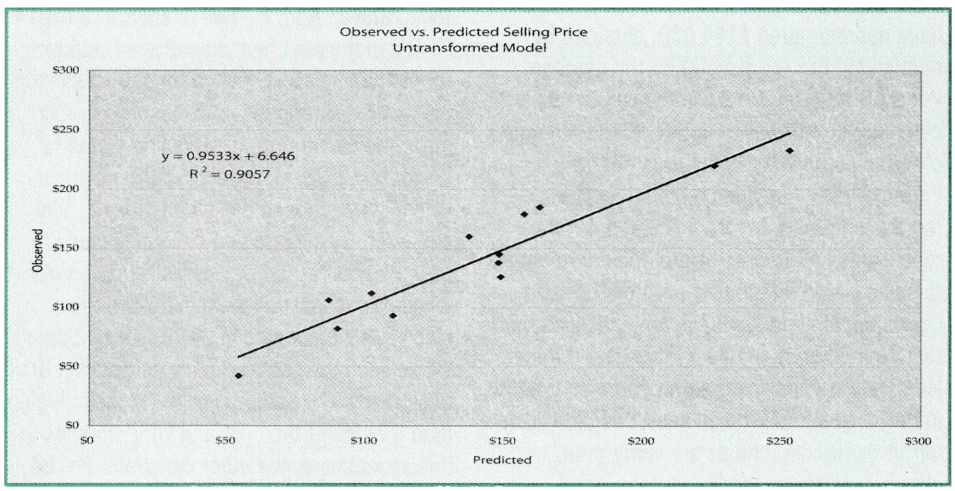
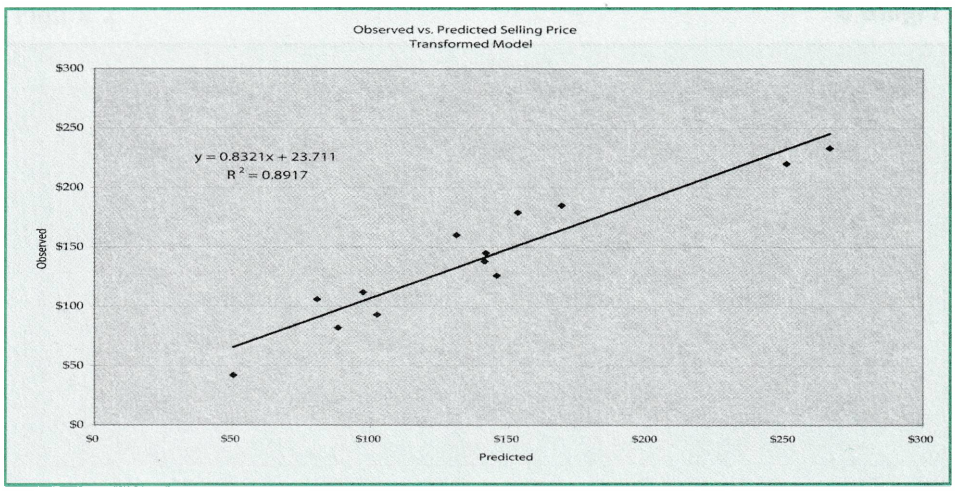


Figure 6



considerably closer to zero than either of these arbitrary maximums. Now click on Tools, Solver and Solve and repeat the process. Very often, especially in a complicated model such as this one, Solver needs two or more tries to optimize the model and produce usable results.

Let's compare the results of the two models, transformed and untransformed, to see which has the better metrics. While the predicted value for selling price is lower with the transformed model, and there is no standardized residual greater than 2.5 as there is in the untransformed model, the metrics for the transformed model are worse than those of the untransformed model. This just goes to show that in this area of business valuation, as in all others, often there are unexpected surprises, blind alleys, dead-ends, and cul-de-sacs. What course of action do the authors recommend at this point? As always, reasonableness, informed judgment, and common sense will come into play.

Save your file and then make a copy of the current worksheet and place it next to the worksheet we were just working on (giving it a different name). One possible solution to this conundrum is to remove data no. 12, as it is more than 2.5 standardized residuals from the mean in the untransformed model, and at 2.23 standardized residuals in the transformed model, it is close to the cut-off point. Place your cursor in Row 14 and delete that row and run Solver once more.

Once more, let's compare the results as shown in Figure 4.

Again, much to the surprise of the authors, the output metrics show the untransformed model still outperforming the transformed model. Comparing Figures 5 and 6 readily shows this. This is very unusual and may be just because of the truncated nature and narrow range of variables of this particular data set which was created for ease of demonstration, but please do not rely on this example as a reason to not transform your data sets. In the authors' experience, nine times out of ten, transforming the data sets produces superior results. However, in this case, the untransformed model gives superior results as demonstrated in Figure 7, which is a line chart comparing observed (actual) selling price with its predicted value per the linear equation. If R^2 were 1, rather than .9057, each set of data points would lie on top of each other.

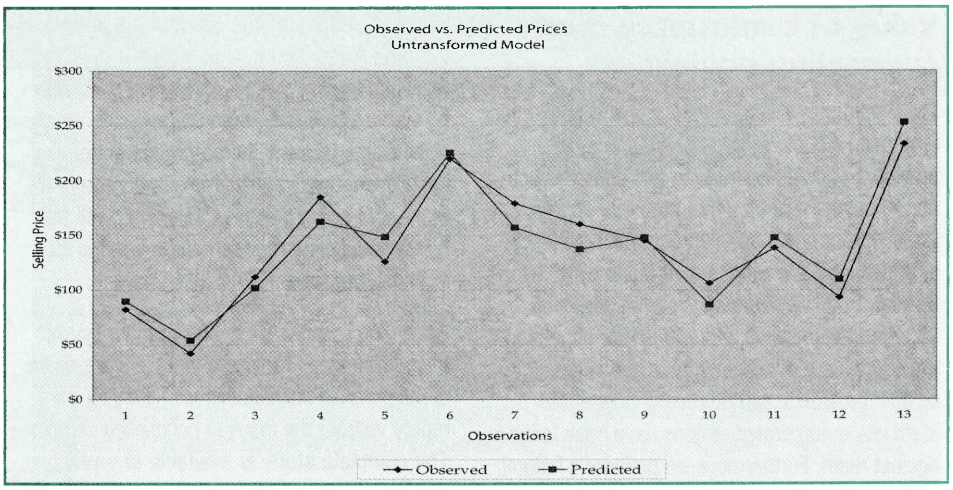
In conclusion, we can see that using Price/AR as a function of SDE/AR will produce a more realistic value when sales are relatively high and profits are relatively low, as opposed to the use of either AR or SDE alone as the sole value driver. With this particular data set, after removing two data nos. as outliers, the value results are as follows:

Label	X Variable	Predicted Selling Price
AR	$400	$159.476
SDE/AR	.113	$ 70.637

This table indicates that the use of AR alone will over-value the subject company's assets by a considerable amount, and that the use of either SDE alone, or in combination with AR as demonstrated in this article, will produce a more realistic value.

One more relevant topic is the question of how small should one make the outlier cut-off? The authors consistently use 2.5 standard deviations because experience has shown them that as we drop the cut-off to 2 standard deviations, thereby obtaining both lower SEEs and corresponding coefficients of variation (COVs), too many data points are given up to achieve this desired result.

Figure 7



The cutoff of 2.5 standardized residuals was chosen as a compromise between the textbook recommended 3 and the Toby Tatum suggested 2. One of the authors, starting with a data set of 137 observations and using lowest COV and observation count as his metrics, ran a transforming model with three different cutoff figures and came up with the results shown in the following table:

Residual Cutoff	Lowest COV	No. of Observations
2.0 Standard deviations	16.11%	90
2.5 Standard deviations	22.31%	118
3.0 Standard deviations	27.80%	128

The decrease from 3 to 2.5 standard deviations results in a decrease in the COV of 24.6% at a cost of an 8.4% decrease in the number of observations, for a ratio of 2.93 (24.6/8.4) to 1. On the other hand, a decrease from 3 to 2 standard deviations results in a decrease in the COV of 72% at a cost of a 42% decrease in the number of observations, for a ratio of 1.71 (72/42) to 1. More than a third of the observations are given up to get that highly desirable low COV of 16.11%. We think that this is too high a price to pay and recommend a cutoff of 2.5 standard deviations.

In the next and final article in this series, we will offer assistance in understanding, interpreting, and using Excel's summary output for regression analysis.

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Correction

There is an editing error in part 3 of the series of articles "The Application of Regression Analysis to the Direct Market Data Method," which appeared in the March/April 2007 issue of *Focus*.

In the second paragraph, which begins in the middle column on page 3, the second sentence should read "This is so because data that is ***not*** normally distributed is also often neither linear nor homogeneous." The word *not* was omitted in the article.

Our apologies for the error.

FYI . . .

Value of bankruptcy credit counseling unclear.

The Bankruptcy Abuse Prevention and Consumer Protection Act of 2005 set standards for providers of credit counseling and debtor education to ensure that they met statutory and program requirements and demonstrated evidence of proficiency, experience, and reputability. As of October 2006, the Trustee Program approved 153 credit counseling and 268 debtor education providers. Few complaints have been lodged against providers, and no recent federal and state law enforcement actions have been lodged against them. Furthermore, no provider's federal tax-exempt status has been revoked, although the Internal Revenue Service was examining the tax-exempt status of four providers.

The Government Accounting Office (GAO) has found that participants in the bankruptcy process largely believed the education requirement, a general financial literacy course, to be beneficial. Unclear, however, is the value of the counseling requirement, which is intended to help consumers make an informed choice about bankruptcy and its alternatives. Apparently, by the time most clients receive this counseling, their financial situations are dire, leaving them no viable alternative to bankruptcy. No mechanism exists to track the outcomes of counseling. Consequently, policymakers and program managers can not assess fully how well the credit counseling requirement is serving its intended purpose.

According to the GAO, the bankruptcy courts have taken steps to ensure that filers are aware of the possible consequences of filing for bankruptcy without the required counseling certificate. The complete study is available at www.gao.gov/new.items/d07203.pdf.

Ethics classes or model behavior?

According to a recent survey, the number of stand-alone MBA ethics courses has increased 500% since 1988. In addition, many business schools have established centers for ethics, corporate responsibility, or sustainability. Although some experts believe the impact of these courses and initiatives will be positive, others are less optimistic. Marshall Goldsmith, an executive coach and a part-time lecturer at Dartmouth's Tuck School of Business, asks, "Is there any proof any executive education . . . ever changed any behavior as measured by anyone else over any period of time?" His answer: "Not that I know of." John Bruhn, a management consultant specializing in ethics, is also skeptical: "The thing those courses are going to do is create awareness. They're not going to change behavior because ethics is learned by modeling, not by reading a bunch of books over a weekend."

Bruhn's thinking is supported by the findings of a recent survey by Deloitte & Touche: Employees are more likely to behave unethically on the job when they see their supervisors misbehaving. Of the more than 1,000 employees surveyed, about 40% said that management's behavior was the top factor in influencing ethics on the job, and 35% said that direct supervisors' behavior was the most prominent factor. In addition, more than 90% of survey respondents cited work-life balance as a key to good ethics. ●

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