

CHAPTER 3: MANY WAYS TO ASSESS VALUE

...the most striking aspect of the present state of ratio analysis is the absence of an explicit theoretical structure ... the user of ratios is required to rely upon the authority of an author's experience. As a result, the subject of ratio analysis is replete with *untested assertions* about which ratios should be used and what their proper levels should be.

James Horrigan, (my emphasis)¹

Since the late 19th century, the growing availability of financial statements has raised the issue of how best to analyse the information they contain. People have taken an old idea from the ancient Greeks about ratios and used this to focus on the relationship between different items in a firm's financial statements. They have used these relationships, or ratios, to predict whether a firm might be likely to fail in the future; or, perhaps more positively, what its earnings or other performance measures might be in the future. The only problem with this was there was no clear reason why these ratios should be useful to predict future outcomes of firms, and no clear evidence that they, indeed, were useful. There was no theory, no mental framework or connection – no understanding - for us to think that these ways of analysing a firm's financial statements help us to meaningfully engage with the *future* economic and business realities of firms.

There have been some attempts to provide a framework or structure for certain approaches to analysing financial statements, but it is still not clear whether these approaches are of use to us in predicting future outcomes of firms. With the growing availability of computers and electronic databases over the past 50 years or so, attempts have been made to identify relationships between aspects of a firm's financial statements in the past and subsequent measures of its performance. Except possibly for predicting corporate failure, this research has been largely unable to identify stable relationships between aspects of firms' financial statements and their future economic and business realities.

With the lack of any convincing theory to support specific approaches to the analysis of financial statements, many ways are used in practice to assess value in our capital markets today. We will look at the use of comparables, and especially the use of P/E (price-to-earnings) multiples. There are many other ways, including a range of other purportedly 'fundamental' valuation techniques and various technical analysis methods (based on looking at patterns of past share prices) which we will not discuss. Many of these methods do not have a clear theoretical connection to the present and future economic and business realities of firms. They can often be based on speculation: seeking to out-guess other participants in the capital markets who are seeking to out-guess what we are seeking to out-guess about them, and so forth. Those using these range of methods can lack a clear framework in their own mind to guide the use of these techniques to ensure there is a firm connection between the results of their analysis of a firm's financial statements and the firm's economic and business realities.

I will suggest that using methods and approaches to analyse financial statements which have a strong theoretical connection with the economic and business realities of firms can give us an edge over those analysts who primarily use methods and approaches that do not. We will look at approaches using forecasts of dividends, cash flows and earnings as ways to help us use a firm's financial statements to

engage meaningfully with its economic and business realities. I will argue that having a sound conceptual framework to analyse firms' financial statements will help us gain real insights into the value of firms: to know what adds value.

3.1 How Practice Developed

With the growing availability of financial statements since the late 19th century, analysis of financial statements has become a substantial activity within the world's capital markets and within business more generally. Yet this widespread *practice* of financial statement analysis often does not appear to be based on a well-considered and compelling *theory* of financial statement analysis. To help us understand how this could be the case, in this section we look at the growing availability of financial statements and the approaches people have developed to analyse them.

Availability of financial statements

In the late 19th century, as financial statements were starting to be provided more frequently to parties outside firms, they began to be more systematically analysed and assessed, particularly using ratios as a key part of this analysis. Ratios are an idea taken from the Greeks. They help us focus on the relationship between different items in a firm's financial statements. The term 'ratio' (the Greek word for ratio is 'logos') was first introduced by Euclid in the *Elements*. Euclid's *Elements* is the world's second most widely translated and circulated book, second only to the *Bible*. Written in about 300BC, it has had over 1,000 editions and is an astounding treatment of geometry and number theory. It gathers together the concepts and theorems of Greek mathematics. It is not easy to read. It contains no examples to illustrate the concepts, no clever comments, indeed not even an introduction. It contains nothing but theorems and their proofs. Nevertheless, it is without doubt the best mathematics text ever written. Book V of the *Elements* provides a thorough analysis of the properties of ratios.

The earliest use of the word 'ratio' in the *Oxford English Dictionary* is from Barrow's 1660 translation of Euclid's *Elements*, "Ratio (or rate) is the *mutual habitude* or respect of two magnitudes of the same kind to each other, according to quantity" (my emphasis)². In Heath's 1908 translation of Euclid's *Elements*, "A ratio is a sort of relation in respect of size between two magnitudes of the same kind."³ I quite like the idea of 'mutual habitude', which sounds a bit like two people living or flatting together and focuses us on the idea of looking at the relation between two numbers or quantities. A lot of financial statement analysis uses this mathematical idea of the Greeks to help us gain insights into the realities of firms.

Firms have kept accounts to record their activities for a long time. Luca Pacioli (c.1445-1517) (pronounced pot-CHEE-oh-lee), an Italian mathematician and Franciscan monk, published the *Summa de arithmetica, geometrica, proportioni et proportionalita* in 1494. It was a summary of the mathematical knowledge of the time (which we see today as quite elementary arithmetic, geometry and algebra) and included bookkeeping as one of five topics covered. Its section on bookkeeping is the first published book describing double-entry accounting, a method of accounting that was being used by merchants in Venice during the Italian Renaissance. His system included most of the accounting cycle as we know it today. Although Luca Pacioli is usually referred to as the "Father of Accounting" he did not invent the system of double-entry bookkeeping. He was simply the first to describe it in a published book.

A summary of the accounts of a firm was often produced and included as part of the accounts. Such financial statements were produced much earlier than Luca Pacioli's time in the late 15th century. For

example, “the partners Francesco di Marco da Prata and Domenica di Cambio drew up a detailed statement of assets and liabilities on August 30, 1389, quite in the modern manner.”⁴ However, it was not until the late 19th century that financial statements were more commonly developed as separate documents to the internal accounts of the firm to be provided to external parties. This may have been partly due to the emergence at that time of professional managers separate to the source of equity capital (that is, the same person increasingly did not supply the equity capital and run the business). However, the key driving force for the increasing role and importance of financial statements was the rise in significance of the banking sector in the US. This group (unlike, often, the equity investors) had the power to demand financial information from firms, which they increasingly did.

In the 1930s, there was a further significant increase in the availability of financial statement information in the US with the enactment of the Securities Act of 1933 and the establishment in 1934 of the Securities and Exchange Commission (SEC). This legislation forced many US firms to supply financial statements, particularly to equity investors who, unlike the banks, often did not have sufficient power to demand financial statements from firms. Nevertheless, not all firms provided their equity investors with a great deal of information. For example, as Benjamin Graham and David Dodd noted, “an amusing example is Dun & Bradstreet Corporation. This purveyor of financial information does not [in 1940] reveal its own earnings to its stockholders.”⁵ This increase in the availability of financial statement information brought increased opportunities to carry out financial statement analysis on firms. Increasingly, people were faced with the issue of how best to do this; how to make sense of a firm’s financial statements and to use this information to help make decisions. In the absence of any theory, people developed *ad hoc*, pragmatic approaches to the task of analysing firms’ financial statements. In other words, they just got on with it.

Just do what ‘works’

In the 1890s, it started to become more common practice for bankers to request financial statements to assess applications for credit in the US. Probably, most bankers requested a balance sheet, looked over it carefully and filed it, with no attempt to apply any more formalised quantitative processes to analysing its contents. However, some bankers started to increase the level of sophistication of their analysis by adopting some quantitative assessment of the financial statements being produced by firms. This included the separation of current and non-current assets and liabilities in the Balance sheet and the calculation of ratios that looked at the relationship between various line items in the financial statements. Indeed, from about the late 1890s, bankers started to pay attention to the current ratio, which is the relationship between current assets and current liabilities of a business. Financial statement analysis also started to become more popular for equity investors, although how they went about doing this was usually quite unformulated and unclear.

In the first twenty years of the 20th century, an increasing number of ratios were being calculated and used to help assess businesses. Criteria to assess what were good or bad ratios began to be developed, including the then well-known requirement of a 2:1 current ratio. Further, the benefit of comparing a firm’s ratios with the ratios of other firms was starting to become apparent. However, financial statement analysis was still largely casual and *ad hoc*, with only some calculating and using ratios as part of their analysis. In 1919, Alexander Wall in his classic “Study of Credit Barometrics”⁶ produced seven ratios for 981 firms in the US. His study was influential and showed how financial statements could be analysed by calculating several different ratios for a firm and then assessing the firm by comparing these ratios with the ratios of other firms. Influenced by Wall’s study, there was a rapid growth in the 1920s in the US in the number and type of ratios that analysts began to consider when assessing businesses. Ratios were also collected for industries and average ratios calculated for

comparison purposes.

In the 1930s, Roy Foulke successfully promoted a group of ratios as being the most useful, mostly because he was also able to supply industry data for these ratios. In 1933, while working for Dun & Bradstreet, Foulke published his ratios and they quickly became a well-known and widely used series of industry average ratios in the US at that time. Indeed, Foulke is a significant person in the development of the practice of financial statement analysis in the US and then elsewhere. With the growing dominance of the US economy, over time the emerging practices in the US greatly influenced practice in financial statement analysis in other parts of the world, including Australia and New Zealand. Today, in the 21st century, analysts of financial statements still may often select the ratios and information they use, and the criteria they use to judge this information, based on a pragmatic view of what 'works', drawing on the authority of experienced investors and lenders. Typically, there may not be a clear framework, a conceptual map or an idea in the analyst's mind that clearly links information from the financial statements to the economic and business realities of firms.

There is quite a lot of consensus amongst practitioners and others about the usefulness of financial statement analysis to examine high level categories of profitability, long-term solvency and short-term solvency. Profitability (how much a firm earns) and liquidity or solvency (how readily a firm can come up with cash, if needed) are commonly thought of as useful aspects to examine of a firms' financial statements. However, once we seek to get more specific and detailed in our identification of ratios and information from financial statements that are useful, we find a diversity of views rather than consensus. These views can be seen expressed in a range of popular textbooks and other academic writings on financial statement analysis over the years.⁷

I do not find the approach to financial statement analysis of relying on what practitioners do to be so useful, since other than agreement on the value of looking at profitability and long-term and short-term solvency in a general sense, there is surprisingly little consensus on the details. There is also no clear reason why these various ratios should be useful to predict future economic and business outcomes of firms; and, indeed, no clear evidence that they are. However, we can gain a lot of practical wisdom and 'good sense' from experienced practitioners, particularly if they combine their experience with the ability to explain and communicate their insights well. In this respect, I would commend the classic work *Security Analysis* by Benjamin Graham and David Dodd⁸.

I would also commend the various writings of one of Benjamin Graham's most famous students, Warren Buffett⁹. Many of us around the world enjoy reading Warren Buffett's annual musings based on his practical experience and sound good sense in his annual "Chairman's Letter to the Shareholders of Berkshire Hathaway Inc."¹⁰ These usually come out in late February or early March each year. Indeed, when the time comes for Warren Buffett to stop writing these annual letters, many of us will miss his valuable injection of views based on extensive practical experience and good thinking. It is the ability of Benjamin Graham and David Dodd and of Warren Buffett to use the careful analysis of financial statements and other sources of information to gain insights into the economic and business realities of firms that is the key to the success of their ideas.

This *ad hoc*, pragmatic approach says *just do what 'works'*. It uses a subjective classification and assessment of ratios from financial statements based on the practical experience (or simply views) of various people with credibility who propose them. Some people have questioned the value of doing this. They have attempted to identify a framework, or structure, to the analysis of financial statements to provide a rationale for analysing financial statements in a certain way.

Use a structure

There have been some attempts to provide a framework or structure to support the practice of financial statement analysis and the usefulness of certain ratios. This approach to financial statement analysis is not ostensibly based on practical experience, on what simply seems to 'work' in practice, but is an attempt to link together what we look at in analysing a firm's financial statements with a logical, inter-connected structure. In about 1919, the du Pont Company in the US applied the idea of analysing profit margins and turnovers to a major manufacturing enterprise. This idea had been used for some time in retail businesses. The du Pont Company evaluated its operating performance by focusing on return on assets, which is the relationship of profit to total assets. This was decomposed into profit margin (profit/sales) and turnover (sales/total assets). However, the du Pont Company's framework for the use of ratios to analyse a firm's financial statements had little immediate influence outside the du Pont Company itself (although, as we will see later, it did 'belatedly' catch on).

There were other attempts to come up with different structures. For example, in 1923 James Bliss attempted to provide a framework for the integrated use of the growing number of ratios he was using; however, his ideas generally were not taken up in practice.¹¹ In the 1950s, there were a number of studies that looked at the usefulness of the du Pont approach of breaking down return on assets into profit margin and turnover ratios to assist decisions by business managers. This held some promise of being able to use measures of return on assets as a means of integrating several ratios into a coherent system of analysing a firm's performance.

Since the 1950s, the du Pont approach started to gain a degree of popularity. We will see later that we will draw on aspects of the now well-known du Pont approach to classifying financial statement ratios when using DCF and economic profit approaches to financial statement analysis. Whether we just do what credible people say 'works' or use a logical structure, this still begs the question: is there any reason to think that a firm's financial statements can help us predict the future performance of a firm? There have been several attempts to determine which of the wide range of ratios that could be calculated from financial statements might be the most useful and so be what we should focus on when analysing a firm's financial statements.

3.2 Theory and Practice Not Connected

With the growing use of various techniques to analyse financial statements, including the use of various ratios, people started to ask themselves some questions, such as: how useful are these various approaches; which ones should we use; where should we focus our efforts; and is it worth the effort to use these techniques at all? These questions really came down to asking whether there was any relationship between aspects of a firm's financial statements (such as various ratios) and a firm's future financial performance and its value. This section looks at various attempts to find some answers to these questions, to find some reasons (or theory) why we should analyse financial statements in certain ways (or, indeed, at all) and why we should focus on specific aspects of a firm's financial statements.

Asking the wrong questions

Since the 1930s, there have been attempts to assess the usefulness of different ratios to predict future business outcomes and in particular financial difficulties.¹² This reflected the early emphasis on the use of financial statement analysis by credit providers. People did this by calculating some ratios for a range of firms for several years in the past, to see if the ratios were in some way related to whether those firms subsequently failed. Although these studies were initially fairly crude in their approach, they

represented an attempt to provide evidence to support using certain ratios based on financial statements to predict what might happen to businesses in the future. With the availability of computers, much more sophisticated quantitative approaches have been able to be used to find if there are any stable relationships between aspects of firms' financial statements (usually expressed as ratios, or as the relationship between two or more items in a firm's financial statements) and the future financial performance of firms. If such stable relationships could be found to exist, they could then perhaps support a useful theory that could guide what we should focus on and analyse in firms' financial statements.

In 1968, William Beaver conducted an influential study on the ability of certain ratios to predict failure of firms, using more thorough and convincing statistical techniques to help establish the existence of likely relationships.¹³ Over the past 50 years, various academic research has adopted increasingly sophisticated statistical techniques to identify what ratios from firms' financial statements are most useful in making various decisions, in particular those relating to decisions made by equity and debt investors in firms. Except for predicting corporate failure, this research has been largely unable to identify key, stable relationships between aspects of the financial statements and the future financial performance of firms. This has been despite research using increasingly impressive statistical methods to analyse extensive data from various electronic data sources.

In my view, this should not surprise us. The economic and business realities of firms are complex, and the financial statements provided by firms, while valuable guides to assessing this reality are not the reality themselves. Catastrophic events, such as corporate failure, may be more readily predictable from a firm's financial statements as it often takes a few years for a firm to be overtaken by the process of corporate failure and the 'signs' of this can perhaps be more readily captured in the financial statements in advance. Also, banks or other providers of debt to a firm play a key role in the actual process of a firm failing. They do this through triggering processes such as threatening to or demanding repayment of debt by a firm when it is in breach of its legal obligations with its debt providers (or, in other words, in breach of its banking covenants).

Generally, required levels of key ratios, such as interest cover (number of times earnings before interest and tax exceed a firm's interest expense) or debt to equity, are incorporated into loan documentation between a bank and a firm. Should a firm's ratios at some time breach the required levels of these ratios, then the bank or debt provider would often have the legal right to demand repayment of its debt. Since aspects of the financial statements themselves can play a part in initiating the processes that contribute to corporate failure occurring, it is perhaps less surprising that aspects of the financial statements themselves might be strongly related to future corporate failure. We are focusing on the analysis of financial statements by equity investors. While prediction of corporate failure is clearly relevant to equity investors, it is a primary focus for providers of debt to a firm. By way of contrast, the primary focus for equity investors is to evaluate the potential upside; this is why equity investors invest in firms after all, since the profits, after prior claims to other stakeholders are met, go to them (and not to anyone else).

As I have said above, many decades of searching for statistical relationships between aspects of the financial statements and future economic and business realities of firms has largely been unable to identify stable relationships (other than possibly for corporate failure). In many ways, the wrong questions were being asked. Rather than focusing on what, if any, stable relationships there are between aspects of a firm's financial statements and its financial performance at different points in time, we need to focus on something else. Perhaps in our analysis of a firm's financial statements we should focus on understanding how a firm's financial statements relate to the key drivers of the

economic and business realities of a firm. If we could understand these relationships for a firm and if we could make reasonable predictions of the future drivers of the economic and business realities of a firm (using a range of both quantitative and qualitative information from a wide range of sources), then we might be better able to predict for a firm its future financial performance, or in other words aspects of its future financial statements.

Indeed, financial statement analysis should not simply involve focusing on, or analysing, a firm's financial statements. It should involve us using a firm's financial statements to help us engage with key aspects of a firm's economic and business realities. I will say that again (just in case you missed it): *financial statement analysis should involve us using a firm's financial statements to help us engage with key aspects of a firm's economic and business realities.* This involves us using a firm's financial statements to help us identify these realities and to then quantify the dollar effects they may have on the value of a firm. A firm's economic and business realities are messy and qualitative in nature. For example, key aspects of the economic and business realities of Ryman Healthcare might include the level of residential house prices in New Zealand and Australia; and the proportion of the population over 75 years that wish to live in retirement villages. We might be able to find various statistics (or numbers) on these two aspects of Ryman Healthcare's economic and business realities and make some predictions about them.

But how do we connect these insights into value for the equity investors in Ryman Healthcare? This is where financial statement analysis comes in. An analysis of a firm's financial statements can help us gain an understanding of the quantified dollar effects of our forecasts of Ryman Healthcare's economic and business realities, if we understand the connections between the key drivers of Ryman Healthcare's economic and business realities and the key drivers of its financial statements. What we need is a theory of financial statement analysis that will help us do this; help us connect a firm's financial statements with its economic and business realities and to its value. Indeed, the focus of financial statement analysis should be on understanding the connections and relationships between key elements of the financial statements and the key drivers of the economic and business realities of a firm; both in the past and in the future. This, in turn, leads us to focus on understanding and predicting the economic and business drivers of a firm, which is at the heart of financial statement analysis.

Connect to current reality

The question then becomes what analysis of financial statements will help us engage with the economic and business realities of a firm? Financial statement analysis is where accounting and finance meet. However, more importantly, it is where ideas in accounting and finance both meet reality. Financial statement analysis is the practical application or use of accounting and finance ideas. This is the exciting activity awaiting us in our unit, as we analyse the financial statements of our firms. This will help us review and integrate what we know about accounting and finance as we explore how to assess the value of our firm for ourselves.

We do not seek to use ratios (that is, elements of the financial statements) to predict the future economic and business realities of firms; the so-called predictive power of ratios. Rather, we will seek to connect our analysis of financial statements, using ratios in a framework, to the existing economic and business realities of a firm; or, in other words, to be able to connect to the *existing* economic and business *drivers* of these ratios. The predictive power that we need then comes not from the financial statements. They are merely passengers on the journey of our firm. Rather, the predictive power we need comes from our ability to do two things well:

- forecast the economic and business *drivers* of a business, which involves being able to identify

- how these drivers might change in the future; and
- connect our forecasts to a firm's *future* financial statements and ratios and to a quantified, dollar value of the firm today.

In this way, we can participate in the capital markets in an intelligent, informed and capable way. We may even be able to make money in the capital markets by being able to make these judgements on allocating capital better than many others and avoid common mistakes of other investors. Predicting the future is an inherently uncertain activity. Who really knows what we will be doing next weekend? Let alone being able to predict all the various factors and activities of a business as well as its market and economic context for several years into the future. An ordered, structured and logical approach can help us organise the information we have about our firms coherently. This can assist us to focus on forecasting the key economic and business drivers and then incorporate these forecasted drivers into numbers, that is into forecasts of the accounting passengers. This will allow us to come up with quantitative forecasts of earnings and then with our current view of value.

There are many ways to assess value. Some are more convincing and rigorous than others; and so more persuasive. But even within the approach to financial statement analysis that we will be focusing on, there can be as many views of value as there are people doing the analysis. This is because predicting the future requires judgements and a realisation that any prediction will be wrong. At best, we can form a view of value of a firm within a fairly wide range of possible values. The use of financial statements to help determine a view of this value is simply no more precise than that. It certainly does not lend itself to the mindless pursuit of a 'magic' formula. However, the conceptual frameworks we will study in our unit can help us form much more robust and useful views of the value of firms than we otherwise could without them.

We will be using two approaches to financial statement analysis. We will focus on the book values for equity in the financial statements plus 'added value' related to our forecast of Abnormal earnings or Abnormal operating income (the **economic profit approach**); and on our forecast of Free cash flow (the **DCF approach**). However, these approaches to valuation and financial statement analysis are by no means the only ones used in practice. In the next section, we will consider a perhaps more commonly used approach of focusing on comparables, that is on the relationship between (typically) a firm's earnings or cash flows and listed share prices for comparable firms.

3.3 Comparables

We're all trying to get ahead of the curve, thinking to ourselves *what are people going to pay for this stock* a year from now. The P/E multiple, for all its limitations, can give you a very crude indication of the market's expectations – of the expected growth, and the amount of uncertainty or risk associated with that growth.

Michael Corasaniti, Pequot Capital (my emphasis)¹⁴

I am often asked, "What do analysts do in practice?" Behind this question is the implication that this is what we want to know. In the 21st century, there is extensive information about listed firms available in many countries, including published financial statements, listed share prices and extensive industry and economic information. We will consider how this information is typically analysed to assess the value of a firm.

To See Practice

We do not really know for sure what people do in practice. In some ways it is a bit like asking people what they do in their bedrooms. If we asked someone, would they really tell us? There is a certain amount of information in the public domain about what people do in practice in analysing firms' financial statements. For example, there are many brokers' reports published, which typically use a range of methods to analyse a firm's financial statements and to value firms. An example of a broker's report is [here](#) on Johnson & Johnson in the US; and on [Blue Energy](#) in Australia. There are also other published reports, such as independent expert reports that are required to be provided during certain takeover bids for listed companies; [here](#) is an example of an independent expert's report prepared by KPMG (one of the 'Big 4' accounting firms) in relation to the \$1.3 billion takeover of Murray Goulburn by Saputo. These various published reports give some idea of the approaches to financial statement analysis that are used in practice.

There have also been several published surveys and various public discussions over the years in which capital market participants have been asked what techniques they use when analysing financial statements. For example, one of the earlier surveys of analysts was in 1971, when Ralph Bing surveyed a range of capital markets participants in the US on the methods and techniques used "by those who are on the firing line and have to make daily investment decisions."¹⁵ As Bing pointed out: "[the person] who is confronted with an unending chain of decision-making problems usually lacks the time to spell out [their] views in print, and very often has other reasons for not publicising [their] evaluation technique. Nevertheless ... a 'silent majority' of portfolio managers and securities research heads ... occupy a key position in the continuous process of equity valuation, because *values are strongly influenced by those who do the actual evaluating and convert it into buying and selling decisions.*"¹⁶

Most respondents to Ralph Bing's survey indicated they used a range of methods and techniques based on analysing various types of price multiples of comparable listed firms. These multiples were applied to, typically, the earnings of a firm, usually adopting forecasts of earnings within a 1-3 year time horizon. There have been subsequent surveys that have tended to arrive at similar results. For example, a survey in 2006 by William Dukes, Zhuoming Peng and Philip English found that the analysts they surveyed typically each used about 5 different techniques to value shares and that an overwhelming majority (about three-quarters) used current P/E (price-earnings) multiples as a basic valuation technique, also often using future earnings (with a 1-2 year time horizon) and sometimes 'normalised' earnings (which is an attempt to adjust historical or forecast earnings for one-off or unusual items).¹⁷ And a [survey](#)¹⁸ of analysts in the US in 2013 by Lawrence Brown, Andrew Call, Michael Clement and Nathan Sharp found that "[t]he factors analysts believe are most indicative of high-quality earnings include that earnings are backed by operating cash flows, are sustainable and repeatable, reflect economic reality, and reflect consistent reporting choices over time."¹⁹

These surveys give us an idea of what people say they do in practice. I have also been a participant in the capital markets in Australia and New Zealand in various capacities for many years and have seen first-hand what I have done, and what others around me have done, in terms of financial statement analysis and equity valuation. I have also had various informal discussions with participants in our capital markets over the years. Typically, most individual analysts will use a few approaches to arrive at a view of the value of a firm. However, although several approaches may be used, analysts will usually place most reliance on a primary approach that is considered suitable to the requirements of the firm being analysed, with other approaches being used as a 'cross-check' or 'reality test'. The primary approach adopted by many analysts in Australia and New Zealand (and, indeed, in most capital markets of the world) tends to focus on the relationship between a firm's earnings or cash flow and

listed share prices for comparable firms.

Comparable firms

I personally don't spend a lot of time thinking about valuation and projecting cash flows. When taking our positions, we tend to ask ourselves what people are likely to be thinking about the business 18 months or two years hence.

*Steve Galbraith, Maverick Capital*²⁰

A focus on multiples of comparable firms has the benefit of simplicity. We do not need to forecast aspects of a firm's performance for several years, which is difficult to do well. It also has the 'advantage' of relying on the 'consensus' market view of the value of comparable listed companies as the basis for forming a view of the appropriate value of a firm. Essentially, it leaves it to the 'market' to carry out the challenging role of valuing comparable firms. The analyst simply assumes the market has this right. The thinking behind this is that the market reflects the collective 'wisdom' of all investors and so should generally be better than any individual investor, particularly of an individual investor who has not done much 'digging' or analysis themselves.

Multiples for comparable firms can be calculated based on a range of measures. These can include the ratio of market capitalisation (number of shares on issue times the listed share price) to either earnings, cash flows, sales, book value of equity, or book value of total assets. Although commonly used, in practice the use of comparables is not as straightforward and simple as it might seem. Like people, all firms are unique. All firms will be different from other firms in various ways and it is often difficult to identify appropriate comparable firms and to make meaningful comparisons. There is also a range of ways to calculate various ratios or multiples. For example, share prices (used to calculate the 'P' in a ratio, such as a P/E or price-to-earnings ratio) are usually the latest available (or recent) share price, but could be average share prices over a recent period.

Also, if P/E ratios or multiples are being calculated the earnings figure used is usually a firm's actual historical earnings (net profit after tax) from its latest financial statements or alternatively estimated or forecasted earnings for the current year not yet completed. On occasions, 'normalised' earnings might be used, which is an attempt to adjust historical or forecast earnings for one-off or unusual items. Alternatively, a cash flow measure might be used instead of earnings, such as EBITDA (which is earnings before interest, tax, depreciation and amortisation expenses have been deducted). The P/E multiples of comparable listed companies can be applied to the earnings of listed or private firms to obtain an estimate of their value. A firm might be valued by using a P/E ratio based on an assessment of P/E multiples of comparable listed firms (which ratio might be, say, 14 times), which we apply to its historical, forecast or, perhaps, 'normalised' earnings (say, \$10 million) to arrive at a view of its appropriate value today (say, 14 x \$10 million = \$140 million).

The use of comparables is a common technique widely used in practice and is often referred to in the financial media, for example when discussing the adequacy of a takeover bid for a listed company. These types of comments can seem quite reasonable and convincing as ways of getting some understanding of the value of a firm. They *feel* like they make sense. However, none of these types of comments that appear regularly in the financial media when discussing various takeover bids of listed companies and other transactions involving the purchase and sale of businesses gives us any further insights into the economic and business realities of these firms. They do not help us connect to reality. Although aspects of a firm's financial statements are referred to (for example, earnings) there is no

focus on using aspects of the financial statements to help us to connect to their economic and business drivers: to what is really going on. Remember, accounting numbers are merely passengers, not the real drivers. These approaches give us no insights into what is *driving* value for a firm.

No insights into value

Price is what you pay; value is what you get.

Warren Buffett

The approach of using comparables, while commonly used in practice, has nothing to do with conducting a fundamental analysis of the value of a firm. It simply represents a 'cop-out' from us doing our own analysis, which will involve us using financial statements and other information to engage with the realities of a firm for ourselves. Using comparables is largely an exercise in thinking about what others might pay in the future, which can be essentially a speculative activity. As Warren Buffett, a student of Benjamin Graham, has said: "Price is what you pay; value is what you get." The latest share price of a listed company represents the current opinion of the marginal investor in that company about the value of that business. This is not my opinion, but someone else's opinion. They may (or may not) base that opinion on a sound understanding or engagement with the firm's economic and business realities.

Indeed, the use of comparables as a way of assessing the value of a firm involves the *logical fallacy* of relying on the share price of listed company comparables as a fair estimate of their value to assess whether the current share price of another listed company is a fair estimate of its value. This is a circular process. Speculation is based on me thinking about what you are thinking about what I am thinking about what you are thinking. It is not grounded in a sound, intelligent assessment of the realities of a firm. This logical fallacy does not apply to assessing the value of private firms as these firms do not themselves have a listed share price. Another issue with the use of comparables as a way of assessing the value of a firm is the *difficulty of finding 'comparables'* that are sufficiently like the firm we are assessing. This is quite an issue as no two businesses are identical; each business will have its own unique, distinguishing features. Also, the multiples of listed comparable companies can vary greatly between themselves.

The use of comparables, although widely referred to and used in capital markets and with seeming apparent common-sense and reasonableness, provides little or no insight to forming a view of the value of a business. This is because it provides no assistance in helping us connect to the economic and business realities of a firm we are analysing. It may help us assess what other people might be prepared to pay for a firm. It may also be useful to convince other parties: an internal investment committee we may be seeking to convince about the merits of an investment proposal; the party from which we are seeking to acquire equity in a firm; or perhaps a financial journalist. In my opinion, the use of comparables should never be used to convince *ourselves* about the value of a firm.

There are many approaches used in practice in our capital markets to analyse and value firms, including the use of comparables. If these approaches lack theoretical rigour, what should be a rational, theoretically sound basis for assessing a firm's value? The only theoretical basis anyone has managed to identify for valuing the equity of firms is to look at what an equity interest in a firm entitles us to, which are the future dividends we could expect to receive. We now consider this view of assessing a firm's value.

3.4 Forecasting Dividends, Cash Flows or Earnings

Many of our strategies start with the premise that companies create economic value mainly by earning returns above their cost of capital.

*Andrew Lacey, Lazard Asset Management*²¹

Accounting is the language of finance. It is the means of recording through Arabic numerals the forces and values that represent everyday business transactions ... That is why we live in a world of mathematics, why Arabic figures have become so tremendously important in a business civilization based upon competition, the profit economy, and perhaps some growing degree of national capitalism ... Here is the resurrection of the philosophy of Pythagoras, which applies more to the business civilization of today than it did 500 years before Christ when Pythagoras flourished on the shores of the Mediterranean Sea.

Roy Foulke²²

Methods and approaches which use financial statements to help us connect with the economic and business realities of firms can give us an edge over those analysts who primarily use methods and approaches that do not. This section looks at approaches using forecasts of dividends, cash flows or earnings as ways to help us use a firm's financial statements to engage meaningfully with the economic and business realities of a firm.

Discounted dividends

An equity interest in a firm entitles us to a stream of future dividends for the rest of the life of the firm. If, for example, the firm is liquidated or taken over at the end of its life, this would include a final 'dividend' representing the remaining assets after all liabilities of the firm have been settled, or a payment to the equity investors from the party taking over the firm. That is what an equity interest entitles you to; nothing more, and nothing less.

The equity value of a firm is the present value of expected future dividends:

Equity value = PV of expected future dividends

This all seems straightforward. We are now going to start using various mathematical expressions to describe some ideas and concepts. Pythagoras, about 2,500 years ago, thought that all things were numbers. He thought that the divine principles of the universe, though unable to be perceived by our senses, can be expressed in the relationships of numbers. Accounting is all about numbers and we will be expressing several key relationships between accounting numbers by way of mathematical expressions. They can be expressed in words; but it is possible to express these relationships more briefly and precisely in mathematical terms. Some people relate to numbers better than others. Either way, you will need to take time coming to grips with the various mathematical expressions we will be using.

Now,

Equity value = PV of expected future dividends

This can be expressed as:

$$\text{Equity value} = \frac{\text{DIV}_1}{\rho_E} + \frac{\text{DIV}_2}{\rho_E^2} + \frac{\text{DIV}_3}{\rho_E^3} + \dots$$

Where DIV_t = expected future dividends each year
(subscript t refers to the year).

ρ_E = cost of equity capital

(This is the discount rate incorporating the opportunity cost of our capital which we incur while waiting for the future dividends to arrive in our bank accounts each year. If the cost of equity capital is 10%, it is calculated as $1 + 0.10$, which is 1.10).

This is called the dividend discount (DD) model. It is the theoretical basis for us to value equity in a firm; that is, forecast the dividends to eternity that we expect to receive and discount them to the present by applying a suitable discount rate. I have expressed the equity value based on assuming dividends will be received forever. That is what the three dots at the end of the expression above mean. This is not realistic. Although some firms can last a long time, all firms can be expected to have a finite life and to be liquidated or taken over one day. For this reason, we would need to include a terminating dividend at some point.²³

If we could, in practice, value equity using this approach, financial statement analysis would focus on predicting a firm's future dividends. Although dividends are the appropriate theoretical construct to use in considering the value of equity in a firm – it is what equity investors in a firm will get, after all – they are generally not able to be used in practice to value equity in a firm. The key difficulty in forecasting dividends is that dividends are not the source of value for equity investors. Rather, they are simply a transfer of value between a firm and its equity investors. For example, a firm may decide to increase its dividend payout ratio (the proportion of earnings that will be distributed to its ordinary shareholders) from 10% of earnings to 90% of earnings. Assuming no change to earnings, this would result in dividends increasing by nine times. Does that now mean the equity in the firm is worth nine times what it was worth prior to the change in dividend policy? That does not seem to make much sense.

Nothing has necessarily changed concerning the economic and business realities the firm is facing, for example the market for its products and services, the actions of competitors, government regulations and taxation, and so forth. The only thing that has changed is that the board of directors of the firm has held a meeting and decided to increase the proportion of profits it pays to equity investors as dividends. It is not obvious how this action by itself can 'add value'. The key practical difficulty of valuing equity in a firm using a discounted dividend (DD) model is that it is difficult to forecast a firm's future dividends to eternity (or to the end of a firm's life). This is because dividends are based on the discretion of a firm's management and board of directors who may consider a range of factors in setting their firm's dividends.

Also, a firm will typically have a range of transactions between itself and its equity investors that are not simply limited to the regular payment of cash dividends by a firm to its equity investors. These will include the issue of new shares and share buy-backs (the repurchase of its own shares by a firm from its existing equity investors). Cash can move either way between a firm and its equity investors. For convenience, we will use the term 'dividends' to represent net dividends, which will include any transaction between a firm and its equity investors. To value the equity of a firm in practice we will need to move in behind the dividends a firm pays its equity investors. We will need to engage with the

economic and business realities of a firm that are driving the future creation of value by the firm for its equity investors, rather than simply focus on the transfer of value from the firm to its equity investors by way of dividends. One way to do this is to focus on the cash flows a firm generates from its operating activities.

Discounted cash flows

Dividends and cash flows are related. This relationship can be expressed like this:

$$\text{Dividends (d)} = \text{Operating cash flow (C)} - \text{Capital outlays (I)} + \text{Net cash flow from debt owners (F)}$$

Remember that our idea of dividends is net dividends, meaning it is the net payments to equity investors in a firm. It would include dividends paid to equity investors, new issues of shares, share buy-backs; indeed, any transaction between a firm and its equity investors. Operating cash flow is the cash generated by a firm's operating activities, essentially cash received from selling goods and services less the cash expenses incurred to generate these cash inflows from sales (for example, salaries, advertising and rent). Capital outlays are the cash invested into the operating assets of a firm that generate products or services for sale (for example, new factories, new retirement villages, additional inventory or a new warehouse) less the cash generated by selling operating assets (for example, selling some surplus land or an old factory). The Operating cash flow (C) less Capital outlays (I) is known as the Free cash flow (FCF). Thus, $FCF = C - I$. We use the letter I to represent capital outlays because it is the net cash investment into a firm's operating assets.

The words 'cash flow' can refer to several different things. Cash flow can refer to Operating cash flow (C), to Free cash flow (FCF), financing cash flows such as Net cash flow from debt owners (F), or to various earnings-based measures used to approximate cash flow such as EBITDA (Earnings before interest, tax, depreciation and amortisation). In this unit, the words 'cash flow' will usually refer to Free cash flow (FCF). If a firm had no debt or borrowings (or financial assets), dividends (that is, the net cash flow between a firm and its equity investors) would simply equal a firm's Free cash flow (that is, its Operating cash flow less Capital outlays). However, usually a firm does have some borrowings (or financial assets). Net cash flow to debt owners would include interest payments to and from a firm as well as new issues of debt and repayment of debt by a firm. In this way, dividends will depend on a firm's Free cash flow (FCF) and on the level of Net cash flow from debt owners.

Another way of saying this is that the *source* of (net) dividends to equity investors is a firm's Free cash flow (FCF) and its Net cash flow from debt owners. In this way, dividends to equity investors are sourced either from a firm's FCF from its operating activities or from net borrowings from the debt markets. In 2018, Ryman Healthcare paid its equity investors a dividend of \$94.0 million in cash and bought back \$2.0 million of its shares to give a total 'dividend' (or net transfers between a firm and its equity investors) of \$96.0 million. However, its FCF in 2018 was negative \$115.5 million. So how did Ryman Healthcare pay a 'dividend' (that is, net cash flow to its equity investors) of \$96.0 million? The only way it could was by increasing its borrowings (or, more accurately, its Net cash flow from debt owners, which includes net interest payments) by \$211.5 million, which is what it did.

Our relationship between dividends and cash flows can be expressed like this:

$$\text{Dividends (d)} = \text{Operating cash flow (C)} - \text{Capital outlays (I)} + \text{Net cash flow from debt owners (F)}$$

$$= \text{Free cash flow (FCF)} + \text{Net cash flow from debt owners (F)}$$

$$\text{i.e. } d = FCF + F$$

Re-arranging this expression:

Free cash flow (FCF) = Dividends (d) – Net cash flow from debt owners (F)

$$\text{i.e. } \text{FCF} = d - F$$

This expression indicates where the Free cash flow (FCF) of a firm *goes*, or where it is *applied*: to net transfers or payments to equity investors and to debt owners. There is a relationship between a firm's dividends (its net cash payments to its equity investors) and its Free cash flow from its operating activities. For this reason, it is possible to focus on cash flows rather than dividends when valuing equity in a firm. A valuation of the equity in a firm based on discounting future Free cash flows (DCF) of a firm draws on the same theoretical base as a valuation based on discounting future dividends (DD); namely, the value of equity is the present value of expected future dividends.

However, by recasting dividends in terms of Free cash flows (FCF), there is a key practical advantage. We no longer need to predict the dividend policy of a firm. This is because whatever the dividend policy a firm adopts it will have no impact on the value of equity using a discounted cash flow approach. That feels good on two fronts: firstly, there is one less thing to forecast (that is, there is no need to attempt the difficult task of forecasting a firm's dividend policy); and secondly, it makes sense that a firm's dividend policy should not affect the value of equity, as it is simply how much of a firm's earnings will be transferred to equity holders (rather than be used, for example, to pay off debt). Finance theory suggests there are situations where such financial decisions should have no relevance to the value of a firm itself. We can use the discounted cash flow (DCF) approach to value a firm, or the firm's operations, or the 'enterprise'. We can then value the equity by deducting the value of debt.

We can recast the dividend discount model to focus on calculating the present value of cash flow:

$$\begin{aligned} \text{Equity value} &= \frac{\text{DIV}_1}{\rho_E} + \frac{\text{DIV}_2}{\rho_E^2} + \frac{\text{DIV}_3}{\rho_E^3} + \dots \\ &= \frac{(\text{C}-\text{I})_1}{\text{WACC}} + \frac{(\text{C}-\text{I})_2}{\text{WACC}^2} + \frac{(\text{C}-\text{I})_3}{\text{WACC}^3} + \dots - \text{Value of Debt} \\ & * \text{FCF}_t = (\text{C} - \text{I})_t = d - F \end{aligned}$$

Free cash flow (FCF) is dividends (d) minus Net cash flow from debt owners (F). If we forecast FCF instead of dividends, we are ignoring the effect of debt, or in other words we are valuing a firm's operations independently of how it is financed with debt or equity. We use WACC (the cost of capital for a firm, or for its operations) rather than ρ_E (the cost of equity capital) as the discount rate. We do this because discounting a Firm's free cash flow gives us the value of a firm's operations or its enterprise value. We then deduct the value of debt to give us the value of equity. To value the equity of a firm using the discounted cash flow (DCF) method we need to forecast Free cash flow over several years (say 3-5 years), adopt a simplifying assumption to value Free cash flow beyond the forecast period adopted and then discount the Free cash flows to a present value.

As I said above, this is easier to do than forecasting dividends, as we do not need to forecast a firm's dividend policy. However, forecasting Free cash flows does suffer from some of the same practical problems as forecasting dividends. The key problem is that Free cash flow, like dividends, is not a measure of value creation. Rather, it is also a measure of *transfer of value*. Dividends are a transfer of value from a firm to its equity investors. This transfer of value can be affected by a firm's dividend

policy or, in other words, by what mixture of debt and equity it decides to use to finance its operations. Similarly, Free cash flow (FCF) is a transfer of value *within* a firm. It is a transfer of value between a firm's operating and financial activities. Free cash flow (FCF) is driven by two things: cash flow from operations (C) and net cash invested into a firm's operating assets (I).

The dividends paid to equity investors by a firm can be affected by a firm's dividend policy, that is by how much value is transferred to equity investors in any given year. This is a financial decision of the firm and one which should not necessarily affect the value of a firm. In a similar way, the amount of Free cash flow (FCF) a firm generates will be affected by a firm's decision as to how much to invest into its operating assets (I). The more a firm invests into its operating assets the less will be a firm's Free cash flow (FCF) and (other things being equal) the less will be the value of a firm under a discounted cash flow (DCF) approach. This does not seem to make much sense. Management of the firm are presumably investing in operating assets because they expect them to 'add value' to equity investors, that is they are expected to earn greater than the cost of the capital used to acquire them, rather than be value destroying.

In 2018, Ryman Healthcare had Operating income after tax (OI) of \$396.6 million. This came from its operations in developing, selling and managing retirement villages and rest homes in New Zealand and Australia. However, in 2018 Ryman Healthcare also invested a net \$512.1 million into its operating assets (Δ NOA) as the result of a major building program of retirement villages and rest homes. Ryman Healthcare's Free cash flow (FCF) in 2018 was negative \$115.5 million (that is, \$396.6m minus \$512.1m; $FCF = OI - \Delta$ NOA). However, if Ryman Healthcare had not invested so much in developing new retirement villages and rest homes – say only invested \$200 million rather than \$512.1 million – it could increase its Free cash flow (FCF) from negative \$115.5 million to positive \$196.6 million.

If Ryman Healthcare had in fact done this in 2018, by cutting back on its level of investment into its operating assets, would it mean the value of Ryman Healthcare would increase as a result? Quite the reverse, if you think its investment into operating assets is likely to provide a strong return, that is 'add value' to equity investors. This is a significant practical problem in using a discounted cash flow (DCF) model to value a firm. Fundamentally, Free cash flow (FCF) is a measure of *transfer* of value rather than *creation* of value. To value the equity of a firm we need to engage with the economic and business realities of a firm that are driving the future creation of value by the firm for its equity investors. We can get closer to these by focusing on economic profit, that is on the generation of earnings over and above the opportunity cost of the capital it is using to generate those returns.

Economic profit

The opening book value of equity plus expected comprehensive income less expected dividends equals the expected closing book value of equity. This can be expressed as follows:

$$BV_1 = BV_0 + CI_1 - DIV_1$$

This simply means that the book value of equity in any year can only be increased from the previous year's level by earning Comprehensive income (CI), or be reduced by the amount of net dividends paid to its equity investors (this includes all cash flows between a firm and its equity investors, that is share issues, share buybacks and dividends). This can also be expressed as,

$$DIV_1 = BV_0 - BV_1 + CI_1$$

We know that the discounted dividend (DD) model values equity as the present value of expected future dividends. This can be expressed as:

$$V_E = \frac{DIV_1}{\rho_E} + \frac{DIV_2}{\rho_E^2} + \frac{DIV_3}{\rho_E^3} + \dots + \frac{DIV_t}{\rho_E^t}$$

Substituting $DIV_1 = BV_0 - BV_1 + CI_1$,

$$V_E = \frac{(BV_0 - BV_1 + CI_1)}{\rho_E} + \frac{(BV_1 - BV_2 + CI_2)}{\rho_E^2} + \dots + \frac{(BV_{t-1} - BV_t + CI_t)}{\rho_E^t}$$

Skipping over the precise algebra, this can be re-expressed as:

$$\begin{aligned} V_E &= BV_0 + \frac{(CI_1 - \rho_E BV_0)}{\rho_E} + \frac{(CI_2 - \rho_E BV_1)}{\rho_E^2} + \dots + \frac{(CI_t - \rho_E BV_{t-1})}{\rho_E^t} + \frac{BV_t}{\rho_E^t} \\ &= BV_0 + \frac{AE_1}{\rho_E} + \frac{AE_2}{\rho_E^2} + \dots + \frac{AE_t}{\rho_E^t} + \frac{BV_t}{\rho_E^t} \end{aligned}$$

where $AE_t =$ Abnormal Earnings in year $t = CI_t - [(\rho_E - 1)BV_{t-1}]$. Abnormal earnings (AE) is the difference between Comprehensive income (CI), a measure of the accounting earnings of a firm, and the cost of the capital the firm uses to earn that return $((\rho_E - 1) \times BV_{t-1})$.

This, in turn, can be re-expressed as,

$$V_E = BV_0 + \frac{AOI_1}{WACC} + \frac{AOI_2}{WACC^2} + \dots + \frac{AOI_t}{WACC^t} + \frac{BV_t}{WACC^t}$$

where $AOI_t =$ Abnormal operating income in year $t = OI_t - [(WACC - 1) \times BV_{t-1}]$; and WACC is the weighted average cost of capital or the cost of capital for a firm's operations. Operating income is the earnings on a firm's total assets (or enterprise) independent of how it is funded by debt or equity (that is, it is *before* deducting interest) and is *after* deducting tax.

In this way, the value of equity under the discounted dividend (DD) model (based on the present value of expected future dividends) can be re-expressed as the book value of equity plus the present value of future Abnormal earnings plus the present value of the BV of equity at period time t . Alternatively, this can be expressed as the present value of future Abnormal operating income plus the present value of the BV of equity at period time t . As period time t becomes a long time into the future, then the present value of the BV of equity at period time t becomes very small and can be ignored. This means the value of equity is:

$$V_E = BV_0 + PV \text{ of } AE$$

Or alternatively,

$$V_E = BV_0 + PV \text{ of Abnormal OI}$$

It is possible to focus on cash flow or earnings rather than on dividends. This draws on the same theoretical base as the discounted dividend model: the value of equity is the present value of expected future dividends. However, by recasting dividends in terms of Abnormal earnings (or Abnormal OI) there are some practical advantages. We no longer need to be concerned that the value of a firm will be affected by its dividend policy nor by the amount of its operating cash flow that it re-invests into its operating activities. We can focus our attention and our efforts in analysing a firm's financial statements on those aspects that are potentially adding value. This should help us more effectively engage with the economic and business realities of a firm.

Conclusions

We have the ancient Greeks to thank for coming up with the idea of 'ratios'. However, it has only been over the past 100 years or so, as financial statements have become increasingly available and the analysis of financial statements more widespread, that the use of this idea of 'ratios' has been applied to financial statement analysis. Over the past 100 years, there has developed a wide variety of practices to analyse financial statements to value equity interests in firms. This is because there is no general agreement on an appropriate theory for financial statement analysis that can be readily implemented in practice.

We have looked at some of the ways in which people actually go about analysing financial statements in the early part of the 21st century, often adopting a range of approaches, with a common focus typically being on the relationship between listed share prices and a firm's earnings (P/E ratios). We have seen that much of what is practiced as analysis of financial statements may not, in fact, be part of a fundamental analysis of a firm. Reliance, even in part, on listed share prices of companies when analysing a firm and its financial statements is focusing attention on what others think about the value of a firm, not on what we think.

At the end of the day, there are many ways to assess value. Different techniques and approaches, such as a quick check of multiples of 'comparable' listed companies, can have their place to play in different situations. However, using approaches to financial statement analysis based on sound theory about how a firm adds value to equity investors will help us focus our financial statement analysis on those aspects that will help us to better understand how a firm adds value. The key to doing financial statement analysis well is to understand this better than most other investors: *to know what adds value*.

We also saw there is general agreement about one thing: that in theory the equity value of a firm is the present value of its future dividends. We also noted the dividend conundrum: value to equity investors is based on future dividends but observed dividends do not tell us anything about value because they are a transfer of value between a firm and its equity investors and are affected by a firm's dividend policy. We saw that dividends, cash flows and earnings are related in the financial statements; and that it is possible to focus on cash flows or economic profit rather than on dividends. In this way, we can focus our attention and our efforts on analysing those aspects of a firm's financial statements that seek to represent activities of the firm that are adding value to shareholders. In the next chapter we will start to look at how we might do this.

FOOTNOTES

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19. Brown, L.D., *et al*, op.cit.: 4
20. Harris, T. et al, op. cit.: 64.
21. Harris, T. et al, op. cit.: 57.
22. Foulke, R.A., op. cit.: 30.
23. However, the final payment received for an equity interest on liquidation or from a takeover bid would be related to the view of the value of the firm or its net assets at that time. This value would depend on the expectation of dividends, cash flows or earnings from the firm or its net assets in the future (to eternity).

QUESTIONS

- 3-1 What is wrong with just doing what 'works' in relation to analysing financial statements? There are plenty of experienced practitioners in our capital markets. Why do we not simply find out what most are doing and just do this ourselves? What do you think and why?
- 3-2 What is the benefit of having a structure, such as the du Pont company's framework, to help use ratios to analyse a firm's financial statements? Is it any better (or worse) than simply doing what experienced practitioners do? Why or why not?
- 3-3 There have been many attempts to identify relationships between firms' current financial ratios and their future economic and business realities (or, more usually, the future accounting measures of their economic and business realities). Except possibly for predicting corporate failure, no such stable relationships have been identified. Why do you think this is so? Does this suggest that analysing a firm's financial statements may be of limited use? Why or why not?
- 3-4 What are the issues to think about when using comparables to assess a firm's value?