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Economic Value Added (EVA) and the Valuation of Small Businesses

Michael F. Spivey
Jeffrey J. McMillan

This article presents an overview of the standard asset, market, and income valuation methods generally used to estimate the value of small businesses. The article also discusses economic value added (EVA) and demonstrates its potential use in the valuation of small businesses.

Market valuation and shareholder value creation have become increasingly important issues for businesses. Statements reporting book values do not reflect the true financial condition of most businesses; thus, value estimation plays a vital role in the business community. Any financial endeavor, such as attracting new investors or making investment decisions, necessitates the consideration of the equity value created by the endeavor. This is particularly true for many entrepreneurial and small businesses that often need to finance high growth and attract capital from outside investors.

A major problem of market valuation for many entrepreneurial businesses is that their equity is not traded in broad, public markets. Most entrepreneurial businesses are relatively small and are either privately owned or publicly traded in very thin secondary markets, making the market assessment of their equity not readily available. Consequently, having a background and a better understanding of the alternative concepts and techniques used to estimate the value of businesses that are not actively traded can help entrepreneurs/management better plan and manage their businesses.

This article is designed to help small business owners feel more comfortable talking with accounting/financial individuals about how their business might be valued and also thinking about how current and future actions could possibly affect the value of their business. In the life of a small business, undoubtedly circumstances will arise in which entrepreneurs (owners) or management will find familiarity with valuation concepts useful (e.g., when seeking new capital, going public, during merger situations, or selling the business).

This article provides an overview of traditional methods used in the valuation of closely-held businesses.¹ In addition, it discusses the application of EVA in the valuation of closely-held businesses. EVA, along with market value added (MVA), is a more recent financial performance measure which has received much-heralded support. CS First Boston, for example, utilizes EVA to assess corporate performance and to value equity securities (Jackson 1996).

EVA has also been used to help assess value creation in the nonprofit sector (Gapenski 1996).

Traditional Approaches of Valuation

This section reviews the three most common approaches used to value closely-held businesses—asset method, the market method, and the income method. There is no exact formula that can be used to evaluate every type of closely-held business; therefore, the equity of a particular business can be valued differently by different methods.

Several factors may be considered in valuing a closely-held stock and use of these factors is quite subjective. One factor to consider in valuing a closely-held stock is the price of publicly-traded stocks engaged in the same or similar lines of business. Another factor to consider is the nature of the business and its prior history. The company's growth history and its diversity of operations allow one to form an opinion on the degree of risk involved in the business. Areas of particular interest when evaluating the industry and a company's prior history are past gross income, net income, and the dividend payout over long time periods, preferably five or more years. Financial information such as liquidity measures, fixed assets, working capital, long-term liability, and net worth are also important. The economic outlook for a closely-held company should also be considered. An economic outlook, whether of growth, recession or stability, greatly affects the projected performance of the industry in which a business operates.

Asset Approach to Valuation

The basic principles of economics create the valuation identity: the defined value of assets *minus* the defined value of liabilities *equals* the defined value of equity of a business entity. Asset approaches attempt to value a business's assets and are based on the replacement principle. Assets need to be replaced at some point in time. Thus, an asset being valued equals the cost to replace the asset minus the appropriate adjustments for wear and tear and/or obsolescence the asset has endured. The point of departure for the asset valuation process is the balance sheet in which assets and liabilities reflect acquisition values as required by general accepted accounting principles. The three asset valuation techniques that are standardly used are:

- *Book value*: The historical cost of assets net of their applicable depreciation minus liabilities.
- *Adjusted book value*: The revaluing of all assets and liabilities to their estimated "fair market" values at the date of valuation.² The adjusted book value technique attempts to reduce the discrepancy between the reported book value and what it would cost to replace those assets at current market rates taking both inflation and obsolescence into account.
- *Liquidation value*: This technique used when the ability of the business to meet its obligation in the current year is in serious doubt. It assumes that a business's assets can be sold in a quick and orderly piecemeal manner, and that the business's liabilities are paid off with the funds generated from the sale of the company's assets.

In general, since asset valuation techniques do not consider the income flows stemming from normal business operations and do not consider the riskiness of a business's operations, they are best used to value specific tangible assets.

Market Approaches to Valuation

Economic theory and common sense tell one that similar assets should sell at similar prices. A straightforward way to value an asset is to find an identical or a closely comparable asset that has changed hands between reasonably informed parties. For companies, market valuation approaches look to public capital markets to determine a price that provides an acceptable return for an entity's adjusted book value, earnings stream, gross revenue, etc. In actions taking place daily in the public markets, thousands of securities are priced and repriced through transactions among financial buyers and sellers. Thus, when a company is actively traded in public markets, the simplest and most accurate way to value the company is to add the market values of its outstanding equity securities. To value closely-held enterprises the key is to match and compare a "target" closely-held company with publicly-traded corporations engaged in the same or similar lines of business. Thus, the market approach is really a comparison approach, where values from public "guideline" companies are compared to values of the target closely-held company.

Many factors should be considered when seeking out comparable publicly-trade firms for a target closely-held company. These factors include, but are not limited to the:

- nature of the business and the history of the enterprise from its inception;
- relative success of the company in its particular line of business and its demonstrated ability to compete;
- recorded and expected sales and earnings as well as the company's book value and financial condition;

- company's capital structure and operating philosophy;
- earning and dividend-paying capacity of the company; and
- economic outlook in general, and conditions, trends, and economic factors affecting the company and its industry in particular (i.e., product diversification, labor relations, geographical location, etc.).

In using market-value techniques, various ratios are computed from the data of similar publicly-traded companies and compared to the target closely-held business. Presumably, comparable companies should have similar financial ratios. The ratios are then used to help estimate the aggregate market value of the closely-held business. Common market ratios used include the ratio of the aggregate market value of the capital stock to various measures of profitability, revenue, or asset levels. Examples of these ratios (multiples) are:

- The ratio of the market value of each share of the common stock to net earnings per share of each class of common stock. The ratio is the price-earnings (P/E) ratio.
- The ratio of market value of capital stock to cash flow (net earnings plus depreciation and amortization). This ratio tends to minimize differences in depreciation policies between companies.
- The ratio of the market value of the invested capital to earnings before depreciation, interest, and taxes allows comparison of companies while minimizing differences between companies' depreciation policies, financing structures, and tax strategies.
- The ratio of the market value to the book value of stockholders' equity. This ratio indicates the market's premium or discount from book value.
- The ratio of the market value of stockholders' equity to the corporation's total revenues. This ratio indicates the relationship of market value to total revenues, eliminating differing expense structures.

Once the appropriate market-value ratios for comparable publicly-traded firms are computed, the ratios are multiplied by the estimated base values for the closely-held firm being valued. For example, if the average P/E ratio of comparable publicly-traded firms was estimated to be 15 and the closely-held firm's earnings available to common equity holders (E) was \$150,000, then one estimate of the price (P) of the closely-held firm's common equity would be \$2,250,000 (15 x \$150,000).³

Income Approach to Valuation

The income approach is based on the premise that the value of a business depends on its future economic bene-

fits. The goal of the income approach is to determine what the value of a projected income stream would be worth today (i.e., its present value) by taking into account the risk associated with a company's income-generating capacity. To use the income approach methods, future earnings or cash-flow estimates must be made and then discounted (or capitalized) back to the present. Since firms have an indefinite life, specific income or cash-flow forecasts may have a date beyond which specific estimates are not made. The future date when it is estimated that growth will become relatively smooth or beyond which specific projections become highly uncertain is known as the *terminal date*. Growth beyond this point is assumed to be constant, allowing the use of a simplified model to estimate the continuing value of the business beyond this point (see discussion below). The periods prior to this point are assumed to have irregular or abnormal growth. For example, a start-up business may experience rapid growth in its early years then reach a maturity stage where growth starts to slow. This slowdown point in time would be the terminal date (T) for this business.

Next, a discount (capitalization rate) is used to determine the present value of the expected stream of income (cash flows). In economic terms, discount rate is an "opportunity cost" or expected rate of return that one would give up by investing in one alternative instead of other investments with comparable risk characteristics. The greater the uncertainty of the estimated future flows, the higher the discount (capitalization) rate.⁴ The trick in using the income approach is determining the future annual income flows and identifying the appropriate capitalization rate. The capitalization rate must reflect the riskiness of the investment and the long-term growth rate (g) of the generated income. Many variations of the income approach have been developed, including the discounted net cash flow method.

Discounted Net Cash Flow Approach. The discounted cash flow approach attempts to value directly the benefits that accrue to investors from their participation in the company. The premise is that a business's cash flow, not its accounting earnings are the ultimate source of its value.⁵ The technique involves the projection of future revenues and expenses allowing the calculation of net cash flows for each year of the projected period.⁶ Beyond the projected period, future cash flows are assumed to grow at a constant rate (g). The present value of the net cash flows may then be estimated using a modification of the Gordon-Shapiro Dividend Growth Model.⁷

Selecting the Capitalization and Discount Rate. The capitalization rate can be determined after the estimation of the discount rate (i). The capitalization rate is simply the discount rate (i) minus the estimated annual future growth

rate of Cash Flows (g). Various procedures can be used to estimate an appropriate discount rate. Two such methods are the summation (build-up) and the weighted-average cost of capital procedures.

Summation. The summation method is utilized when the estimated cash flows utilized are after interest expense deductions.⁸ In the summation method, the discount rate is the sum of the risk-free rate of return and an equity-risk premium. Due to the long-term nature of the valuation method, long-term U.S. government securities' rates are usually thought of as the best proxies of the risk-free rate. An analytical method of determining the equity-risk premium utilizes the Capital Asset Pricing Model (CAPM). In the CAPM process, the required equity rate of return (K_e) is a function of the risk-free rate (r_f) and a market risk premium ($R_m - r_f$). The market-risk premium is dependent on the Beta [β = measure of systematic (market) risk] associated with the investment and the difference between the rate of return on an overall market measure (R_m) and a risk-free rate (r_f). The premium for small stocks (S) can be estimated or by using information from sources such as Ibbotson Associates.⁹ Thus, $K_e = r_f + \beta(R_m - r_f) + S$.¹⁰

Weighted-Average Cost of Capital. The second technique used to determine the discount rate is the weighted cost of capital approach (WACC). WACC is utilized when the estimated cash flows utilized are before interest-expense deductions.¹¹ WACC determines the cost of a company's overall capital to be the weighted-average of the costs of all its financing sources in its capital structure. This method requires the breakdown of the company's capital components (i.e., debt, preferred stock, and common stock). The cost of each component is then calculated and the discount rate is simply a weighted-average based on the relative proportion and component cost of capital. For example, if the capital structure is 70 percent equity and 30 percent debt, the weights are 0.7 and 0.3.¹²

Adjustments for Ownership Control and Lack of Marketability. A primary consideration that must be given to closely-held businesses is that premiums or discounts may need to be attached to their securities to account for differing degrees of control (majority v. minority ownership status) and differing degrees of marketability. Minority ownership interests are generally considered to be worth less than their actual percentage ownership because they have less chance to effect changes in a business's overall structure or to influence a business's policies (e.g., appoint management, set compensation, declare dividends, make acquisitions, etc.). In contrast, majority ownership interests are generally considered to be worth more than their actual percentage ownership because they have greater chance to effect changes in a business's overall structure or to influence a business's policies.

Marketability refers to the ease at which the shares of a business can be converted to cash quickly without a significant discount in price. A closely-held business may have no market except that market created by an aggressive seller actively seeking prospective buyers. Thus, investment risk is much higher for closely-held investments than for investments with active secondary markets.¹³

EVA

This section discusses EVA and its valuation of closely-held businesses.

Defining MVA and EVA

In recent years, much attention has been given to the financial performance measures MVA and EVA. MVA measures the value added to shareholders' investments. It is the difference between the current market value of all capital elements and the historic dollar amount of capital invested in a company:

$$\text{MVA} = \text{Market Value of Invested Capital} - \text{Book Value of Invested Capital} \quad (1)$$

Invested capital includes debt plus equity. MVA provides the stock market's assessment of management's efficiency in using capital. A positive MVA indicates a company is building value for its shareholders; a negative MVA indicates that shareholder value is being destroyed. Maximizing MVA is consistent with management's goal to maximize shareholder wealth. The problem with applying MVA to closely-held businesses (as with other market-based performance measures) is that closely-held equity is not traded in broad public markets.

On the other hand, while EVA is the performance measure closely linked to MVA [arguably more so than earnings per share (EPS), return on equity (ROE) or any other accounting-based measure], it is not dependent on market values. EVA is a measure of a firm's profit after subtracting the cost of all capital employed (debt + equity). EVA has been viewed as a tool to help evaluate the operating performance of businesses or of specific operating departments within businesses. Since it is not based on the market, it may have significant use as a technique for valuing closely-held businesses. EVA is defined as the current-period, after-tax economic earnings net of a charge for the use of capital:

$$\text{EVA} = [\text{Percentage Return on Invested Capital (ROIC)} - \text{Percentage Cost of Capital (WACC)}] \times \text{Total Capital Invested} \quad (2)$$

EVA is an operational measure that differs from con-

ventional earnings measures in two ways. First, it explicitly charges for the use of capital (residual income measure). Second, it adjusts reported earnings to minimize accounting distortions and to better match the timing of revenue and expense recognition. An advantage of EVA is that it is dollar-based. As such, wealth maximization correlates with EVA maximization. A positive EVA indicates that a company is generating economic profits; a negative EVA indicates that it is not.

Net operating profits after tax (NOPAT) is used to measure the periodic return on invested capital. It is adjusted to restate conventional net income to better reflect the current economics of the business. For many small businesses, common adjustments would deal with taxes and non-recurring events (e.g., extraordinary gains/losses). In calculating NOPAT, exclude book tax provisions and include cash operating taxes. For capital, include any net deferred tax credits. The adjustments to income and capital for non-recurring events are made on a case-by-case and an after-tax basis.

The capital charge (Percentage Cost of Capital x Capital Invested) covers not only interest charges on debt but also a return that adequately compensates for the riskiness of the equity investment. This converts the balance sheet into another expense (capital costs) that may be compared directly with and managed in the same way as normal operating expenses. In practice, the weighted-average cost of capital (WACC) is frequently utilized as a measure of the percentage cost of capital. Given the above discussion equation 1 may be rewritten for any time period t as follows:

$$\text{EVA}_t = [\text{NOPAT}_t - (\text{Total Invested Capital} \times \text{WACC}_t)] \quad (3)$$

The economic book value of total invested capital calculated in figuring MVA and EVA is typically higher than a company's ordinary book value. This is because items such as bad debt reserves and deferred income taxes are added back in and research and development spending is capitalized. Thus, total capital invested is the sum of the book value of debt and equity refined by capitalizing research and development expenses, adding off-balance-sheet lease commitments, and making other accounting adjustments deemed necessary for the firm's industry.

Adjusting NOPAT and invested capital, EVA adjusts for accounting procedures that distort EPS and often allow positive return on assets (ROA) to hide returns below the cost of capital. It also negates potential capital structure distortions such as inflated ROE numbers posted by highly leveraged companies. EVA forces one to focus on operating cash flow rather than just earnings per share. This is

important because cash flow and EPS do not always move in tandem. EVA ignores noncash accounting charges and asks the right question: Is an acceptable return on investment being made. In addition to the general failure of EPS and price/multiples ability to capture the reality of cash flows, they do not capture specific and systematic risk levels among companies, or the differences in expected cash-flow timings or length of the cash-flow periods. On the other hand, EVA allows one to answer the question: What are the levels of future cash flows, rates of return, and length of the competitive advantage period necessary to justify today's stock price?

Companies can bolster EPS growth simply by retaining more earnings and raising more capital. The market appreciates increased cash generation while employing less capital. This is where EVA steps in as it focuses on after-tax cash flow instead of EPS. It encourages improving operating profits without using more capital, the investing of capital in projects that earn more than the cost of capital (i.e., a positive ROIC-WACC spread), and eliminating investment in operations where returns are inadequate. Thus, within large organizations, EVA can be used to determine whether economic profits from one division are subsidizing a less profitable division or can be used to help identify bargains or temporary market underpricings.

EVA as a Valuation Tool

EVA may be viewed as an extension of the income approach to valuation. Subsequently, it recognizes that the value of a business depends on its future economic benefits. With EVA, estimates of key factors that determine future earnings or cash flows must be made. These factors include such variables as unit volume growth, operating margins, cost of capital, and expected levels of adjusted NOPAT and invested capital. As discussed in the income approach, a terminal date (T) when growth is assumed to become relatively smooth and predictable may need to be estimated. If this terminal date follows a period of higher than expected growth, then the level of abnormal growth and its duration must be estimated. The choice of a particular period of abnormal growth is subjective in nature but should consider factors such as the proprietary nature of technologies, patent protection, value of branded good franchises, and access to distribution channels.

The total value (debt + equity) of a business with estimated life of n periods could be expressed in EVA terms as:

$$\text{Total Value} = \sum_{t=1}^n [\text{EVA}_t / (1 + \text{WACC})^t] + (\text{Total Invested Capital})_{t=0} \quad (4)$$

where:

$$\begin{aligned} \text{EVA}_t &= (\text{Adjusted NOPAT})_t - (\text{Capital Charge})_t; \\ \text{Capital Charge}_t &= (\text{Periodic Invested Capital})_t \end{aligned}$$

x WACC; and

Total Invested Capital_{t=0} = Current

Cumulative Level of Invested Capital.

Equation 4 requires estimation of each period's (t) level of invested capital, adjusted NOPAT, and WACC. The first term on the right-hand side of the equation computes the present value of future EVA by discounting each period's estimated EVA back to the present at the estimated WACC. That amount is then added to the current (t=0) cumulative level of invested capital to arrive at total firm value. Common equity value could then be estimated by subtracting the value of the business's debt and the value of any preferred stock.¹⁴

$$\begin{aligned} \text{Common Equity Value} &= \text{Total Value} - \text{Debt Value} \\ &\quad - \text{Preferred Stock Value} \end{aligned} \quad (5)$$

The utilization of the valuation procedure shown in equation 5 could be simplified with a few realistic assumptions. First, assume that the business is a going concern (i.e., has an infinite life such that $n \rightarrow \infty$). Second, it is assumed that at some point in time the spread between return on invested capital (ROIC) and the weighted cost of capital (WACC) becomes constant. At that point, changes in EVA over time periods will depend on assumptions about the growth in invested capital. For example, if we assume that the ROIC-WACC spread becomes constant at time period T (t=T) and also that growth in invested capital (g) also becomes constant at time period T (t=T), then Total Value becomes:

$$\begin{aligned} \text{Total Value} &= \sum_{t=1}^T [\text{EVA}_t / (1 + \text{WACC})^t] + \\ &\quad \{[\text{EVA}_{t=T} \times (1 + g)] / (\text{WACC} - g)\} / (1 + \text{WACC})^T + \\ &\quad (\text{Total Invested Capital})_{t=0} \end{aligned} \quad (6)$$

An illustration of EVA valuation calculations using the above equations is shown in Exhibit 1.

A simplification of the EVA calculations in Exhibit 1 would be to assume that the ROIC-WACC spread and (g) are already constant at t=0 (Year 2001). Given these assumptions, the total valuation formula simplifies to:

$$\begin{aligned} \text{Total Value} &= [\text{EVA}_{t=0} \times (1 + g)] / (\text{WACC} - g) + \\ &\quad \text{Total Invested Capital}_{t=0}. \end{aligned} \quad (7)$$

Using the same invested capital, adjusted NOPAT, WACC, and projected growth (g) given in Exhibit 1, the total value calculation is shown in Exhibit 2.

As can be seen in the exhibits, the valuation models can be quite sensitive to changes in assumptions. The circumstances in Exhibit 1 resulted in a valuation approximately 12 percent greater than the valuation estimated in Exhibit 2

**Exhibit 1
EVA Business Valuation**

Assume the following facts and projections for the Example Business

	<i>Current Period</i>	<i>Projected Periods</i>	
	2001	2002	2003
	-----	-----	-----
Total Invested Capital	\$9,000,000	\$10,000,000	\$11,000,000
Adjusted NOPAT	\$1,260,000	\$ 1,400,000	\$ 1,600,000
WACC	8.42%		

Capital Growth (g) is projected = 6.5% per year after 2003

If the spread between the return on invested capital versus the cost of capital becomes constant after 2003, the spread return for the years after 2003 equals:

$$\begin{aligned}
 \text{ROIC}_3 - \text{WACC}_3 &= (\text{NOPAT} / \text{Total Invested Capital}) - \text{WACC} \\
 &= (1,600,000 / 11,000,000) - .0842 \\
 &= 6.1254\%
 \end{aligned}$$

Translating the above percentage return into an EVA Dollar Estimation:

Valuation Equation 3.1-3 ⇒

$$\begin{aligned}
 \text{EVA}_t &= (\text{NOPAT}_t - (\text{Total Invest Capital}_t \times \text{WACC}_t)) \\
 \text{EVA}_1 &= (1,400,000 - (\$10,000,000 \times .0842)) = \$558,000 \\
 \text{EVA}_2 &= (1,600,000 - (\$11,000,000 \times .0842)) = \$673,800
 \end{aligned}$$

Total Valuation Equation 3.2-3 ⇒

$$\{[\$558,000 / (1 + .0842)^1] + [\$673,800 / (1 + .0842)^2] + \{[\$673,800 \times (1 + .065)] / (.0842 - .065)\} / (1 + .0842)^2\} + \$9,000,000 =$$

\$41,883,001.29

Exhibit 2 EVA Business Valuation

If the spread between the return on invested capital versus the cost of capital had been constant at 2001, then:

$$\begin{aligned} \text{ROIC}_0 - \text{WACC}_0 &= (\text{NOPAT} / \text{Total Invested Capital}) - \text{WACC} \\ &= (1,260,000 / 9,000,000) - .0842 \\ &= 5.58\% \end{aligned}$$

Translating the above return into an EVA Dollar Estimation:

Valuation Equation 3.1-3 ⇒

$$\text{EVA}_0 = (1,260,000 - (\$9,000,000 \times .0842)) = \$502,200$$

Total Valuation Equation 3.2.4 ⇒

$$\{[\$502,200 \times (1 + .065)] / (.0842 - .065)\} + \$9,000,000 =$$

\$36,856,406

(\$41,883,000 v. \$36,856,406). This was due to the lowered growth estimates for years 1 and 2. Sensitivity analysis could be employed to examine the effect of other key inputs (such as the WACC) on estimated value.

Conclusions

This article provided an overview of the standard asset, market, and income valuation methods. It discussed the concepts associated with EVA and demonstrated it as an

extension of the income approach for valuing small businesses. EVA is a periodic performance measure that allows one to assess how "value" has been added to the business through its normal operations each accounting period. Although cash-oriented, EVA begins with a business's after-tax net operating earnings, then adjusts for distortions of cash flow by accounting conventions and takes into account the capital charge necessary to compensate shareholders for the riskiness of their investments.

Endnotes

1. Small, privately-held and closely-held are used interchangeably throughout this article.
2. Fair market value is the amount at which items would change hands between willing and knowledgeable sellers and buyers. In this article, it includes the idea of an investment level deemed justifiable by a prudent investor.
3. See Pratt et al. (1996) for more discussion of the market approach to valuation.
4. Only when the expected level of economic income is constant in perpetuity are the discount and capitalization rates equal (see Pratt et al. 1996).
5. Accrual accounting rules dealing mainly with revenue and expense recognition result in a business's net income and net cash flows for a period to differ.
6. Net cash flows = accrual net income + depreciation/amortization - working capital additions - capital expenditures - debt repayments.
7. See Ross et al. (2000, pp. 219-224) for examples of this technique.
8. Examples would be EBT (earnings before taxes) or EAT (earnings after taxes). Actually, earnings should be adjusted to reflect actual cash flows.

9. Ibbotson Associates. Chicago, IL. <http://www.ibbotson.com>.
10. See Ross et al. (2000, pp. 396–408) for discussion of CAPM.
11. Examples would be EBI (earnings before interest), EBIT (earnings before interest and taxes), EBI – Taxes (earnings before interest minus taxes). Actually, earnings should be adjusted to reflect actual cash flows.
12. See Ross et al. (2000, pp. 418–439) for discussion of the WACC.
13. See Damodaran (1996, pp. 495–497) for discussion of the liquidity (marketability) discount.
14. Book value is often utilized for the value of debt and preferred stock since market interest rates affect their value more so than management decisions. In reality, short-term debt is generally close to book value while long-term debt and preferred stock values fluctuate with market interest rates. Bond and preferred stock pricing models can be used to estimate long-term debt and preferred stock values when interest rates have fluctuated enough to substantially affect their market values.

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