

Chapter 8

THE ART OF BUSINESS VALUATION

Many investors insist on affixing exact values to their investments, seeking precision in an imprecise world, but **business value cannot be precisely determined**. Reported book value, earnings, and cash flow are, after all, only the best guesses of accountants who follow a fairly strict set of standards and practices designed more to achieve conformity than to reflect economic value. Projected results are less precise still. You cannot appraise the value of your home to the nearest thousand dollars. Why would it be any easier to place a value on vast and complex businesses?

Not only is business value imprecisely knowable, it also changes over time, fluctuating with numerous macroeconomic, microeconomic, and market-related factors. So while investors at any given time cannot determine business value with precision, they must nevertheless almost continuously reassess their estimates of value in order to incorporate all known factors that could influence their appraisal.

Any attempt to value businesses with precision will yield values that are precisely inaccurate. The problem is that it is easy to confuse the capability to make precise forecasts with the ability to make accurate ones. Anyone with a simple, hand-held calculator can perform net present value (NPV) and internal rate of return (IRR) calculations. The NPV calculation provides a single-point value of an investment by discounting estimates of future cash flow back to the present. IRR, using assumptions of future cash flow and price paid, is a calculation of the rate of return on an investment to as many decimal places as desired. The seeming precision provided by NPV and IRR calculations can give investors a false sense of certainty for they are really only as accurate as the cash flow assumptions that were used to derive them.

The advent of the computerized spreadsheet has exacerbated this problem, creating the illusion of extensive and thoughtful analysis, even for the most haphazard of efforts. Typically, investors place a great deal of importance on the output, even though they pay little attention to the assumptions. “Garbage in, garbage out” is an apt description of the process.

NPV and IRR are wonderful at summarizing, in absolute and percentage terms, respectively, the returns for a given series of cash flows. When cash flows are contractually determined, as in the case of a bond, and when all payments are received when due, IRR provides the precise rate of return to the investor while NPV describes the value of the investment at a given discount rate. In the case of a bond, these calculations allow investors to quantify their returns under one set of assumptions, that is, that contractual payments are received when due. These tools, however, are of no use in determining the likelihood that investors will actually receive all contractual payments and, in fact, achieve the projected returns.

A Range of Value

Businesses, unlike debt instruments, do not have contractual cash flows. As a result, they cannot be as precisely valued as bonds. **Benjamin Graham knew how hard it is to pinpoint the value of**

businesses and thus of equity securities that represent fractional ownership of those businesses. In *Security Analysis* he and David Dodd discussed the concept of a range of value:

The essential point is that *Security Analysis* does not seek to determine exactly what is the intrinsic value of a given security. It needs only to establish that the **value is adequate**—e.g., to protect a bond or to justify a stock purchase—or else that the value is considerably higher or considerably lower than the market price. For such purposes an indefinite and approximate measure of the intrinsic value may be sufficient.¹

Indeed, *Graham* frequently performed a calculation known as **net working capital per share**, a back-of-the-envelope estimate of a company's liquidation value. His use of this rough approximation was a tacit admission that he was often unable to ascertain a company's value more precisely.

To illustrate the difficulty of accurate business valuation, investors need only consider the wide range of Wall Street estimates that typically are offered whenever a company is put up for sale. In 1989, for example, *Campeau Corporation* marketed *Bloomingdales* to prospective buyers;² *Harcourt Brace Jovanovich, Inc.*, held an auction of its *Sea World* subsidiary²; and *Hilton Hotels, Inc.*, offered itself for sale. In each case Wall Street's value estimates ranged widely, with the highest estimate as much as twice the lowest figure. If expert analysts with extensive information cannot gauge the value of high-profile, well-regarded businesses with more certainty than this, investors should not fool themselves into believing they are capable of greater precision when buying marketable securities based only on limited, publicly available information.

Markets exist because of differences of opinion among investors. If securities could be valued precisely, there would be many fewer differences of opinion; market prices would fluctuate less frequently, and trading activity would diminish. To fundamentally oriented investors, the value of a security to the buyer must be greater than the price paid, and the value to the seller must be less, or no transaction would take place. The discrepancy between the buyer's and the seller's perceptions of value can result from such factors as differences in assumptions regarding the future, different intended uses for the asset, and differences in the discount rates applied. Every asset being bought and sold thus has a possible range of values bounded by the value to the buyer and the value to the seller; the actual transaction price will be somewhere in between.

In early 1991, for example, the junk bonds of *Tonka Corporation* sold at steep discounts to par value, and stock sold for a few dollars per share. The company was offered for sale by its investment bankers, and Hasbro, Inc. was evidently willing to pay more for *Tonka* than any other buyer because of economies that could be achieved in combining the two operations. *Tonka*, in effect, provided appreciably higher cash flows to Hasbro than it would have generated either as a stand-alone business or to most other buyers. There was a sharp difference of opinion between the financial market and *Hasbro* regarding the value of *Tonka*, a disagreement that was resolved with *Hasbro's* acquisition of the company.

¹ Benjamin Graham

² Joel Greenblatt in his wonderful book on special situation investing, *You Can Be A Stock Market Genius*, recounts his investing experience in *Sea World* on pages 133-139.

Business Valuation

To be a value investor, you must buy at a discount from underlying value. Analyzing each potential value investment opportunity therefore begins with an assessment of business value.

While a great many methods of business valuation exist, there are only three that I find useful. The first is an analysis of **going-concern value**, known as net present value (NPV) analysis. NPV is the discounted value of all future cash flows that a business is expected to generate. A frequently used but flawed shortcut method of valuing a going concern is known as **private market value** (“PMV”). This is an investor’s assessment of the price that a sophisticated businessperson would be willing to pay for a business. Investors using this shortcut, in effect, value businesses using the multiples paid when comparable businesses were previously bought and sold in their entirety.

The second method of business valuation analyzes **liquidation value**, the expected proceeds if a company was to be dismantled and the assets sold off. **Breakup value**, one variant of liquidation analysis, considers each of the components of a business at its highest valuation, whether as part of a going concern or not.

The third method of valuation, **stock market value**, is an estimate of the price at which a company, or its subsidiaries considered separately, would trade in the stock market. Less reliable than the other two, this method is only occasionally useful as a yardstick of value.

Each of these methods of valuation has strengths and weaknesses. None of them provides accurate values all the time. Unfortunately no better methods of valuation exist. Investors have no choice but to consider the values generated by each of them; when they appreciably diverge, investors should generally err on the side of conservatism.

Present-Value Analysis and the Difficulty of Forecasting Future Cash Flow

When future cash flows³ are reasonably predictable and an appropriate discount rate can be chosen, NPV analysis is one of the most accurate and precise methods of valuation. Unfortunately future cash flows are usually uncertain, often highly so. Moreover, the choice of a discount rate can be somewhat arbitrary. These factors together typically make present-value analysis an imprecise and difficult task.

A perfect business in terms of the simplicity of valuation would be an annuity; an annuity generates an annual stream of cash that either remains constant or grows at a steady rate every year. Real businesses, even the best ones, are unfortunately not annuities. Few businesses occupy impenetrable market niches and generate consistently high returns, and most are subject to intense competition. Small changes in either revenues or expenses cause far greater percentage changes in profits. The number of things that can go wrong greatly exceeds the number that can go right.

³ Some investors value businesses by discounting earnings rather than cash flow. For some businesses, such as banks and thrifts, earnings approximate cash flow and may be used instead. In most cases, however, cash flow is the appropriate valuation yardstick. The calculation of cash flow is discussed at length in chapter 4.

Responding to business uncertainty is the job of corporate management. However, controlling or preventing uncertainty is generally beyond management's ability and should not be expected by investors.

Although some businesses are more stable than others and therefore more predictable, estimating future cash flow for a business is usually a guessing game. **A recurring theme in this book is that the future is not predictable, except within fairly wide boundaries.** Will *Coca-Cola* sell soda next year? Of course. Will it sell more than this year? Pretty definitely, since it has done so every year since 1980. How much more is not so clear. How much the company will earn from selling it is even less clear; factors such as pricing, the sensitivity of demand to changes in price, competitors' actions, and changes in corporate tax rates all may affect profitability. Forecasting sales or profits many years into the future is considerably more imprecise, and a great many factors can derail any business forecast.

There are many investors who make decisions solely on the basis of their own forecasts of future growth. After all, the faster the earnings or cash flow of a business is growing, the greater that business's present value. Yet several difficulties confront growth-oriented investors. First, such investors frequently demonstrate higher confidence in their ability to predict the future than is warranted. Second, for fast-growing businesses even small differences in one's estimate of annual growth rates can have a tremendous impact on valuation. Moreover, with so many investors attempting to buy stock in growth companies, the prices of the consensus choices may reach levels unsupported by fundamentals. Since entry to the "Business Hall of Fame" is frequently through a revolving door, investors may at times be lured into making overly optimistic projections based on temporarily robust results, thereby causing them to overpay for mediocre businesses. When growth is anticipated and therefore already discounted in securities prices, shortfalls will disappoint investors and result in share price declines. As *Warren Buffett* has said, "For the investor, a too-high purchase price for the stock of an excellent company can undo the effects of a subsequent decade of favorable business developments."

Another difficulty with investing based on growth is that while investors tend to oversimplify growth into a single number, growth is, in fact, comprised of numerous moving parts which vary in their predictability. For any particular business, for example, earnings growth can stem from increased unit sales related to predictable increases in the general population, to increased usage of a product by consumers, to increased market share, to greater penetration of a product into the population, or to price increases. Specifically, a brewer might expect to sell more beer as the drinking-age population grows but would aspire to selling more beer per capital as well. *Budweiser* would hope to increase market share relative to *Miller*. The brewing industry might wish to convert whiskey drinkers into beer or reach the abstemious segment of the population with a brand of non alcoholic beer. Over time companies would seek to increase price to the extent that it would be expected to result in increased profits.

Some of these sources of earnings growth are more predictable than others. Growth tied to population increases is considerably more certain than growth stemming from changes in consumer behavior, such as the conversion of whisky drinkers to beer. The reaction of customers to price increases is always uncertain. On the whole it is far easier to identify the possible sources

of growth for a business than to forecast how much growth will actually materialize and how it will affect profits.

An irresolvable contradiction exists: to perform present value analysis, you must predict the future, yet the future is not reliably predictable. The miserable failure in 1990 of highly leveraged companies such as *Southland Corporation* and *Interco, Inc.*, to meet their own allegedly reasonable projections made just a few years earlier—in both cases underperforming by more than 50%—highlights the difficulty of predicting the future even a few years ahead.

Investors are often overly optimistic in their assessment of the future. A good example of this is the common response to corporate write-offs. This accounting practice enables a company at its sole discretion to clean house, instantaneously ridding itself of underperforming assets, uncollectible receivables, bad loans, and the costs incurred in any corporate restructuring accompanying the write-off. Typically such moves are enthusiastically greeted by Wall Street analysts and investors alike; post write-off the company generally reports a higher return on equity and better profit margins. Such improved results are then projected into the future, justifying a higher stock market valuation. Investors, however, should not so generously allow the slate to be wiped clean. When historical mistakes are erased, it is too easy to view the past as error free. It is then only a small additional step to project this error-free past forward into the future, making the improbable forecast that no currently profitable operation will go sour and that no poor investments will ever again be made.

How do value investors deal with the analytical necessity to predict the unpredictable? The only answer is conservatism. Since all projections are subject to error, optimistic ones tend to place investors on a precarious limb. Virtually everything must go right, or losses may be sustained. Conservative forecasts can be more easily met or even exceeded. Investors are well advised to make only conservative projections and then invest only at a substantial discount from the valuation derived there from.⁴

The Choice of a Discount Rate

The other component of present-value analysis, choosing a discount rate, is rarely given sufficient consideration by investors. A discount rate is, in effect, the rate of interest that would make an investor indifferent between present and future dollars. Investors with a strong preference for present over future consumption or with a preference for the certainty of the present to the uncertainty of the future would use a high rate for discounting their investments. Other investors may be more willing to take a chance on forecasts holding true; they would apply a low discount rate, one that makes future cash flows nearly as valuable as today's.

There is no single correct discount rate for a set of future cash flows and no precise way to choose one. The appropriate discount rate for a particular investment depends not only on an investor's preference for present over future consumption but also on his or her own risk profile, on the perceived risk of the investment under consideration, and on the returns available from alternative investments.

⁴ If you can not estimate "normalized" earnings or the earnings likely to be produced during normal economic conditions, then pass on the investment—the Cogitator.

Investors tend to oversimplify; the way they choose a discount rate is a good example of this. A great many investors routinely use 10 percent as an all-purpose discount rate regardless of the nature of the investment under consideration. Ten percent is a nice round number, easy to remember and apply, but it is not always a good choice.

The underlying risk of an investment's future cash flows must be considered in choosing the appropriate discount rate for that investment. A short-term, risk-free investment (if one exists) should be discounted at the yield available on short-term U.S. Treasury securities, which, as stated earlier, are considered a proxy for the risk-free interest rate.⁵ Low-grade bonds, by contrast, are discounted by the market at rates of 12 to 15 percent or more, reflecting investors' uncertainty that the contractual cash flows will be paid.

It is essential that investors choose discount rates as conservatively as they forecast future cash flows. Depending on the timing and magnitude of the cash flows, even modest differences in the discount rate can have a considerable impact on the present-value calculation.

Business value is influenced by changes in discount rates and therefore by fluctuations in interest rates. While it would be easier to determine the value of investments if interest rates and thus discount rates were constant, investors must accept the fact they do fluctuate and take what action they can to minimize the effect of interest rate fluctuations on their portfolios.

How can investors know the "correct" level of interest rates in choosing a discount rate? I believe there is no "correct" level of rates. They are what the market says they are, and no one can predict where they are headed. Mostly I give current, risk-free interest rates the benefit of the doubt and assume that they are correct. Like many other financial-market phenomena there is some cyclicality to interest rate fluctuations. High interest rates lead to changes in the economy that are precursors to lower interest rates and vice versa. Knowing this does not help one make particularly accurate forecasts, however, for it is almost impossible to envision the economic cycle until after the fact.

At times when interest rates are unusually low, however, investors are likely to find very high multiples being applied to share prices. Investors who pay these high multiples are dependent on interest rates remaining low, but no one can be certain that they will. This means that when interest rates are unusually low, investors should be particularly reluctant to commit capital to long-term *Holdings* unless outstanding opportunities become available, with a preference for either holding cash or investing in short-term *Holdings* that quickly return cash for possible redeployment when available returns are more attractive.

Investors can apply present-value analysis in one of two ways. They can calculate the present-value of a business and use it to place a value on its securities. Alternatively, they can calculate the present-value of the cash flows that security holders will receive: interest and principal payments in the case of bondholders and dividends and estimated future share prices in the case of stockholders.

⁵ There is considerable academic debate concerning whether short-term or long-term interest rates should be applied. My view is to match the timing of the cash flows to the maturity of the U.S. Treasury security.

Calculating the present value of contractual interest and principal payments is the best way to value a bond. Analysis of the underlying business can then help to establish the probability that those cash flows will be reinvested. By contrast, analyzing the cash flows of the underlying business is the best way to value a stock. The only cash flows that investors typically receive from a stock are dividends. The **dividend-discount method** of valuation, which calculates the present value of a projected stream of future dividend payments, is not a useful tool for valuing equities; for most stocks, dividends constitute only a small fraction of total corporate cash flow and must be projected at least several decades into the future to give a meaningful approximation of business value. Accurately predicting that far ahead is an impossibility.

Once future cash flows are forecast conservatively and an appropriate discount rate is chosen, present value can be calculated. **In theory, investors might assign different probabilities to numerous cash flow scenarios, and then calculate the expected value of an investment, multiplying the probability of each scenario by its respective present value and then summing these numbers.** In practice, given the extreme difficulty of assigning probabilities to numerous forecasts, investors make do with only a few likely scenarios. They must then perform sensitivity analysis in which they evaluate the effect of different cash flow forecasts and different discount rates on present value. If modest changes in assumptions cause a substantial change in net present value, investors would be prudent to exercise caution in employing this method of valuation.

Private-Market Value

A valuation method related to net present value is private-market value, which values businesses based on the valuation multiples that sophisticated, prudent businesspeople have recently paid to purchase similar businesses. Private-market value can provide investors with useful rules of thumb based on the economics of past transactions to guide them in business valuation. This valuation method is not without its shortcomings, however. Within a given business or industry all companies are not the same, but private-market value fails to distinguish among them. Moreover, the multiples paid to acquire businesses vary over time; valuation may have changed since the most recent similar transaction. Finally, buyers of businesses do not necessarily pay reasonable, intelligent prices.

The validity of private-market value depends on the assumption that business people know what they are doing. In other words, when businesspeople consistently pay a certain multiple of revenues, earnings, or cash flow for a business, it is assumed that they are doing so after having performed an insightful analysis of the underlying economics. Often they have. After all, if the prices paid were routinely too high, the eventual losses incurred would inform subsequent buyers who would pay less in the future. If the prices paid were too low, the buyers would earn high returns; seeing this, others would eventually bid prices up to levels where excess profits could no longer be achieved. Nevertheless, the fact is that the prices paid by buyers of businesses can diverge from the underlying economics of those businesses for long stretches of time.

In the latter half of the 1980s, for example, the “private-market values” that investors came to rely on ceased to be the prices that sophisticated, prudent businesspeople would pay for businesses.

Financiers armed with the proceeds of nonrecourse junk-bond offering and using almost none of their own money were motivated by a tremendous skewing of their own risk and reward, as well as by enormous up-front fees, to overpay for corporate takeover. Indeed, investors' assessment of private market value in many cases became the price that a junk-bond-financed buyer might pay; investors failed to consider that those acquirers were starting to go bankrupt because the prices they had paid were excessive.

As the prices paid for businesses rose above historic multiples of underlying business values, traditional private-market buyers were shut out of the market. Television stations, which had been value for many years at roughly ten times pre-tax cash flow, came to sell at prices as high as thirteen to fifteen times pretax cash flow. The prices of many other businesses with perceived consumer franchises became similarly inflated.

Investors who mistakenly equated inflated takeover prices with reliable private market values were lured into overpaying for stocks and junk bonds in the mid-1980s. When nonrecourse financing became less freely available in 1989 and 1990, valuation multiples fell back to historic norms or below, causing these investors to experience substantial losses.

Nonrecourse debt is not the only skewing influence on private-market-value multiples. In the conglomerate boom of the late 1960's and early 1970s, for example, companies with extraordinary high share prices used their overvalued equity as currency to buy other businesses. Undisciplined investors were lured into raising their own estimates of private-market values (even if they didn't use this terminology at the time), while ignoring the fact that these high valuations were dependent on ephemeral stock prices. When overvalued conglomerates shares slumped, takeover multiples followed suit.⁶

Investors must ignore private market values based upon inflated securities prices. Indeed, valuing securities based on the prices paid in takeovers that use securities as currency is circular reasoning, since higher security prices become a self-fulfilling prophecy. Investors relying on conservative historical standards of valuation in determining private-market value will benefit from a true margin of safety, while others' margin of safety blows with the financial winds.

How do sophisticated private-market buyers themselves evaluate businesses for possible purchase? In general, they make projections of free cash flow and then calculate the present value of those cash flows, evaluating the impact of differing assumptions on valuation. In other words, they perform present-value analysis.

What distinguishes private market value analysis from present value analysis is the involvement of the middleman, the sophisticated business person, whose role has both positive and negative aspects. On the positive side, if the middleman makes a sizable financial commitment, this may help to corroborate the investors' own present-value analysis. On the negative side, relying on the judgment of a buyer of businesses, who may or may not be truly knowledgeable and insightful, can cause investors to become complacent and to neglect to perform their own independent valuations as a check. My personal rule is that investors should value businesses based on what they themselves, not others, would pay to own them. **At most, private-market value should be**

⁶ The Funny Money Game by Andrew Tobias (1971 and Reprinted in 1993) writes hilariously about the conglomerate game gone awry.

used as one of several inputs in the valuation process and not as the exclusive final arbiter of value.

Liquidation Value

The liquidation value of a business is a conservative assessment of its worth in which only tangible assets are considered and intangibles, such as going-concern value, are not. Accordingly, when a stock is selling at a discount to liquidation value per share, a near rock-bottom appraisal, it is frequently an attractive investment. *(Note, however, Buffett **had to PAY** to dispose of the out-dated looms of Berkshire Hathaway when he went to liquidate that company! – John Chew)*

A liquidation analysis is a theoretical exercise in valuation but not usually an actual approach to value realization. The assets of a company are typically worth more as part of a going concern than in liquidation, so liquidation value is generally a worst-case assessment. Even when an ongoing business is dismantled, many of its component parts are not actually liquidated but instead are sold intact as operating entities. Breakup value is one form of liquidation analysis; this involves determining the highest value of each component of a business, either as an ongoing enterprise or in liquidation. Most announced corporate liquidations are really breakups; ongoing business value is preserved whenever it exceeds liquidation value.

How should investors value assets in a liquidation analysis? An orderly liquidation over time is virtually certain to realize greater proceeds than a “fire sale,” but time is not always available to a company in liquidation. When a business is in financial distress, a quick liquidation (a fire sale) may maximize the estate value. In a fire sale the value of inventory, depending on its nature, must be discounted steeply below carrying value. Receivables should probably be significantly discounted as well; the nature of the business, the identity of the customer, the amount owed, and whether or not the business is in any way ongoing all influence the ultimate realization from each receivable.

When no crisis is at hand, liquidation proceeds are usually maximized through a more orderly winding up of a business. In an orderly liquidation the values realized from disposing of current assets will more closely approximate stated book value. Cash, as in any liquidation analysis, is worth one hundred cents on the dollar. Investment securities should be valued at market prices, less estimated transaction costs in selling them. Accounts receivable are appraised at close to their face amount. The realizable value of inventories—tens of thousands of programmed computer diskettes, hundreds of thousands of purple sneakers, or millions of sticks of chewing gum—is not so easily determinable and may well be less than book value. The discount depends on whether the inventories consist of finished goods, work in process, or raw materials, and whether or not there is the risk of technological or fashion obsolescence. The value of the inventory in a supermarket does not fluctuate much, but the value of a warehouse full of computers certainly may. Obviously, a liquidation sale would yield less for inventory than would an orderly sale to regular customers.

The liquidation sale of a company’s fixed assets can be difficult to determine. The value of plant and equipment, for example, depends on its ability to generate cash flows, either in the current use or in alternative uses. Some machines and facilities are multipurpose and widely owned; others

may have value only to the present owner. The value of restaurant equipment, for example, is more readily determinable than the value of an aging steel mill.

In approximating the liquidation value of a company, some value investors, emulating *Benjamin Graham*, calculate “net-net working capital” as a shortcut. Net working capital consists of current assets (cash, marketable securities, receivables, and inventories) less current liabilities (accounts, notes, and taxes payable within one year.) **Net-net working capital** is defined as net working capital minus all long-term liabilities. Even when a company has little ongoing business value, investors who buy at a price below net-net working capital are protected by approximate liquidation value of current assets alone. As long as working capital is not overstated and operations are not rapidly consuming cash, a company could liquidate its assets, extinguish all its liabilities, and still distribute proceeds in excess of the market price to investors. Ongoing business losses can, however, quickly erode net-net working capital. Investors must therefore always consider the state of a company’s current operations before buying. Investors should also consider any off-balance sheet or contingent liabilities, such as under funded pension plans, as well as any liabilities that might be incurred in the course of an actual liquidation, such as plant closing and environmental laws.

A **corporate liquidation** typically connotes business failure; but ironically, it may correspond with investment success. The reason is that the liquidation or breakup of a company is a catalyst for the realization of underlying business value. Since value investors attempt to buy securities trading at a considerable discount from the value of a business’s underlying assets, liquidation is one way for investors to realize profits.

Liquidation is, in a sense, one of the few interfaces where the essence of the stock market is revealed. Are stocks pieces of paper to be endlessly traded back and forth, or are they proportional interest in underlying businesses? Liquidation settles this debate, distributing to owners of pieces of paper the actual cash proceeds resulting from the sale of corporate assets to the highest bidder. Liquidation thereby acts as a tether to reality for the stock market, forcing either undervalued or overvalued share prices to move into line with actual underlying value.

Stock Market Value

Occasionally investors must rely on the public equity and debt market to provide an approximation of the worth of a security. Sometimes, as in the case of a closed-end mutual fund, this is the only relevant valuation method. Other times, especially if the time frame in which the value must be realized is short, the stock market method may be the best of several poor alternatives.

Consider the valuation of an investment company. In mid-1990 the *Schaefer Value Trust, Inc.*, a closed-end mutual fund, scheduled a vote of its shareholders to consider liquidation. The most relevant measure of the liquidation value of *Schaefer* was its **stock market value**, the value that its holders would bring when sold at once in the stock market. No other valuation method would have been appropriate.

Stock market value applies in other situations as well. In attempting to value a company's interest in an unrelated subsidiary or joint venture, for example, investors would certainly consider the discounted anticipated future cash flow stream (net present value), the valuation of comparable businesses in transactions (private-market value), and the value of tangible assets net of liabilities (liquidation value). Investors would also benefit from considering stock market value, the valuation of comparable businesses in the stock market. While the stock market's vote, especially over the long run, is not necessarily accurate, it does provide an approximate near-term appraisal of value.

I know what you must be thinking. If the prices at which stocks trade in the market is a reasonable approximation of their value, then isn't this an admission that the stock market is efficient, the antithesis of one of the basic tenets of value investing? My answer is decidedly no. The stock market valuation of comparable businesses is but one of several valuation tools and provides a yardstick of what a security, if not a business, might bring if sold tomorrow.

Stock market value has its shortcomings as a valuation tool. You would not use stock market value to appraise each of the companies in an industry. It would be circular reasoning to observe that since newspaper companies tend to trade in the market at, say, eight times pretax cash flow, that is what they must be worth. Knowing the stock market's appraisal for the newspaper industry would be of some use, however, in estimating the near-term trading price of the newspaper subsidiary about to be spun off the shareholders of a medial conglomerate.

Choosing Among Valuation Methods

How should investors choose among these several valuation methods? When one clearly preferable to the others? When one method yields very different value from the others, which should be trusted?

At times a particular method may stand out as the most appropriate. Net present value would be most applicable, for example, in valuing a high-return business with stable cash flows such as a consumer-products company; its liquidation value would be far too low. Similarly, a business with regulated rates of return on assets such as a utility might best valued using NPV analysis. Liquidation analysis is probably the most appropriate method for valuing an unprofitable business whose stock trades well below book value. A closed-end fund or other company that owns only marketable securities should be valued by the stock market method; no other makes sense.

Often several valuation methods should be employed simultaneously. To value a complex entity such as a conglomerate operating several distinct businesses, for example, some portion of the assets might be best valued using one method and the rest with another. **Frequently investors will want to use several methods to value a single business in order to obtain a range of values (and to cross-check their different valuations using the different methods).** In this case investors should err on the side of conservatism, adapting lower values over higher ones unless there is strong reason to do otherwise. True, conservatism may cause investors to refrain from making some investments that in hindsight would have been successful, but it will also prevent some sizable losses that would ensure from adopting less conservative business valuations.

The Reflexive Relationship between Market Price and Underlying Value

A complicating factor in securities analysis is the reflexive or reciprocal relationship between security prices and the values of the underlying businesses. In *The Alchemy of Finance* George Soros stated, “Fundamental analysis seeks to establish how underlying values are reflected in stock prices, whereas **the theory of reflexivity shows how stock prices can influence underlying values.**”⁷ In other words, Soros’s theory of reflexivity makes the point that its stock price can at times significantly influence the value of a business. Investors must not lose sight of this possibility.

Most businesses can exist indefinitely without concern for the prices of their securities as long as they have adequate capital. When additional capital is needed, however, the level of security prices can mean the difference between prosperity, mere viability, and bankruptcy. If, for example, an undercapitalized bank has a high stock price, it can issue more shares and become adequately capitalized, a form of self-fulfilling prophecy. The stock market says there is no problem, so there is no problem. In early 1991, for example, *Citicorp* stock traded in the teens and the company was able to find buyers for newly issued securities. If its stock price had been in the low single digits, however, which could have resulted in its eventual failure. This is another, albeit negative form of self-fulfilling prophecy, whereby the financial markets’ perception of the viability of a business influences the outcome.

The same holds true for a highly leveraged company with an upcoming debt maturity. If the market deems a company creditworthy, as it did Marriot Corporation in early 1991, the company will be able to refinance and fulfill the prophecy. If the market votes thumbs down on the credit, however, as it did with Mortgage and Realty Trust in 1990, that prophecy will also be fulfilled since the company will then fail to meet its obligations.

Another form of reflexivity exists when the managers of a business accept its securities’ prices, rather than business fundamentals, as the determining factor in valuation. If the management of a company with an undervalued stock believes that the depressed market price is an accurate reflection of value, they may take actions that prove the market right. Stock could be issued in a secondary offering or merger, for example, at a price so low that it significantly dilutes the value of existing shares.

As another example of reflexivity, the success of a reorganization plan for a bankrupt company may depend on certain values being realized by creditors. If the financial markets are depressed at the time of reorganization, it could be difficult, perhaps impossible, to generate agreed values for creditors if those values depend on the estimated market prices of debt and equity securities in the reorganized company. In circular fashion, this could serve to depress even further the prices of securities in this bankrupt company.

Reflexivity is a minor factor in the valuation of most securities most of the time, but occasionally it becomes important. This phenomenon is a wild card, a valuation factor not determined by business fundamentals but rather by the financial markets themselves.

⁷ George Soros, *The Alchemy of Finance* (New York: Simon & Schuster, 1987), p. 51

Esco Electronics: An Exercise in Securities Valuation

Let me offer a specific example of the security valuation process. *Esco Electronics Corporation* is a defense company that was spun off⁸ from *Emerson Electric Company* in October 1990; the shares were distributed free to shareholders of *Emerson*. *Esco* competes in a variety of defense-related businesses, including electronics, armaments, test equipment, and mobile tactical systems. Holders of *Emerson* received *Esco* shares on a one-for-twenty basis; that is, a holder of one thousand *Emerson* shares received fifty shares of *Esco*. *Esco* first traded at around \$5 per share and quickly declined to \$3; the spin-off valued at market prices was worth only fifteen cents per *Emerson* Share (which itself traded around \$40). Needless to say, many holders of *Emerson* quickly sold their **trivial** *Esco* Holdings. (*Investors made a decision UNRELATED to the underlying fundamentals and value of ESCO*).

What was *Esco* worth at the time of spin-off? Was it undervalued in the market place, and if so, why? Was it an attractive value-investment opportunity? The way to answer these questions is to evaluate *Esco* using each of the methods that value investors employ.

To begin with, *Esco* is a substantial company, having approximately \$500 million in annual sales and six thousand employees, who occupy 3.2 million square feet of space, 1.7 million which are owned by the company. *Esco*'s only recent growth has come from its acquisition of *Hazeltine Corporation* in late 1986 for \$190 million (over \$15 per *Esco* share). A major consideration leading to the spin-off was that *Esco*'s after-tax profits had declined from \$36.3 million in 1985 (actual) to \$6.7 million (pro-forma, to reflect adjustments related to the spin-off) in 1989 after \$8.2 million of nonrecurring charges and to a loss of \$5.2 million (pro forma) in 1990 after \$13.8 million of nonrecurring charges. The company was spun off with a conservative capitalization, having only \$45 million in debt compared with almost \$500 million in equity. Tangible book value exceeded \$25 per share, and **net-net working capital, current assets less all liabilities, exceeded \$15 per share.**

Two questions regarding *Esco*'s future worried investors. One was whether the sharp recent drop in profitability, related to money-losing defense contracts the company had taken on, would reverse. The second concerned the outcome of two pending contract disputes between *Esco* and the U.S. government; an adverse outcome would have cost *Esco* tens of millions of dollars in cash and forced it to report sizable losses. These uncertainties cause *Emerson* to spin off, not shares of common stock, but common stock trust receipts held in escrow in order to ensure that *Esco* would meet its obligation to indemnify *Emerson* for certain customer-contract guarantees.

The first step in valuing *Esco* in October 1990 was to try to understand its business results: earnings and cash flow. *Esco*'s future earnings were particularly difficult to forecast, especially because in each of the preceding two years the company had taken significant nonrecurring charges. An analyst at *Bear Stearns* estimated break-even earnings for fiscal year 1991. This estimate was after the deduction of a newly instituted charge of \$7.4 million, payable by *Esco* to *Emerson* each year from 1991 to 1995, for guaranteeing outstanding defense contracts. Although

⁸ A discussion of the opportunities for investors in spin-offs can be found in Chapter 10.

this charge would have the effect of reducing reported earnings for five years, it was not a true business expense but rather more of an extraordinary item.⁹

Another ongoing depressant to earnings was *Esco*'s approximately \$5 million per year charge for nondeductible goodwill amortization resulting from the *Hazeltine* acquisition. Since goodwill is a noncash expense, free cash flow from this source alone was \$5 million, or forty-five cents per share.

In order to value *Esco* using NPV analysis, investors would need to forecast *Esco*'s likely future cash flows. Goodwill amortization of forty-five cents a year, as stated, was free cash. Beginning in 1996 there would be additional forty-five cents of after-tax earnings per year as the \$7.4 million guaranty fee ended. Investors would have to make some assumptions regarding future earnings. One reasonable assumption, perhaps the most likely case, was that earnings, currently zero would gradually increase over time. Unprofitable contracts would eventually be completed, and interest would be earned on accumulated cash flow. An alternative possibility was that results would remain at current depressed levels indefinitely.

In addition to predicting future earnings, investors would also need to estimate *Esco*'s future cash investment or disinvestment in its business in order to assess its cash flow. Depreciation in recent years had approximated capital spending, for example, and assuming it would do so in the future seemed a conservative assumption. Also, working capital tied up in currently unprofitable contracts would eventually be freed for other corporate uses, but the timing of this was uncertain. Were *Esco*'s working capital-to-sales ratio, currently bloated, to move into line with that of comparable defense electronics firms, roughly \$80 million in additional cash would become available. To ensure conservatism, however, I chose to project no free cash flow from this source.

What was *Esco* worth if it never did better than its current depressed level of results? Cash flow would equal forty-five cents per share for five years and ninety cents thereafter when the guaranty payments to *Emerson* had ceased. The present value of these cash flows is \$5.87 and \$4.70 per share, calculated at 12 percent and 15 percent discount rates, respectively, which themselves reflect considerable uncertainty. If cash flow proved to be higher, the value would, of course, be greater.

What if *Esco* managed to increase its free cash flow by just \$2.2 million a year, or twenty cents per share, for the next ten years, after which it leveled off? The present value of these flows at 12 percent and 15 percent discount rates is \$14.76 and \$10.83, respectively. Depending on the assumptions, then, the net present value per share of *Esco* is conservatively calculated at \$4.70 and less pessimistically at \$14.76 per share, clearly a wide range but in either case well above the \$3 stock price and in no case making highly optimistic assumptions.

Investors in *Esco* would certainly want to consider alternative scenarios for future operating results. Obviously there was some chance that the company would lose one or more of its contract disputes with the U.S. government. There was some possibility that a widely anticipated reduction in national defense spending would cause the company to lose profitable contracts or fail to

⁹ Had the same flow of cash from *Esco* to *Emerson* been structured as an interest-bearing note payable, for example, the same \$7.4 million payment would have represented a repayment of principal, which is not an expense.

receive new ones. There was a chance that the newly independent company, smaller than most of its competitors, would face difficulties in trying to operate apart from *Emerson*.

Alternatively, there was some prospect that *Esco* would either win both of its contract disputes or settle with the government on acceptable terms. Indeed, the new top management would likely wish to start fresh, putting past difficulties behind them. (The disputes were, in fact, tentatively settled) within months of the spin-off on terms favorable to *Esco*). Further, new management expressed its intention to maximize cash flow rather than sales; new contracts would be accepted on the basis of low-risk profitability rather than prestige or the desire to achieve revenue growth. Thus it was not unreasonable to think that earnings would grow over time as unprofitable contracts were concluded and profitable contracts added.

Investors would want to consider other valuation methods in addition to NPV. The **private-market value** method, however, was not applicable in the case of *Esco* because there had been few recent business transactions involving sizable defense companies. Even if there had been, *Esco*'s pending contract disputes would put a damper on anyone's enthusiasm to buy all of *Esco* except at an extreme bargain price. Indeed *Esco* had been put up for sale prior to spin-off, and no buyers emerged at prices acceptable to *Emerson*.

Conversely *Emerson* had only four years earlier paid \$190 million for *Hazeltine*, which comprised only a fraction of *Esco*'s business at the time of spin-off. At a takeover multiple even close to that of the *Hazeltine* transaction, all of *Esco* would be worth many times its prevailing stock market price, with *Hazeltine* alone worth \$15 per *Esco* share.

A **liquidation analysis** was also not particularly applicable; defense companies cannot be easily liquidated. These assets have few alternative uses, and inventory and receivable valuations are realizable only for an ongoing defense concern. *Esco* could be valued, however, on the basis of a gradual liquidation, whereby existing contracts would be allowed to run to completion and no new business would be sought. The value in such a scenario is uncertain but it is hard to imagine the proceeds realized over time being less than the net-net working capital of \$15 per share.

Stock market value is another useful yardstick, especially for gauging where a spin-off new to the market might reasonably be expected to trade. This method would not determine over-or undervaluation, but simply relative valuation compared with other defense-electronics companies. In this case *Esco* seemed to trade as if its business were located on a different planet. At \$3 per share, the stock sold for only 13 percent of tangible book value, a staggeringly low level for a viable company with positive cash flow and little debt. Indeed, the shares could rise 400 percent from that level and still be below half of tangible book value. Of course, other defense company shares were also depressed at the time, with most of them trading at only four to six times earnings; another recent defense spin-off, *Alliant Techsystems*, traded at only two times estimated earnings. However, most comparable firms were trading at between 60% to 100% of book value and had historically traded considerable above that. Although *Esco* was less profitable than most other defense companies, it was selling for less than three times earnings if both goodwill amortization and the \$7.4 million special charge were ignored. The extremely low valuation seemed to more than fully discount *Esco*'s current shortcomings as a business.

It is difficult, if not impossible to determine precisely what *Esco* stock was worth. It is far simpler to determine that it was worth considerably more than the market price. With the shares selling for \$3, yet having \$25 per share of tangible book value and little debt, investors' margin of safety was high.

Esco appeared to be worth easily twice its \$3 market price, a level that was only six times adjusted earnings, 40% of net-net working capital, and less than 25 percent of tangible book value. Was it worth \$10 per share? Probably, either on the basis of NPV using mildly optimistic assumptions or on a gradual liquidation basis.

The nice thing about *Esco* at \$3 per share is that one didn't have to know exactly what it was worth. The price reflected disaster; any other outcome seemed certain to yield a higher price. A sizable loss on the disputed contracts was the worst case scenario, but even that was probably already reflected in the low share price. Management certainly believed that these disputes could be favorably resolved. Accordingly to public filings, shortly after the spin-off the chairman of *Esco*'s board purchased shares on the open market for his person account. By early 1991 selling pressure related to the spin-off subsided, defense stocks rallied, and *Esco* rose to over \$8 per share.

Conventional Valuation Yardsticks: Earnings, Book Value and Dividend Yield

Earnings and Earnings Growth

We are near the end of a chapter on business valuation, and there has been virtually no mention of earnings, book value, or dividend yield. Both earnings and book value have a place in securities analysis but must be used with caution and as part of a more comprehensive valuation effort.

Earnings per share have historically been the valuation yard-stick most commonly used by investors. Unfortunately, as we shall see, it is an imprecise measure, subject to manipulation and accounting vagaries. It does not attempt to measure the cash generated or used by a business. And as with any prediction of the future, earnings are nearly impossible to forecast.

Corporate managements are generally aware that many investors focus on growth in reported earnings, and a number of them gently massage reported earnings to create a consistent upward trend. A few particularly unscrupulous managements play accounting games to turn deteriorating results into improving ones, losses into profits, and small profits into large ones.

Even without manipulation, analysis of reported earnings can mislead investors as to the real profitability of a business. Generally accepted accounting practices (GAAP) may require actions that do not reflect business reality. By way of example, **amortization of goodwill**, a non cash charge required under GAAP, can artificially depress reported earnings; an analysis of cash flow would better capture the true economics of a business. By contrast, nonrecurring gains can boost earnings to unsustainable levels, and should be ignored by investors.¹⁰

¹⁰ While cash flow is less distorted by accounting quirks than earnings, it too can be manipulated if a company is so inclined. Cash flow can be temporarily increased, for example, by a reduction in capital spending; however, this eventually leads to deterioration of the business. A good book on cash flow accounting and manipulation is Creative Cash Flow Reporting: Uncovering Sustainable Financial Performance by Charles W. Mulford and Eugene E. Comiskey (2005). The authors also have written three other decent books on financial reporting and accounting.

Most important, whether investors use earnings or cash flow in their valuation analysis, it is important to remember that the numbers are not an end in themselves. Rather they are a means to understanding what is really happening in a company.

Book Value

What something cost in the past is not necessarily a good measure of its value today. Book value is the historical accounting of shareholders' equity, the residual after liabilities are subtracted from assets. Sometimes historical book value (carrying value) provides an accurate measure of current value, but often it is way off the mark. Current assets, such as receivables and inventories, for example, are usually worth close to carrying value, although certain types of inventory are subject to rapid obsolescence. Plant and equipment, however, may be outmoded or obsolete and therefore worth considerably less than carrying value. Alternatively, a company with fully depreciated plant and equipment or a history of write-offs may have carrying value considerably below real economic value.

Inflation, technological change, and regulation, among other factors, can affect the value of assets in ways that historical cost accounting cannot capture. Real estate purchased decades ago, for example, and carried on a company's books at historical cost may be worth considerably more. The cost of building a new oil refinery today may be made prohibitively expensive by environmental legislation, endowing older facilities with a scarcity value.¹¹ Aging integrated steel facilities, by contrast, may be technologically outmoded compared with newly built mini-mills. As a result, their book value may be significantly overstated.

A reported book value can also be affected by management actions. Write-offs of money-losing operations are somewhat arbitrary yet can have a large impact on reported book value. Share issuance and repurchases can also affect book value. Many companies in the 1980s, for example, performed recapitalizations, whereby money was borrowed and distributed to shareholders as an extraordinary dividend. This served to greatly reduce the book value of these companies, sometimes below zero. Even the choice of accounting method for mergers—purchase or pooling of interest—can affect reported book value.

To be useful, an analytical tool must be consistent in its valuations, yet, as a result of accounting rules and discretionary management actions, two companies with identical tangible assets and liabilities could have very different reported book values. This renders book value not terribly useful as a valuation yardstick. As with earnings, book value provides limited information to investors and should only be considered as one component of a more thorough and complete analysis.

Dividend Yield

Why is my discussion of dividend yield so short? Although at one time a measure of a business's prosperity, it has become a relic: stocks should simply not be bought on the basis of their dividend yield. Too often struggling companies sport high dividend yields,

¹¹ Note the sharp price rise in the stocks of oil refineries during 2003-2006. Environmental laws created a lack of refinery capacity during a tight period for petroleum distillates.

not because the dividends have been increased, but because the share prices have fallen. Fearing that the stock price will drop further if the dividend is cut, managements maintain the payout, weakening the company even more. Investors buying such stocks for their ostensibly high yields may not be receiving good value. On the contrary, they may be the victims of a pathetic manipulation. The high dividend paid by such companies is not a return on invested capital but rather a return of capital that represents the liquidation of the underlying business. This manipulation was widely used by money-center banks through most of the 1980s and had the (desired) effect of propping up their share prices.

Conclusion

Business valuation is a complex process yielding imprecise and uncertain results. Many businesses are so diverse or difficult to understand that they simply cannot be valued. Some investors willingly voyage into the unknown and buy into such businesses, impatient with the discipline required by value investing. Investors must remember that they need not swing at every pitch to do well over time; indeed, selectivity undoubtedly improves an investor's results. For every business that cannot be valued, there are many others that can. **Investors--who confine themselves to what they know as difficult as that may be--have a considerable advantage over everyone else.**

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