

Valuation Methods for Midsize Companies... Taking Out the Guesswork

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Forward

A common problem in many negotiations involving the sale of midsize companies is that neither the prospective buyer nor the seller has a clear idea of the value of the business. In more situations than not, the seller has an unrealistically high impression of what the business is worth, often based more on emotion than logic. Generally, neither party has undertaken any significant fundamental analysis as to the value of the company. Further, most transactions of this size do not have the input of sophisticated valuation advisors (business appraisers, investment bankers, and so on). Therefore, the purpose of this chapter is to familiarize both the prospective buyer and seller of a mid-size company as to the fundamental components of value and methods of valuation for such businesses. Typically, the value of a business enterprise is a derivative of the earning power of that company and the ability to convert this earning power into value. The fundamental premise of valuation is that value today is the present worth of expected future benefits. Any realistic estimate of value must ultimately be reconciled with this relatively simple, though often ignored, concept. The value implied by the amount of time and money that have been invested to bring a business to a particular point are generally irrelevant if the expected future returns from the business do not justify that value.

INADEQUATE BENCHMARKS OF VALUE

Before entertaining a discussion of the appropriate methodologies upon which to value a business enterprise, it is worth discussing some commonly used benchmarks of value, which are generally inadequate. The most common reference point for the value of a business is book value, or shareholders' equity on the balance sheet. Except for a few types of companies, book value is generally a poor indicator of market value. Consider that book value is based on the historical cost of the company's assets rather than their market value. Also, book value is representative of past earnings, and may not be indicative of future earnings prospects. Finally, the book value of two otherwise identical companies can vary significantly based upon different accounting practices.

In many industries, there are also various "rules of thumb" as to the value of a business. While widely used, these rules of thumb tend to be poor indicators of the value of a company and should not be used as anything more than a cross check of a more thorough fundamental analysis. The primary reason is that rules of thumb are based on industry averages while each situation is different and deserves careful individual consideration.

OVERVIEW OF VALUATION APPROACHES

The value of a business is generally determined based upon consideration of three distinct categories of valuation methodologies, each of which has multiple subsets of derivative methods. These are the net asset value approach (sometimes referred to as the cost approach), the market multiple approach (sometimes referred to as the market or comparative sales approach) and the income approach (sometimes referred to as the discounted cash flow approach).

The net asset value approach considers the underlying value of the company's individual assets net of its liabilities. In this approach, the book value is adjusted by substituting the market value of individual assets and liabilities for their carrying value on the balance sheet, with consideration given to so-called off-balance sheet assets and liabilities, including contingent liabilities. This approach is generally most applicable in the context of an asset holding company, where the current return on the assets may significantly understate their underlying value. Real estate holding companies, investment holding companies, and natural resource companies are often analyzed on a net asset basis.

Market multiple approaches consider the market value of business enterprises similar to the subject company being valued, as observed either in the trading price of publicly traded companies or the purchase price in business sales, relative to the earnings and/or cash flow of those businesses. The market multiples thus derived are applied to the subject company's normalized level of expected earnings and cash flow after being adjusted for the riskiness of the subject company relative to the comparative companies. The normalization of earnings for the subject company involves analyzing financial results over a time-frame that takes into consideration fluctuations in the subject company's business cycle and is representative of future prospects, adjusting historical results for any income or expense items of an extraordinary or nonrecurring nature. The riskiness of the subject company relative to the comparative companies is based on consideration of a wide range of qualitative and quantitative factors, including size, leverage, profitability, growth prospects, quality and depth of management, and others.

Income, or discounted cash flow, methodologies involve determining the net present value of future returns to investors to be generated by the business utilizing a discount rate that reflects the risks inherent in receiving those returns. The discount rate is generally determined through an analysis of observable required rates of return in the marketplace for investments of similar risk.

SELECTION OF APPROPRIATE METHODOLOGY

It is generally best to consider all types of valuation approaches and apply as many as are relevant to the particular case. This is because each approach has biases, and the best way to determine overall value is to use a number of relevant approaches and find the central tendency. As previously mentioned, each of the three basic valuation methodologies has multiple subsets of derivative methods, and it is normally advisable to use more than one approach within the three broad categories, particularly within the market multiple approach category.

In spite of the relevance of net asset value to certain valuation situations (such as asset holding companies), the value of most operating companies is not based upon individual asset values, but upon the return that the assets generate collectively, as employed in the business. Thus, most businesses are valued based upon capitalization of earnings and/or cash flow. The two valuation approaches that utilize capitalization of earnings and/or cash flow are the market multiple and income approaches.



The relevance of the market multiple approach to any given situation is based in large part on the ability to locate transactions involving companies similar to the subject company and the availability of information on those comparative transactions. Public company comparatives are most often used because of the wealth of information available on such companies. Most public companies trade every day and their trading prices can be located in the newspaper. Further, the public filings of such companies (which can generally be requested by calling the company) contain detailed financial information as well as narrative information about the company. Information services such as Standard & Poor's, Moody's, Disclosure, Value Line and others (which are available in most business school libraries) allow the user to screen the universe of 12,000 or so public companies by line of business using the standard industrial classification (SIC) code of a given industry, as well as other relevant factors.

The explosion of so-called small cap public offerings over the last several years has substantially increased the likelihood of finding good comparatives in the public market for midsize companies. However, even a thorough search often turns up no public companies that are directly comparable to the mid-size, closely held business being valued. Public companies tend to be larger, better capitalized, and more diversified (both in terms of product lines and geography) than the typical midsize private company. Nonetheless, the multiples of such public companies may still be very relevant to the valuation of a mid-size private company as long as appropriate adjustments for risk and growth are made in the application of market multiples to the subject company. Information on private transactions is much more difficult to locate. Even when these transactions can be found, there may not be sufficient information available to calculate market multiples and form a reasonable basis for the determination of relative investment risk between the comparative company and the subject company. But, when reliable information can be found for such transactions, the market multiples may represent the best indicators of value for the subject company.

The discounted cash flow approach is the most theoretically sound approach because it directly bases value on the present value of future benefits. However, in practice, the determination of both expected future returns and an appropriate required rate of return can be difficult to calculate with accuracy. Nonetheless, this is generally the desired approach either when no comparative transactions can be found or when the revenues and earnings of the business are highly predictable, making a determination of expected future cash flows an easier task.

APPLICATION OF NET ASSET APPROACH

The net asset approach is generally the easiest approach to apply. It involves adjusting the most recent balance sheet of the subject company by substituting the market value for the book value of individual assets and liabilities where appropriate. The net asset value is the adjusted book value obtained by using shareholders' equity as a plug figure to balance the adjusted balance sheet.

There are two ways of performing a net asset value calculation. The first method values each of the assets based on the value at which they could be sold separately, without respect to their value as part of the enterprise as a whole. Under this method, liquidation costs and taxes are often subtracted as well. This approach is most applicable in a liquidation scenario. If the business is likely to continue as a going concern, the assets are usually valued as "in use", based upon their value as part of the enterprise.



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Under the going concern concept, current assets are generally valued at close to their book value. However, adjustments should be made to accounts receivable to include any questionable receivables that have not already been reserved for on the balance sheet. Similarly, any obsolete or slow moving inventory should be adjusted to the extent not already reserved for.

Fixed assets should be shown at their estimated fair market value. When possible, it is advantageous to obtain appraisals on the major items (generally real property, and machinery and equipment).

While liabilities are normally subtracted from the gross asset value at their stated value on the balance sheet, sometimes adjustments are appropriate. For example, if there is any interest-bearing debt whose stated interest rate is either well above or well below a market rate of return, the market value of the debt should be used. Also, any off-balance sheet assets should be added and any off-balance sheet liabilities should be subtracted from shareholders' equity. This includes contingent liabilities for such things as litigation or environmental remediation.

Exhibit 11-1 shows a net asset value calculation for a hypothetical manufacturing company, Precision Components Manufacturing Corp., a manufacturer of precision components for a variety of industries, including the aerospace and medical devices industries:

EXHIBIT 11-1 Net Asset Value Summary, December 31, 19x5 (in thousands)

	Book Value	Adj. to Market	Est. Market Value
ASSETS:			
Current Assets:			
Cash & Equivalents	1,817		1,817
Accounts Receivable	2,482		2,482
Inventory	4,555	-1,500	3,055
Other Current Assets	41		41
Total Current Assets	8,895		7,395
Fixed Assets:			
Building & Land	801	1,699	2,500
Machinery & Equip.	11,069	-7,069	4,000
Other Fixed Assets	530		530
Less Accum. Deprec.	<u>(8,089)</u>	<u>8,089</u>	0
Net Fixed Assets	4,311		7,030
Other Assets	540		540
Total Assets	<u>13,746</u>	1,219	<u>14,965</u>
LIABILITIES AND EQUITY:			
Current Liabilities:			
Line of Credit	695		695
Curr. Portion LT Debt	1,025		1,025
Accounts Payable	527		527
Accrued Liabilities	316		316
Other Current Liabilities	705		705
Total Current Liabilities	3,268		3,268
Long-Term Debt	1,415		1,415
Other Long-Term Liabilities	528		528
Total Liabilities	5,211		5,211
Stockholders' Equity	8,535	1,219	9,754
Total Liabilities & Stockholders' Equity	<u>13,746</u>		<u>14,965</u>



In this case the following adjustments were made to the balance sheet to determine net asset value: Inventory was reduced by \$1,500,000 to reflect obsolete inventory. Real estate and equipment were adjusted to reflect their current fair market values (per appraisals) of \$2,500,000 and \$4,000,000, respectively. The resulting net asset value was \$9,754,000.

APPLICATION OF THE MARKET MULTIPLE APPROACH

As stated previously, there are several versions of the market multiple approach, the differentiating factor being the specific earnings or cash flow measure used in each case to calculate the market multiple. These versions can be classified into two categories: equity value approaches and debt-free approaches. In the equity value approaches, market multiples for the comparative companies are calculated by dividing the purchase price for common stock by measures of earnings and cash flow, which represent returns to common shareholders. Examples of such approaches are the price to earnings (P/E) and price to cash flow (P/CF) approaches. When P/E and P/CF multiples are applied to the subject company's normalized representative earnings and/or cash flow, the resulting product is an indication of the subject company's common equity value.

The debt-free approaches attempt to adjust for the distortions that can occur by comparing companies with significantly different levels of debt in their capital structures. This is done by calculating market multiples for all of the comparative companies assuming that they have no interest-bearing debt in their capital structure. Market multiples are calculated by dividing the purchase price for common stock plus the value of interest-bearing debt (sometimes referred to as total invested capital) by measures of earnings and cash flow which represent returns to both shareholders and debt holders (the returns to debt holders being in the form of interest and principal payments). Examples of such approaches are the total invested capital to earnings before interest and taxes (TIC/EBIT) and total invested capital to earnings before depreciation, interest and taxes (TIC/EBDIT) approaches. When TIC/EBIT and TIC/EBDIT multiples are applied to the subject company's normalized representative EBIT and/or EBDIT, the resulting product is an indication of that company's total invested capital, or the value of its common equity assuming the company had no interest-bearing debt. In order to determine the subject company's actual common equity value, the current level of interest-bearing debt must be subtracted from the total invested capital value.

In most situations, a combination of the equity value and debt-free approaches should be used. The equity value approaches are easier to understand and apply, but when there are significant differences in capital structure, the debt-free approaches are probably more reliable. Another factor, which differentiates the P/E and TIC/EBIT approaches from the P/CF and P/EBDIT approaches, is that in the former approaches multiples are calculated using income figures that are after depreciation expense. The theory is that even though depreciation is a non-cash charge, it nonetheless represents an estimate of the ongoing capital expenditure requirements of the business; therefore, earnings and EBIT are more representative of the net return to investors. Conversely, the P/CF and P/EBDIT multiples are calculated using income figures which are before depreciation expense (cash flow is defined as net income plus depreciation). These approaches adjust for different depreciation practices among the companies being compared. They are particularly relevant when valuing a capital-intensive business.

Many institutional investors focus primarily on EBDIT because they can compare companies based on an income measure, which is unaffected by differences in both the debt levels of the various companies and different depreciation practices of the companies, as well as differences in income taxes. However, again, it is generally advisable to use a combination of approaches.

There are other market approaches, including price to net book value (PINBV) and total invested capital to revenues (TIC/R), which are useful in certain situations but are not nearly as relevant in most situations as the approaches mentioned above.

Determination of Representative levels of Earnings, Cash Flow, EBIT and EBDIT

The market multiples derived from an analysis of comparative transactions should be applied to the subject company's representative level of earnings, cash flow, EBIT and EBDIT, respectively. The goal is to derive income levels that are indicative of expected future income and that would form the basis upon which a prospective investor in the company would base his or her investment decision. Determination of representative income levels involves two steps: identifying the appropriate time frame, historical or projected, over which to base the determination of representative earnings, and adjusting reported results for extraordinary items that impacted the firm's financial results in the past but which are not expected to repeat or persist.

In addition, certain discretionary expenses, such as above market management compensation, may be identified and adjusted for in determining the earning capacity of a company.

Generally, representative levels are based on historical financial results, as opposed to projected results. This is because projections are inherently speculative whereas historical results are an actual indication of the income that the company has been capable of generating in the past. However, projected results may be more relevant if there is reason to believe that recent or anticipated changes in the business—loss of a key customer, new products, acquisitions, or other—would make historical results largely irrelevant.

The selected historical time over which to calculate representative levels depends on the nature of the business. Highly cyclical businesses, such as the aerospace and automotive industries, are generally evaluated over a longer historical time frame because results in any one year may not be representative; three-year and five-year averages are typical. Conversely, businesses that are growing or declining steadily will generally be evaluated based upon some measure of current results (latest fiscal year or latest 12 months if the latest fiscal year-end is more than a few months old). Sometimes it is difficult to differentiate fluctuations in historical operating results, which are part of the company's normal business cycle (for which a historical average would be more appropriate) from those that result from fundamental changes in the business (for which near-term results or projections would be more appropriate).

Exhibit 11-2 is a comparative summary of financial results for Precision Components, our fictional company, over the last five years

EXHIBIT 11-2 Historical Comparative Income Statements

(in thousands)

	19x5	19x4	19x3	19x2	19x1
Net Sales	12,699	10,468	9,988	11,372	17,225
Cost of Sales	<u>9,583</u>	<u>8,186</u>	<u>7,921</u>	<u>10,472</u>	<u>13,555</u>
Gross Profit	3,116	2,282	2,067	900	3,670
Operating Expenses:					
Selling Expense	509	465	420	494	692
Salaries	636	633	639	661	586
Telephone Expense	31	31	34	39	36
Building Maintenance	86	29	24	26	64
Other Expense	<u>414</u>	<u>395</u>	<u>258</u>	<u>405</u>	<u>464</u>
Total	1,676	1,553	1,375	1,625	1,842
Operating Income	1,440	729	692	(725)	1,828
Other Income	<u>378</u>	<u>343</u>	<u>333</u>	<u>60</u>	<u>130</u>
Earnings Before Interest and Taxes (EBIT)	1,818	1,072	1,025	(665)	1,958
Interest Expense	<u>250</u>	<u>320</u>	<u>330</u>	<u>398</u>	<u>396</u>
Pretax Income	1,568	752	695	(1,063)	1,562
Provision for Taxes	<u>596</u>	<u>258</u>	<u>278</u>	<u>(340)</u>	<u>407</u>
Net Income	<u>972</u>	<u>494</u>	<u>417</u>	<u>(723)</u>	<u>1,155</u>

In this case, because the business is inherently cyclical, an average of historical years was used. And, due to the loss of a key customer in the middle of 19x2, results for 19x1 and 19x2 were not considered to be representative of current operations. Therefore, a three-year average of 19x3, 19x4 and 19x5 was used.

In terms of adjustments to historical financial results, any nonrecurring or extraordinary expenses should be added back to reported results. Similarly, nonrecurring income should be subtracted. A certain amount of judgment is required to determine whether or not an income or expense item is nonrecurring; for example, whether items such as write-offs of inventory, gains or losses on the sale of equipment, or start up expenses associated with a new product would be considered extraordinary depends on the nature of the business. When valuing a controlling interest in the company (as opposed to a minority interest), certain discretionary expenses may be added back to reported income. The most significant of these is usually above market compensation for the owner. The proper method of adjusting for this is to add the entire amount of actual owner's compensation to reported income and then subtract an estimated amount of market compensation commensurate with the amount that would be paid to a non-owner to perform the same function. In addition, other discretionary expenses, which do not in some way increase revenues or benefit the company, may be added back. The most common are personal expenses of the owner for such things as travel, automobile, meals, and entertainment.



Exhibit 11-3 shows the representative level calculation for Precision Components.

EXHIBIT 11-3 Representative Level Determination *(in thousands)*

	19x5	19x4	19x3
Reported Pretax Income	\$1,568	\$ 752	\$ 695
Reported Interest Expense	250	320	330
Reported Depreciation Expense	<u>881</u>	<u>901</u>	<u>1,058</u>
Reported EBDIT	\$2,699	\$1,973	\$2,083
Adjustments:			
Extraordinary Bad Debt Expense	0	0	\$ 300
Litigation Settlement	\$ 260	0	0
Market Compensation Adjustment	<u>350</u>	<u>350</u>	<u>350</u>
Adjusted EBDIT	\$3,309	\$2,323	\$2,733
Adjusted EBDIT Margin	26.1%	22.2%	27.4%
Representative EBDIT (3 Year Average, Rounded)			\$2,800
Less: Depreciation (3 Year Average, Rounded)			<u>(950)</u>
Representative EBIT			1,850
Less: Interest Expense (Latest Year, Rounded)			<u>250</u>
Adjusted Pretax Income			1,600
Less: Income Taxes @ 38% (Rounded)			<u>(600)</u>
Representative Earnings			1,000
Add: Depreciation			<u>950</u>
Representative Cash Flow			\$1,950

In this case, adjusted EBDIT for the three years was determined by making the following adjustments to reported EBDIT: an extraordinary litigation settlement expense was added back in 19x5, an extraordinary bad debt expense was added back in 19x3, and above market compensation was added back for each of the years. The representative EBDIT was based on an approximate three-year average of adjusted EBDIT. Representative EBIT was determined by subtracting average depreciation from representative EBDIT. Representative earnings were calculated by subtracting interest expense (which should be based on current interest expense, not an average) and estimated income taxes at 38 percent from representative EBIT. Finally, representative cash flow was based on adding average depreciation to representative earnings.

SELECTION OF COMPARATIVE COMPANIES

When searching for comparative transactions, the goal should be to select those companies, which are most similar to the subject company from an investment standpoint. Factors to consider include: line of business, geographic location, size, financial and operating similarities, as well as there relevant items. Generally, the first criterion is to find companies in the same line of business. However, companies may be engaged in somewhat different lines of business but be affected by the same macroeconomic factors in similar ways. The relative importance of other factors depends on the industry. For example, finding comparatives in the same geographic region may be extremely important for a construction company, but may not be as important for an aerospace company.

Risk Comparison with Comparative Companies and Multiple Selection

It is important to note that the market multiples observed for the selected comparative companies are just a guideline for the determination of the appropriate multiple to apply to the subject company's representative income levels. A common mistake is to apply the median or average



multiples from the comparative companies observed without performing a detailed risk analysis to determine whether the subject company warrants a premium or a discount to the multiples observed. When the comparatives are public companies, the multiple selection for the midsize private company usually involves a discount to the multiples observed in the market, but this is not necessarily the case. A subject company with excellent growth prospects, for example, may command a significantly greater multiple than more mature public companies.

A proper evaluation of relative investment risk will consider a wide range of quantitative and qualitative factors. The quantitative risk analysis usually involves comparing various financial ratios and statistics of the subject company to those of the comparative companies. The ratios and statistics compare the companies on the basis of size, liquidity, leverage, profitability, turnover of assets, and growth. Of all the quantitative factors, size and growth tend to be the most significant. Investors normally pay higher multiples for larger companies when compared with smaller ones in the same industry. Also, strong growth prospects will have a very significant upward influence on the multiple (although good historical growth is not necessarily indicative of strong growth in the future).

The qualitative risk analysis is just as, if not more, important than the quantitative analysis. The major qualitative factors are key-person risk (particularly if the key person is the owner who is leaving the business), reliance on key customers, breadth of product line and proprietary nature of products, diversification of geographic risk, quality and depth of management, access to capital, and more.

Once a determination of relative investment risk is made, this information forms the basis for the multiple selection for the subject company. In addition to looking at the comparative companies' median, particular attention should be paid to the multiples of any comparative companies that are especially comparable to the subject company. Also, it is usually appropriate to look at market multiples for the public companies using earnings and cash flow levels that are calculated over the same frame as the subject company's representative levels. In other words, if the representative levels were based on a five-year average of earnings for the subject company, then the market multiples for the comparative companies should be calculated using a five-year average of earnings in the denominator (although the price in the numerator is always based on the price closest to the valuation date, regardless of the time frame used for earnings).

For Precision Components, our relative risk analysis indicated that the company was a greater investment risk than the comparative companies, based primarily on its smaller size and greater degree of key-person and key-customer risk. Further, since none of the comparatives was significantly more or less comparable to the subject company than the others, our selection was determined from the comparative companies' median multiples. This is summarized in Exhibit 11-4.

EXHIBIT 11-4 Comparative Company Market Multiples

Based on Three Year Average Income Levels

	P/E	P/CE	TIC/EBIT	TIC/EBDIT
ABC Corp.	12.4	6.8	11.2	8.2
ACME Manufacturing, Inc.	15.6	5.4	10.9	5.1
Aerospace Products Corp.	14.1	7.9	11.0	6.9
Diversified Manufacturing, Inc..	10.1	6.9	8.8	7.5
XYZ Corp.	12.3	7.1	9.0	5.5
Range				
Low	10.1	5.4	8.8	5.1
High	15.6	7.9	11.2	8.2
Median	12.4	6.9	10.9	6.9
Selected for Subject Company	10.0	5.5	8.0	5.5

Market Multiple Approach Summary

Once the representative levels of income and the selected market multiples are determined, the value indication for each approach is obtained by multiplying the representative level by the corresponding selected market multiple. Remember to subtract interest-bearing debt from the total invested capital conclusions derived in the debt-free approaches. This is done for Precision Components in Exhibit 11-5.

EXHIBIT 11-5 Market Approach Summary (in thousands)

Approach	Rep. Level	Market Multiple	Total Capital	Less: Debt	Equity Value
Price/Earnings	\$1,000	x 10.0	--	--	\$10,000
Price/Cash Flow	\$ 1,950	x 5.5	--	--	\$10,725
TIC/EBIT	\$1,850	x 8.0	\$14,800	(\$3,113)	\$11,687
TIC/EBDIT	\$2,800	x 5.5	\$15,400	(\$3,113)	\$12,287

APPLICATION OF INCOME APPROACH

As with the market multiple approaches, there are many versions of the income or discounted cash flow approach, but all of them are based on discounting or capitalizing some measure of investor return by an appropriate required rate of return. The most common measure of investor return is net cash flow (which can be stated on an equity as well as a debt-free basis). In this case, we will focus on the equity value method, which is based on net cash flow to common shareholders.

When long-term financial projections are available, it is usually best to perform a net present value (NPV) calculation on the projected net cash flows during the projection period. The present value of net cash flows through the projection period are then added to the present value of the business at the end of the projection period, the so-called terminal value, which is usually determined by applying some capitalization rate to the final year's net cash flow. However since detailed financial forecasts are normally not available for midsize companies, the Gordon Growth Model can be used to calculate the present value of expected future cash flows without the necessity of using long-term forecasts.

The Gordon Growth Model is a perpetual growth model that capitalizes current expectations of net cash flow for the business by the required rate of return (discount rate) minus the expected growth rate into perpetuity of those net cash flows. Specifically, the formula is stated as follows:

$$\frac{NCF}{r-g}$$

where:

NCF = expected net cash flow,
r = required rate of return, and
g = perpetual growth rate.

If the expected net cash flow is based upon historical results, sometimes the numerator is expressed as $NCF \times (1 + g)$.

Determination of Net Cash Flow

The net cash flow (or free cash flow) to be capitalized in the model should be reflective of the subject company's current or near-term expected net cash flow level. Often, the representative earnings level selected in the market approach is a starting point. Net cash flow is usually determined by adding depreciation and other non-cash charges to net income and subtracting expected capital expenditures and increases in net working capital. While this is an oversimplification of the determination of the true net cash flow of a company, it is a reasonable estimate for valuation purposes.

The amount that is subtracted for capital expenditures should be based on an average expected annual rate, adjusting for abnormally high or low capital expenditures in a given year. Net working capital increases are represented by increases in working capital assets, such as accounts receivable, inventory, prepaid assets, and so on, less increases in working capital liabilities, such as accounts payable, accrued expenses, and others, on an annual basis. A historical analysis should be undertaken to determine the level of net working capital required to support a given revenue level.

For Precision Components, expected net cash flow was determined as follows:

Representative Earnings	\$1,000,000
Add: Depreciation	\$950,000
Less: Capital Expenditures	(\$500,000)
Less: Working Capital Increases	(\$300,000)
Net Cash Flow	\$1,150,000

Determination of Discount Rate (or Required Rate of Return)

The required return on an investment is directly related to the risk of that investment. The required rate of return increases with risk. Most models for determining required return are based upon observable returns for other investments in the market. There are many different financial models for required return on a common stock investment, including the widely used Capital Asset Pricing Model (CAPM). However, an easier and more direct method is the build-up method.



The build-up method measures an investor's total required rate of return on an equity investment by sequentially adding various components of that required return, each component being based on observed returns found in the public market. The first component is the risk-free rate, usually represented by the rate of return on intermediate-term or long-term government bonds.

Because investors require a greater expected return than the risk-free rate to compensate for the inherent risks of an equity investment versus an investment in U.S. Treasury Bonds, the build up method applies a premium or premiums to the risk-free rate in order to determine the appropriate required return to apply to the subject equity investment. A market risk premium is typically added to the risk-free rate to reflect the additional return that investors in the stock market as a whole would require over and above the risk-free rate. The most recent studies compiled by Ibbotson Associates show that, over time, returns associated with common stocks, as a whole, have averaged 7.2 percent above the 20-year Treasury Bond rate. This rate of return is for those companies comprising the upper eight deciles of the New York Stock Exchange (NYSE).

Because of the importance of size in evaluating investment risk and, therefore, required rates of return, an additional premium is often added to reflect the fact that the subject company being valued may be considerably smaller than the public companies from which the market risk premium was derived. The most recent studies compiled by Ibbotson Associates indicate that over time, the historical return on the smallest 20 percent of publicly traded stocks has been 5.3 percent above that of the overall market. This is sometimes referred to as the small company premium.

The final component of the build up rate is a premium for company-specific risk. This premium, based largely on qualitative considerations, measures the premium that an investor would require over and above an investment in the average small public company because of risk factors specific to the subject company. Such factors include the risks of the specific industry in which the subject company operates, financial condition and operating history and access to capital limitations, among other things. For Precision Components, we selected a relatively small company specific risk premium of 1.5 percent, based on the company's long history of profitable operations (notwithstanding the loss in 19x2, which was the company's only unprofitable year in 40 years of operation) and relatively low level of debt.

An important thing to remember is that the selected discount rate must consider the attainability of the net cash flows, which are expected. Optimistic forecasts should receive correspondingly high required rates of return and vice versa for more conservative forecasts.

The following summarizes the determination of the discount rate for Precision Components.

Risk-Free Rate	
(20 Year T-Bond Rate at Valuation Date)	7.0%
Market Risk Premium	7.2%
Small Company Premium	5.3%
Company Specific Risk Premium	<u>1.5%</u>
Required Rate of Return	21.0%



Determination of Perpetual Growth Rate

The perpetual growth rate is the expected annual growth of the base net cash flow into perpetuity. Growth may be more rapid in the initial years and then taper off as the company becomes more mature. The selected perpetual growth rate should weigh near-term versus long-term growth expectations. An analysis of historical growth for the subject company as well as expected growth in the industry should be undertaken.

For Precision Components, based on all of the evidence analyzed and the future prospects for the company, we have used an assumed perpetual growth rate of 9 percent.

Income Approach Summary

Applying the selected net cash flow, discount rate and perpetual growth rate for Precision Components to the Gordon Growth Model yields the following common equity value:

$$\frac{\$1,150,000 \times (1.09)}{.21 - .09} = \mathbf{\$10,446,000}$$

VALUATION SUMMARY

When valuation indications have been derived for each of the individual approaches, an overall value must be selected. As stated previously, more weight should be given to approaches deemed most reliable under the circumstances. Sometimes, the

EXHIBIT 11-6 Valuation Summary

Approach

Net Asset Value	\$9,754,000
Price/Earnings	\$10,000,000
Price/Cash Flow	\$10,725,000
TIC/EBIT	\$11,687,000
TIC/EBDIT	\$12,287,000
Discounted Cash Flow	\$10,446,000
Conclusion	\$11,000,000

final valuation is determined by applying a specific weighting factor to each approach. Other times, the final value determination is more subjective.

Exhibit 11-6 is the valuation summary for Precision Components as of December 31, 19x5.

In this case, no weight was given to the net asset approach. The four market approaches averaged approximately \$11,200,000. However, this \$11,200,000 figure was not supported by the discounted cash flow approach. As a result, our overall value conclusion for operations was \$11,000,000.

OTHER CONSIDERATIONS

The focus of this chapter has been on the value of an entire business enterprise, without regard to fractional ownership interests within the company or different classes of stock



(including preferred stock). The treatment of fractional ownership interests and the application of discounts and premiums is the subject of another chapter in this book.

Valuation indications derived from the application of the net asset value approach are generally considered to represent controlling interest level values. Therefore, no further adjustments are required to determine the value of a controlling interest in the subject company under this approach. When using public company comparatives under the market multiple approach, it is important to note the differences between the stock prices of public companies, which represent non-controlling yet readily marketable interests, and the value of a controlling interest in the closely held subject company: Often, the value of control in the subject company is adequately considered by making adjustments to the subject company's income levels to reflect the ability of a controlling shareholder to eliminate discretionary expenses and thereby enhance investment returns (which was done in the Precision Components example). The same is true for the income approach when such adjustments are made.

With respect to marketability, some practitioners do not apply a discount for lack of marketability to a controlling interest in a private company because the owner has the ability to sell or liquidate the company. Other practitioners do apply a small discount, but nowhere near that which would be applied to a closely held minority interest.

It is also important to consider whether or not the subject company has any non-operating assets, assets that are not being used by the business to generate revenues or assist in the ongoing operations of the company. Non-operating land is common although the value of land owned by the company but used in the business should not be added. Other examples include excess machinery and equipment, excess cash, potential legal settlements, and notes receivable. Income from any assets deemed non-operating must be excluded from the representative level determination to avoid double counting. The value of non-operating assets should be added to the overall value conclusion for operations, typically on an after-tax basis. Similarly, contingent liabilities such as litigation or environmental problems should be subtracted. Finally, the impact of any above or below market interest-bearing debt or leases should be considered.

In the case of Precision Components, it was determined that the company had approximately \$500,000 in cash beyond that which was necessary for normal operational requirements. Therefore, this figure was added to the concluded value of operations for a total valuation of \$11,500,000.

SUMMARY

It is not expected that the average prospective buyer or seller of a mid-size business would be able to prepare a proper business valuation simply on the basis of reading this chapter. There are many nuances to a business valuation and substantial judgment is required that can be acquired only through experience. However, this chapter can provide a basis for understanding the basic components of business value and reconciling the buyer's or seller's preconceived notions of value with the fundamentals and realities of business valuation.