

part 3

Equity Valuation and Investment Strategy

All I lost was two hundred and forty thousand dollars . . . I would have lost more but that was all the money I had.

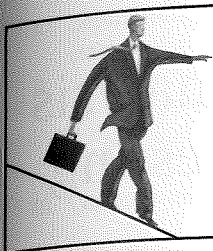
Groucho Marx joking about the losses he actually suffered during the stock market collapse of 1929 (Klein 2001, p. 231)

The basic ingredient in outstanding common stock management is the ability neither to accept blindly whatever may be the dominant opinion in the financial community at the moment nor to reject the prevailing view just to be contrary for the sake of being contrary. Rather, it is to have more knowledge and to apply better judgment, in thorough evaluation of specific situations and the moral courage to act "in opposition to the crowd" when your judgment tells you you are right.

Philip Fisher, *Developing an Investment Philosophy* (1980, p. 44)

I have little confidence even in the ability of analysts, let alone untrained investors, to select common stocks that will give better than average results. Consequently, I feel that the standard portfolio should be to duplicate, more or less, the DJIA.

Benjamin Graham, *Memoirs of the Dean of Wall Street* (1996)



Chapter Summary

Chapter 7 *Fundamental Analysis and Value Investing*

- 7.1 Characteristics of Equity Securities
 - The classification of securities
 - Preferred stock vs. corporate debt
 - Common stock and firm value
- 7.2 The Basics of Fundamental Analysis
 - Fundamental analysis and investment philosophy
 - Macroeconomics and common stock valuation
 - Philip Fisher on industry and company analysis
- 7.3 What is Value Investing?
 - Warren Buffett on value investing
 - Techniques of value investing
 - Value investing for special situations
- 7.4 Observations from the Classics
 - Graham, Dodd and Cottle (1962)
 - Philip Fisher and the growth stock
 - The Warren Buffett synthesis

Questions

Notes

Academics... like to define investment “risk” differently, averring that it is the relative volatility of a stock or portfolio of stocks – that is, their volatility as compared to a large universe of stocks. Employing data bases and statistical skills, these academics compute with precision the “beta” of a stock – its relative volatility in the past – and then build arcane investment and capital-allocation theories around this calculation. In their hunger for a single statistic to measure risk, however, they forget a fundamental principle: It is better to be approximately right than precisely wrong.

Warren Buffett (1993), as quoted in Cunningham (2002, p. 82)

chapter 7

Fundamental Analysis and Value Investing

7.1 CHARACTERISTICS OF EQUITY SECURITIES

The classification of securities

Section 1.1 discussed basic characteristics of equity securities. Elements such as priority of claim, limited liability and the corporate charter were identified. The discussion in section 1.1 followed the conventional analytical classification of securities into bonds and stocks. The structure of this book also follows the convention by discussing fixed income securities in part II and equity securities in part III. This classification scheme conforms to the legal distinction between the equity holders as owners of the firm and the debt holders as creditors with a contractually defined claim against the firm, typically for interest and principal payments. The higher priority of claim suggests that debt securities possess a “higher degree of safety” while equity claims have a “lower degree of safety” that, presumably, is compensated by a greater potential for gain. While useful, this method of classifying corporate securities has limitations that, in some cases, can lead to confusions and misrepresentations. For example, Graham and Dodd (1934) recognized these problems and suggested an alternative classification scheme for securities that was more in keeping with the theme of investment versus speculation in security selection decisions.

The modern investment landscape has become considerably more complicated than in the days of Graham and Dodd (1934). The division of equity securities into common stocks and preferred stocks has been blurred by the presence of hybrid preferred issues such as mandatory convertible preferred shares, e.g., Battacharya (2001, p. 1138), that are closer to common stocks than the traditional non-convertible fixed coupon preferred stock. Yet, there is still considerable substance in *the “new classification scheme”* for securities recommended by Graham and Dodd (1934) and carried forward into Graham, Dodd and Cottle (1962, p. 101):

Class	Representative issue
I. Securities of the fixed-income and stable-value type.	A high grade bond or preferred stock
II. Senior securities of the fluctuating value type	
A. Well-protected issues with profit possibilities	A high-grade convertible issue
B. Inadequately protected issues	A lower-grade bond or preferred stock
III. Common-stock type	A common stock

Using more conventional terminology, these three classes can be described as: "I. Investment grade bonds and preferred stocks; II. Speculative grade bonds and preferred stocks, A. Convertibles, etc., B. Low-grade senior notes; III. Common stocks."

The basic idea behind the proposed classification scheme is to emphasize the investment characteristics of a security, as opposed to the "type" of security, i.e., bond vs. preferred vs. common. In particular, securities in class I "are bought in the reasonable expectation that the income therefrom will continue unchanged and that their market quotation will not deviate greatly from the purchase price" (GDC, p. 102). Securities in class I provide *safety of principal and a steady income*. Securities in class II are subject to significant possibilities about the safety of principal. The division of class II into A and B groups is to recognize the possibility of different factors contributing to price changes. In class A, the price change arises from the security combining a "straight investment" with a conversion right or some other privilege that carries the possibility of profit or loss. In class B, the possibility of profit or loss is inherent in the "straight security" and not in the attached provision. Securities in class B differ from common stock in two ways: the securities have an "effective priority" over some junior issue, which gives some degree of protection; the possibility for profit is limited in time and amount, in contrast to common stock where the possibility of gain is "theoretically or optimistically" unlimited.

As for the specific types of security in each class, "all *straight* bonds and preferred stocks of high quality selling at a normal price" belong in class I, together with "sound convertible issues" where the conversion option is well out of the money. Just because a bond is rated investment grade does not qualify the security as belonging in class I. If the bond sells at "any unduly low price" then the possibility of capital gain puts the bond in class II. Precisely where the dividing line between classes I, II and III is drawn is difficult to specify. The essence of the classification scheme is to shift the focus onto the price and cash flow characteristics of the security as opposed to more traditional features such as priority of claim. "Any issue which displays the main characteristics of a common stock belongs in Group III, whether it is entitled 'common stock,' 'preferred stock' or even 'bond'." This would apply, for example, to a convertible bond where the conversion right was deep in the money. Another example is a senior bond selling at a price so low that the junior bonds have no value. Such a bond "lacks the prime requisite of a senior security, viz., that it should be followed by a junior investment of substantial value."

Preferred stock vs. corporate debt

The origins of preferred shares can be traced to the triple contract used in medieval and Renaissance finance (Poitras 2000, ch. 2). Preferred share arrangements appear in the capital structure of early English joint stock companies and were an important financing feature of the US industrial trusts in the late nineteenth century. Initially, the basic notion of a preferred share related to the prior claim to dividend payments. Over time, other features have been added, such as the prior claim against assets in the event of a liquidation. In addition to *preference over common stock to dividend payments and assets in liquidation*, features that apply to all preferred issues, there are a range of other features that may or may not be part of the preferred structure. For example, most preferred shares are "cumulative," i.e., if preferred dividends are not paid then the unpaid amount "cumulates" and all cumulative unpaid preferred dividends have to be settled before any dividend payments can be made to common shareholders. Though preferred shares do not usually have the unrestricted voting rights associated with common stock, contingent voting rights provisions are often included that permit preferred stock to have voting rights when there are unpaid preferred dividends outstanding.¹

As an equity claim, failure to make a dividend payment on preferred shares is not sufficient to initiate a bankruptcy proceeding (in contrast to the case of debt issues). The prospectus published at the time the preferred share is issued is the best source for finding information about the terms and conditions for a specific issue. The prospectus will specify the various protections afforded the preferred shareholder, such as the cumulative dividend provision and contingent voting rights. Other forms of protection may include restrictions on the ability to make additional issues of more senior securities. Another typical protective feature is a redemption or sinking fund provision that permits the corporation to retire outstanding preferred shares. Preferred share issues may also be convertible, though preferred shares with this provision appear less frequently than straight (non-convertible) preferred shares.² Convertible preferred stock is often issued to facilitate a merger or takeover. As illustrated in table 7.1, convertible preferred stock is more expensive to issue and there is considerable cross industry variation in convertible and straight preferred issues. As with debt issues, preferred shares are rated by the major ratings services, Moody's, S&P and Fitch, using the same ratings scheme as for bonds. The ratings agencies are another potential source of information about the terms of a specific preferred share issue.

Three basic types of *preferred share dividend payment provisions* are observed in modern financial markets: fixed-rate (fixed-dividend); adjustable rate; and auction/remarketed rate.³ The fixed rate preferred is the traditional type of dividend payment provision. For this type of preferred, the dividend payment is based on a predetermined rate (percentage) of the par value. This may be expressed as a dollar value per share. For example, if the par value is \$50 a 10% dividend preferred would have a \$5.00 annual dividend payment. As with common stock dividends, the dividend payment is usually paid quarterly so the 10% dividend preferred (\$50 par value) would make a regular payment of \$1.25 each quarter. Even though preferred shares have redemption provisions and other features that can impact the yield calculation, e.g., conversion provisions, it is

Table 7.1 Cost of preferred stock of financial, utility and other companies, 1980–99

	Number of issues	Gross spread (%)	Other expenses (%)	Total cost (%)
<i>Financial companies</i>				
Straight preferred stock	1485	2.343	0.406	2.750
Convertible preferred stock	218	4.151	1.387	5.537
<i>Utility companies</i>				
Straight preferred stock	610	2.159	0.415	2.543
Convertible preferred stock	22	3.359	0.427	3.786
<i>Other companies</i>				
Straight preferred stock	265	2.970	0.643	3.613
Convertible preferred stock	442	5.123	2.734	7.857

Financial companies defined as those with SIC codes beginning with 6; Utility companies defined as those SIC codes beginning with 49; Gross spread (%) is the gross spread as a percentage of total proceeds, including management fee, selling concession, and reallowance fee.

Source: Adapted from Bajaj et al. (2002) and Securities Data Co.

conventional to quote the “dividend yield” (Div/P) for preferred stocks and use this as a method of assessing value much as in traditional yield spread analysis (see section 6.3). Given that this measure of the dividend yield is a current yield calculation (see section 4.1), this procedure is theoretically precise only if the preferred is a perpetuity.

Prior to 1982, all preferred shares traded in US stock markets were of the fixed-rate type. Following a practice that had started a few years earlier in the private placement market, starting in 1982 adjustable rate preferred stock issues began to appear to be followed, two years later, by auction rate preferred issues and, the following year, by remarketed preferreds. All of these types of preferred stock issues have a dividend payment that changes from period to period. Though a number of variations are possible, an adjustable rate preferred typically has a quarterly resetting of the dividend rate determined by some spread off the highest of three points on the Treasury yield curve, e.g., using the yields for 3 month, 10 year and 20 year maturities. This maximum rate may be subject to a floor rate below which the dividend payment rate will not fall, i.e., the adjustable rate preferred has a “collar.” The spread off the Treasury yield can be positive or negative. A difficulty with this type of preferred stock design is that the method of adjusting the dividend payment rate is fixed. The spread does not change with market conditions or the risk of the issuer. As such there is some associated principal risk.

For reasons to be discussed below, purchasers of variable rate preferred stock are often corporate cash managers seeking a tax-exempt or tax-advantaged money market security (Wilson 2001, pp. 343–4). This type of investor is seeking a competitive interest rate without risk of principal. The auction rate preferred structure addresses the potential problem that the adjustable rate preferred poses for this type of investor. For this type of preferred stock, the dividend payment rate is set at regular intervals, usually every seven weeks, through auctions involving current holders of these preferred issues

and other investors interested in purchasing the shares. In this fashion, the dividend payment rate reflects market conditions and changes in the risk of the issuer. The remarketed rate preferred stock issues are a variation on the auction rate preferred that uses a remarketing agent to reset the dividend payment rate. By avoiding the costs associated with the auction process, the remarketed issue can feature a shorter reset period, usually varying between one week and seven weeks. In this fashion, the auction rate and remarketed rate preferred issues avoid most of the principal risk associated with adjustable rate preferred stocks.

Since the first issues appeared, these variable dividend preferred issues have come to represent about half of new preferred issues, with the split between fixed and variable dividends varying from year to year. These changes in dividend structure were accompanied by a change in the composition of issuers. While the traditional issuer of preferred shares was a utility, i.e., electric, water, gas and telephone companies, more recently the financial companies such as banks, thrifts and insurance firms, have become significant sources of preferred share issues. These entities are important drivers of the variable rate preferred structures. For example, the first auction rate preferred stock issue, in 1984, was by American Express. From 1990 to 2003, it is estimated that \$332 billion in new preferred stock was issued, much of this by financial companies (Tunick 2003). Combined with the approximately \$60 billion of preferred issues outstanding in 1990, net of redemptions, the amount of the preferred stock outstanding is currently not larger than \$350 billion. Even with these changes and considerable growth, the size of the outstanding preferred share market can be measured in the hundreds of billions of dollars, compared to the trillions in par value of outstanding issues in the debt market. Though the preferred share market is not important in terms of relative size, the preferred share does play an important role in security analysis.

The preferred share is a hybrid security, sharing some features of debt and some features of common stock. On the issue of whether to purchase a preferred stock or the debt of a company, Graham, Dodd and Cottle (1962, p. 382) observe:

What yield advantage should the investor demand to compensate him for the contractual weakness of preferred stocks against bonds? We are inclined to think that an *individual* should not buy any preferred stock unless he is able to obtain *both* adequate safety and a differential of, say, 1 percent in the yield over that afforded by a bond of similar safety . . . What of preferred stocks of secondary or inferior grade which can be bought at tempting yields? Our attitude toward them is the same as that toward high-coupon bonds. It is unsound to accept inadequate security to obtain a higher income, *unless* the buyer obtains also an opportunity for a substantial increase in principal value and *unless also* he is prepared to take the speculative risk of loss involved in the transaction.

In addition to being an excellent illustration of the Graham and Dodd approach to speculation vs. investment in security analysis and selection, preferred shares are also an excellent illustration of the impact that tax treatment and regulations can have on a security. For example, the reason that GDC state individual investors will, typically, not be attracted to preferred stocks is due to the *different tax treatment compared to debt*.

For pedagogical purposes, it is difficult to systematically incorporate tax considerations when discussing the security analysis of each and every security. Taxes impact

security purchasers and issuers in different ways, e.g., a high net worth individual subject to capital gains taxes will have different investment concerns than a tax-exempt charitable institution or pension trust. There are so many possible iterations that it is impractical to consider the different possible tax implications for, say, valuation of common stocks. In general, the tax rate of the marginal investor is usually too difficult to identify. Unlike common stocks where the tax motivations of purchasers and issuers are unclear, preferred shares provide a relatively clean security structure for examining the impact of tax considerations on the analysis of securities. (Another example is municipal bonds.) For the issuer, preferred shares have the disadvantage that dividends paid are not a deductible expense like the interest payments on corporate debt.⁴ In the US, the Internal Revenue Code (IRC) section 243 provides a 70% deduction for dividend income received by corporate investors owing less than 20% of the paying corporation. This rises to 80% for ownership shares between 20% and 80% and is 100% for greater than 80% ownership.

The *valuation of preferred stock* depends on the tradeoff between: the increase in issuer opportunity cost due to the loss of the interest deductibility forgone by issuing preferred stock instead of debt; and the reduction in tax liabilities of corporate preferred share purchasers due to the partial income tax deductibility of dividends paid on preferred shares. The benefits to investors means that the coupons on preferred stock will be lower than on comparable debt issues. This makes preferred stocks an attractive source of financing relative to long term debt for firms with low expected marginal tax rates, e.g., Ely et al. (2002). In practice, the financing benefits of preferred stocks to issuers are reduced by the generally higher issue costs of preferred stocks relative to long term debt. These additional costs depend on a combination of factors related to the characteristics of the preferred being issued, e.g., convertible preferreds are more expensive to issue than fixed rate preferreds, the size of the issue, the credit risk rating and the type of issuer, e.g., financial company vs. public utility (Bajaj et al. 2002). Given this, the decision to issue preferred stock versus debt will depend on the tradeoff between the tax benefit to the marginal corporate investor and the incremental tax burden on the issuing corporation.

Despite some sweeping tax code changes associated with the Tax Reform Act (1986) and later reforms, little has changed for US individual investors in preferred stocks since GDC (1962, p. 382) wrote: "under present tax laws high-grade preferred stocks are not logical investments for individuals. They *are* logical investments for corporations, which can obtain a much higher net return from them than from corporate bonds of comparable quality." Despite some current proposals to reduce or eliminate the "double taxation" of dividends, US individuals receiving common stock or preferred stock dividends are subject to taxation on that income at their marginal tax rate. In the US, the coupon rates on preferred shares only make sense for corporate investors able to take advantage of the favorable dividend tax treatment. The US is unusual in applying the full marginal tax rate to dividend payments made to individuals. In Canada, for example, dividend income from both preferred and common stock is usually taxed at rates well below the marginal tax rate for individuals and not taxed when received by Canadian corporations.⁵ Unfortunately, the theoretically attractive features of this reduction in "double taxation" of preferred dividends has, in practice, been characterized by numerous tax management schemes by corporations to reduce or eliminate corporate taxes paid.

In addition to tax consequences associated with dividend payments, the issuance of preferred shares can also be motivated by *regulatory considerations and other aspects of the tax code*, e.g., Callahan et al. (2001). In particular, the Tax Reform Act (1986) limited the deductibility of net operating loss carry forwards after a change in corporate ownership. Under the rules, straight preferred stock does not count toward the "change in ownership criteria" that measure ownership change in terms of holdings of common stock and convertibles. As firms with such loss carry forwards are usually subject to severe restrictions on the issue of debt, preferred shares are an attractive form of financing. A regulatory motivation for the issuance of preferred shares for financial institutions can be found in the capital adequacy requirements that have been introduced since the 1989 Basle accord. Because preferred stock is considered to be equity, this provides an added motivation for financial companies subject to the capital adequacy guidelines to issue preferred stock instead of debt. The ongoing trend for financial institutions to create equity/debt hybrids that are booked as equity has been an impetus to the proposed accounting standard FAS 149 that will require corporations to treat preferred share issues (and other equity/debt hybrids) as debt on the balance sheet.

Common stock and firm value

Common stock is, by far, the most important type of equity claim. As observed in section 1.1, common stock is the security that attracts the most attention in the popular media of financial newspapers, magazines and television shows. Yet, the valuation of individual common stocks has been relatively ignored in modern Finance. Where common stock valuation models are proposed, such as the Gordon constant growth model, the proposed formulas are usually elementary extensions of discounted cash flow techniques. Instead of focusing on individual stocks, modern Finance assumes that markets are efficient and concentrates on the properties of diversified portfolios. Though having become somewhat out-of-fashion in recent years, the efficient markets hypothesis implies that the search for abnormal returns in individual stock analysis is a futile exercise, incapable of generating abnormal returns. Faced with this view, practitioners involved in the security analysis industry have reacted with ridicule and indignation, implicitly or explicitly claiming that the generation of abnormal returns is an inherent property of the intellectual services that the industry sells to institutional and individual clients.

Common stock valuation is an intellectual quandary that defies a general solution. The security involved is a *residual claim* to whatever is left over after all the claims of other holders of a corporation's securities have been satisfied. (See section 1.1 for further discussion of common stock features.) Though the value of all other corporate securities are also dependent on the economic performance of the corporation, this dependency is amplified many times for common stock. Consider the value of the corporate debentures for two AAA rated US firms. If both of these securities are straight bonds with the same coupon and time to maturity and without any embedded options, the prices of these two debentures will be approximately the same. However,

the valuation of the common stock for these two corporations likely would be much different. Absent the use of a par value for common stock, even a basic comparison of the common stock prices would require some restrictive convention like equality of the number of shares and the initial offering price.⁶ Already the comparison is getting so abstract that the connection to the characteristics of the two corporations has been undermined. For example, different firms raising the same initial amount of equity would almost certainly be compelled to have different capital structures. It is difficult to construct even crude theoretical comparisons of common stock values across firms.

The *valuation of common stock* is intimately connected to the firm that issues the stock. GDC (1962, p. 443) observe: "The basic components in a common-stock valuation are fourfold, viz.: 1. The expected future earnings; 2. The expected future dividends; 3. The capitalization rates – or multipliers – of the dividends and earnings; 4. The asset value." This seems simple enough, but this observation is followed by:

It should be pointed out that these four factors include, by implication, a number of elements which enter into both the quantitative and qualitative analysis of a common stock. Chief of these are the past and expected rates of profitability, stability and growth; the abilities of the management; and, the various underlying facts and hypotheses that will govern sales volume, costs, and profits after taxes.

Suddenly the common stock valuation problem does not seem so simple as looking at a few "basic components." Precisely how these "elements" fit together with the "four factors" is, at best, a heuristic exercise. The presence of "expected" dividends and "expected" earnings in the factors raises significant problems about *ex ante* versus *ex post* evaluations.

The common stock represents a residual claim to what is left over after the well defined claims of the corporation's other security holders have been settled. To make an analogy to economic theory, this residual claim has both a "*stock*" and a "*flow*" component. The "stock" component relates to the net asset value of the firm, a combination of the productive assets that were "purchased" with the initial equity issue plus the accumulation of retained earnings that were used to augment the asset base over time minus the economic depreciation of the assets over time. Though accounting makes an allowance in the form of depreciation each period to account for the payments made to maintain the assets, this allocation can be a fictional exercise conducted for the purposes of calculating the income tax liability that has to be settled. Even new assets can become obsolete or unproductive, though still eligible for depreciation write-downs. Similarly old assets that have long since been depreciated to zero (or to estimated salvage value) may continue to be productive. The accounting approach to depreciation has additional difficulties dealing with intangible assets that have not been "priced" by, say, the accurate creation of goodwill in a takeover. Even if priced in a takeover, the goodwill value may not be accurate. In terms of GDC factor 4, common stock valuation requires the *market value* of the stock of productive assets, both tangible and intangible, to be accurately valued.

The "flow" component of common stock valuation relates to GDC factors 1, 2 and 3: "expected future earnings," "expected future dividends" and "capitalization rates." These

factors are associated with the ability of the “stock” of productive assets to generate the net cash flows over time. The factors are the primary components of the discounted cash flow valuation model: “The value of any stock, bond or business today is determined by the cash inflows and outflows – discounted at an appropriate interest rate – that can be expected to occur during the remaining life of the asset” (Cunningham 2000, p. 93). While there is general agreement from many perspectives about this basic approach to valuation, there is a confounding range of difficulties that arise in the implementation. These difficulties are apparent with even the simplest valuations. For example, consider the case of a resource company that owns the mineral rights to some property and is making a stock issue to fund exploratory drilling activities. Geological forecasting will give some notion about the types of minerals that could be found, e.g., it is not possible to find natural gas or oil in areas where drilling for precious metals is indicated. There may also be some information about drilling done at other sites in the same area. Given this, how is a value to be determined for this company?

Focusing on “expected future earnings,” “expected future dividends” and “capitalization rates,” it is apparent that the value of this resource company depends on the success of the exploratory drilling program. In most cases, the drilling will not produce an exploitable amount of ore and the value of the shares will fall to zero, or near zero, because the expected future earnings are zero.⁷ If an exploitable amount of ore is found, then the property will have value to the large mining companies that specialize in the particular mineral, e.g., Inco Ltd. (N) for nickel or Barrick Gold Co. (ABX) for gold. In this case, the expected future earnings would be the sale price of the mineral rights. This requires a future market value for the property to be determined that will depend on factors such as the future market price of the mineral, the “quality” of the ore deposit, the costs of developing the property, and the date the property is sold. Having estimated these values, the “future earnings” have to be discounted back to the present using a “capitalization rate.” It is conventional that the capitalization rate reflects the inherent risks in the project, the expected return on the market and the level of riskless interest rates. Even in this simple case, the difficulties of obtaining an estimate for the market value of the common stock of the mineral exploration company is evident.

One of the key failings of modern Finance is the inability to provide a plausible model of common stock valuation. Recalling the quote from Stickney in section 1.3, this inability stems from modern Finance being concerned with developing the average properties of common stocks. Central paradigms, such as the capital asset pricing model, are concerned with eliminating firm specific risk. Yet, the value of a common stock is intimately connected to the company that issued the stock. As such, the common stock valuation problem has to be concerned with the analysis of firm specific risk, not with the elimination of such risk. In general, firms are not homogeneous entities having properties that can be uncovered by examining the averages of different groupings or regressing returns on factors and the like. Though it may be possible to produce some crude relationships using averaging/grouping methods or regression techniques, type I (unjust acceptance) and type II (unjust rejection) errors are so hard to control that inaccurate inferences are difficult to avoid. Despite often being naive about the techniques of modern Finance, it difficult to ignore the widely held belief of practitioners that much of modern Finance is vacuous when it comes to common stock valuation.

7.2 THE BASICS OF FUNDAMENTAL ANALYSIS

Fundamental analysis and investment philosophy

Philosophy has dedicated considerable effort to developing the implications of how language is used.⁸ From semantics to rhetoric, words have content that extend well beyond simple definitions. The use of the expression “fundamental analysis” in modern Finance provides a useful illustration of the basic point at hand. As used in modern Finance, fundamental analysis is interpreted in terms of a core theoretical proposition: the efficient markets hypothesis (EMH). As discussed in section 1.2, the EMH is usually presented as applying to specific information sets denoted as weak form, semi-strong form and strong form. Whereas the weak form relates to the information set used in “technical analysis,” *the semi-strong form* relates to the information set applicable to “fundamental analysis.” Under the EMH, if the market is semi-strong form efficient then it is not possible to earn abnormal returns by exploiting the information set used in “fundamental analysis,” i.e., market prices fully and accurately reflect the relevant fundamental information. Based on this type of language, it would appear that if markets are semi-strong form efficient then there is little to be gained from doing fundamental analysis.

In modern Finance, fundamental analysis is defined relative to the core theory. The rejection of fundamental analysis is achieved by considering specific types of “publicly available” information such as announcements of earnings and dividends, disclosures of merger plans, changes in accounting practices and the like. Studies stretching back at least to Ball and Brown (1968) and Fama et al. (1969) have demonstrated that a wide range of publicly available information is “rapidly and accurately reflected in the price of the stock,” e.g., Giammarino et al. (1996, p. 293).⁹ By defining fundamental analysis in this fashion, language is being used in a confusing and misleading way. An important, complicated and diverse approach to the evaluation of securities is reduced to a statistical examination of how prices of specific securities, usually common stocks, react to changes in some type of publicly available information. The sophisticated methods and procedures involved in taking a body of fundamental information and translating that information into an evaluation of whether a stock is correctly valued does not correspond to whether, on average, changes in a particular type of information are rapidly translated into prices. Though there is some relationship, the connection between fundamental analysis and tests of semi-strong form efficiency is weak at best and misleading at worst.

In *Financial Statement Analysis and Security Valuation*, Penman (2001, p. 3) states: “Investors typically invest in a firm by buying equity shares or the firm’s debt. Their primary concern is the amount to pay – the value of the shares or the debt. The analysis of information that focuses on valuation is called *valuation analysis*, *fundamental analysis*, or, when securities like stocks and bonds are involved, *security analysis*.” Penman (2001) “develops the principles of fundamental analysis” and “shows how financial statement analysis is used in fundamental analysis.” Penman focuses on *the accounting aspects of fundamental analysis*, covering the techniques involved in

translating the information presented in accounting statements into estimates of the appropriate market value of specific securities. As such, Penman is providing a natural development of the traditional approach taken in accounting to the subject of financial statement analysis, e.g., Bernstein (1989). Casual inspection of Penman (2001) or Bernstein (1989) or any of a number of excellent texts in this area, e.g. Fridson and Alvarez (2002), reveals that the assessment and analytical manipulation of information in financial statements for purposes of valuing securities is considerably more complicated than determining if, say, an adverse or positive earnings announcement is rapidly reflected in common stock prices.

In contrast to those emphasizing the importance of financial statement analysis, there are other fundamental analysts that emphasize *the importance of economic analysis* in determining security values. A key aspect typically considered in the economic analysis are industry factors, such as the level of competition, barriers to entry and the regulatory environment. Also important are the macroeconomic factors such as the general level of the financial markets, interest rates and exchange rates. There are also qualitative economic factors about the firm not reflected in the financial statements, such as the depth and quality of management. Though the economic analysis will, almost always, be combined with various types of financial statement information to arrive at an assessment of the security value, the process by which this is done will vary across analysts. Evidence that, say, changes in money supply numbers announced by the Federal Reserve are "rapidly reflected" in prices has only ambiguous implications for fundamental analysis, other than to demonstrate that security prices react to the release of this type of information. Such evidence would seem to have more implications for theories of "noise trading" rather than for fundamental analysis.

Though there is a general methodological approach that characterizes fundamental analysis, it is not a homogeneous doctrine. The techniques of fundamental analysis are aimed at determining the value of a security or capital asset using a range of economic and accounting information. Selection of specific aspects for analysis and the interpretation depends on the "investment style" or "investment philosophy" or, in the spirit of the title for this book, the "investment strategy" of the analyst. Put differently, the fundamental analyst specifies a valuation model, such as the discounted cash flow model, and then assembles and evaluates the analyst-specific economic and accounting information needed to forecast the variables used in the model. Though it is a popular and widely recommended valuation model for fundamental analysts, the discounted cash flow model is neither a necessary nor sufficient condition for fundamental analysis. While modern Finance presents fundamental analysis as being, somehow, homogeneous, fundamental analysis is, at best, a loose-knit collection of somewhat different techniques. Perhaps more importantly, the application of the techniques is participant dependent.

To see this point, consider the question: is the P/E ratio for stock A "too high" to justify the purchase of the stock? The P/E ratio is a measure that is widely used in fundamental analysis. However, not all fundamental analysts give much consideration to the P/E ratio in deciding whether a stock is under-valued. Philip Fisher, for example, subordinates the P/E ratio to the characteristics of the business (see section 7.4). Other analysts use the P/E ratio as an initial filter to indicate what other types of fundamental information to examine before making a decision. For example, a "high" P/E ratio could

be due to a potential source of earnings that is expected to materialize in the near future or to the price being driven primarily by the market value of assets. Even if the fundamental analyst determines that the P/E ratio indicates the stock is under-valued, different analysts may have different criteria for determining when to purchase a security, i.e., there will be variation across analysts in the different degrees of underpricing at which purchase decisions are triggered. In effect, in fundamental analysis there is not a simple functional relationship between the P/E ratio and the valuation of common stocks.

The observation that security analysis and investment strategy are intimately connected is not new. It has long been understood that the investment strategy selected makes specific demands about the type of information required and the way it is interpreted. In this vein, the observation that fundamental analysis is not a homogeneous subject applies directly to how industry and firm level information is used in security analysis. It also applies to the use of macroeconomic information. Graham, Dodd and Cottle (1962, pp. 26–7) explicitly attempt to deal with this point by introducing three general categories to describe distinct approaches to common stock valuation: the *anticipation approach*; the *relative value approach*; and, the *intrinsic value approach* also known as the absolute value approach.¹⁰ Within each of these approaches to fundamental analysis there may be further differences in the security analysis style and usage of information. However, these differences in style and usage are small compared to the differences in investment strategy implied by each of the approaches.

According to GDC, the *anticipation approach* is the first and oldest approach to security analysis of common stocks. This approach takes the current market price to be an appropriate measure of the current value and attempts to identify stocks that will outperform by “anticipating” changes in current conditions. This usually involves detailed analysis of the business position and prospects of various companies. GDC observe:

The anticipation approach is typified by the numerous published lists which suggest stocks which will “outperform” the market over some time span . . . The function of the security analyst . . . is to anticipate the new situation, to select the stocks that will benefit most therefrom, and to reject those that will fare badly . . . This approach, clearly, does not involve seeking an answer to the question: What is the stock worth?

The typical “anticipation” security analyst examines the price history of the stock and attempts to heuristically determine how the price changed in response to past *changes* in key variables such as earnings, new product innovations, production technology, management composition, capital structure, capital expenditures, mergers and acquisitions and so on. Based on breadth and depth of knowledge, the analyst attempts to predict or “anticipate” changes in key variables.

The anticipation approach has much in common with the “expectations investing” model specified by Rappaport and Mauboussin (2001) (see section 8.1). Though expectations investing explicitly incorporates the use of discounted cash flow modeling, this step is only used to determine the “price-implied expectations” associated with the market price. The specific value drivers – sales growth, incremental investment rate and

operating profit margin – are predicted and compared to the level of those drivers consistent with the price implied expectations. This comparison provides the basis for a buy or sell recommendation based on an “anticipation” of the market revising expectations in line with the predictions of the analyst. The emphasis in both expectations investing and the anticipation approach is on *changes* in prices and not on the *level* of prices that is consistent with fundamentals. Though Rappaport and Mauboussin make reference to margin of safety, this inclusion in the methodology appears to be more of an afterthought. Consistent with other micro-fundamentalist approaches, both the anticipation approach and expectations investing place an emphasis on individual security valuation and the use of micro-fundamental information.

Keynes (1936, p. 155) provides a different perspective on the anticipation approach: “the professional investor is forced to concern himself with the anticipation of impending changes, in the news or in the atmosphere, of the kind by which experience shows the mass psychology of the market is most influenced.” Keynes saw the negative macroeconomic implications of a market populated by professional investors driven by the anticipation approach. In a justly famous quote, Keynes (1936, pp. 155–6) observes:

This battle of wits to anticipate the basis of conventional valuation a few months hence, rather than the prospective yield of an investment over the long term of years, does not even require the gulls amongst the public to feed the maws of the professional: – it can be played by professionals amongst themselves. Nor is it necessary that anyone should keep his simple faith in the conventional basis of valuation having any long-term validity. For it is, so to speak, a game of Snap, of Old Maid, of Musical Chairs – a pastime in which he is victor who says *Snap* neither too soon nor too late, who passes the Old Maid to his neighbour before the game is over, who secures a chair for himself when the music stops . . . we have reached the third degree where we devote our intelligence to anticipating what average opinion expects the average opinion to be.

Given this, Keynes recognized that the anticipation approach implies an investment strategy that is aimed at trading over horizons of three months and less: “it is not sensible to pay 25 for an investment of which you believe the prospective yield to justify a value of 30, if you also believe that the market will value it a 20 three months hence.”

The relative value approach is similar to the anticipation approach in taking the current market price to be an appropriate measure of the current value and attempts to identify the “relative” attractiveness of various stocks. GDC observe that the relative value analyst:

derives the capitalization rate for an individual issue in terms of the rate at which earnings or dividends for a cross section of the market – such as the Dow-Jones Industrial Average – are being capitalized or from the capitalization rate for a specific industry or other group which typifies the market for an individual share he is seeking to evaluate. His efforts, therefore, are devoted fundamentally to appraising the *relative* attractiveness of individual issues in terms of the then existing level of stock prices and not to determining the fundamental worth of a stock.

The relative value approach is, by default, the approach of necessity for a fund that is fully invested in equities. The precise method used to determine relative value will differ from analyst to analyst, though the GDC reference to "capitalization rates" is consistent with the market practice of comparing P/E ratios. The relative value approach could also contain elements of either the anticipation or intrinsic value approaches to rank prospects. Ultimately, however, the buy or sell decision would be based on a relative ranking. If anything, the implications of following the relative value approach is even closer to what Keynes observed as conventional market practice.

As illustrated by Hooke (1998, ch. 13), the relative value approach to security analysis is the most favored approach in the modern Wall Street approach to security analysis. Being at the core of day-to-day trading of common stocks, the financial community of investment bankers, securities firms, institutional fund managers and the like that compose Wall Street are, in aggregate, not unlike a fund that is fully invested in equities. Observing that professional security analysts seldom refer to intrinsic value, Hooke (1998, p. 232) provides the following description of the relative value approach used on Wall Street:

Morgan Stanley analyst, Madhav Dhar, suggests there's no such thing as the "intrinsic value" of a stock. "You have to figure out where you are relative to everybody else," he says. "It's an investment decision overlaid by game theory." With many institutions sharing this view, practitioners increasingly turn to relative values to price companies. Instead of a fair price based on discounted cash flows, practitioners use "relative value" analysis where the positive and negative aspects of a stock are evaluated against those characteristics of similar stocks falling in the same industry category. Value parameters are then compared and contrasted, resulting in statements such as "Kroger is undervalued relative to Safeway, because Kroger's growth rate is higher, yet its P/E is lower." Other popular comparators include the Price/Book, Price/Sales, (Price + Debt)/EBITDA, and (Price + Debt)/EBIT ratios.

For many in the investment industry, DCF models involve too many variables to estimate, leading to interminable debates over this projection vs. that projection. In the marketing of stocks, it is easier to take the industry or sector multiple as given, and then to argue over the relative values of stocks in the sector using widely recognized valuation ratios such as P/E and P/BV. This is also consistent with the "Wall Street" practice of organizing research analysts along industry/sector lines.

The intrinsic value approach has been widely described, analyzed and recommended. Though Graham and Dodd (1934, p. 14) explicitly recognize that the intrinsic value approach has a much longer history, modern observers usually credit Graham and Dodd (1934) with originating the approach which is typically, though not always, referred to as "value investing." GDC (1962, p. 27) observe that the intrinsic value approach "attempts to value a stock independently of its current market price. If the value found is substantially above or below its current price, the analyst concludes that the issue should be bought or disposed of." The essence of this approach revolves around the definition of intrinsic value. Graham and Dodd (1934, p. 17) recognize the difficulties in providing a precise definition: "intrinsic value is an elusive concept. In general terms, it is understood to be that value which is justified by the facts, e.g., the assets, earnings, dividends, definite prospects, as distinct, let us say, from market quotations established

by artificial manipulation or distorted by psychological excesses." For Keynes (1936), the intrinsic value was "the prospective yield of an investment over a long term of years."

Both Keynes (1936) and Graham and Dodd (1934) were profoundly influenced by the financial and economic collapse associated with the Great Depression. Both recognized the significance of the intrinsic value approach. Yet, both came to dissimilar conclusions about the prospects for this approach. Keynes (1936, p. 157) maintained that: "Investment based on genuine long-term expectation is so difficult to-day as to be scarcely practicable. He who attempts it must surely lead much more laborious days and run greater risks than he who tries to guess better than the crowd how the crowd will behave; and, given equal intelligence, he may make more disastrous mistakes." Keynes generally views the anticipation approach as the potentially most profitable. Graham and Dodd (1934, p. 22) cautiously take a different tack:

The field of [security analysis] may be said to rest upon a twofold assumption: first, that the market price is frequently out of line with the true value; and, second, that there is an inherent tendency for these disparities to correct themselves... The second assumption is... true in theory, but its working out in practice is often unsatisfactory. Undervaluations caused by neglect or prejudice may persist for an inconveniently long time, and the same applies to inflated prices caused by overenthusiasm or artificial stimulants... The analyst must seek to guard himself against this danger as best he can.

Despite the qualifications, for Graham and Dodd the intrinsic value approach was the potentially most profitable.

Macroeconomics and common stock valuation

The bulk of security analysis falls within the realm of accounting and finance. As a consequence, the macro-fundamentals of common stock valuation are often overlooked. In addition, because the bulk of the analysis of macro-fundamentals is done by economists, the connection of the results with the needs of security analysts is often underdeveloped. It is even possible to develop *macro-fundamentalist* investment strategies that rely on the fundamental analysis of macroeconomic factors to identify investment opportunities. For example, a strategy of buying cyclical stocks, e.g., steels and autos, just before the upswing in the business cycle and switching to defensive stocks, e.g., consumer products and tobacco/alcohol, at the peak of the business cycle would be macro-fundamentalist. Security selection could be incorporated to identify stocks within a sector or industry that may outperform, but this is not necessary. Even if the analyst is not interested in using a macro-fundamentalist investment strategy, macro-variables such as GDP, interest rates and exchange rates can be important elements in the industry and company analysis associated with micro-fundamentalism.

The history of using macro-fundamentals to analyze securities predates Graham and Dodd. For example, prior to contributions of Lawrence Smith during the 1920s, it was hypothesized that stock returns would typically outperform bond returns during

inflationary periods and vice versa during deflationary periods. The set of variables that a macro-fundamentalist could consider includes: inflation rates, the level and term structure of interest rates, exchange rates, unemployment rates, business cycles, national and international economic growth rates, money supply growth rates and changes in the supply and demand for credit. Whitman (1999, p. 73) reflects a widespread view among micro-fundamentalists: "One reason – but far from the only one – that value investors do not factor into their investment decisions any views about general economic outlooks, stock market outlooks, or about interest rate outlooks is that almost no one is any good at making such predictions." Though this view may be somewhat harsh, there is an apparently conflicting body of empirical and theoretical results about the relationships between macroeconomic variables and stock prices.

Much of the perceived difficulty that practitioners and "value investors" have in assessing studies on macro-fundamentals stems from a misunderstanding of the strongly positivist philosophical approach used in economics (see section 1.3). Much of the epistemological approach used in modern Finance is adopted directly from economics. These difficulties can be illustrated by perhaps the most widely debated macro-fundamental: *the relationship between stock prices and inflation*. The economic theorist is concerned with developing models that possess the property of money-neutrality or inflation-neutrality where real variables, e.g., price level deflated nominal variables such as stock prices and GDP, are not affected by changes in the value of the monetary unit. The assumptions of the model can then be selectively relaxed to theoretically determine if there is non-neutrality when a particular assumption is not imposed. The end product is a range of theoretical results where there may or may not be inflation neutrality, depending on the specific assumptions that are adopted. Such theorizing is uninteresting to the value investor wanting to know if stocks are an inflation hedge. Unfortunately, a similar confusion emerges in the empirical results.

Siegel (1998, pp. 158–9) presents an optimistic view of the evidence on the relationship between stock prices and inflation:

Despite the overwhelming evidence that the returns on stocks compensate shareholders for increased inflation, investor acceptance of stocks as inflation hedges has undergone significant changes. In the 1950's, stocks were praised as hedges against rising commodity prices. For that reason, many investors stayed with stocks, despite witnessing the dividend yield on equities fall below the interest rate on bonds in 1958 for the first time ever. In the 1970's, however, stock prices were ravaged during the inflation triggered by OPEC oil price hikes and perpetuated by bad monetary policy. As a result, it became unfashionable to view equity as an effective hedge against inflation.

Siegel explains the poor performance of stocks in certain periods of high inflation with the claim that stocks are not adequate "short term" hedges against inflation but will provide long term protection. Following Smith (1925), Siegel believes that stocks will outperform bonds over periods of both rising and falling prices and, as a consequence, provide the best inflation protection among financial assets.

While it may be comforting to claim that there is "overwhelming evidence" for stocks being an inflation hedge, this was little comfort to those directly impacted by the poor

performance of stocks during the high inflation of the 1970s.¹¹ To the uninitiated, it may seem somewhat odd that two important variables, such as stock returns and inflation, would be negatively related in the short term but positively related in the long term. What is the long term but a sequence of short terms?¹² Interpretation of the empirical relationship between common stock investment performance and inflation is complicated by the use of a number of different conventions to define the stock variable in empirical studies. For example, Rapach (2002) examines the long run response of real stock prices to a permanent inflation shock (where "real stock prices" are nominal stock prices divided by a price index such as the producer or consumer price index). In contrast, Anari and Kolari (2001) use nominal stock prices, while Sharpe (2002) uses real stock returns. The objectives of empirical work also vary, with studies such as Anari and Kolari (2001) and Rapach (2002) focusing just on the empirical fit between stock performance and inflation while others, such as Sharpe (2002), are concerned with explaining the causal mechanism, e.g., the impact of inflation on earnings growth.

Despite Siegel's claim for overwhelming evidence in favor of stocks being a long run inflation hedge, Anari and Kolari (2001, p. 588) observe that "few studies" report such evidence and these studies use very long sample periods, e.g., Boudoukh and Richardson (1993) use a sample period covering 1802–1990.¹³ Results from sample periods of 100–200 years are of questionable usefulness for most practical security analysis applications. In contrast, there are a large number of studies that report a negative short term relationship between inflation and stock performance, e.g., Bodie (1974), Geske and Roll (1983). This negative relationship is usually considered anomalous because the impact of the "Fisher effect" is expected to be positive. To see this, consider the decomposition of the nominal stock return into the real return and inflation. (Following the convention used in section 1.1 and elsewhere, the $t = 0$ conditional expectation involved in the rate of return calculations is not explicitly stated but is understood.) Letting $RR(t)$ be the real return and $\pi(t)$ the aggregate price level at time t with $\dot{\pi}(t)$ as the inflation rate ($\Delta\pi/\pi$) between $t - 1$ and t :

$$\frac{P(0)}{\pi(0)} = \left[\frac{\frac{P(1)}{\pi(1)} + \frac{Div(1)}{\pi(1)}}{1 + RR(1)} \right]$$

$$\rightarrow 1 + RR(1) = \frac{P(1) + Div(1)}{P(0)} \div \frac{\pi(1)}{\pi(0)} = \frac{(1 + R(1))}{(1 + \dot{\pi}(1))}$$

In this framework, if stocks are a perfect inflation hedge then real returns will be constant through time which requires nominal returns, R , to adjust upwards to offset changes in inflation. This requires stock returns and inflation rates to be positively related.¹⁴

The considerable evidence that stock returns and inflation are negatively related in the short run has produced numerous studies aimed at explaining the process by which inflation impacts the real return. For example, Sharpe (2002) presents empirical evidence that the negative relation between real stock returns and expected inflation is due to a combination of two effects. A rise in expected inflation is associated with

lower expected earnings growth that, in turn, produces higher required real returns. Sharpe estimates that an increase of 1 percentage point in expected inflation raises real stock returns about 1 percentage point which implies a significant fall in nominal stock prices; hence, there is a negative short term relationship between stock returns and inflation. Yet, the impact of expected inflation on expected real stock returns is also observed in real long term Treasury bond yields, implying that expected inflation will have little effect on the real long run equity premium. This suggests that the impact of expected inflation on interest rates is another mechanism through which inflation can impact stock prices, e.g., by increasing borrowing costs and dampening sales on credit higher interest rates can have a significant effect on earnings.

Disentangling the impact of inflation on stock prices is sufficiently complicated that it is not surprising there is considerable disagreement on the mechanisms involved. Part of the disagreement is due to a failure to recognize that inflation can have a range of causes. Though monetarists are inclined to argue that "inflation is always a monetary phenomenon," it is possible for inflation to originate from real sector shocks, especially oil price shocks. Inflation originating from this source can produce the negative impact on earnings and subsequent reduction in stock prices, as observed by Sharpe (2002), Jones and Kaul (1996), Fama (1981) and others. However, inflation originating from largely monetary sources will likely operate through a different economic mechanism. For example, Henry (2002) presents empirical evidence that levels of inflation above 40% produce a different impact on stock prices than inflation levels below 40%. As high levels of inflation are almost always due largely to excessive monetary expansion, the source of the inflation will influence the type of impact on stock prices.

If the source of the inflation matters for the impact on stock prices, then there will likely be variation in the impact of inflation across firms. Developing the notion of "money illusion" contained in Modigliani and Cohn (1979), Ritter and Warr (2002) present evidence that inflation confuses investors in two important ways: the discount rate to use in valuing common stocks is miscalculated; and, the capital gains associated with the reduction in the real value of debt and other nominal contracts due to inflation is underestimated. The latter source of confusion will produce a variation in the impact of inflation across firms. Ritter and Warr make the fascinating argument that the bull market that started in 1982 and continued to early 2000 was due to the market undervaluation of common stocks associated with the "inflation illusion" of the 1970s. The reduction in inflationary expectations starting in the early 1980s dissipated the inflation illusion resulting in the emergence of corrected valuations. The resulting abnormal gains skewed the appearance of the equity risk premium and eventually resulted in overvalued common stocks as the bull market progressed to its logical conclusion in early 2000.

This discussion makes it apparent that inflation is a complicated and pervasive factor in common stock valuation. Analysis of the role of inflation on stock prices during this and other periods suggests that the degree of hedging protection provided by stocks is affected by the source(s) of the inflationary pressures. Following Ritter and Warr (2002), inflation can also induce "money illusion" resulting in valuation errors associated with incorrect estimation of capitalization rates and the real value of nominal contracts. In addition, inflation may have an impact on tax burdens, interest rates and investor risk perceptions. The impact on tax burdens can occur, for example, due to the impact of

progressive tax rates resulting in a real higher tax as inflation-induced increases in nominal corporate earnings are taxed at higher marginal rates. Assuming "money illusion," higher nominal interest rates created by higher levels of inflationary expectations increase the attractiveness of bonds relative to stocks causing the composition of portfolios to be allocated more towards fixed income securities at the expense of stocks. Finally, inflation makes investing in common stocks a riskier, more uncertain proposition, necessitating a higher real risk premium to be paid to justify common stock purchases.

Even though Ritter and Warr (2002) makes fascinating reading, the lessons for security analysis are largely limited to the inflation adjusted presentation of the "residual income" model. It is difficult to draw lessons from the knowledge that a sustained period of high inflation resulted in "valuation errors" that produced abnormal returns in subsequent periods as inflationary expectations readjusted and valuation errors dissipated. Even if the story is correct, the *ex post* investment horizon was 1982–99 and the problems of when to buy, what to buy and when to sell are left unresolved. The analysis does not proceed much beyond the conventional "averaging methodologies" of modern Finance, e.g., making distinctions between "all firms" and "high debt firms." A similar comment applies to the general use of macro-fundamentals to formulate investment strategies. The investment horizons are typically long term, the buy and sell signals are difficult to determine and the mechanisms for identifying the appropriate securities to buy are unclear. The implied strategies usually focus on stock groups, e.g., industry groupings, and do not deal with individual stock values.

To the uninitiated, one of the most potentially attractive macro-fundamental investment strategies involves *the use of business cycle predictions* to either "time the market" or to trigger "industry rotation" portfolio reallocation. Siegel (1998, p. 169) describes the basic issues:

The stock market . . . responds quite powerfully to changes in economic activity . . . Although there are many "false alarms" like 1987, when the market collapse was not followed by a recession, stocks almost always fall prior to a recession and rally rigorously at signs of an impending recovery. If you can predict the business cycle, you can beat the buy-and-hold strategy . . . But this is no easy task . . . to make money by predicting the business cycle, you must be able to identify peaks and troughs of economic activity *before* they actually occur, a skill few if any economists possess.

As numerous studies have demonstrated, aggregate stock market indexes are a leading, if somewhat noisy, indicator of business cycles. Putting aside the issues associated with how the business cycle is defined and identified, virtually all recessions and recoveries are preceded by corresponding stock market movements (see table 7.2).¹⁵ Increases of 8% or greater in the aggregate stock index always occur prior to the trough of the cycle being reached, though decreases of 8% or greater often do not happen before the peak of the cycle is reached.

The gains to correct *business cycle timing* can be substantial, e.g., Siegel (1998, p. 176) estimates that a strategy of switching from 100% invested stocks to 100% in Tbills four months prior to a business cycle peak and switching back to 100% invested

Table 7.2 Post-World War II recessions, expansions and stock returns

Peak to trough		Business cycle peak		Months difference	S&P trough	Business cycle trough	Months Difference
Business cycle	S&P peak	Business cycle peak	Months difference	S&P trough	Business cycle trough	Months Difference	
Nov. 1948–Oct. 1949	May 1948	Nov 1948	6	May 1949	Oct. 1949	5	
July 1953–May 1954	Dec. 1952	July 1953	7	Aug. 1953	May 1954	9	
Aug. 1957–April 1958	July 1957	Aug. 1957	1	Dec. 1957	April 1958	4	
April 1960–Feb. 1961	Dec. 1959	April 1960	4	Oct. 1960	Feb. 1961	4	
Dec. 1969–Nov. 1970	Nov. 1968	Dec. 1969	13	June 1970	Nov. 1970	5	
Nov. 1973–Mar. 1975	Dec. 1972	Nov. 1973	11	Sept. 1974	Mar. 1975	6	
Jan. 1980–July 1980	Jan. 1980	Jan. 1980	0	Mar. 1980	July 1980	4	
July 1981–Nov. 1982	Nov. 1980	July 1981	8	July 1982	Nov. 1982	4	
July 1990–Mar. 1991	July 1990	July 1990	0	Oct. 1990	Mar. 1991	5	
Mar. 2001–	Aug. 2000	Mar. 2001	7				

Source: National Bureau of Economic Research, (www.nber.org/cycles)

in stocks four months prior to the trough would have an excess return of 4.8% per year over the postwar period. Being able to predict peaks and troughs one month prior would have produced a 1.8% per year excess return. The bulk of these gains accrue to predicting troughs. Given the strong connection between the business cycle and corporate earnings, similar gains could be achieved from sector or individual stock selection strategies. Siegel (1998, pp. 179–80) provides a useful synopsis of these types of strategies:

Stock values are based on corporate earnings, and the business cycle is a prime determinant of these earnings. The gains of being able to predict the turning points of the economic cycle are enormous. Yet doing so with any precision has eluded economists of all persuasions. And despite the growing body of economic statistics, predictions are not getting much better over time.

The worst course an investor can take is to follow the prevailing sentiment about economic activity. This will lead to buying at high prices when times are good and everyone is optimistic, and selling at the low when the recession nears its trough and pessimism prevails.

The lessons to investors are clear. Beating the stock market by analyzing real economic activity requires a degree of prescience that forecasters do not have. Turning points are rarely identified until several months after the peak or trough has been reached. By then, it is far too late to act in the market.

This wisdom is not unique to Siegel (1998); strikingly similar versions can be found in the writings of Warren Buffett, Philip Fisher, and Benjamin Graham, among others. In the absence of value enhancing insights into business cycles, security analysis has to depend heavily on micro-fundamentals.

Philip Fisher on industry and company analysis

In contrast to macro-fundamentalists that focus on aggregate economic variables, micro-fundamentalists examine the characteristics of industries and individual companies. Though some attention may be given to macroeconomic considerations, the focus is predominately at the firm and industry level. The specific process used by the micro-fundamentalist to evaluate industry and firm information and come to a valuation decision depends on the investment strategy of the analyst. This is a key point. For example, English (2001, pp. 34–7) is concerned with identifying whether firms are in competitive equilibrium. Applying notions from economic theory, English argues that when firms are in competitive equilibrium then there will be no incremental investment opportunities available with returns that exceed the cost of capital. In the jargon of the DCF model that English uses, there are no opportunities for “abnormal earnings.” The expectations investing approach of Rappaport and Mauboussin focuses on “competitive strategy” factors as a method of identifying the important micro-fundamentals used to predict the inputs to a discounted free cash flow model. The potential number and variation of approaches to the industry and company analysis component of fundamental analysis is staggering.

Instead of attempting to provide a taxonomy of possible approaches to doing industry and company analysis, a more viable approach is to concentrate on the suggestions of an acknowledged master of the craft. Of the various possible names that come to mind, Philip Fisher stands out (see section 7.4). A recognized influence on Warren Buffett, Fisher (1958, 1975) provides a guide to the techniques that support a company and industry focused investment strategy. DCF models are not central to Fisher’s analysis because his objective is to identify companies that are so outstanding that the stock price goes up, say, 500% in five to ten years. Unlike the somewhat mechanical approach of Graham and Dodd that puts heavy reliance on financial statement analysis and can produce portfolios containing a potentially large number of securities, Fisher was concerned with identifying a small number of outstanding companies. As a measure of recognition to Fisher’s insights, examine the 1960 revised edition of Fisher (1958) *Common Stocks and Uncommon Profits* that lists the companies that were used as examples in the 1958 edition (see table 7.3). The companies identified in this list speak volumes.

Fisher has an easy how-to style of writing that makes tracing his suggestions a relatively easy task. However, as is common with how-to approaches, the suggestions sometimes lack precision and, on occasion, do not rise above being platitudes. Though Fisher (1958) is the acknowledged classic, Fisher (1975, 1980) provides a somewhat better road map to his suggestions about company and industry analysis. Fisher (1975) structures the discussion around “*four dimensions*”: “superiority in production, marketing, research and financial skills,” “the people factor,” “investment characteristics of some businesses” and “the price of the investment.” Fisher (1980) synthesizes the discussion of these four dimensions into a listing of the essential elements. Those looking for a security analysis panacea in this listing will likely be disappointed. A central theme running through Fisher’s various writings is summarized in the following:

Table 7.3 Philip Fisher's eighteen common stocks used as examples in the 1958 edition of *Common Stocks and Uncommon Profits* 26 months later

	Price 9/20/57	Price 11/7/59	% Change
<i>Long established institutional stocks</i>			
Aluminum Corporation of America	75 $\frac{1}{2}$	99 $\frac{1}{4}$	31
American Cyanamid	41	60	46
Corning Glass	86	144 $\frac{1}{4}$	68
Dow	53.05	93 $\frac{1}{8}$	76
Du Pont	182	261	43
General American Transportation	40 $\frac{3}{4}$	56 $\frac{1}{2}$	38
International Business Machines	194.87	408	110
Rohm & Haas	350.80	688	96
Union Carbide & Carbon	108 $\frac{1}{8}$	138 $\frac{1}{2}$	28
<i>Companies now attaining institutional status</i>			
Food Machinery & Chemical	25 $\frac{1}{4}$	51	102
Motorola	45 $\frac{1}{2}$	122	168
<i>Companies approaching institutional stock status</i>			
Ampex	20	107 $\frac{1}{2}$	437
Texas Instruments	26 $\frac{1}{4}$	169 $\frac{3}{4}$	547
<i>Smaller companies</i>			
Beryllium Corporation	16.16	26 $\frac{1}{2}$	64
Gladding, McBean	18 $\frac{3}{4}$	21 $\frac{5}{8}$	15
Hewlett-Packard	16	46 $\frac{1}{2}$	190
P.R. Mallory	35	37 $\frac{1}{4}$	6
<i>Huge potential profits at big risks</i>			
Elox	10	7 $\frac{5}{8}$	-24
Average of 18 stocks in this list			113
Dow Jones Industrial Average	466.75	650.92	40
Ratio of gains on the 18 stocks to the Dow Jones Industrial Average:			2.82

All stocks adjusted for stock splits and stock dividends; American Cyanamid and Elox eliminated from the Fisher & Co. portfolio during 1958; Hewlett-Packard was first offered in November 1957 at 16.

"All of my business life, I have believed that the success of my own business – or any business – depends on following the principles of two I's and an H. These principles are integrity, ingenuity, and hard work."

Fisher (1980) collects the main elements of the "*superiority in production, marketing, research and financial skills*" dimension and renames these elements as "functional factors" that an outstanding company will possess. The first of these factors concerns competitive position: "The firm must be one of the lowest-cost producers of its products or services relative to its competition, and must promise to remain so." Fisher provides a

number of rationales as to why this factor is so important. In particular: "a comparatively low breakeven will enable this firm to survive depressed market conditions and to strengthen its market and pricing position when weaker competitors are driven out of the market"; and, "a higher than average profit margin enables the firm to generate more funds internally to sustain growth without as much dilution caused by equity sales or strain caused by overdependence on fixed-income financing." These suggestions are similar in tone to the competitive strategy value drivers – sales growth and profit margin – of Rappaport and Mauboussin but go well beyond in terms of depth and breadth.

Fisher put considerable stress on the ability of a firm to market and develop its products. This is emphasized in the next important functional factor: "A firm must have a strong enough customer orientation to recognize changes in customer needs and interests and then to react promptly to those changes in an appropriate manner. This capability should lead to generating a flow of new products that more than offset lines maturing or becoming obsolete." This is supplemented by another aspect of this factor: "Effective marketing requires not only understanding of what customers want, but also explaining to them (through advertising, selling or other means) in terms the customer will understand. Close control and constant monitoring of the cost/effectiveness of market efforts are required." Fisher uses as an example the failure of the US automobile industry to recognize the shift in public demand away from "big gas guzzlers" towards compacts that cost less, were cheaper to operate and easier to park. Fisher (1975, pp. 9–10) further observes: "in the business world customers simply do not beat a path to the door of the man with the better mousetrap. In the competitive world of commerce it is vital to make the potential customer aware of the advantage of a product or service."

Close examination of all the companies listed in table 7.3 reveals a strong emphasis on companies with successful R&D strategies. For Fisher, R&D was important for all types of companies not just those in technical areas. Fisher (1975) uses the example of banks, a type of service industry, where "low-cost electronic input devices and mini-computers are enabling them to offer accounting and bookkeeping services to customers, thus creating a new product line for these institutions." Recognition of the need to do R&D to develop products led Fisher to recommend: "Even nontechnical firms require a strong and well-directed research capability to produce newer and better products, and perform services in a more effective or efficient way"; and, "There are wide differences in the effectiveness of research. Two important elements of more productive research are market/profit consciousness, and the ability to pool necessary talent into an effective working team." For Fisher (1975, p. 11): "The best corporate research team in the world can become nothing but a liability if it develops only products that cannot readily be sold."

Writing at a time prior to the information systems revolution, Fisher was cognizant of the need to have excellent financial management systems in place. In particular, Fisher recognized that a firm with a strong financial team has a number of important advantages. The advantages Fisher identified include: "good cost information enabling management to direct its energies towards those products with the highest potential for profit contribution; a cost system that can pinpoint where production, marketing, and research costs are inefficient even in sub-parts of the operation; the ability to execute

capital conservation through tight control of fixed and working capital investments." A strong financial team that has implemented advantageous financial systems can perform a critical finance function: "to provide an early warning system to identify influences that could threaten the profit plan sufficiently ahead of time to devise remedial plans to minimize adverse surprises." While factors such as the cost structure, marketing system and R&D could be evaluated off-site, Fisher was a strong proponent of on-site visits. Such visits would be necessary to assess the financial management functions identified by Fisher.

In addition to functional characteristics of the firm, Fisher was a strong proponent of the second dimension of corporate performance: "*people factors*." For example, Fisher maintained that "to become more successful, a firm needs a leader with a determined entrepreneurial personality combining the drive, the original ideas, and the skills necessary to build the fortunes of the firm." In addition: "a growth-oriented chief executive must surround himself with an extremely competent team and delegate considerable authority to them to run the activities of the firm. Teamwork, as distinct from dysfunctional struggles for power, is critical." These elements are difficult to assess even with on-site visits. However, Fisher makes another suggestion useful to analysts without the capability to do on-site visits: "Attention must be paid to attracting competent managers at lower levels and to training them for larger responsibilities. Succession should largely be from the available talent pool. The need to recruit the chief executive from outside is a particularly dangerous sign." In effect, the analyst needs to examine the management structure in detail and determine the method of selection. Hiring a CEO from outside the firm is usually a very negative signal.

Though Fisher's simple how-to style is relatively easy to follow, the approach sometimes suffers from lack of precision. For example, Fisher makes the recommendation: "The entrepreneurial spirit must permeate the organization." Another such recommendation is: "Successful firms usually have some unique personality traits - some special ways of doing things that are particularly effective for their management team. This is a positive not a negative sign." Similarly, Fisher makes the vague recommendation: "Management must recognize and be attuned to the fact that the world in which they are operating is changing at an ever increasing rate. Every accepted way of doing things must be reexamined periodically, and new, better ways sought. Changes in managerial approaches involve necessary risks, which must be recognized, minimized and taken." Fortunately, Fisher rarely wrote in the abstract and usually illustrated recommendations with examples. On the topic of managerial adjustment to change, Fisher (1975) uses the example of Dow Chemical Company. A number of the key initiatives Fisher identified were dividing management into five separate groups organized along geographical lines and the expenditure of large sums for pollution control.

Not all of Fisher's recommendations on management were difficult to identify. For example, Fisher made observations about the general workforce: "There must be a genuine, realistic, conscious and continuous effort to have employees at every level, including the blue collar workers, believe that their company is really a good place to work. Employees must be treated with reasonable dignity and decency. The firm's work environment and benefits programs should be supportive of motivation. People must feel they can express grievances without fear and with reasonable expectation of

appropriate attention and action." Fisher's example of this aspect of the people factor was the "people effectiveness program" at Texas Instruments, a key element in the success of that semiconductor manufacturer. Another example of these management issues was Motorola which pioneered the "management training institutes" model. Another Fisher "people factor" is the suggestion: "Management must be willing to submit to the disciplines required of sound growth. Growth requires some sacrifice of current profits to lay the foundation for worthwhile future improvement."

Fisher's (1975, p. 28) third dimension is concerned with: "the degree to which there does or does not exist *within the nature of the business itself* certain inherent characteristics that make possible above-average profitability for as long as can be seen in the future." As such, Fisher is concerned with *essential business characteristics*. There are many facets to this element. For example, Fisher observes: "Although managers rely heavily on return of assets in considering new investments, investors must recognize that historic assets stated at historic costs distort comparisons of firms' performance and can be highly misleading. Favorable profit to sales ratios, notwithstanding differences in turnover ratios, may be a better indicator of the safety of an investment, particularly in an inflationary environment." This suggestion puts flesh on the Rappaport and Mauboussin emphasis on "sales growth" and "operating profit margins" (see section 8.1). In this regard, Fisher extends the analysis well beyond the company level to consider industry dynamics: "High margins attract competition, and competition erodes profit opportunities. The best way to mute competition is to operate so efficiently that there is no incentive left for the potential entrant."

How is a firm to obtain and maintain industry leadership? Fisher identifies a number of answers to this question. Leading firms need to have a streamlined management structure because: "Efficiencies of scale are often counterbalanced by the inefficiencies of bureaucratic layers of middle management." Given Fisher's strong emphasis on product development and marketing, it is not surprising that, for Fisher: "Getting there first in a new product market is a long step towards becoming the leading firm in the industry. Some firms are better geared to be there first." As for maintaining leadership, Fisher (1975, p. 31) maintains: "when a company clearly becomes a leader in its field, not just in dollar volume but in profitability, it seldom gets displaced from this position as long as its management remains highly competent." *Leaders persist* and, if adequate attention is paid to the activities of the management that got the firm into the leadership position, then the investment gains associated with leadership will be sustainable.

However, product market assessment is not a static exercise: "Products are not islands. There is an indirect competition, for example, for consumers' dollars. As prices change, some products may lose attractiveness even in well-run, low cost companies." Fisher is suspicious of the potential profitability of companies that attempt to make inroads into established markets. "It is hard to introduce new, superior products in market arenas where established competitors already have a strong position. While the new entrant is building the production, marketing power, and reputation to be competitive, existing competitors can take strong defensive actions to regain the market threatened. Innovators have a better chance of success if they combine technology disciplines, e.g. electronics and a highly specialized area of chemistry, in a way that is

novel relative to existing competitive competencies." Despite sometimes being considered the father of "growth investing," Fisher was not fixated on technology: "Technology is just one avenue to industry leadership. Developing a consumer franchise is another. Service excellence is still another. Whatever the case, a strong ability to defend established markets against new competitors is essential for a sound investment."

Fisher's fourth dimension goes beyond company and industry analysis to incorporate *the value of the stock* into the analysis. To make the connection between the company and the stock value, Fisher uses the P/E ratio. This dimension connects the industry and company analysis with investment strategy. It is one step to identify excellent companies, it is another step to connect this analysis with buy and sell decisions. Though this step is examined in considerable detail in section 8.3, a brief overview would recognize that Fisher is, probably, as close to Keynes as to GDC in interpreting common stock pricing. Fisher (1975, p. 42) recognizes that the common stock price for a given company is strongly dependent on the often "unrealistic appraisal" of the financial community: "*Every significant price move of any individual common stock in relation to stocks as a whole occurs because of a changed appraisal of that stock by the financial community.*" Stocks go in and out of favor. It may take months or years for an unrealistic expectation by the financial community to be corrected, typically followed by an over-correcting for the previous over (under) estimate.

For Fisher, the best protection against this potentially capricious valuation is to purchase stocks in companies with continuing upward movement in earnings. Even when such companies are out of favor with the financial community, sooner or later the earnings movement will be justified with prices that reflect the correct valuation. The best possible stock to buy is one that is out of favor and rates high on the first "three dimensions." Over time, this type of stock will benefit both from increases in the P/E and from earnings growth. For example, a stock with a P/E of 10 and earnings per share of \$1 will increase 400% in value if the P/E rises to 20 while the earnings per share increases to \$2. The next most attractive stock to buy is a stock that has "a price-earnings ratio reasonably in line with these fundamentals." This stock will not benefit from the upward revision of the P/E but will still benefit from the earnings growth. Even if the P/E is overvalued, the long term benefit of earnings growth associated with companies rating high on the first three dimensions is sufficient to warrant retaining such stocks (but not purchasing with "new funds") over stocks with P/E ratios that "seem cheap" but do not rank highly on the first three dimensions.

7.3 WHAT IS VALUE INVESTING?

Warren Buffett on value investing

McCloskey (1985, 1994) raises a philosophical quandary for Finance academics and practitioners, rhetorically known as the American question. To paraphrase McCloskey, the American question can be stated: "If you're so smart, why ain't you rich?" If the American question is a concern, a sensible, if inexact, approach to security analysis is

to identify those individuals who have excelled in the investment profession and to examine the methods and strategies that those individuals have used to achieve success. Arguably, the individual who has excelled above all others is Warren Buffett, the "oracle of Omaha," reported by *Forbes* magazine to be the second richest person in the world.¹⁶ Given Buffett's track record, it is not surprising that there are numerous books detailing his investment practices, e.g., Hagstrom (1995, 2000), Lowe (1994), Cunningham (2002). Examination of these sources reveals a number of confusions surrounding Buffett's approach to investing and the so-called "value investing" approach. While it is common for proponents of value investing, e.g., Greenwald et al. (2001), to claim that Buffett is a "value investor," others, including Buffett himself, disagree. In the end, it seems that such confusions originate because value investing is not a homogeneous concept.

Buffett describes the general security selection strategy used at Berkshire Hathaway as (Cunningham 2001, p. 92):

Our equity investing strategy remains little changed from what it was when we said in the 1977 annual report: "We select our marketable securities in much the way we would evaluate a business for acquisition in its entirety. We want the business to be one (a) that we can understand; (b) with favorable long-term prospects; (c) operated by honest and competent people; and (d) available at a very attractive price." We have seen cause to make only one change to this creed: Because of both market conditions and our size, we now substitute "an attractive price" for "a very attractive price."

Of these basic principles, (d) corresponds closely with the description of "value investing" proposed by Greenwald (2001, p. 4): "the central process of value investing is disarmingly simple. A value investor estimates the fundamental value of a financial security and compares that value to the current price . . . if the price is lower than value by a sufficient margin of safety, the investor buys the security." This approach is "the master recipe of Graham and Dodd investing." Using this approach, value investing follows the general guidelines set out by Graham and Dodd, adjusted for the "unique flavor" of the specific descendants.

Adherents of modern Finance, e.g., Fama and French (1998), have adopted the common terminology of market practitioners distinguishing "value investing" from "growth investing." For example, a search on Bloomberg (www.bloomberg.com) for the names of mutual funds that have "value" in the fund title reveals 1688 value funds.¹⁷ With names like "American Century Small Cap Value Fund" (ACVIX) and "Armada Large Cap Value Fund" (ALVCX), it appears that most value funds are primarily concerned with equity investments. Similarly, a Bloomberg search for funds with "growth" in the fund title reveals 3121 funds, with name like "Advance Capital 1 Equity Growth Fund" (ADEGX) and "AIM Emerging Markets Growth Fund" (EMECX). As Buffett observes: "most analysts feel they must choose between two approaches customarily thought to be in opposition: 'value' and 'growth.' Indeed, many investment professionals see any mixing of the two terms as a form of intellectual cross dressing." Buffett explicitly objects to the conventional distinction between value and growth.

For Buffett, *the distinction between value and growth* is based on "fuzzy thinking." This follows because: "Growth is *always* a component in the calculation of value,

constituting a variable whose importance can range from negligible to enormous and whose impact can be negative as well as positive." The semantics of "value investing" are also confusing to Buffett:

the very term "value investing" is redundant. What is "investing" if it is not the act of seeking value at least sufficient to justify the amount paid? Consciously paying more for a stock than its calculated value – in the hope that it can soon be sold for a still higher price – should be labeled speculation (which is neither illegal, immoral nor – in our view – financially fattening).

All this might seem a little confusing. How is it that proponents of value investing identify Buffett as an example of the approach, while Buffett does not recognize the affiliation? How is it that value investing differs from growth investing when growth is an essential component of value? The answers to these types of questions can be traced to the lack of agreement about what value investing is.

Buffett has, over the years, consistently attacked various aspects of modern Finance.¹⁸ His interpretation of value investing has a modern Finance flavor to it:

Typically, [value investing] connotes the purchase of stocks having attributes such as a low ratio of price to book value, a low price-earnings ratio, or a high dividend yield. Unfortunately, such characteristics, even if they appear in combination, are far from determinative as to whether an investor is indeed buying something for what it is worth and is therefore truly operating on the principle of obtaining value in his investments. Correspondingly, opposite characteristics – high ratio of price to book value, a high price-earnings ratio, and a low dividend yield – are in no way inconsistent with a "value" purchase.

Modern Finance is keen to reduce "value investing" to the assessment of measures identified by Buffett, such as the price-to-book ratio, because this facilitates sorting large numbers of stocks into groups for the purpose of empirically testing. Buffett adopts this interpretation and, seemingly, identifies value investing with using specific accounting/market price measures to make investment decisions. While this interpretation might be appropriate for pedagogical purposes, there is a wide range of schemes and strategies that fall within the scope of value investing. To dismiss value investing on the basis of the interpretation given in modern Finance seems misguided.

Buffett makes a similar (mis)interpretation of the "growth" approach. Buffett seems to interpret the growth approach as equivalent with increasing in size (Cunningham 2001, p. 93):

business growth, per se, tells us little about value. It's true that growth often has a positive impact on value, sometimes one of spectacular proportions. But such an effect is far from certain. For example, investors have regularly poured money into the domestic airline business to finance profitless (or worse) growth. For these investors, ... the more the industry has grown, the worse the disaster for owners.

Excluding a number of special cases, e.g., Southwest Airlines (LUV), it is unlikely that many growth investors would select the airline industry as a candidate for investing opportunities. Buffett does identify an essential feature of the "growth approach":

"Growth benefits investors only when the business in point can invest at incremental returns that are enticing – in other words, when each dollar used to finance the growth creates over a dollar of long-term market value." Buffett is correct in observing: "In the case of a low return business requiring incremental funds, growth hurts the investor." However, it would be difficult to find many advocates of the growth approach looking for companies in low return businesses.

If Buffett is a value investor, then what type of approach does he recommend? Identifying the discounted cash flow model of Williams (1938) as a key starting point, Buffett states the general model:

The investment shown by the discounted-flows-of-cash calculation to be the cheapest is the one that the investor should purchase – irrespective of whether the business grows or doesn't, displays volatility or smoothness in its earnings, or carries a high price or a low [price] in relation to its current earnings or book value. Moreover, though the value equation has usually shown equities to be cheaper than bonds, that result is not inevitable. When bonds are calculated to be the more attractive investment, they should be bought.

While Buffett's support for the J.B. Williams approach is comforting, it is not too revealing. A similar statement applies to the suggested strategy for picking a business: "the best business to own is one that over an extended period can employ large amounts of incremental capital at very high rates of return. The worst business to own is one that must, or *will*, do the opposite – that is, consistently employ ever greater amounts of capital at very low rates of return." As Buffett recognizes, the trick comes in putting all this together into practice.

A key practical difficulty with the discounted cash flow model is estimating the future cash flows. This is where Buffett's tenet about investing in businesses that the investor can understand comes into play. In Buffett's case, this means that the business is "relatively simple and stable in character." If businesses are complex and operating in business areas that are constantly changing, then it is difficult to make estimates of future cash flows. In addition, Buffett uses the following "equally important" prescription:

we insist on a margin of safety in our purchase price. If we calculate the value of a common stock to be only slightly higher than its price, we're not interested in buying. We believe this margin-of-safety principle, so strongly emphasized by Ben Graham, to be the cornerstone of investment success.

These three elements, invest in companies that are capable of being understood, select the investment shown by the DCF model to be the "most attractive" and use the margin-of-safety principle, are the keys to the Buffett approach to value investing.

Techniques of value investing

There is so much confusion about the precise definition of value investing that it is not surprising someone as well informed about investing as Warren Buffett has a slanted view of this approach. For example, consider two recent books on "value investing,"

Whitman (1999) and Greenwald et al. (2001). Whitman (p. 3) claims: "Value investing is different from other kinds of investing . . . The underlying approaches to and goals of value investing differ quite materially from those . . . that are part of fundamental analysis as described in the various editions of *Security Analysis* by Benjamin Graham, David Dodd, and Sidney Cottle, popularly known as Graham and Dodd." Greenwald et al. (pp. 3–4) take precisely the opposite view and refer to: "Value investing in the manner initially defined by Benjamin Graham and David Dodd . . . A value investor estimates the fundamental value of a financial security and compares the value to the current price . . . If the price is lower than value by a sufficient margin of safety, the value investor buys the security. We can think of this formula as the master recipe of Graham and Dodd value investing." Another definition of value investing is found in modern Finance, where value investing has been reduced to determining whether key ratios such as the dividend yield, the P/E ratio and the P/BV are low relative to other stocks.

As discussed previously, modern Finance identifies value investing with the examination of certain key ratios. Typically, value stocks have high dividend yield, low P/E and low price/book ratios compared to other stocks while stocks with low dividend yield, high P/E and high price/book ratios are considered to be "growth stocks." These criteria are often supplemented by the requirement that stocks with zero or negative criteria values are excluded from comparison. For example, Dimson et al. (2002, p. 139) observe: "To simplify computation of the value-growth premia, it is common to focus on companies whose dividends, earnings or book values are all positive before entering an index of value or growth stocks." To practitioners, the exclusion of stocks that have negative earnings or no dividend payout may seem odd in a comparison of growth vs. value stocks. However, as with most "knowledge" evaluations, it is better to examine the results that are produced than to condemn the methodology at the outset. Modern Finance is concerned with obtaining information about averages across stocks (see section 1.3), not with the evaluation of individual stocks.

Dimson et al. (2002, ch. 10) provide an overview of results for stock groups that are sorted annually according to the modern Finance value measures. To assess the performance of high dividend yield, over a 1926–2000 sample, Dimson et al. identify the 30% of US stocks that had the highest yield. The annualized return over the sample is compared with the 30% of lowest dividend yield stocks. Stocks paying no dividends are not included in the sample. The results of the averaging exercise indicate: "The annualized returns on the high [dividend] yield companies is 12.2 percent, compared with 10.4% for the low [dividend] yield stocks." This difference is too large to be explained by the difference in the tax rates for dividend income versus capital gains. These results about the *long term* relationship between dividend yields are consistent with those obtained from other studies, e.g., Litzenberger and Ramaswamy (1979), Hodrick (1992), Naranjo et al. (1998) and Wu and Wang (2000) to name only a few. Yet, these results are contradicted by Wolf (2000, p. 29) which uses a more sophisticated estimation procedure and a post-WWII sample to determine: "no convincing case for the predictability of stock returns from dividend yields can be made."

Disentangling the connection between stock returns and dividend yields is complicated by a number of issues. In particular, there is the substantive change in dividend

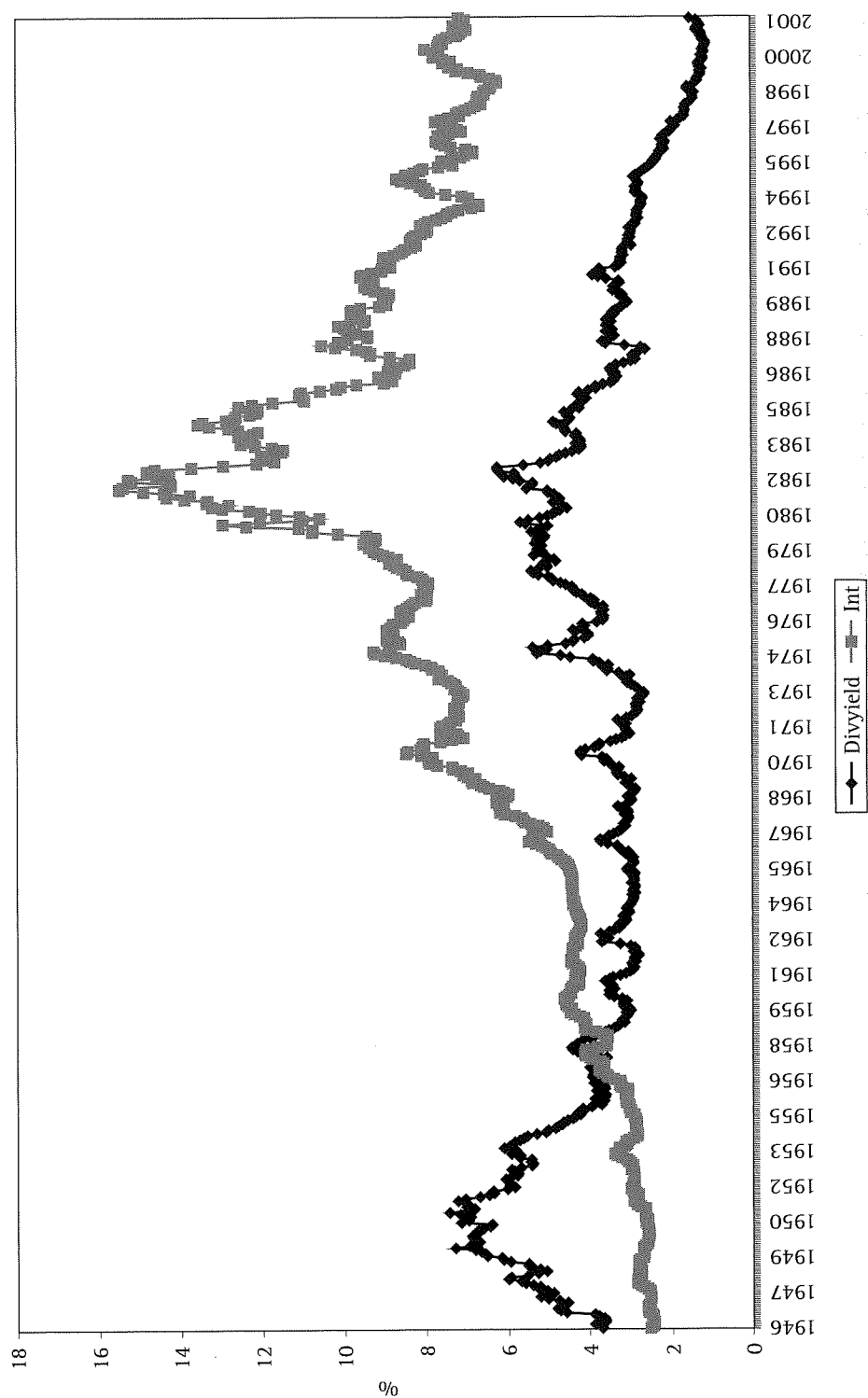


Figure 7.1 Dividend yields and AAA nominal bond yields

yields that has emerged in the post-World War II period (see figure 7.1). Starting around 1950, there has been a secular decline in dividend yields relative to nominal bond yields. In 1958, dividend yields fell below bond yields for the first time challenging conventional wisdom that this was a strong signal that stocks were overvalued. Since 1958, dividends yields have stayed below, usually substantially below, the nominal bond yield. In addition, at least since Lintner (1956), it has been recognized that firms tend to maintain a relatively stable level of dividends over time, increasing dividends to the "target payout ratio" only when an increase in earnings is judged to be permanent. This means that the "true" dividend is not directly observed, creating an unresolved statistical "errors in variables" problem. In addition, there are theoretical difficulties with the relationship, i.e., Miller and Modigliani (1961) demonstrated that, in perfect capital markets, the *dividend policy of the firm is irrelevant* to the firm's value. All this creates a complicated backdrop to the statistical evidence of a positive long-term relationship between dividend yield and stock returns.

The types of problems that arise with the "evidence" on dividend yields does not extend to another element of the modern Finance model of value investing: *the price-to-book ratio* (P/BV). The statistical evidence in favor of a positive relationship between price-to-book ratio and future stock returns is impressive. For example, Dimson et al. report results for the 1926–2000 sample of US stocks sorted annually by the price-to-book ratio or, in modern Finance terminology, the "book-to-market" ratio. Dimson et al. find: "The high book-to-market portfolio contains the 30 percent of stocks that rank highest on this criterion; the low book-to-market group contains the 30 percent of stocks that rank lowest . . . The annualized return from 1926–2000 is 13.7 percent for value [high book-to-market] stocks and 10.2 percent for growth [low book-to-market] stocks." Similar empirical results have been reported in numerous other studies. For example, Piotroski (2000) demonstrates the excess return performance of price-to-book portfolios can be improved by using other accounting information to include only financially healthy firms. For a sample of Japanese firms, Garza-Gomez (2001) demonstrate that higher levels of risk play only a weak role in the performance of price-to-book portfolios. In contrast to Piotroski, Griffin and Lemmon (2002) present evidence that the price-to-book effect could be associated with the presence of financially distressed firms.

Confronted with overwhelming statistical evidence, an undeniable obstacle for adherents of logical positivism, adherents of modern Finance have been driven to provide theoretical explanations for the price-to-book effect. Dimson et al. (2002, p. 141) summarize these developments:

Why have value stocks outperformed growth stocks? There are three schools of thought. One is that investors become enthused about companies with good prospects, and bid their prices up to unrealistic levels . . . Another possibility is that since stock values are often for distressed companies, their higher returns are simply a reward for the greater risks they impose on investors . . . The third possibility . . . is that the outcome is simply a chance event: Siegel (1998) attributes the post-1963 value-growth premium to the 1973–83 oil price rise and its impact on large oil firms, an event that is not recurrent.

The first explanation is consistent with Fisher's observations about "stocks going in and out of favor." At any given time there are stocks that are overpriced and the bulk of

these would appear as high price-to-book firms. While there may be some outstanding companies in the high price-to-book group, these companies would be less likely to appear than "overvalued" companies.

The investment strategy associated with "modern Finance value investing" differs significantly from the portfolios of "value investors" motivated by Graham and Dodd (see section 7.4). Assuming that the reported statistical results are correct, then what process is required to translate these results into superior portfolio performance? To generate the observed statistically significant excess returns associated with, say, low price-to-book ratios, the analyst begins with a large sample of stocks, e.g., the S&P 500 or all stocks traded on the NYSE. This sample of stocks is then segmented into, say, decile groupings ranked by P/BV (or P/E or dividend yield). The equally weighted portfolio of stocks defined by the decile with the lowest P/BV is then purchased on the start date, say, January 1. Following Piotroski (2000), a further refinement can be achieved by doing additional filtering of the stocks in the portfolio using other types of accounting information to ensure that only "financially strong," low P/BV firms are selected. The portfolio is then held for a fixed period, say, 1 year. The sample is then resorted and firms no longer in the lowest P/BV decile are sold and those now in the lowest decile are purchased. This process is repeated until the investment horizon is reached and the portfolio is liquidated.

A key step in this modern Finance value investing scenario occurs with the annual resorting process. According to Fisher (1975, p. 43) this resorting process would result in trading activities that are ill advised:

In my opinion, there are important reasons . . . stocks [of outstanding companies] should be retained, even though their prices seem too high: If the fundamentals are genuinely strong, these companies will in time increase earnings not only enough to justify present prices but to justify considerably higher prices. Meanwhile, the number of truly attractive companies in regard to the first three dimensions is fairly small. Undervalued ones are not easy to find. The risk of making a mistake and switching into one that seems to meet all of the first three dimensions but actually does not is probably considerably greater for the average investor than the temporary risk of staying with a thoroughly sound but currently overvalued situation until genuine value catches up with current prices.

Armed only with heuristic arguments derived from years of market experience, Fisher (1975, p. 40) observes that many investors can be found:

who over the years have prospered mightily from holding the right stocks for considerable periods of time. Their success may be due to understanding of basic investment rules. Or it may be due to just plain good luck. However, the common denominator in this success has been the refusal to sell certain unusual high-quality stocks simply because each has had such a sharp fast rise that its price-earnings ratio [or price-to-book ratio] looks high in relation to that to which the investment community has become accustomed.

While both the Graham and Dodd value investor and the modern Finance value investor or the Fisher value/growth investor may use the price-to-book ratio to do the security analysis used to identify investment opportunities, the implementation of the investment strategies differs dramatically.

Fisher sees "value" in companies, not in valuation ratios. It is not that Fisher ignores this information, rather, Fisher feels companies that are strong on the first three dimensions can still be successful investments even if valuation ratios indicate the stock is "overpriced." Fisher is a long term buy-and-hold investor in the common stock of a small number of companies. This is in contrast with both the modern Finance value investor and the Graham and Dodd value investor. Following Greenwald et al. (2001, p. 3) there are three key characteristics to being a *Graham and Dodd value investor*: the belief that market prices at any point in time are subject to "significant and capricious movements"; that there are "intrinsic values" for securities that are relatively stable, that can be identified through fundamental analysis and that the market price will ultimately come to reflect; and, an investment strategy of estimating the intrinsic value and purchasing the security when this estimated intrinsic value is below the market price by an appropriate "margin of safety" will produce superior returns in the long-run. This approach may involve holding a sizeable number of securities and selling the securities when market prices are at or above intrinsic value. This may or may not involve a long-term buy-and-hold.

Given the conventional distinction between "value" and "growth" strategies, can Fisher be considered a value investor? The essence of Fisher's approach is well defined because there is only the opinions of one person to examine. The emphasis on company characteristics and the overall approach is concerned with the identification of a small number of high growth companies. Hence, Fisher can be considered a growth stock investor. However, there are a large number of Graham and Dodd value investors that adhere to the key characteristics of the intrinsic value approach to investing but do have significantly different styles of implementing the approach. These styles vary across: methods of selecting stocks for valuation; techniques for estimating the intrinsic value; criteria for setting the margin of safety; restrictions on the portfolio specification and so on. Included in the list of possible areas of divergence within the value investing category are: the amount of diversification; how the value weights for each security are determined; whether fixed income securities will be included in the portfolio; and, criteria for deciding when to sell the security.

Fisher took an individualized approach to security selection. As such, even with a broad interpretation, it is not possible to classify Fisher as a Graham and Dodd value investor, if only because of Fisher's lack of adherence to the margin of safety principle. Fisher will not sell stocks that are "overvalued" using measures such as the P/E ratio. The objective for Fisher is to find excellent companies not to troll the market for stocks that undervalued using a DCF model. In a sense, Fisher does see excellent companies as "undervalued" even if the conventional valuations using, say, the P/E ratio would indicate otherwise. There is a margin of safety, but this is associated with the market's undervaluation of the true long-run strength of the company, not with an explicit DCF calculation. Whether Fisher is considered to be a value investor is more a question of semantics than of substance. In stressing the connection between company strength and conservation of investment value, *Philip Fisher demonstrates the qualities of a value investor*. In the end, it is difficult to escape Warren Buffett's observation that the emphasis on making a distinction between value and growth investing styles is misguided.

Value investing for special situations

A “*special situation*” is a catch-all expression aimed at capturing instances where conventional valuation techniques either do not apply or have to be adjusted significantly. In general, a special situation will depend on the valuation model and investment philosophy being used by the analyst. However, as it is conventional to use a DCF model for valuation, then special situations arise where the process of discounting expected cash flows either cannot be done, e.g., there are no cash flows to discount in the foreseeable future, or the expected cash flows are too difficult to determine in the usual fashion and some other valuation methodology is more appropriate, e.g., due to substantial material changes in the structure of the firm. From this perspective, the classic special situation is a firm in bankruptcy or about to enter bankruptcy due to severe financial distress. For a bankrupt firm facing liquidation, a DCF model is not too useful because the only expected net cash flows to discount are the distributions that will be made from the sale of assets. Firms in severe financial distress also pose difficulties for DCF models because the expected cash flows will be negative for the foreseeable future and there is the need to estimate the probability of bankruptcy and the type of bankruptcy filing, e.g., Chapter 7 vs. Chapter 11 (see section 4.4).

Depending on the type of DCF model employed, other potential kinds of special situations could include: privately held firms and firms about to go public; highly speculative stocks; firms that are going to be liquidated; certain types of mergers, acquisitions and recapitalizations; arbitrage operations; and, firms with significant amounts of intangible assets, product options or untraded warrants. It is even possible to include securities of firms in emerging markets or the natural resource sector. Special situations require either different valuation models than the conventional DCF model or using DCF models with unconventional adjustments. In particular, such alternative investment models include: *asset valuation* models; *breakup or liquidation* assessment techniques; *acquisition value* models; and, *cash-burn* models. Asset valuation models are applicable when asset values predominate in determining security prices, e.g., in situations where there is no observable cash flow or, as in the case of many natural resource companies, the observable cash flow is small relative to the asset base. Acquisition value models are applicable to valuation of takeover candidates, including leveraged buyout candidates. Breakup or liquidation assessment techniques are applicable to valuation of bankruptcies, equity carve-outs and the like. Finally, cash-burn models are applicable to technology startups, such as small biotechs and dot.coms.

In general, *asset valuation models* are not a competitor to DCF analysis, just an alternative approach that can be used to achieve the same endpoint. As illustrated in section 7.1, the residual claim represented by the common stock has both a “stock” and a “flow” component. In DCF analysis, it is the net cash flows generated by the stock of assets that determines the estimate of the firm’s value. This approach is the most direct and appropriate avenue to estimating intrinsic value when it can be implemented. Alternatively, it is possible to estimate a market value of the assets and net the estimated market value of liabilities to determine an intrinsic market value for equity. Presumably, the market value of the assets of a firm would reflect the ability of those

assets to generate the cash flows that are being valued in DCF analysis. However, there are numerous problems that can arise in determining an estimated market value for assets. For example, many types of assets are firm specific, non-traded or difficult to assess. Such assets pose a problem of estimating a market value. In addition, the cash flows generated by assets are often not the result of mechanistic activities but depend fundamentally on the effectiveness of "the people factor" to utilize those assets. Again, this poses problems for using asset values to estimate an intrinsic value for equity.

Because of the difficulties with arriving at intrinsic values, asset values are often largely ignored in "value investing." GDC (1962, p. 551) recognized this point:

The basic fact is that – except in certain limited parts of the common-stock universe – asset values are virtually ignored in the stock market. Not only that; there is a sense in which tangible asset values are a negative factor in the company's exhibit. For, given any amount of earnings, the larger the net worth, the lower the profitability or percent earned on capital; hence the less favorable the showing. There is a temptation to accept this verdict of the market place and to confine our treatment of the asset factor to exceptional cases or the special areas in which the net worth can clearly be shown to exert an influence on average price.

The special areas identified by GDC as applicable for asset valuation or using asset valuation to supplement intrinsic value calculations based on DCF are: privately held corporations or partnerships; public utility companies; financial companies; natural resource companies; small initial public offerings; and companies where the price-to-book ratio lies outside the "roughly drawn" "normal range" of $\frac{2}{3}$ to 2. In contrast to "value investing" in modern Finance where the price-to-book ratio plays such an important role, GDC are not strong proponents of using book value to do valuations because of the numerous problems that can crop up with this measure.

The one situation where GDC (1962, pp. 561–6) were strong proponents of selecting common stocks using asset values was the "*net-current-asset value*" rule:

We feel on more solid ground in discussing those cases in which the market price or computed value based on earnings and dividends is less than the *net current assets* applicable to common stock... From long experience with this type of situation we can say that it is always interesting and that the purchase of a diversified group of companies on the "bargain basis" is almost certain to result profitably within a reasonable period of time.

The relevant calculation involved here requires the deduction of all obligations and preferred stock from the working capital of the firm to determine the "net" current asset balance available to common stock. Though it is unusual in US stock markets to find companies with a market value of equity below net current asset value, there are some instances where such companies can be found in international markets. If such a company or group of companies is presently identified in US markets, there likely would be some significant offsetting factor, such as poor future earnings prospects requiring the cash and near-cash assets to be paid out in the near future to sustain firm operations. This type of situation is best examined using a "cash-burn" valuation model.

While not too useful in modern stock markets, this net current asset rule does have considerable historical interest, if only to illustrate how valuation practices are not immutable. GDC (1962, p. 562) provide a useful discussion:

The historical development of the [net current asset] relationship has been interesting. Before the 1920's, common stocks selling under current-asset value were practically unknown. During the "new-era" market, when prime emphasis was placed on prospects to the exclusion of other factors, a few issues in depressed industries sold below their working capital. In the Great Depression of the early 1930's this phenomenon became widespread. Our computations show that about 40 percent of all industrial companies on the New York Stock Exchange were quoted at some time in 1932 at less than their net current assets. Many issues were actually sold for less than their net cash assets alone. Writing about this situation in 1932, we stated that the market prices as a whole seemed to indicate that American business was "worth more dead than alive." It seemed evident that the market had carried its pessimism much too far – to compensate, no doubt, for its reckless optimism of the 1920's.

By 1937, at the end of a run-up in stock prices, GDC estimate that there were few "net current asset" plays in the market but in the recession that preceded WWII, about 20% of all industrial stocks were selling below net current asset values. GDC suggest that from the early 1920s to the period leading up to the bull market of the 1960s, the fraction of shares in the stock market selling below net current asset value was a useful indicator of market strength or weakness. GDC also observe that it was not always the case that poor earnings prospects drove prices down to "too low" a level. In particular, during 1946–50, many stocks traded below net current asset values due to the accumulation of cash from high levels of earnings that were not correctly valued. Barring a brief period during the 1970s, since the early 1960s the net current asset rule has had little application as companies no longer trade at such low price levels relative to asset valuations.

The "net current asset" rule can be interpreted as a form of *liquidation assessment technique*. For GDC, net current assets provide a "minimum liquidating value," a conservative lower bound for computing the value of a company to be liquidated. Losses on working capital associated with converting these assets to cash are typically offset by the gains associated with the sale of assets from the property, plant and equipment account, as well as other miscellaneous assets. Hooke (1998, p. 385) describes the general process of doing a liquidation valuation:

In performing a liquidation analysis, you examine the worth of each asset category in a quick sell-off, aggregate these liquidation values, and subtract from this sum the estimated cost of closing the business and paying off its liabilities . . . From this [value] must then be subtracted your time-adjusted rate of return requirement.

Unless the business has substantial intangible assets such as well-respected brand-names, exclusive patents or quasi-monopoly operating rights, the first "back of the envelope" evaluation focuses on historical balance sheet financial data. For each balance sheet item, you determine an estimated range of "liquidated value" percentages, which are based on experiences for similar businesses. Later on, after further study, these percentages are adjusted to include the new information.

This general scheme needs to take account of additional factors such as: the uncertainty associated with the liquidation values; the “burn rate” on cash and near-cash assets to pay for earnings losses that the firm will sustain between the valuation date and the liquidation date; and whether there are any third parties that would be willing to acquire the firm’s assets at a “going concern” price rather than at liquidation value.

Almost all liquidations are the result of financial distress or bankruptcy. As such, the equity claim is likely to be relatively small, if not zero. Firms that are in financial distress often pay for ongoing losses by borrowing against tangible assets and future cash flows. The experience of firms such as United Airlines or Bethlehem Steel are useful examples. The accumulation of debt on the balance sheet introduces a fixed cost component into the income statement that further erodes the profitability of the firm creating a downward spiral that is difficult to stop. The final result is the usually more than complete leveraging of the firm’s assets leaving only secured debt holders with a claim against assets in liquidation. Hence, liquidation value calculations are usually aimed at determining the fraction of par value that debt holders will receive upon disposal of assets. The common stockholders have some say in the process by controlling the timing of the entry into bankruptcy and the type of bankruptcy filing that is made. Chapter 11 filings hold the possibility that the firm may be reorganized and reemerge from bankruptcy a “leaner and meaner” enterprise with common stockholders still in control. All these twists and turns makes a liquidation analysis a decidedly complicated exercise that extends well beyond simple calculation of disposal value of firm assets. However, disposal value does provide a useful lower bound within which further analysis can take place.

A basic assumption made in DCF analysis is that the firm being valued is a going concern. The cash flows are estimated based on an analyst specific analysis of the characteristics of the company and industry, possibly supplemented by some macro-economic considerations. An alternative method of arriving at a value estimate is to determine the “*acquisition value*” of the firm or, to use a Warren Buffett expression, the “private market value” of the firm. Unfortunately, one of the most difficult exercises in equity valuation is to determine the maximize value that one firm will pay to acquire or merge with another going concern.¹⁹ The protracted infighting over the Compaq-HP merger in 2002 is just one recent example of these difficulties. Walter Hewlett, the son of a founding partner of Hewlett-Packard, was so seriously at odds with the HP management team led by Carla Fiorina over the valuation of Compaq that he initiated a proxy-fight to reject the merger and, when this was unsuccessful, filed suit in an attempt to prevent the merger on grounds that shareholders were misled by inaccurate financial statements concerning the merger. Though the suit was unsuccessful, it does serve as an extreme indicator of the difficulties in assessing the “private market value” for a firm such as Compaq. Ultimately, the determination of acquisition value will depend on a range of factors such as: whether the acquisition is a hostile takeover, friendly takeover or merger; what the synergies would be for the acquiring firm; what the alternative cost of acquiring the assets of the target firm would be; and whether the firm is a potential candidate for a leveraged buyout.

While the liquidation value of a firm is determined by calculating the disposal value of the assets, the acquisition value of a going concern is based on the “reproduction

cost" of the assets. Unlike most liquidations where any "hidden assets" have long since been dissipated or sold off, going concerns often have a range of potentially valuable assets that are not recorded in the financial statements. For example, going concerns usually have well established customer relationships that will cost money for a new entrant to develop. Another example concerns R&D infrastructure that may be hard to replicate such as a drug company that has viable products that are in development but not yet generating cash flows. There may be licenses or franchises in place that permit the firm to carry on a business, such as a casino or a television station. Though it may be possible to obtain estimates for some of these hidden assets that were observed in related transactions, when the objective is to determine an estimated value for a going concern that is to be acquired there is a bundling of the hidden assets with tangible assets and management structure that makes the estimated value quite difficult to determine.

Following Hooke (1998, ch. 15) one method of determining an acquisition value is to assess the value of the company as a leveraged buyout (LBO) opportunity. Because an LBO does not place significant synergistic values on the target firm, *the LBO acquisition value* can be considered as a lower bound on the acquisition value. The relevance of the LBO estimate is supported by the approximately 150 investment firms that specialize in LBOs. According to Hooke, there are another 50 to 100 investment banks, venture capital firms and general investment funds that also do some occasional LBO business. The estimated equity value of the top five firms in the industry is approximately \$10–\$15 billion dollars. Though there is considerable variation in the types of LBO deals, the conventional LBO transaction operates under four principles: as far as possible use other people's money by leveraging the assets and cash flows of the target company; buy at relatively low multiples; search for targets in out-of-fashion industries; and, improve operating performance following acquisition. The actual valuations are done using "guideposts" of 80%/20% (4×) target debt to equity post-acquisition leverage and 1.4× interest coverage on cash flow.

The final special situation valuation method is the *cash-burn model*. This valuation methodology is applicable to firms that have no substantial performing assets and are using the capital raised in an equity issue to achieve a positive earnings situation. Examples where this valuation model could be applied include start-up biotechnology firms, junior mining and oil exploration companies and dot.coms. Because the operating structure of these type of companies is relatively simple, the period to period operating costs are usually quite predictable. After the initial costs of establishing the plant and equipment, the balance sheet will contain a sizeable amount of cash and near-cash assets that will be depleted as the project is in development. Because there is typically no revenues, the development/exploration costs represent a "cash burn" rate that permits a length of time before additional financing, usually another equity issue, is required. For example, a small biotechnology firm could be undertaking to clear the FDA Phase I–III trials in order to produce a drug that can be marketed to the public. The length of time to complete the trials is estimated and used to determine whether the cash-burn will exhaust the available cash and near-cash assets. Combined with an estimate of the revenues generated by the drug if trials are successfully completed, it is possible to determine an approximate value for the company.

7.4 OBSERVATIONS FROM THE CLASSICS

Graham, Dodd and Cottle (1962)

Knowledge can be transmitted in a variety of forms. Consistent with tenets of logical positivism, modern Finance proceeds by providing the logical development of a desired proposition, starting from initial assumptions and proceeding by logical progression until the proposition is established. Where appropriate, the proposition is then subjected to empirical verification. This pedagogical method can be contrasted with, say, the Socratic approach that develops notions using an interrogatory interplay. Various other methods of transmitting knowledge include: the parables of the New Testament; the sayings of Confucius or Sun Tzu; and, the fables of Aesop. Even Grimm's fairy tales or Mother Goose nursery rhymes convey knowledge in a fashion that is at odds with the "scientific" approach of logical positivism. Yet, it is difficult to claim that these different pedagogical methods do not have immense value. It is even possible to go in the other direction and claim that, in the human sciences, the false precision of logical positivism can shed more heat than light on matters. As Warren Buffett (Cunningham 2002, p. 82) observes about the modern Finance approach to measuring risk using beta: "In their hunger for a single statistic to measure risk . . . they forget a fundamental principle: It is better to be approximately right than precisely wrong."

Though justly recognized as a landmark text in security analysis, there is much in Graham, Dodd and Cottle (1962) (GDC) that can be found in other sources such as Ben Graham's, *The Intelligent Investor* (1949). Large parts of Graham and Dodd (1934) appear verbatim in GDC. Being a classic text from the era of "old Finance," GDC shares the institutional and descriptive pedagogical approach that characterizes old Finance (see section 2.4). Though there is a drift towards the approach of modern Finance, GDC is still clearly from a different tradition. The style used involves a heuristic discussion of a particular topic, typically illustrated with a number of practical examples using actual securities. Sometimes, usually where there is the potential for confusion in analyzing a particular situation, the discussion is followed by the statement of an investment principle. GDC is characterized by certain themes that permeate the analysis. These themes connect GDC with earlier versions of the text going back to Graham and Dodd (1934). However, GDC is more than an expanded discussion of earlier versions. Though the essence of the discussion is largely unchanged, there are some significant points of evolution and, on occasion, disagreement.

An important theme in GDC is *the distinction between speculation and investment*. This distinction is inherited directly from Graham and Dodd (1934) where the lessons of the stock market collapse of 1929–1933 and the "new era theory" of common stock investing were still fresh in the air. Though concern with the "new era" theory had been reduced to an historical discussion in GDC, the theme of investment versus speculation persisted: "*An investment operation is one which upon thorough analysis, promises safety of principal and satisfactory return. Operations not meeting these requirements are speculative*" (GDC, p. 49). This is an exact repetition of Graham and Dodd (1934, p. 54). GDC (e.g., pp. 51–2) explicitly recognize that security analysis has considerable

limitations in *speculative* situations. Security analysis is "an adjunct rather than . . . a guide to speculation. It is only when chance plays a subordinate role that the analyst can properly speak in an authoritative voice and accept responsibility for the results of his judgments." By acknowledging limitations in the analysis of speculative securities, the range of common stocks and other securities to which the GDC techniques of security analysis apply is relatively narrow. More precisely, common stocks that have "too many uncertainties about its future to permit the analyst to estimate its earning power with any degree of confidence" are speculative in nature because: "a common stock purchase may not be regarded as a proper constituent of a true investment program unless it is possible to show by some rational calculation that it is worth at least as much as the price paid for it."

Another central theme in GDC (p. 105) can be summarized as: "All security analysis involves the analysis of financial statements." This viewpoint is qualified with the proviso: "the weight given to financial material may vary enormously, depending upon the kind of security studied and basic motivation of the prospective purchaser." However, GDC (p. 88) are clear on the relative importance of "quantitative" vs. "qualitative" factors in security analysis. *Quantitative factors* are associated with statistical information from the income statement, balance sheet and additional data on factors such as capacity utilization, unit prices, costs and so on. *Qualitative factors* include: the nature of the business; relative position of the company in the industry; physical, geographical, and operating characteristics; the character of management; the longer term outlook for the unit, industry and general business. The GDC approach to security analysis is fundamentally concerned with how quantitative and qualitative information is combined. On this point there is an apparent divergence of opinion across the various editions.

Comparing GDC with earlier versions, it is apparent that the weight to qualitative factors in security analysis varies considerably. Graham and Dodd (1934, p. 430) maintain: "*Quantitative data are useful only to the extent that they are supported by a qualitative survey of the enterprise.*" In contrast, GDC (p. 86) maintain that quantitative factors are always an essential element of the analysis:

Broadly speaking, the important quantitative factors lend themselves to much more precise consideration in appraising a specific company than do the qualitative factors. The former are fewer in number, more easily obtainable, and better suited to the forming of definitive conclusions. Furthermore, the financial results themselves epitomize such qualitative elements as the ability of a reasonably long-entrenched management. This point of view does not minimize the importance of qualitative factors in appraising the performance of a company, but it does indicate that a detailed study of them – to be justified – should provide sufficient additional insight to assist significantly in appraising the company.

A further level of ambiguity on this issue is achieved when GDC (p. 50) provide an additional criterion for investment: "*An investment operation is one that can be justified on both qualitative and quantitative grounds.*" This change in emphasis away from qualitative factors towards quantitative factors associated with financial statements was probably due to the substantially increased reliability and availability of this source of

information owing to historical developments such as the reform of securities laws that occurred around the time Graham and Dodd (1934) appeared.

Another important theme in GDC carried forward from previous editions, but subjected to change, was the concept of "intrinsic value." Whereas Graham and Dodd (1934, e.g., p. 17) emphasized the "*intrinsic value*" of a stock and provided heuristic methods for determining this "elusive concept" based on examination of a range of factors such as the record of dividends and the ability of earnings to sustain the dividend, GDC (p. 435) adopted the discounted cash flow (DCF) model as the theoretical mechanism for determining the intrinsic value:

The Valuation Process Briefly Described. The standard method of valuation of individual enterprises consists of capitalizing the expected future earnings and/or dividends at an appropriate rate of return. The average earnings will be estimated for a period running ordinarily between five and ten years. In the case of an issue valued as a "growth stock" the projection may be of a terminal year – e.g., four to five years hence – rather than a long term average. The capitalization rate, or multiplier, applied to earnings and dividends, will vary with the quality of the enterprise and will thereby give recognition to the longer-term profit possibilities which cannot be established with precision. Asset values become a significant factor in the appraisal only at the extreme ranges, where either the tangible assets are very low in relation to earnings power value or the net current assets alone exceed the earning power value.

This approach leads GDC to identify the *four basic components of common stock value* identified in section 7.1: *expected future earnings, expected future dividends, capitalization rates and asset values*. The influence of J.B. Williams on GDC is difficult to ignore.

The GDC (pp. 438–441) approach to security analysis integrates the price estimates obtained from the DCF model with the "*margin of safety*" principle and the benefits of diversification: "In our opinion, margin of safety – in the form of an excess of estimated intrinsic value over current market price – is a prerequisite to investing in secondary [and primary] shares."²⁰ Because the margin of safety is not a guarantee that any given stock will not produce a loss, the diversification principle is also required: "A group of, say, twenty or more common stocks will usually average out the individual favorable and unfavorable developments. For this reason, the diversification or group approach is an integral part of the valuation concept itself." GDC (p. 448) later clarify this number to between twenty and thirty stocks drawn from a list of not more than 100 "primary" common stocks, i.e., large, prosperous and highly capitalized companies with a strong record of earnings. GDC suggest a further restriction on the amount invested in any one industry. The GDC recommendation that common stock portfolios contain "twenty or more" high grade common stocks that would be regularly adjusted is a distinct point of contrast with the recommendations of Philip Fisher.²¹

Though both the margin of safety and diversification concepts are carried forward from previous editions, there is a decided change in tone in GDC. For example, on the diversification principle, Graham and Dodd (1934, p. 320) state: "In our view, the purchase of a single common stock can no more constitute an investment than the

issuance of a single policy on a life or a building can properly constitute insurance underwriting." However, GDC (p. 55) substantially qualify this view:

There is a well-known argument *against* diversification based on Andrew Carnegie's maxim: "Put all your eggs in one basket and watch the basket." We believe this counsel has an application to security investment but only within its strictest interpretation. An investor may concentrate heavily on the shares of one corporation provided that he has a *personal connection* with it – as an executive or a member of a controlling group. Many large fortunes have been built up over the years by such concentration. But where the close personal connection with the company is lacking that policy rarely works out well. When the choice is in fact a very good one, there is a tendency to sell out at a comparatively early stage in the long-term advance. Any other kind of choice will, of course, appear to be a mistaken one during periods of declining prices.

GDC (pp. 447–9) also recommend a form of "*tactical asset allocation*" strategy (see section 10.2) where the composition of the investment portfolio would fluctuate between "an upper limit of 75 percent to be held in common stocks and a lower limit of 25 percent." The proportion held in common stocks at any point in time would be "geared to the analyst-investor's valuation of the DJIA, Standard & Poor's Composite Index, or some other measure of the market." In effect, GDC were advocates of index-tracking market timing strategies. In addition, GDC (p. 446) recommend "the sale of holdings that appear definitely overvalued or replacement of less by more attractive stocks." This implies a shorter holding period than the long-term buy-and-hold horizon of Philip Fisher.

GDC were intimately aware of the dramatic progression: in securities markets; in the professional practice of security analysis; and in the emerging theories of modern Finance that occurred between 1934 and 1962. As observed above, the acceptance and adoption of valuation techniques for common stocks based on DCF modeling, started by Williams (1938), was explicitly recognized and rationalized. GDC (p. 416) acknowledge the changes that occurred in securities markets, particularly stock markets, during the 1950s, required "new points of view and standards of value":

Our philosophy and its related standards of value were derived primarily from the actual experience of stock investors (and speculators) during many decades prior to the 1950's. They were consistent with stock-market conditions existing at the time our previous editions were published. We think they proved a useful guide to investors from 1934 through 1954. But, . . . the latter half of the 1950's brought record high levels in stock prices and with them new points of view and standards of value. It is a difficult task to examine these new levels and standards as they exist at the beginning of the 1960's and to reach some conclusions as to their validity for investment purposes.

Consistent with the proposed use of DCF for common stock valuation, GDC (p. 434) criticize the observed practice of doing common stock valuations based on a "too abbreviated forecast of probable future earnings – covering generally only the next twelve months . . . value cannot soundly be established on the basis of earnings shown over a short period of time."

On the historical evolution of common stocks, GDC (pp. 56–7) observe:

During the past half-century the investment and speculative characteristics of common stocks as a whole have undergone a series of changes, some of which are as subtle as they are important. Before World War I the typical common stock was basically speculative, for reasons related chiefly to the company itself. The capitalization structure was often top-heavy, the working capital inadequate, the management deficient in various respects, the published information sketchy and unreliable. The junior issue's dividend history was nonexistent or erratic, its earnings subject to wide fluctuations, and its market action to crass manipulation. Virtually, all these defects have been greatly ameliorated or abolished, as far as today's representative common stocks are concerned.

GDC observe that the improvement in investment potential of common stocks led to "an upgrading in the public standing of common stocks generally," leading to the mis-perception that many "speculative" issues are actually of "investment" quality. This mis-perception had been complicated by the rapid pace of technological change that created the "growth stock" and led to more rapid erosion in the core business of certain "primary" stocks due to an inability to adapt to the pace of change. This *technological growth factor* "is not amenable to dependable prediction" and, as a consequence, stocks in the growth category are "fundamentally speculative." In contrast to Philip Fisher, GDC also maintain that the quality of the company alone is an insufficient indication of value without also considering the common stock price: "Strictly speaking, there can be no such thing as an 'investment issue' in the absolute sense, i.e., implying that it remains an investment regardless of price" (GDC p. 50).

Though GDC is generally a more sophisticated and developed treatment of security analysis than Graham and Dodd (1934), there are a number of points where GDC failed to recognize the value contained in the earlier edition and dropped material that still had considerable insight. The discussion of the "new era" theory is one of these cases. Graham and Dodd (1934, p. 307) provide the following description:

During the post [WWI] war period, and particularly during the latter stage of the bull market culminating in 1929, the public acquired a completely different attitude towards the investment merits of common stocks. Two of the three elements [suitable and established dividend record and a satisfactory backing of tangible assets] lost nearly all of their significance and the third, the earnings record, took on an entirely novel complexion. The new theory or principle may be summed up in the sentence: "The value of a common stock depends entirely upon what it will earn in the future."

From this dictum the following corollaries were drawn: 1. That the dividend rate should have slight bearing upon the value. 2. That since no relationship apparently existed between assets and earning power, the asset value was entirely devoid of importance. 3. That past earnings were significant only to the extent that they indicated what *changes* in the earnings were likely to take place in the future.

This complete revolution in the philosophy of common-stock investment took place virtually without the realization by the stock-buying public and with only the most superficial recognition by financial observers.

It is difficult for a modern observer of equity markets to read these words and not be struck by the similarity of the "new era" theory to the common stock valuation philosophy which appeared during the technology/dot.com bubble that started around 1995 and continued to early 2000, e.g., the "Gorilla Finance" of Moore et al. (1999). Writing in the early 1960s when concerns with the stock market collapse of 1929–33 had largely faded from view, instead of a close examination of the "new era" theory all GDC (p. 57) could muster was a concern about "the shift of investment emphasis from values established by the past record to values to be achieved *solely* by future growth... we are skeptical of the ability of all but the most gifted analysts to chart with precision the growth rate of a given company for many years ahead."

Philip Fisher and the growth stock

As astute observers of "real-time" security markets, GDC were acutely aware of the growth stock phenomenon and of the implications that the views of growth stock proponents, such as Philip Fisher, had for the "Graham and Dodd" approach to security analysis. An acknowledged limitation of the GDC approach is the inability to deal with "speculative" securities – and technology driven growth stocks are viewed by GDC as "fundamentally speculative." Despite this, GDC (p. 57) give considerable attention to the emergence and assessment of growth stocks propelled by "the rapid stepping up of technological change":

This has created opportunities for spectacular growth of profits for many companies, but it has also threatened the position of many others which have fallen behind in the technological race. To some degree these contrary occurrences can be projected well in advance by an unusually competent analyst who does some penetrating research of his own. But, broadly speaking, we think that modern technology has injected an important new factor in the affairs of many companies, which is not amenable to prediction and which for that reason must be recognized as fundamentally speculative.

While explicitly recognizing that "there have been investors capable of making [growth stock] selections with a high degree of accuracy and that they have benefitted hugely from their foresight and good judgment," GDC (p. 426) question "whether or not careful and intelligent investors as a class can follow this policy with fair success."

For GDC, growth stocks present three related questions that require addressing: "First, what is meant by a 'growth company'? Second, can the investor identify such companies with reasonable accuracy? Third, to what extent does the price paid for such stocks affect the success of the program?" GDC (pp. 425–33) give detailed attention to discussing these questions about growth stocks. The possibility of "growth industries" is admitted with "aluminum, electronics, drugs, office equipment, paper, and some branches of chemical manufacture" being explicitly identified. Not surprisingly, GDC are unable to shed much light on the subject. According to GDC, growth stocks are difficult to define, difficult to identify and difficult to tell if the price is too high. The prognosis for growth stocks is cloudy: "if the analysis of growth stocks is pursued with skill, intelligence, consistency and diligent study, it should yield satisfactory results." However, "it must

represent the activity of a strong-minded and daring individuals rather than investment in accordance with accepted rules and standards." The incongruence between the "Graham and Dodd" and the "growth stock" approaches is apparent. It follows that, to get an accurate appreciation of security analysis and investment strategy for growth stocks, a leading "advocate" of the approach, such as Philip Fisher, needs to be examined.

Warren Buffett's approach to security selection has been described as 85% Benjamin Graham and 15% Philip Fisher. Given Buffett's substantial personal exposure to Graham, this is an extraordinary complement to Fisher. Closer examination of Buffett's approach to security analysis and investment strategy reveals that the 85%-15% split is, arguably, flattering to Graham. Given that there is considerable overlap in many of the basic notions advanced by Graham and Fisher, it is on points of emphasis and divergence that distinctions can be drawn. For example, Graham proposed methods of determining whether common stock prices were selling below intrinsic value, emphasizing the use of financial statements. In contrast, Fisher is concerned with the characteristics of the business, emphasizing the quality of management and the company's ability to generate sales and profits. Basic Buffett security selection dictums like searching for businesses with excellent management, focusing on a small number of core holdings (because there are only so many outstanding companies) and "buy a business not a stock" are more echoes of Philip Fisher than Ben Graham, though Graham did make passing reference to these concepts as well.

The legendary status achieved by Ben Graham is based at least partly on the phenomenal success of Warren Buffett. Though Graham's various investment firms, such as Graham-Newman, did achieve considerable success, the track record of Warren Buffett and Berkshire Hathaway has taken place in parallel with the emergence and ascendancy of modern Finance in academic circles. As Cunningham (2002, p. 10) observes:

for more than forty years, Buffett has generated average annual returns of 20% or better, which double the market average. For more than twenty years before that, Ben Graham's Graham-Newman Corp. had done the same thing. As Buffett emphasizes, the stunning performances of Graham-Newman and Berkshire deserve respect: the sample sizes were significant; they were conducted over an extensive time period, and were not skewed by a few fortunate experiences; no data-mining was involved; and the performances were longitudinal, not selected by hindsight.

As discussed in chapter 10, the recent progression of modern Finance has attempted to incorporate quantitative elements of the "Graham" approach into the theoretical apparatus, e.g., Fama and French (1995, 1998). However, this is being done squarely within the positivist framework, without an indepth analysis of the prescriptions and dictums of the individuals whose track records stand as a disturbing contradiction to the underlying foundations of modern Finance.

Though it would seem sensible to have an intellectual history of the "old Finance" approach to security analysis and investment strategy, no such project has been produced. The excellent sources that are available, e.g., Bernstein (1992), tend to emphasize historical developments of theories and to take a viewpoint that is sympathetic to modern Finance. Even given the absence of general sources, it is still somewhat surprising that

there has not been more interest sparked in Philip Fisher in academic circles. For example, Siegel (1998) has numerous references to Graham and Buffett but the only two Fishers that are discussed are Irving and Lawrence. The relative obscurity of Philip Fisher speaks to the process by which "knowledge" is generated in academic subjects. Fisher spent his working life outside of academia in the investment industry. His literary contributions are few (Fisher 1958, 1975, 1980) and generally targeted at the trade audience. He did not seek the limelight and usually had only a small, but selective, list of clients. For all but the beginning of his career as a fund manager, he did not need to promote himself to attract clients.

Fisher was not the originator of the "*growth stock*" approach. Though the growth stock phenomenon was widely recognized by the end of the 1950s, the basic concept has origins that predate World War II. For example, GDC (p. 426) examine a report by an investment trust, the National Investors Corporation (NIC), that explicitly identified growth stocks as "the most effective medium in the field of common stocks." This view was supported by "economic analysis and practical reasoning." For NIC, growth stocks were "companies whose earnings move forward from cycle to cycle, and are only temporarily interrupted by periodic business depressions." The modern disagreements over what constitutes a growth stock can be found in numerous contributions during the 1950s, e.g., Anderson (1955), Kennedy (1959). GDC (pp. 427) recommend the definition of Conklin (1958): "In the minds of the investing public, a 'growth stock' is a common stock which has recorded or gives promise of recording, a greater than average appreciation in market price over a span of several years." Bernstein (1956) even argues for a distinction between growth stocks and growth companies. Against this backdrop, a contribution by a successful practitioner of the growth stock approach was bound to have a substantial impact.

Fisher entered the investment industry somewhat later than Graham, though he did have substantive exposure to the "Great Bull Market of the 1920s" having entered the fledgeling Stanford Business School as a first year student in 1927-8. Though he started his own investment firm, Fisher & Company in 1931, this venture was a from-scratch startup in San Francisco by a young entrepreneur with little market experience. While the appearance of Graham and Dodd (1934) solidified Ben Graham's already considerable reputation in the New York financial community, by 1935 Fisher was just stabilizing his client list and achieving a small measure of success. It was not until the 1950s that Fisher rose to national prominence as a security analyst, a reputation that was solidified by Fisher (1958) a book that marks the beginning of systematic identification of the investment characteristics of "growth" stocks. Even though the investment philosophies of both Graham and Fisher were greatly influenced by events surrounding the Great Bull and Great Bear Markets of the late 1920s and early 1930s, there is a distinctly different flavor to their approaches to security analysis and investment strategy.

The popularity of Philip Fisher (1958) in the securities industry is due, at least partly, to the fashion in which the material is presented. Fisher was fond of providing point form summaries of his approach to investment analysis. In Fisher (1958), *fifteen key questions* are provided that need to be answered satisfactorily before a common stock is purchased. These questions, which are similar to those found in Fisher (1975) (see section 7.2) can be summarized as:

- 1 Do the company's products or services have sufficient market potential to make possible a significant *increase in sales* for at least several years?
- 2 Does the management have a desire and savvy to continue *developing products or processes* that will further increase total sales potential when the growth potential of current product lines have largely dissipated?
- 3 In relation to company size, how effective are the company's *research and development* efforts?
- 4 Does the company have an effective and efficient *sales organization*?
- 5 Does the company have a viable *profit margin*?
- 6 What is the company's strategy for maintaining or improving this profit margin?
- 7 Does the company have superior *labor and personnel* relations?
- 8 Does the company have superior relationships among the *executives*?
- 9 Does the company have strength and depth in its management structure?
- 10 Does the company have adequate cost analysis and *accounting controls*?
- 11 Are there other aspects of the business, specific to the industry, that will give the security analyst important clues to identifying if the company is outstanding in relation to its *competition*?
- 12 Does the company have an adequate short-range or a *long-range profit outlook*?
- 13 Is there potential common stock *dilution* in the foreseeable future, i.e., will the growth of the company require additional equity financing that will dilute the existing common stockholders' benefits from future anticipated growth?
- 14 Does the *management* willingly provide details about company activities when things are going well, but are reluctant to talk when troubles and disappointments occur?
- 15 Is the company management of unquestionable integrity and *honesty*?

By themselves, these questions are useful, if not overly revealing. The strength of Fisher (1958) is in the discussion and anecdotes that illustrate these various questions. In contrast to Graham and Dodd (1934), it is apparent that Fisher is "focused" on the characteristics of the company. The general approach can be summarized in the quote: "I don't want a lot of good investments; I want a few outstanding ones."

Though at the time still actively involved with his firm, Fisher (1980) was written when Fisher was well past the conventional age of retirement. The short monograph provides *eight key points in Philip Fisher's investment philosophy*. The key points are summaries, buttressed with practical, hands-on discussion of the various points using examples from his personal experiences. The accompanying discussion is short and largely autobiographical. From the perspective of fundamental analysis, these eight points are sufficiently insightful to warrant specific examination. The first point deals with the elements of the 15 points from Fisher (1958) and the first three dimensions of Fisher (1975):

- Buy into companies that have disciplined plans for achieving dramatic long-range growth in profits and that have inherent qualities making it difficult for newcomers to share in that growth. There are . . . many details, both favorable and unfavorable, that should also be considered in selecting one of these companies.

Fisher then refers to a summary of these ideas that is contained in the first three chapters of Fisher (1975). The essence of these ideas was discussed in section 7.2.

The overlap between the approaches of Graham and Fisher is illustrated in point 2 of Fisher's investment philosophy:

- Focus on buying these companies when they are out of favor; that is, when, either because of general market conditions or because the financial community at the moment has a misconception of its true worth, the stock is selling at prices well under what it will be when its true merit is better understood.

As stated, this recommendation is common sense and is not substantively different than the "Graham and Dodd" margin-of-safety approach. In Fisher (1975, p. 43), this recommendation is expanded to the case where the desired stock is fairly valued and over-valued:²²

On the lowest end of the risk scale and most suitable for wise investment is the company that measures quite high in regard to the first three dimensions but currently is appraised by the financial community as less worthy, and therefore has a lower price-earnings ratio, than these fundamental facts warrant. Next least risky and usually quite suitable for intelligent investment is the company rating quite high in regard to the first three dimensions and having an image and therefore a price-earnings ratio reasonably in line with these fundamentals. This is because such a company will continue to grow if it truly has these attributes. Next least risky and, in my opinion, usually suitable for retention by conservative investors who own them but not for fresh purchase with new funds are companies that are equally strong in regard to the first three dimensions but, because these qualities have become almost legendary in the financial community, have an appraisal or price-earnings ratio higher than is warranted by even the strong fundamentals.

This explicit statement by Fisher contradicts the perception in modern Finance that "growth" investors bias purchases toward high P/E and, presumably, high P/BV stocks. Much like "value" investors, "growth" investors want to purchase the desired stocks as cheaply as possible. As illustrated, high P/E stocks are not desirable for "fresh purchase with new funds."

The desire to purchase targeted stocks as cheaply as possible is common sense and is found in virtually all analyses of securities trading and investment activities. The view is not unique to Fisher and GDC. Unlike GDC, Fisher does feel that if the company is good enough then buying the common stock is recommended when it is fairly valued in line with the fundamentals applicable to all companies. In advocating the use of intrinsic value and the margin of safety principle, GDC would seem to be in disagreement with this recommendation, per se, but this could be due to a difference in semantics. Fisher is *using the P/E ratio to measure value*, i.e., the fourth dimension, while GDC is using DCF to measure intrinsic value. Presumably, Fisher is implying that the growth in earnings from companies that have the strongest fundamentals is not being fully captured by the P/E . Where Fisher is saying the P/E fairly reflects fundamentals, GDC could say that the intrinsic value is low enough to qualify for purchase using the margin of safety principle. However, the difficulties of estimating the future cash flows for the types of companies Fisher's first three dimensions identify may mean that GDC would not advocate a purchase.²³

While there are possible interpretations that would have Fisher and GDC agreeing on criteria for purchasing common stocks, on the issue of when to sell there is unambiguous disagreement. GDC want to purchase common stocks that have the estimated intrinsic value less than the price by the margin of safety. These stocks are then held until an overvaluation is observed and then the stock is sold. In contrast, Fisher (1975, p. 43) is a long-term buy and hold investor in favor of retaining stocks "even though their prices seem too high. If the fundamentals are genuinely strong, these companies will in time increase earnings not only enough to justify present prices but to justify considerably higher prices." For Fisher there are only a small number of companies that genuinely qualify for selection using the first three dimensions. Selling such companies because the price reflects an "overvaluation" implies that there are similar companies available for purchase that are "undervalued." Yet this is unlikely due to the small number of such companies. Parking the money from the sale in cash and waiting for a pull back in price requires illusive market timing skills: "it is my observation that those who sell stocks to wait for a more suitable time to buy back these same shares seldom attain their objective."

What criteria does Fisher propose for when to sell a successful stock? Not surprisingly, the criteria are long run and relate to deterioration in the reasons why the stock was purchased in the first place:

- Hold the stock until either (a) there has been a fundamental change in its nature (such as a weakening of management through changed personnel), or (b) it has grown to a point where it no longer will be growing faster than the economy as a whole. Only in the most exceptional circumstances, if ever, sell because of forecasts as to what the economy or the stock market is going to do, because these changes are too difficult to predict. Never sell the most attractive stocks you own for short-term reasons. However, as companies grow, remember that many companies that are quite efficiently run when they are small fail to change management style to meet the different requirements of skill big companies need. When management fails to grow as companies grow, shares should be sold.

Fisher has a shorter horizon for determining whether an initial purchase was legitimate. In this regard, Fisher proposes a "*three year rule*" for any new purchase. If the company has not achieved the objectives set out when the stock was purchased, then it is time to consider selling. This leads to:

- Making some mistakes is as much an inherent cost of investing for major gains as making some bad loans is inevitable in even the best run and most profitable lending institution. The important thing is to recognize them as soon as possible, to understand their causes, and to learn how to keep from repeating the mistakes. Willingness to take small losses in some stocks and to let profits grow bigger and bigger in the more promising stocks is a sign of good investment management. Taking small profits in good investments and letting losses grow in bad ones is a sign of abominable investment judgment. A profit should never be taken just for the satisfaction of taking it.

Fisher basically wants to get in relatively early in the company growth cycle and hold onto the stock until the company has reached the point where future growth is

problematic, always keeping a close eye on the first three dimensions. If the initial analysis is later found to be faulty, the position has to be unwound.

From Graham and Dodd (1934, ch. 29) onward, the "Graham and Dodd" approach has struggled with the importance of dividends: "From one point of view, the dividend rate is all-important; but from another and equally valid standpoint it must be considered an accidental and minor factor" (Graham and Dodd, p. 324). Similarly, GDC (p. 487) maintain: "The quality of common stock, which reflects itself in the multiplier applied to current or prospective earnings and dividends, is in most cases largely determined by the dividend record." Yet, GDC (p. 488) are willing to accept: "that a fundamental difference may exist between the appropriate payout policy for average and subaverage companies and that for the exceptional growth issue." Shareholders in growth companies will be better off if the company maintained a policy of complete retention of earnings. Recognizing the potential validity of the Miller and Modigliani (1961) argument on dividends (see section 2.4), GDC observe that "synthetic" dividend cash flows can be obtained by selling a fraction of the stock if desired. In addition, low or no dividend payout can have potential tax advantages for many stockholders due to the lower tax rate on capital gains vs. dividend income.

Fisher recognizes that outstanding companies will often have a real need funds to finance expansion. As a consequence, Fisher recommends:

- For those primarily seeking major appreciation of their capital, de-emphasize the importance of dividends. The most attractive opportunities are most likely to occur in the profitable, but low or no dividend payout groups. Unusual opportunities are much less likely to be found in situations where high percentage of profits is paid to stockholders.

This *low dividend payout aspect of the growth stock* profile is identified in modern Finance as being consistent with a desirable company characteristic advanced by "growth stock" advocates such as Fisher. However, this aspect is not even a necessary condition for Fisher (1975, p. 72): "As long as dividend policy is consistent, so that investors can plan ahead with some assurance, this whole matter of dividends is a far less important part of the investment picture than might be judged from the endless arguments frequently heard about the relative desirability of this dividend policy or that . . . dividend considerations should be given the least, not the most, weight by those desiring to select outstanding stocks." Retained earnings can just as easily be used to "enlarge the inefficient operation rather than to make it better." Allowances for increases in the capital stock can in some cases be achieved through depreciation rates.

Another fundamental point of difference between Fisher and GDC concerns portfolio composition. What is the optimal number of securities to own? On this point Fisher observes:

- There are a relatively small number of truly outstanding companies. Their shares frequently can't be bought at attractive prices. Therefore, when favorable prices exist, full advantage should be taken of the situation. Funds should be concentrated in the most desirable opportunities. For those involved in venture capital and quite small companies, say with annual sales of under \$25,000,000, more diversification may be necessary. For larger companies, proper diversification requires investing in a variety of

industries with different economic characteristics. For individuals (in possible contrast to institutions and certain types of funds), any holding of over twenty different stocks is a sign of financial incompetence. Ten or twelve is usually a better number. Sometimes the costs of the capital gains tax may justify taking several years to complete a move towards concentration. As an individual's holdings climb toward as many as twenty stocks, it nearly always is desirable to switch from the least attractive of these stocks to more of the attractive. It should be remembered that ERISA stands for Emasculated Results: Insufficient Sophisticated Action.

Whereas GDC recommended holding 20–30 stocks which are rebalanced on a regular basis, Fisher maintains that for individual investors this number is so large as to be “a sign of financial incompetence.” There is some need to diversify across industries and in cases where the holdings are in venture capital or small cap situations. The bulk of these holdings will be of the long term buy-and-hold variety.

To those indoctrinated into the modern Finance prescriptions about “efficient diversification,” the approach of holding a narrow stable of winners will appear to be foolish and misguided. Yet, this approach is not unique to Fisher and can be found in other members of the old Finance school. For example, Loeb (1935; 1965, p. 11) observes: “Diversification is a necessity for the beginner. On the other hand, the really great fortunes were made by concentration. The greater your experience, the greater your capability for running risks, and the greater your ability to chart your course yourself, the less you need to diversify.” Given this, Fisher does maintain that some degree of diversification across industries (and possibly countries) is essential. Hyper-selective investment strategies, such as the Moore et al. (1999) gorilla game which preach investment only in selected technology stocks, are not advisable. Beyond this, the degree and extent of diversification depends on the predisposition of the investor. It is this slippery slope that is a major point of divergence between the views of GDC and those of Fisher.

The Warren Buffett synthesis

A brief overview of the Warren Buffett approach to security analysis and investment strategy was given in section 7.3. Buffett starts from the Graham and Dodd view that securities have an intrinsic value and that for a number of reasons, the prices of securities may not trade at intrinsic value creating trading opportunities. Following Williams (1938), Buffett advocates the use of the discounted cash flow model to estimate the intrinsic value. In order to overcome the difficulties of estimating the future cash flows, Buffett recommends examining only businesses that the analyst is capable of understanding: “You don’t have to be an expert on every company or even many. You only have to be able to evaluate companies within your circle of competence. The size of the circle is not very important; knowing its boundaries, however, is vital” (Cunningham 2002, p. 100). Once the cash flows have been determined, the margin-of-safety principle is used to decide whether the security is a buying opportunity. Because there are only a few companies that will meet the appropriate criteria, a Buffett portfolio will have few securities and be relatively inactive in trading.

Examining the evolution of security analysis as reflected in the different editions of Graham and Dodd, it is apparent that the historical evolution of security markets has a profound impact on the prescriptions of security analysis. For example, whereas in the pre-World War II period it was possible at various times to identify significant numbers of companies with common stock prices trading below the net current asset value per share, such companies are relatively uncommon in current US stock markets. Where such situations are available, this is, more likely than not, a situation that is to be avoided because the large balance of net current assets is being sold to stave off an impending sequence of negative earnings. While the views of GDC and Fisher may have provided considerable insight into securities markets of earlier times, there is no assurance that markets have not evolved beyond the lessons contained in those texts. This speaks to the importance of the Warren Buffett synthesis. Buffett has obtained his track record more recently and, as such, his prescriptions are relevant to contemporary observers. To this end, table 7.4 provides evidence on the performance of Berkshire Hathaway vs. the S&P 500 and table 7.5 provides a listing of the companies in which Berkshire Hathaway currently has a substantial position.

Hagstrom (1995, 2000) has summarized the "*Buffett approach to investment*" into five principles. Though these principles do not do full justice to Buffett's value investing prescriptions, e.g., Cunningham (2001), the basic structure is sound.²⁴ These principles can be briefly summarized as:

- 1 Don't follow the day-to-day fluctuations in the stock market. The market is a forum for buying and selling, not for precisely setting value. Investors need to be able to ignore significant short-term reductions in the value of a common stock. Follow the market only when the objective is to sell a stock at prices well in excess of intrinsic value.
- 2 Don't try to predict the direction of the general economy. If the stock market cannot be predicted, then how is it possible to predict the economy?
- 3 Buy a business, not its stock. A stock purchase can be viewed as though the entire business is being purchased. Four important elements apply to valuing the business: business characteristics, management, financial numbers and value. Business characteristics include: the business needs to be simple and understandable to the investor and the business needs a consistent operating history and favorable long-term prospects. The management has to be honest, capable and candid with shareholders. Management with a high fraction of personal wealth invested in a company, e.g. Buffett and Munger at Berkshire Hathaway, have a greater incentive to manage effectively. Key financial numbers to examine are return on equity, as opposed to earnings per share, profit margin and the ability to add value with retained earnings (return on additions to equity greater than cost of capital).
- 4 Buffett requires the intrinsic value to be less than the market price by the margin of safety for a security to qualify as an eligible purchase.
- 5 Manage a portfolio of businesses – act like a business owner rather than a stock trader. The implication is that being widely diversified is inconsistent with being able to manage so many businesses.

In addition to these general principles, Buffett is credited with numerous interesting quotes such as: "It is just not necessary to do extraordinary things to get extraordinary

Table 7.4 Berkshire's Corporate Performance vs. the S&P 500

Year	Annual % change		
	in per-share book value of Berkshire (1)	in S&P 500 with Dividends Included (2)	Relative results (1)-(2)
1965	23.8	10.0	13.8
1966	20.3	(11.7)	32.0
1967	11.0	30.9	(19.9)
1968	19.0	11.0	8.0
1969	16.2	(8.4)	24.6
1970	12.0	3.9	8.1
1971	16.4	14.6	1.8
1972	21.7	18.9	2.8
1973	4.7	(14.8)	19.5
1974	5.5	(26.4)	31.9
1975	21.9	37.2	(15.3)
1976	59.3	23.6	35.7
1977	31.9	(7.4)	39.3
1978	24.0	6.4	17.6
1979	35.7	18.2	17.5
1980	19.3	32.3	(13.0)
1981	31.4	(5.0)	36.4
1982	40.0	21.4	18.6
1983	32.3	22.4	9.9
1984	13.6	6.1	7.5
1985	48.2	31.6	16.6
1986	26.1	18.6	7.5
1987	19.5	5.1	14.4
1988	20.1	16.6	3.5
1989	44.4	31.7	12.7
1990	7.4	(3.1)	10.5
1991	39.6	30.5	9.1
1992	20.3	7.6	12.7
1993	14.3	10.1	4.2
1994	13.9	1.3	12.6
1995	43.1	37.6	5.5
1996	31.8	23.0	8.8
1997	34.1	33.4	0.7
1998	48.3	28.6	19.7
1999	0.5	21.0	(20.5)
2000	6.5	(9.1)	15.6
2001	(6.2)	(11.9)	5.7
2002	10.0	(22.1)	32.1
Average annual gain: 1965-2002	22.2	10.0	12.2
Overall gain: 1964-2002	214,433	3,663	

The table appears in the printed Annual Report on the facing page of the Chairman's Letter and is referred to in that letter. Data are for calendar years with these exceptions: 1965 and 1966, year ended 9/30; 1967, 15 months ended 12/31.

Starting in 1979, accounting rules required insurance companies to value the equity securities they hold at market rather than at the lower of cost or market, which was previously the requirement. In this table, Berkshire's results through 1978 have been restated to conform to the changed rules. In all other respects, the results are calculated using the numbers originally reported.

The S&P 500 numbers are pre-tax whereas the Berkshire numbers are after-tax. If a corporation such as Berkshire were simply to have owned the S&P 500 and accrued the appropriate taxes, its results would have lagged the S&P 500 in years when that index showed a positive return, but would have exceeded the S&P 500 in years when the index showed a negative return. Over the years, the tax costs would have caused the aggregate lag to be substantial.

Table 7.5 Berkshire Hathaway Inc.: major operating companies

Company	Location	Website
Acme Building Brands	Fort Worth, TX	brick.com
Adalet ^a	Cleveland, OH	adalet.com
Ben Bridge Jeweler	Seattle, WA	benbridge.com
Benjamin Moore	Montvale, NJ	benjaminmoore.com
Berkshire Hathaway Credit Corporation	Omaha, NE	
Berkshire Hathaway Homestate Companies	Omaha, NE	bh-hc.com
Berkshire Hathaway Reinsurance Division	Stamford, CT	brkdirect.com
Borsheim's Jewelry	Omaha, NE	borsheims.com
The Buffalo News	Buffalo, NY	buffnews.com
CalEnergy ^b	Omaha, NE	calenergy.com
Campbell Hausfeld ^a	Harrison, OH	chpower.com
Carefree of Colorado ^a	Broomfield, CO	carefreeofcolorado.com
Central States Indemnity Co.	Omaha, NE	csi-omaha.com
CORT Business Services	Fairfax, VA	cortl.com
CTB International	Milford, IN	ctbinc.com
Dairy Queen	Edina, MN	dairyqueen.com
Douglas/Quikut ^a	Walnut Ridge, AR	quikut.com
Fechheimer Brothers	Cincinnati, OH	fechheimer.com
FlightSafety International	Flushing, NY	flightsafety.com
France ^a	Fairview, TN	franceformer.com
Fruit of the Loom	Bowling Green, KY	fruit.com
Garan	New York, NY	garanimals.com
GEICO	Washington, DC	geico.com
General Re Corporation	Stamford, CT	gcr.com
H.H. Brown Shoe Group	Greenwich, CT	hbbrown.com
Halex ^a	Cleveland, OH	halenco.com
Helzberg's Diamond Shops	North Kansas City, MO	helzberg.com
HomeServices of America ^b	Edina, MN	homeservices.com
Johns Manville	Denver, CO	jm.com
Jordan's Furniture	Avon, MA	jordansfurniture.com
Justin Brands	Fort Worth, TX	justinbrands.com
Kansas Bankers Surety Company	Topeka, KS	
Kern River Gas Transmission Company ^b	Salt Lake City, UT	kernrivergas.com
Kingston ^a	Smithville, TN	kingstonproducts.com
Kirby ^a	Cleveland, OH	kirby.com
Larson-Juhl	Norcross, GA	larsonjuhl.com
Meriam Instrument ^a	Cleveland, OH	meriam.com
MidAmerican Energy Company ^b	Des Moines, IA	midamerican.com
MiTek Inc.	Chesterfield, MO	mitekinc.com
National Indemnity Company	Omaha, NE	nationalindemnity.com
Nebraska Furniture Mart	Omaha, NE	nfm.com
NetJets	Woodbridge, NJ	netjets.com
Northern Natural Gas ^b	Omaha, NE	northernnaturalgas.com
Northern and Yorkshire Electric ^b	United Kingdom	northern-electric.co.uk

Table 7.5 (cont'd)

Company	Location	Website
Northland ^a	Watertown, NY	northlandmotor.com
The Pampered Chef	Addison, IL	pamperedchef.com
Precision Steel Warehouse	Franklin Park, IL	precisionsteel.com
See's Candies	South San Francisco, CA	sees.com
Shaw Industries	Dalton, GA	shawinc.com
Stahl ^a	Wooster, OH	stahl.cc
Star Furniture	Houston, TX	starfurniture.com
United Consumer Finance Company ^a	Cleveland, OH	ucfs.net
United States Liability Insurance Group	Wayne, PA	usli.com
Wayne Water Systems ^a	Harrison, OH	waynepumps.com
Wesco Financial Corp.	Pasadena, CA	
Western Enterprises ^a	Avon Lake, OH	westernenterprises.com
R.C. Willey Home Furnishings	Salt Lake City, UT	shoprcwilley.com
World Book ^a	Chicago, IL	worldbook.com
XTRA	Westport, CT	xtracorp.com

^a A Scott Fetzer Company.

^a A MidAmerican Energy Holdings Company.

Source: Berkshire Hathaway Annual Report 2002.

results" and "As far as I am concerned, the stock market . . . is there only as a reference to see if anybody is offering to do anything foolish."

Despite all the reverence given to Buffett as the proto-typical value investor, it is apparent that individual investors would have difficulty pursuing the types of strategies that have brought considerable success to Berkshire Hathaway (see end of chapter questions). For example, consider the "*Acquisition Criteria*" in table 7.6 that is published annually in the Berkshire Hathaway annual report. This buy-a-business approach is reiterated in Buffett's various writings. The following statement is contained in the Berkshire Hathaway (2003, p. 69) 2002 annual report:

Our preference would be to reach our goal [of maximizing Berkshire's average annual rate of gain in intrinsic value on a per-share basis] by directly owning a diversified group of businesses that generate cash and consistently earn above-average returns on capital. Our second choice is to own parts of similar businesses, attained primarily through purchases of marketable common stocks by our insurance subsidiaries. The price and availability of businesses and the need for insurance capital determine any given year's capital allocation.

While it would be nice for individual investors to be able to search out companies and take a 100% interest, this is not practical for all but the select few investors (see table 7.5). The detailed emphasis on business characteristics, which usually requires on-site visits and access to senior management, also makes it difficult for individual investors.²⁵ In this regard and in the general approach to detailed fundamental analysis

Table 7.6 Berkshire Hathaway Inc.: acquisition criteria

We are eager to hear *from principals or their representatives* about businesses that meet all of the following criteria:

- (1) Large purchases (at least \$50 million of before-tax earnings),
- (2) Demonstrated consistent earning power (future projections are of no interest to us, nor are "turnaround" situations),
- (3) Businesses earning good returns on equity while employing little or no debt,
- (4) Management in place (we can't supply it),
- (5) Simple businesses (if there's lots of technology, we won't understand it),
- (6) An offering price (we don't want to waste our time or that of the seller by talking, even preliminarily, about a transaction when price is unknown).

The larger the company, the greater will be our interest: We would like to make an acquisition in the \$5–20 billion range. *We are not interested, however, in receiving suggestions about purchases we might make in the general stock market.*

We will not engage in unfriendly takeovers. We can promise complete confidentiality and a very fast answer – customarily within five minutes – as to whether we're interested. We prefer to buy for cash, but will consider issuing stock when we receive as much in intrinsic business value as we give.

Charlie and I frequently get approached about acquisitions that don't come close to meeting our tests: We've found that if you advertise an interest in buying collies, a lot of people will call hoping to sell you their cocker spaniels. A line from a country song expresses our feeling about new ventures, turnarounds, or auction-like sales: "When the phone don't ring, you'll know it's me."

of the business, Buffett has more in common with Philip Fisher than Graham and Dodd.

Being a practitioner rather than an academic, the folksy writing style that characterizes Buffett's published contributions often makes it difficult to untangle the analytical recommendations aimed at making 100% acquisitions from those associated with making fractional purchases of companies using common stock. However, this observation relates to the part of the Buffett synthesis that has a close connection to Philip Fisher, i.e., the economic analysis of the underlying business. Buffett's approach to fundamental analysis also has a component that is closely related to Ben Graham. Whereas Philip Fisher concentrated on business characteristics, for the Graham and Dodd approach: "all security analysis involves the analysis of financial statements." Unlike Fisher, who did not proceed much beyond the *P/E* ratio, profit margin and sales growth in the level of financial statement analysis, Buffett provides considerable insight into using financial accounting to identify investment opportunities (Cunningham 2002, p. 185): "In our own investing, we search for situations in which both [business analysis and financial statement analysis] give us the same answer."

Buffett's insights into the *use of accounting numbers in business valuation* are generally unrecognized. Yet, this aspect of the Buffett synthesis may be the most impressive

and useful to individual investors. Buffett explicitly recognizes the importance and limitations of accounting numbers (Cunningham 2002, p. 213):

Accounting numbers, of course, are the language of business and as such are of enormous help to anyone evaluating the worth of a business and tracking its progress. Charlie and I would be lost without these numbers; they invariably are the starting point for us in evaluating our own businesses and those of others. Managers and owners need to remember, however, that accounting is but an aid to business thinking, never a substitute for it.

Because the most important source of information for Buffett's views is the *Annual Reports* and *Letters to Shareholders* of Berkshire Hathaway, many of the comments are addressed to accounting aspects of that company. This means giving detailed attention to accounting for taxation, acquisitions and for different levels of ownership in the various companies that comprise the Berkshire Hathaway holding company.²⁶ However, there are also a number of general observations about accounting that appeal to a wider range of applications.

Buffett recognizes the failings of conventional interpretations of accounting numbers and related valuation measures (Cunningham 2002, p. 218): "Common yardsticks such as dividend yield, the ratio of price to earnings or to book value, and even growth rates have *nothing* to do with valuation except to the extent they provide clues as to the amount and timing of cash flows into and from the business." A common theme in Buffett's writings is that reference to "growth" and "value" strategies reflect an ignorance of the valuation process. Growth can destroy value if the cash required to increase assets exceeds the cash generation of those assets in the future. For Buffett:

The primary test of managerial economic performance is the achievement of a high earnings rate on equity capital employed (without undue leverage, gimmickry, etc.) And not the achievement of consistent gains in earnings per share. In our view, businesses would be better understood by their shareholder owners, as well as the general public, if managements and financial analysts modified the primary emphasis they place on earnings per share, and upon yearly changes in that figure.

Earnings are too readily manipulated by unscrupulous management or misinterpreted by naive investors. The use of GAAP accounting does not ensure a meaningful earnings number, only that the earnings number is calculated according to "generally accepted accounting principles": "managers and investors alike must understand that accounting numbers are the beginning, not the end, of business valuation."

Buffett clearly states that the object is to maximize "economic earnings" and not "accounting earnings." This point is not original to Buffett. What Buffett brings to the table is the invaluable interpretations of an individual who has accumulated a remarkable record from understanding the difference. One example concerns "economic goodwill" versus "accounting goodwill": "You can live a full and rewarding life without ever thinking about Goodwill and its amortization. But students of investment and management should understand the nuances of the subject." On this subject, writing in 1983 Buffett makes a veiled reference to the incorrectness of the Graham and Dodd treatment of goodwill (Cunningham 2002, pp. 197-8):

My own thinking has changed drastically from 35 years ago when I was taught to favor tangible assets and to shun businesses whose value depended largely upon economic Goodwill. This bias caused me to make many important business mistakes of omission, although relatively few of commission.

Keynes identified my problem: "The difficulty lies not in the new ideas but in escaping from the old ones." My escape was long delayed, in part because most of what I had been taught by the same teacher had been (and continues to be) so extraordinarily valuable. Ultimately, business experience, direct and vicarious, produced my present strong preference for businesses that possess a large amount of enduring Goodwill and that utilize a minimum of tangible assets.

Unlike accounting goodwill, which is "excess of cost over equity in the net assets being acquired," economic goodwill is the capitalized value of the excess over market rates of return on net tangible assets. Both concepts are related to intangible assets, but in different ways.

Economic goodwill provides a connection to the "earnings power value" identified by proponents of "value investing" (Greenwald et al. 2001, ch. 5). To illustrate the concept of economic goodwill, Buffett examines the purchase of See's Candies in 1972, a basically debt free company that Berkshire Hathaway continues to own up to the present. The purchase price of this company was \$25 million and the net tangible assets of the company was \$8 million.²⁷ Observing that the after tax earnings of See's was approximately \$2 million per year, it is apparent that the 25% return on assets represented more than just the market return earned on tangible assets. The excess return above what could be earned on the net tangible assets at prevailing market rates of return, capitalized at an appropriate discount rate, is the economic goodwill. See's had intangible assets associated with reputation, consumer loyalty and quality of product. In contrast, accounting goodwill would depend on a combination of factors, i.e., the premium over book value of the price paid for the firm, adjusted for fair value revaluation of inventories and tangible assets, plus amortization of goodwill and adjustments for deferred taxes. The resulting number may, or may not, capture the implicit value of the intangible assets.

Considerable discussion in value investing analysis is dedicated to the sources of "earnings power value" associated with "assets plus franchise." Businesses where the return on tangible assets is in excess of market rates of return are strong candidates for increased competition. This competition can arise in various forms, e.g., on the price side from competitors already in the market or from the entry of new firms. The end result is irresistible market pressures that force the return on assets to the market rate of return, or possibly below. What factors enable firms to resist these market pressures? Identifying *sustainable sources of competitive advantage* is the subject of numerous books and theories. A number of such sources of competitive advantage include: *licenses*, such as television or telecom broadcast rights; *production efficiencies* due to factors such as patents, specialized human capital or economies of scale; *access to cheaper sources of either capital, labor or other inputs*; and, *the franchise factor* associated with customer loyalty or acquired tastes.²⁸ It is not surprising that arguably the most important franchise factor business, Coca-Cola, is also a major holding of Berkshire-Hathaway.

Another key difference between accounting and economic values identified by Buffett involves the treatment of *depreciation*. This is directly related to the concept of “owner earnings” (Cunningham 2002, p. 211): “owner’s earnings’... represent (a) reported earnings plus (b) depreciation, depletion, amortization, and certain other non-cash charges... less (c) the average annual amount of capitalized expenditures for property plant and equipment, etc. that the business requires to fully maintain its long-term competitive position and its unit volume.” Except in special cases, (c) will be difficult to estimate and, as a result, can only be a guess. However, for Buffett: “the owner earnings figure, not the [deceptively precise] GAAP figure [is] the relevant item for valuation purposes – both for investors in buying stock and for managers in buying entire businesses.” Buffett cautions that the use of measures such as EBITDA to determine “cash flow” will likely lead to “faulty decisions.” Economic depreciation is not the same as amortization and this is another essential feature required to take into account in arriving at an estimate of intrinsic value.

Questions



1 In section 7.4 the recommendations of Philip Fisher and Warren Buffett were surveyed. It was observed that some of these recommendations were not practical for individual investors. For example, a number of Philip Fisher’s suggestions about analyzing a business would require on-site visits and access to senior management. Similarly, some of Warren Buffett’s suggestions focus on the 100% acquisition of a business. Prepare a listing of three key recommendations of both Fisher and Buffett that would not be practical for individual investors to pursue.

2 Using the annual arithmetic return information in table 7.4, determine whether the performance of Berkshire Hathaway is statistically better than that of the S&P 500. (Hint: Use a t-test to determine whether the difference of the two means is different than zero, see Freund 1971.) Calculate the geometric means from table 7.4 and determine the test for statistical significance.

3(a) For the Fisher approach to company and industry analysis in section 7.3, evaluate the possibility of applying functional factors, people factors and business factors to the following sectors: oil and gas drillers; pulp and paper companies; automobile companies; and, biotechnology companies. For each of these company types, what elements of the three types of factors could not be identified? (Hint: what does being the lowest cost producer mean for an oil driller?)

(b) Assess the applicability of Fisher’s four dimensions to three outstanding companies of the 1980–2000 period, e.g., Microsoft, Dell, Intel or Walmart.

NOTES

- 1 The NYSE requires contingent voting rights as a provision for listing "nonvoting" preferred shares. In the event of unpaid dividends, a range of voting provisions are possible. For example, some preferred shares are restricted to only electing two members to the board of directors while preferred shares of other companies have the same one vote per share rule as common stock.
- 2 In a large study of 3042 US preferred share issues from 1980 to 1999, Bajaj et al. (2002) found 682 convertible issues and 2360 non-convertible issues. As a measure of the completeness of this sample, between 1985 and 1999 there were 2,636 total preferred share issues raising \$324.63 billion. In comparison, there were 7,017 seasoned equity offerings raising \$606 billion.
- 3 Another form of dividend provision arises with participating preferred stock. This type of preferred stock is rare in modern financial markets, though the provision has appeared in isolated historical instances usually associated with mergers and acquisitions activity. Typically, a participating preferred has a prior claim to the initial round of dividends. After a certain amount of earnings has been paid as dividends to common stock, usually the same per share amount as the preferred dividend, then preferred and common stock share equally in any remaining dividend payments. While such an arrangement may seem disadvantageous to common shareholders, the absence of voting rights for preferred stock combined with a preferred redemption provision may provide sufficient offset in situations involving corporate takeovers.
- 4 There are exceptions to this rule. For example, IRC section 247 provides for a partial dividends paid deduction for "old money" preferred stocks issued by public utilities. In turn, the investors in these old money preferred shares are subject to a reduced dividend received tax credit under IRC section 244, e.g., Atwood (2002). Old money preferred stocks include public utility preferreds outstanding on October 1, 1942 and all subsequent preferred issues by that public utility used to replace these issues, including subsequent issues made through a tax-free reorganization.
- 5 Institutional information on Canadian securities markets, including topics such as relevant tax rates on securities, can be obtained from Canadian Securities Institute (1992).
- 6 The use of "par value" for common stocks was the convention until the practice was abandoned during the 1920s. While common stock still has a par value in an accounting sense, there is no connection to the original issue price. Common stock with a par value would be issued at, say, \$100 per share and enough shares would be issued to achieve the equity funding target. In this fashion, if the stock traded at, say, \$60 it could be readily assessed whether the stock had appreciated or depreciated relative to the initial offering price.
- 7 The value of the shares may not fall to zero because, in some cases, the shares themselves have value. For example, if controlling interest in the company's shares can be obtained cheaply, then it may be possible to use the shares to form a "shell company" for another venture. Shell companies are one method of avoiding the costs associated with making new equity issues.
- 8 Perhaps the most important twentieth-century philosopher emphasizing the importance of language was Ludwig Wittgenstein (1889–1951). For Wittgenstein, the aim of philosophy is to clear up muddle and confusion. The philosopher's proper concern is with what is conceivable. This depends on how concepts fit together using language. What is conceivable and what is not, what makes sense and what does not, depends on the grammatical rules of language. For example, in *Philosophical Investigations* Wittgenstein says: "Our investigation is a grammatical one. Such an investigation sheds light on our problem by clearing misunderstandings away. Misunderstandings concerning the use of words, caused, among other things, by certain analogies between the forms of expression in different regions of language."

- 9 The progression of the core theory of modern Finance has moved away from the largely indefensible position about the impact of fundamental information on security prices. At least since Fama and French (1995) it has become popular in modern Finance to incorporate additional (fundamental) "factors" to the traditional single-factor market model, with price-to-book and firm size being the most popular.
- 10 The GDC use of "anticipation approach" to describe one of the three approaches is somewhat unfortunate as all three approaches involve "anticipating" the future value of the stock by predicting specific variables. The key distinction between the three approaches is what variables are used to predict the future cash flows and how the estimation process is conducted. In this regard, the anticipation approach can also include the use, in whole or in part, of technical analysis, where variables that are used to "anticipate" future stock prices lie within the set of variables examined in technical analysis. There is also differences in the implied length of the holding period with the anticipation being the shortest and the intrinsic value approach being the longest.
- 11 Framing the discussion in terms of "common stocks being an inflation hedge" raises a semantical question about the usage of the word "hedge." In the analysis of derivative securities, a "hedged" position is protected against changes in a particular random variable, in this case inflation. This could mean the security value does not change when the random variable changes or that the position value will not decrease when the variable changes, depending on the usage. In either case, if there is a short-run negative impact on the value of the position then it is semantically incorrect to refer to there being a hedge in place. The case of stocks being a "hedge" against inflation uses the word "hedge" in the sense that the real return on the capital invested in common stocks does not change as (expected) inflation changes. As such, evidence of a negative short-term relationship between nominal stock returns and inflation violates the "hedge" condition.
- 12 The empirical question of what length of time constitutes a short-run and a long-run is addressed in Hakkio and Rush (1991).
- 13 Anari and Kolari (2001) also present evidence in favor of a positive long-run relationship between stock prices and inflation, i.e., that stock prices are a long-run inflation hedge. The sample in this study uses monthly observations from 1953 to 1999 for six countries. Using a sample of sixteen countries, Rapach (2002) presents evidence in favor of long-run neutrality that could also be interpreted as consistent with a positive long-run real stock price response to a permanent inflation shock. Rapach finds little evidence in favor of a negative long-run relationship.
- 14 Taking a log approximation produces the familiar result: $RR(t) \cong R(t) - \pi(t)$. In other words, the real interest rate can be approximated by subtracting the inflation rate from the nominal interest rate. Numerous empirical studies have been conducted to examine the impact of inflation on nominal interest rates. These studies usually proceed by assuming a constant real rate and then fitting a distributed lag of inflation rates on nominal interest rates. In cases where the assumption that the real rate is constant is justified, this is usually done by having the real rate being determined by "real economic forces" that are determined outside the model. For example, the economy can be assumed to be on a steady state growth path.
- 15 The relevant website for information about business cycles is www.nber.org/cycles. The National Bureau of Economic Research is a private research organization that is responsible for dating business cycles. The history of the organization stretches back to 1920 and has produced, in addition to the analysis of economic conditions, seminal contributions by Wesley Mitchell, Arthur Burns and Frederick Macaulay.
- 16 There are alternatives to Buffett as the world's most successful investor, including Li Ka Shing, the Hong Kong billionaire, and Charles Munger, Vice Chairman of Berkshire Hathaway and Buffett's long time partner.
- 17 This number is inflated by the market practice of having more than one ticker symbol for the

same fund name. Technically, the funds usually differ in being separate entities managed by the same fund manager. For various reasons, mutual fund companies do not want individual funds to be larger than a given size. If the inflow to the fund results in a capital value larger than the upper bound, a new fund with the same or nearly the same name is created with a ticker symbol that differs from the original fund. It is possible for these funds to have different holdings, but any differences are typically quite small.

- 18 A representative example of these criticisms is the following (Cunningham 2001, p. 100): "To invest successfully, you need not understand beta, efficient markets, modern portfolio theory, option pricing, or emerging markets. You may, in fact, be better off knowing nothing of these. That, of course, is not the prevailing view at most business schools, whose finance curriculum tends to be dominated by such subjects. In our view, though, investment students need only two well-taught courses – How to Value a Business, and How to Think About Market Prices."
- 19 Based on aggregated empirical evidence given by Jensen and Ruback (1983), Jarrell et al. (1988) and others, it is safe to conclude the shareholders of target firms in successful acquisitions benefit substantially while acquiring firms experience either no significant or a small negative ($> -5\%$) impact on stock returns. For example, for a sample of 663 successful tender offers, Jarrell et al. found bid premiums for the pre-announcement value of the target firm's stock price of 19% during the 1960s, 35% during the 1970s and 30% during the first half of the 1980s. The empirical evidence on corporate acquisitions has led to the use of crude rules of thumb regarding acquisitions such as: a 25–30% bid premium is required to obtain corporate control of a going concern in a friendly tender offer. Like most rules of thumb, such estimates of the bid premium will differ depending on the specifics of the acquisition involved.
- 20 GDC do not use the words "primary" and "secondary" in the fashion that is conventional in modern Finance where a primary issue is a "new" issue, such as an IPO for a common stock or a Treasury issue that has just been auctioned, and a "secondary" issue for a previously issued security, such as the common stocks traded on the NYSE or Treasury bonds traded in the OTC market. For GDC (p. 3) a "primary" stock issue is a "first line" or "standard" issue of "large and prominent companies, generally with a good record of earnings and of continued dividends." A "secondary" issue refers to the more marginal common stock issues that have not obtained "primary" quality. GDC estimate that about 80% of listed stocks and 90% or more of unlisted stocks belong in the secondary category.
- 21 The precise specification of the margin of safety is unclear. Recognizing that there is a target level of 20–30 stocks in a portfolio, presumably the margin of safety will change as the level of the market changes. When the market is "high" there will be a greater proportion of fairly valued and overvalued stocks and it will be necessary to have a lower margin of safety, say 10–15%, in order for there to be stocks that will qualify for selection as there will be "overvalued" stocks that were purchased previously that now require selling. Similarly when the market is "low" there will be a proportionately greater number of "undervalued" stocks to buy and less "overvalued" stocks in the portfolio to sell. This will require the margin of safety to be raised to, say, 25–30%, in order for the portfolio rebalancing exercise to make sense.
- 22 Fisher (1975) uses the term "conservative investor" in an unconventional sense. For Fisher, "a *conservative investment* is one most likely to conserve (i.e., maintain) purchasing power at a minimum of risk" and "conservative *investing* is understanding of what a conservative investment consists and then, in regard to specific investments, following a procedural course of action needed to properly determine whether specific investment vehicles are, in fact, conservative investments." In this context, Fisher sees the common stock of outstanding companies purchased as cheaply as possible as the best type of conservative investment.

- 23 The four dimensions are: (1) superiority in production, marketing, research and financial skill; (2) the people factor; (3) essential characteristics of the business; and, (4) the current value of the stock, measured in a relative *P/E* sense. This leaves Fisher with: *four dimensions*, used to structure the common stock selection strategy in Fisher (1975); *fifteen questions* used to assess business characteristics from Fisher (1980); and, *eight points* in the investment philosophy, given in Fisher (1980) but synthesized from Fisher (1958, 1975).
- 24 A more expanded version of the thirteen "owner related business principles" plus one added principle underlying Buffett's approach can be found in the Berkshire Hathaway annual report (2003, pp. 68–72).
- 25 For example, in the 2002 Berkshire Hathaway annual report (p. 4), Buffett recommends in reference to management: "to be a winner, work with winners." While this is good advice for Buffett who is able to secure a golf game, weekend retreat or cosy dinner with virtually any major figure in American corporate management, it is little comfort to a small individual investor seeking to make a purchase in, say, US Steel.
- 26 The reference to holding company is intended in a descriptive and not a legal sense. The description of Berkshire Hathaway in the 10-K filing refers to an insurance company that owns a range of non-insurance related businesses.
- 27 Any "economic value" calculation is subject to interpretation. The calculation of net tangible assets is no exception. A common convention is to use (cash + accounts receivable + inventory + property, plant and equipment) – (adjustments to reflect differences between the accounting value of the assets recorded on the balance sheet and the replacement cost of the assets).
- 28 Various descriptions of the value investing approach, in general, and the Buffett approach to value investing, in particular, stress the key role played by the franchise factor as the source of long run corporate advantage and "monopolistic" profit. However, while the franchise factor is of central importance in the many situations of sustainable competitive advantage, there are other sources that can also produce this result.