VALUATION AND FINANCING METHODS FOR MERGERS AND ACQUISITIONS

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by

PETER N. ONDICHO

Department of Accounting and Finance &
Department of Economics,
University of Strathclyde,
Glasgow.

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Even with the very fine efforts of all involved in this work, some errors inevitably will exist. Unfortunately, for these, the author must accept final responsibility.

ABSTRACT

Mergers and acquisitions are part of the many different activities that can be found under the corporate restructuring umbrella. Different motivations for their occurrence have been suggested in the literature and consequently the last one or so decade has witnessed too much empirical work 'on the impact of merger decisions on the shareholders' wealth'. However, at the same time, not much attention has been given to the question of the appropriate 'valuation and financing methods' used by managements of acquiring companies.

The financial literature presents both simple and sophisticated discounted cash flow and related analytical techniques. But from the practical point of view, the general criticism against managements of acquiring firms is that they tend to use less sophisticated analytical methods. Indeed, unlike most internal investment proposals, mergers and acquisitions can be viewed as being much more complicated and, therefore, an understanding of the underlying problems related to valuation and financing methods may prove useful in the decision making process.

This research examines the various valuation and financing methods presented in the theoretical and empirical literature with a view to establishing their strengths and inadequacies in decision making. Several issues are also considered in the light of the efficient market hypothesis.

CONTENTS

INTRODUCTION - TO THE RESEARCH

The development of modern portfolio theory has prompted financial economists to examine various aspects of corporate investment and financing decisions. And one of the areas that prominently features in both the theoretical and empirical literature is that concerning merger and acquisition activities. In particular, we are interested in the valuation and financing methods applied during the decision-making process by managements of the acquiring companies.

From the historical standpoint, the pattern of merger and acquisition activities reveals three broad categories, namely, horizontal, vertical, and conglomerates respectively. While the current state of affairs is that there is no universal theory explaining why this economic phenomenon occurs and assumes a periodical pattern, separate and related theories have evolved in the literature which attempt to explain some of the motivations behind them[1].

It then becomes clear from the literature that most of the theoretical and empirical discussions are centred on the valuation of mergers and acquisitions with a view to establishing the positive or negative implications on shareholder wealth in the short-run and long-run. The results, particularly those obtained through empirical studies, have been used to confirm or dismiss the various theories depending on the point under investigation.

Thus, directly or indirectly, the underlying valuation methods that are or would be used by the acquiring companies have also come under close examination mainly by academicians.

The purpose of this research is, therefore, to examine the 'valuation and financing methods' as or would be applied to the decision-making process by managements of the acquiring companies. Our interest in this area lies in the fact that post-merger performance of most merged companies does not always fulfil the anticipated results especially those related to profitability levels. This then calls for the re-examination of the methods used, but the literature in this area seems to be not systematically co-ordinated. In our study, we shall consider the subject of valuation and financing methods by examining both the theoretical and empirical literature. By adopting this approach, we hope to establish the strengths and inadequacies of the methods so far adopted by academicians and those involved in such activities.

The literature on capital budgeting and investment offers several analytical techniques most of which can be classified as DCF methods. The appropriate method(s) to apply will normally depend on the nature and information of the case under consideration. Therefore, like in all major corporate financial decisions, the outcome of decisions concerning mergers and acquisitions will also be judged in the light of the techniques and information at the disposal of decision makers. On the other hand, we

also learn from the theory of capital structure that investment and financing decisions should be considered independently as the latter do not affect the market value of a firm in the final analysis. Because the long debate has continued in the light of the strong and plausible Modigliani-Miller propositions, a discussion of the financing methods will reflect some of the opposing arguments put foward in the recent studies.

It is also indicated in the literature that merger and acquisition activities can and do take place in either a friendly, hostile or both atmospheres during the negotiation period. In addition to that, there are the regulatory and procedural requirements as dictated by some government agencies such as the Monopolies and Mergers Commission (U.K.) and Federal Trade Commission (USA). The general implication then, is that the search and valuation process of suitable targets can be a complex exercise particularly for the successful physical consummation of the contemplated combination. That is why we have included this aspect of merger and acquisition activities in our study.

This research is organised as follows: In Chapter One, we examine the development of merger and acquisition activities and then link the underlying motivations with the notion of the efficient market hypothesis. Alternative Valuation Methods are considered in Chapter Two. Commonly discussed methods such as P/E ratios /EPS approaches, dividends approach, the Market Model, and

Capital Asset Pricing Model are examined. Methods uniquely applicable to unlisted companies are also treated as presented by the accounting profession. Finally the use of accounting ratios to locate take-over candidates is briefly examined.

In Chapter Three, the various financing methods are examined. In particular, much of the discussion centres on the use of cash and stock to compensate the shareholders of target companies. Relevant data from the U.K. and USA merger activities are provided in support of some of the conclusions. We also cite some empirical studies which attempt to establish that each form of payment can result in its own implications on either shareholder wealth or the physical consummation of the contemplated combination.

Chapter Four considers the significance of premiums paid mainly from the point of view of a successful physical comsummation of the contemplated merger. Theoretical and empirical arguments are presented. Finally, we briefly look at the complications of the regulatory and procedural requirements as dictated by government agencies and other watch-dog bodies on the Stock Exchanges. And finally in Chapter Five, we offer a summary, suggestions and conclusions.

CHAPTER ONE:

Merger Development and the Efficient Market Hypothesis.

1.1 Development Of Mergers and Acquisitions

George Foster[2] discusses many different activities that can be found under the corporate restructuring umbrella and among them are 'Mergers and Acquisitions.' Mergers occur when an acquiring firm and a target firm(s) agree to combine under the legal procedures established in the countries in which the merger participants are incorporated. On the other hand, a 'tender offer' is an offer to purchase a proportion of the outstanding shares of the target firm at specified terms on or before a specified date. As it usually turns out, those shareholders not tendering their shares retain an ownership interest in the firm. In the financial literature, the term 'acquisition' is used in a generic sense to refer to any takeover.

Mergers and acquisitions have long played an important role in the growth of firms[3], and like 'flocks of birds or packs of wolves', they have come in waves. Why mergers and acquisitions have bunched together periodically rather than spaced evenly over the years is not fully understood[4]. And the puzzling fact is that theories which seem to explain one wave do not seem to explain other waves. However, two major characteristics have emerged from many of the empirical studies which unequivocally link waves, their 'identifiable existence' and the 'undistinguished profits' from merged firms.

As implied in the preceding paragraph, merger and

acquisition activities are not a recent economic phenomenon and more particularly in the USA and U.K. economies. Furthermore, their pattern has also been quite similar in these two countries although on a smaller absolute scale in the U.K.[5].

Consequently, on four occasions in almost the last one hundred years both the USA and U.K. have witnessed the business community engaging in intensive merger activity. Each of these merger waves is often identified with certain characteristic transactions. The first wave which peaked around the turn of the century is remembered for mergers that created monopolies. The second wave which crested from around 1925 to the late 1920s was characterised by acquisitions of related firms, (Suppliers, Customers and Competitors), but these mergers did not create monopolies, instead they created what economists define as 'oligopolies'. Then from the early 1960s through 1968, a third wave produced large conglomerate firms composed of unrelated businesses. And finally, since 1974 there have been several mergers between large firms, a good example is the recent merger between the Guiness Group and the Distillers Group of Companies in the U.K.

This fourth development has prompted some financial press commentators to state that 'even the biggest companies are no longer safe from takeover bids'[6]. Table 1.1a below shows a sample of eighteen mergers which consummated in the U.K. during the period 1984/85.

Table 1.1a

Acquiring Company	Acquired Company	Value of Consideration for Equity Not Already Owned £ ,000
Guardian Royal Exchange	Guardian Royal Exchange Assurance	1,008,397
B.A.T. Industries	Humbro Life Assurance	663,972
Unilever PLC	Brooks Bond Group	386,545
Standard Telephones & Cables	ICL	340,638
Dixons Group	Currys Group	255,587
Woolworth Holdings	Comet Group	184,486
Harrisons & Crossfield	Pauls	108,788
Arthur Guinness	Martin the Newsagent	46,441
Argyll Group	Amos Hinton & Sons	26,400
Scottish & New Castle Breweries	Moray Firth Maltings	22,838
Mercantile Householdings	Jessel, Toynbee & Gillet	20,840
British Land	Gripperods Holdings	11,255
T.C. Harrison Group Ltd.	T.C. Harrison PLC.	10,510
Saatchi & Saatchi	Harrison Crowley (Holdings)	7,688
Harris Queensway	Bakers Household Stores (Leeds)	7,324
British Electric Traction	Advance Services	7,006
Kean & Scott Holdings	Moben Groups	6,916
Beecham Groups	Copydex	6,098

Source: The Times 1000 1985-86: The World's Top Companies.

Let us briefly examine the various types of mergers as reflected by the pattern of their development.

1.2 Types of Mergers and Acquisitions

As we shall see later in this chapter, there are many reasons given in the economic and financial literature as to why many companies have engaged or contemplated participating in merger and acquisition activities. However, some of the reasons are far from being plausible when examined in the light of the 'efficient market hypothesis', a notion we shall also examine in this chapter. One common reason is 'market penetration' and it is considered to be a major factor in evluating the desirability of a proposed merger.

By analysing the pattern of merger development discussed in the previous section, financial economists and corporate leaders are accustomed to talking about various modes of market penetration in terms of external growth. These modes are horizontal, vertical, and conglomerate mergers. We shall now consider in a general sense each of these three types of merger but further mention will be made in subsequent chapters depending on the issue under consideration.

1.2.1 Horizontal Mergers

Mergers of this nature are perhaps the oldest in merger history and they occur between two or more

companies that compete in the same industry and operate at almost the same level of production or distribution. Thus a merger between two textile firms would represent a horizontal merger, and most of the mergers around the turn of the century were of this nature.

One notable feature about these mergers is that they tended to create monopolies in both the USA and U.K. economies. Such a situation would be considered as being at variance with the much applauded concept of 'free competition' and it therefore led to the establishment of governmental regulating agencies such as the Federal Trade Commission and the Monopolies and Mergers Commission in the USA and U.K. respectively.

1.2.2 Vertical Mergers

These mergers involve two or more firms that compete in the same industry but operate at different stages of the production - distribution system. The oil and steel industries provided attractive and perhaps flexible opportunities for firms to extend their activities almost right from the source of the raw materials, the processing, and distribution of the final product. Vertical mergers were common during the second merger wave of the 1920s discussed in Section 1.1 and these 'oligopolies', were designed to create both operating and financial economies.

1.2.3 Conglomerate Mergers

These involve firms engaged in unrelated types of

business activity. Copeland and Western describe these types of merger within a conglomerate[7]. First, there are 'product extension' mergers which broaden the product lines of firms. For example, in the unsuccessful bid for United Biscuits by Imperial Group, the following comparison of their merger interests was depicted in the Financial Times edition of December 3, 1985. So had the Imperial Group succeeded in taking over United Biscuits, it would have achieved an impressive product range (see Table 1.1b which follows) but the Monopolies and Mergers Commission ruled out the contest and Hanson Trust later succeeded in taking it over.

The second category of conglomerates is 'market extension' mergers which involves two firms whose operations had been conducted in non-overlapping geographic areas. And finally, there are 'pure conglomerate' mergers which involve unrelated activities that would not fit in either of the first two categories mentioned above.

Conglomerate mergers emerged in the mid-1960s and continued to feature during 1968. The current merger activity appears to have picked up its momentum in early 1980 as can be charged from the financial press reports. However, there are few operating economies in a conglomerate merger.

In a national conference in 'Company Mergers and Acquisitions', organised by the University of Strathclyde and the Financial Times in 1967[8] one of the participants

Table 1.1b

Major Activities of Imperial Group	Major Activities of United Biscuits
Tobacco & Confectionery: Players and Embassy cigarettes, Golden Virginia and St. Bruno tobaccos, Famous Names Liqueurs Foods: Ross frozen foods, Youngs Seafoods, Golden Wonder crisps, HP and Daddies sauces Brewing: Courage beers and pubs, John Smith beers, Harp lager Restaurants, Hotels, Shops Anchor Hotels, Harvester Steak Houses, Happy Eater restaurants, Finlays newsagents.	Biscuits & Confectionery: McVities, Ry-King, Crawfords, Macfarlanes, Macdonalds, Carr's Biscuits, Terry's chocolates Snack Foods: KP snacks and nuts Frozen Foods: McVities Restaurants: Pizzaland, Wimpy US Keebler Cookies and Crackers, Speciality Brand spices and herbs

Source: Financial Times: December 3, 1985

spoke about two other types of mergers which are rarely mentioned in many economic and finance text books. These are 'reverse' and 'sub-mergers' respectively.

1.2.4 Reverse Mergers

In a reverse merger or takeover, we find a public company, often long in assets and short in profits buying a private company which is long in profits and short in assets. In such a circumstance, the public company issues shares to the owner of the private firm, and in this way, the private owner(s) invariably becomes a controlling shareholder in the public company. This method is also one of the ways of getting a stock exchange quotation, for a private company without a long enough record or rather volatile performance.

1.2.5 Sub-Mergers

In this case, public companies which find that some of the subsidiaries they have acquired no longer fit their structure or purpose, are more prone to negotiate without much publicity, such a subsidiary to another company, where that subsidiary company in question will fit another better.

In this section, we have examined three major and two minor categories of merger which are based on 'market penetration' as the motivating factor. In the following

section consideration will be given to the reasons behind merger and acquisition activities.

1.3 Motivations for Mergers and Acquisitions

Many and sometimes overlapping motivations for merger and acquisition activities are to be found in both the economic and financial literature. For example, an OECD report entitled 'Mergers and Competition Policy [1974]' listed twelve main motives which most frequently lie behind mergers[9]. However, many of such motivations are not too plausible from the point of view of the efficient market hypothesis. Brealey and Myers suggest that some of the reasons for mergers are sensible while others sound dubious[10]. They consider the following motives as being sensible:

- economies of scale
- economies of vertical integration
- eliminating inefficiencies
- unused tax shields
- combining complimentary resources.

On the other hand, the dubious ones are related to:

- diversification
- earnings per share
- lower financing costs.

Therefore, it is quite common to come across some of the above mentioned motives in the financial press. Such messages are often designed to convince the shareholders and the general public that the potential merger or acquisition candidate will subsequently create far reaching benefits for all concerned than it is at the moment. However, the long history of mergers and acquisitions has brought home many useful lessons to both the investing community and academicians regarding the post-merger performance. For instance, the conglomerate merger activity of the 1960s was based on the notion of P/E ratios whereby firms with lower P/E ratios were the targets[11]. However, as we shall see in Chapter Two, the application of P/E ratio as a valuation method is not adequate due to its inherent limitations.

Furthermore, while one of the principal objectives of corporate financial management is to maximize the value of the firm to its shareholders, financial managers have little room for any influential manoeuvre with a view to pleasing the shareholders about the performance of their companies on the basis of past, present, and or future investment and financing decisions as long as the capital markets are efficient. In the following section the notion of 'efficient market hypothesis' will be examined since it will prove quite useful in the discussion of many issues related to the 'valuation and financing' of mergers and acquisitions.

1.4 The Efficient Market Hypothesis and Merger Decisions

In much more advanced economic and financial literature, the notion of the 'efficient market hypothesis' has been applied to the testing of the impact or validity of certain claims and beliefs related to corporate financial decisions including portfoilio management. For example, decisions regarding the optimal level of leverage, dividend policy, stock splits, rights issues, change of accounting policies, and announcement of mergers and acquisitions have been extensively debated and the debate still continues on many of these topics.

First, what do financial economists mean when they refer to the 'efficient market hypothesis'? Fama [1976][12], one of those most responsible for the development of the efficient market theory, subsequently defined an efficient market as follows:

> An efficient capital market is a market that is efficient in processing information. The prices of securities observed at any time are based on 'correct' evaluation of all information available at that time. In an efficient market, prices fully reflect available information.

It is important to emphasize that there are two aspects to the efficiency fo a market's response to the new information:

- the speed with which it processes the information.
- its ability to correctly assess the implications of the information.

Another important aspect of efficient capital market is that there is no pretence that the market can foretell the future. In any case we live in a world of uncertainty and, therefore, the market's expectations will not always be correct. All that is suggested is that prices which are set are correct in relation to the information available at that point in time. Thus, this implies the absence of any systematic errors in the pricing process which could be exploited by investors to earn above normal rates of return.

Economists also talk about 'perfect capital markets', whereby it is assumed that the markets are frictionless, there is perfect competition for securities, they are informationally efficient and individuals are rational expected utility maximizers. Fortunately, much restrictive assumptions need not all be met for there to exist an efficient market. So it would appear that the most critical inference for an efficient capital market is that prices fully and instantaneously reflect all available relevant information. This further means that when assets are traded on say the London Stock Exchange, prices are accurate signals for capital allocation. But still, some corporate financial managers carry out valuations in mergers and acquisition candidates as if the

markets were inefficient, for example, 'acquiring a firm with undervalued assets'[13].

There is yet one other aspect about the efficient capital market and that is the availability of information in the market. Given that any relevant information could be either historical, publicly available, or in possession of a priviliged group, it then follows that there are different levels of market efficiency. This significant point led Roberts [1967][14] and Fama [1970][15] to identify these information sets, each corresponding to a different level of market efficiency for purposes of empirical testing.

1.4.1 Types of Market Efficiency

Three types of market efficiency were thus identified by the above mentioned economists.

Weak Form Efficiency

In such a market, prices will reflect any information reflected in the historical pattern of price levels and movements. Therefore, no investor can earn excess returns by developing trading rules based on historical price or return information. This means that such information is not useful or relevant in achieving abnormal returns as the 'Chartists' purport to believe.

Semi-strong Efficiency

In this case the market prices will reflect all publicly available information such as the contents of accounting reports, merger and acquisition announcements, etc. Thus, the implication is that the only way to make profits in excess of a buy-and-hold strategy is to have inside information.

Strong-form Efficiency

A market of this nature shows that current stock prices reflect all relevant information including information available only to company insiders or other priviliged groups. In summary, no investor can earn excess returns using any information, whether publicly available or not.

Various tests have been carried out on each of these three types of market efficiency and most of the evidence seems largely to support the weak and semi-strong forms of market efficiency whereas the difficulties encountered in testing the strong-form are yet to be overcome but still there is more evidence in its partial support. Tests of the 'weak-form' have generally taken the form of attempts either to identify patterns in share prices or to demonstrate that prices change in a random fashion. The former have normally employed correlation tests and run

tests, Fama [1965][16]. The tests of the 'semi-strong firm' have considered various items of publicly available information, for example, the announcement of earnings, mergers, and the release of money supply. The first major test in this type of market was carried out by Fama, Fisher, Jensen and Roll [1969][17] in their famous study concerning stock splits. In this study, FFJR arrived at the general conclusion that the abnormal price changes take place before the announcement of stock splits rather than after which thus supports the semi-strong form of the efficient market hypothesis that current prices already reflect all publicly available information relevant to the value of a company's securities. Similar tests on mergers, Mandelken [1974][18] have revealed that the stock market rapidly reflects the economic benefits (synergy) of mergers in the valuation of securities even before mergers are announced publicly. Therefore, it can be generally said that the stock price improvement begins prior to the takeover announcement and the pattern usually observed for the target or selling company is as shown in Figure 1.1 below.

Figure 1.1

Source: J. C. Van Horne: Fundamentals of Financial Management P611

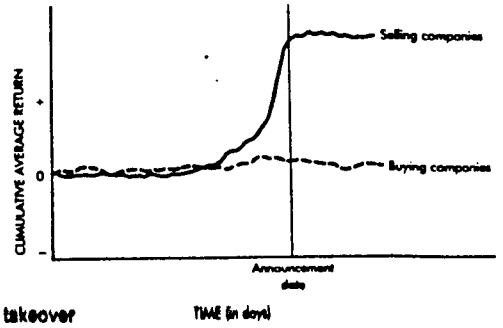


FIGURE 1.1
Relative stock returns around a successful takeover

The general inference from tests in the semi-strong form of market efficiency (under which most mergers and acquisitions are investigated) is that share prices seem to reflect investors' expectations of significant company investment plans even before the public disclosure of collobarating information by the companies involved.

Finally, the tests for the strong-form of market efficiency have focused on two groups of investors - portfolio managers and those with access to inside information. However, it should be realised that the difficulty of identifying non-public information implies that it is not feasible to use the same approach as for the semi-strong form of the hypothesis. Jensen [1968][19] examined the results achieved by 115 mutual funds [Unit Trusts U.K.] in the USA over the period 1945 to 1964 and his study suggests the following general conclusions.

- the managers of mutual funds do not have access to information not already relected in share prices or any greater ability than investors as a whole in picking (winners);

- there is no evidence of any managers achieving consistently superior performance;

- mutual funds should not waste investors' capital by undertaking numerous portfolio changes and incurring heavy transactions costs in their pursuit of the elusive mispriced shares.

1.4.2 General Implications of the Efficient Market Hypothesis

On the basis of what has been revealed by many of the empirical studies, some useful conclusions can be made with a view to clarifying the beliefs and decisions of some of the corporate financial managers. Brealey and Myers suggest six significant lessons of market efficiency which indicate that there is hardly any room left for such managers to play the game [20]. These lessons can be briefly stated as:

- 'markets have no memory' and therefore the sequence of past changes contains no information about the future.

- markets can be trusted since they impound all available information and therefore no abnormal rates of returns can be achieved in a consistent manner.

- 'there are no financial illusions' in an efficient market regarding the announcement of stock splits, mergers, etc.

- 'the do-it-yourself alternative' meaning that investors will not pay others for what they can do equally well themselves.

- 'seen one stock, seen them all' - an inference from the concept of elasticity of demand for an article.

- 'reading the entrails' since security prices can tell investors a lot about the future.

Thus, from what has been said above concering the notion of 'eficient capital markets' it then follows that many of the claims made about the advantages of mergers and acquisitions have to pass the test of the efficient market hypothesis. Consequently if one company wishes to take over another, it may have to pay a bid price for the target firm's common stock in order to obtain majority control. However, if the market is efficient, a bid premium can only be justified on synergistic grounds otherwise the transaction might lead to the transfer of wealth from the acquiring company's shareholders to those of the target firm. This could arise if the post-merger returns turn out to be below the bid premium.

1.5 Summary

In this chapter we learnt that the history of merger and acquisition activities stretches back to the turn of the century particularly for the USA and U.K. economies but there is no universal theory explaining the periodical pattern of such an economic phenomenon.

Three major categories of mergers were examined, that

is horizontal, vertical and conglomerate mergers all of which arise from 'market penetration' as the main motivating factor. Mention was also made about 'reverse and sub-mergers'. Then other motivations were briefly considered in the light of the efficient market hypothesis and it was noted that many of the corporate financial decisions including those related to mergers and acquisitions can only be justified if there are really tangible benefits, otherwise not much can be gained in terms of increased shareholder wealth as long as the market is efficient. That is to say, there is hardly any room for manoeuvre on the part of corporate financial managers and also portfolio managers.

With this brief background knowledge of the development of mergers and the 'efficient market' hypothesis, we shall now turn to the examination of alternative valuation methods for mergers and acquisitions, a subject of Chapter Two.

Notes and References to Chapter One

1. For details see Copeland and Weston: Financial Theory and Corporate Policy 2nd Edition: pp 561-569.

2. George Foster: Financial Statement Analysis 2nd Edition pp 459-496.

3. Copeland and Weston et al Op. Cit. pp 559-594.

4. Brealey and Myers: Principles of Corporate Finance: 2nd Edition p 791.

5. S. R. Reid: The New Industrial Order p 4.

6. The Sunday Times 6th July 1986.

7. Copeland and Weston et al Op. Cit.

8. National Conference on Company Mergers and Acquisitions: 1967.

9. John Frear: The Management of Business Finance pp 415-448.

10. Brealey/Myers et al Op. Cit.

11. Francis/Broyles and Carleton: Corporate Finance - Concepts and Applications pp 337-364

12. Fama E. F. Foundations of Finance.

13. Frances/Broyles and Carleton et al Op. Cit.

14. Brealey and Myers et al Op. Cit.

15. Fama, E. F.: 'Efficient Capital Markets. A Review of Theory and Empirical Work'. The Journal of Finance, May 1970.

16. Fama, E. F.: 'The Behaviour of Stock Market Prices'. The Journal of Business' January 1965.

17. Fama, Fisher, Jensen and Roll, 'The Adjustement of Stock Prices to New Information', International Economic Review, Feb. 1969.

18. Mandelker, B. 'Risk and Return: The Case of Merging Firms', Journal of Financial Economics, no. 4 [Dec. 1974] pp 303- 335.

19. Jensen, M., 'The Performance of Mutual Funds in the Period 1945-64', JF May 1968.

20. Brealey/Myers et al Op. Cit.

CHAPTER TWO:

Alternative Valuation Methods for Mergers and Acquisitions.

2.1 Treating Mergers And Acquisitions As Investment Decisions.

While the purchase of another firm can be considered as being merely a particularly complex investment project, it must still satisfy the same criteria and be justified on the same grounds as any other investment opportunity available to a firm. However, unlike internal capital investments, mergers and acquisitions do not directly increase the productive capacity of the economy but just reflect the transfer of title or ownership of a set of assets from one group of shareholders to another.

As already implied above, mergers and acquisitions are thus susceptible to evaluation using valuation models based on the discounting of cash flows. But as Terence E. Cooke states in his recent book [1986][1] some companies that use sophisticated discounted cash-flow techniques for capital investment appraisal do not subject acquisitions to such analysis. Maybe one would be tempted to argue that there are inherent weaknesses in the DFC methods which decisions makers recognize. In any case, it is generally believed that whereas the NPV criterion produces superior guidelines in repect of internal imvestment proposals, most corporate financial managers find it much more convenient to apply naive approaches such as the payback method. Perhaps there are complications related to mergers and acquisitions in as far as the application of the appropriate DCF methods is concerned. For example

John Frear[2] suggests in a broad sense four major complications covering the estimation of initial outlay; matching and streamlining objectives and related needs; tax implications; and mode of financing.

Despite these and many other complications covered in the financial literature, corporate financial managers including the relevant team of professionals have to make an evaluation of the anticipated synergistic effects of mergers and acquisitions even if the process may prove cumbersome and costly. In the following sections and for the rest of this Chapter, we shall consider the question of alternative valuation methods.

2.2 Valuation Methods For Mergers And Acquisitions

A general survey of the economic and financial literature shows that there are several methods (qualitative and quantitative) for valuing mergers and acquisitions but their application need not be mutually exclusive. Merret and Sykes[3] have listed the following as the most commonly used methods of acquisition appraisal:-

- the purchase P/E and EPS methods.

- the earnings per share ratio approach.

- the discounted EPSR.

- allowing for subsequent rights issues.

- EPSR and the equity cash approach.

Other authors such as Copeland/Weston, Brealey/Myers, J. van Horne to mention but a few treat these methods and related issues in varying degrees of sophistication. In fact, the tendency has been to evaluate merger and acquisition cases in the light of the 'efficient market hypothesis' with a view to establishing the implications of the inherent factors on the wealth of holders of various securities. It must also be emphasized that in more advanced literature some of these methods are treated in a theoretical sense and therefore attract more academic interest than practical applicability. Perhaps Cooke offers a less sophisticated treatment (which is more accounting oriented) and in his recent book on 'mergers and acquisitions'[4], he discusses some of the above mentioned methods including others which can be applied to 'listed and unlisted' companies. For the former category he discusses the following valuation methods:

- the earnings approach.

- the dividends approach.

- the market model.

- the capital asset pricing model.

and for unlisted companies Cooke describes the following methods in addition to the first two mentioned above:

- the asset basis approach.

- the superprofits approach.

- the dual capitalization approach.

- a composite approach.

Let us now briefly consider each of these approaches.

2.2.1 The Earnings Approach.

Traditionally, acquisition analysis has been based on price-earnings multiples [PE ratios] and earnings per share [EPS] both of which focus on the short-run. The PE ratio is generally defined as:

$$PE = \frac{\text{Market Price Per Share}}{\text{Earnings Per Share After Tax}} = \frac{\text{Market Value of Equity}}{\text{Earning After Tax}}$$

In UK, Cooke states that the general procedure for calculating EPS is according to the Statement of Standard Accounting Practice No. 3, SSAP 3 requires that the last declared earnings figure before extraordinary items be considered, but after deducting tax, minority interests and preference dividends to obtain the earnings attributable to ordinary shareholders from normal activities.

However, the PE ratio has some characteristics and limitations which make it inadequate for straightforward application. For example, a critical assumption behind the PE ratio method is that quoted companies can be found that are closely comparable to the untraded merger and acquisition candidates. In addition to that crucial factors such as comparability of earnigns growth and risk need to be considered for purposes of compatibility for the combined firms. Cooke also mentions some inherent problems such as the following:

- **Capitalization Rates:** In this case it is noted that the market capitalizes the target firm's earnings at the higher P/E ratio. Even if EPS accretion/dilution would be avoided by considering a weighted average of the earnings of the acquiring and target companies, Cooke asserts that the market does not normally react in such a manner, but makes an assessment of the profitability of the new group and its ability to utilise assets efficiently to take advantage of economies of scale and exploit synergy.

- **Myopic Short Term View:** It is not only the immediate benefits, but also the long-term effects that need to be considered. Even if a long-term view were taken, there are still problems related to such matters as the 'imputation and deferred tax' systems in the UK [see SSAP No 11 - 1975, SSAP No 15 - 1978, and ED 33 concerning deferred tax]; and accounting policies as evidenced by SSAP No. 16 of 1980 regarding inflation accounting.

Despite of its short comings and inherent problems, Cooke like many other authors states that PE ratio method was particularly used during the conglomerate mergers of 1960's as a bench mark for identifying suitable merger and acquisition targets. During this period, the general contention was that acquiring companies would take over other companies with lower ratios than their own and then pay premiums for the target companies and still increase the EPS of the combined companies. In this way, shareholders would benefit providing the stock market priced the targets' earning on the same PE multiples as the acquiring companies' earnings. Since then, this method has received much criticism in the literature especially by academicians although Cooke states that the 'capitalization of maintainable earnings' is still the most commonly used valuation method. Nevertheless, it is now generally argued that what is of great significance is the effect on the market value of the combined firms and

not the accretion or dilution of EPS.

2.2.2 The Dividends Approach

An attempt has also been made to value mergers and acquisitions using the model of share-price behaviour, that is the dividend stream with multi-growth rates. In an article entitled 'A Review of Acquisition Valuation Models', Adrian Buckley [1974][5] made some further comment on the growth model using the B. Malkiel approach to their price valuation. In mathematical terms the Malkiel approach is as follows:

$$P_o = \sum_{i=1}^{n} \frac{D_o(1 + g_1)^i}{(1 + K_e)^i} + \sum_{j=n+1}^{\infty} \frac{D_n(1 + g_2)j-n}{(1 + K_e)^i}$$

where P is the economic present share price based on dividends per shre of D at present growing at g for n years and then growing at i and K is the shareholders' required rate of return. Buckley following the work of Franks, Miles and Bagwell demonstrated that such a model can be used in valuing acquisition condidates but the mathematical manipulations are far from being easily comprehensible. Thus it can be said that the 'Malkiel Growth Model' may be clumsy to use in practice, especially if the bidding company has an accurate picture of early cash flows and need not relate them to growth patterns.

Furthermore, Cooke states that the dividends approach is not normally used in acquisition analysis because control of the voting capital ensures control of dividend policy. He then concludes that there is no advantage to using dividends instead of earnings.

2.2.3 The Market Model

The most common model used in the empirical research on mergers is the 'Market Model' which was developed by Fama, Fisher, Jensen and Roll [1969][6] and it asserts that there exists a linear relationship between the return on the individual security and that of the market. In mathematical terms the model can be shown as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + U_{it} \qquad \ldots(2.1)$$

where R_{it} represents the return of a share i in period t; R_{mt} the return on a general market index; u the degree to which the share varies other than with the market; αi, βi the intercept and slope of the linear relationship between R_{it} and R_{mt}. However, the returns are often expressed in natural logarithims, since the arithmetic mean can give misleading results the model would then be:

$$\log_e R_{it} = \alpha_i + \beta_i \log_e R_{imt} + U_{it} \qquad \ldots(2.2)$$

Fluctuations in the return for security R depend upon:

- the market factor, which depends upon the economy inter alia.

- the firm specific factor, where the resudual [U_{it}] is assumed to be uncorrelated with the return on the market.

In order to apply this model, Cooke argues that the first step is to establish the theoretical share price excluding any anticipation of merger benefits. For example, if the market index has increased by say 15 per cent over the last six months prior to the merger announcement and the security has a beta of 1.5, the share price would normally go up by 22.5 per cent [using equation 2.1] is we assume that the alpha is zero. If the share price has instead gone up by 30 per cent, then the market has anticipated the merger benefits by [30 - 22.5] = 7.5 per cent. Cooke then states that if the present value of the unanticipated future benefits of the merger is say 20p per share, then the maximum price that can be paid can be arrived at as illustrated by the following simple example:

Share price 6 months ago (100/1.30)	= .77p
Theoretical increase in share over the last 6 months excluding anticipation of benefits	= .17p
Theoretical price at time of bid	= .94p
Actual price at time of bid	= 100p
Merger benefits already anticipated by market	= 6p
Maximum price to pay = 100 + (20 - 6)	= 114p

As already stated, one assumption implicit in the above calculations is that the abnormal return over the six nomths prior to the bid is the result of anticipation of the merger. There may be other reasons for the gain, such as the expected earnings or a dividends announcement. In addition there is an element of judgement to be made in this respect to the pre-bid value.

2.2.4 The Capital Asset Pricing Model

The development of modern portfolio theory has been considered in the light of the Capital Asset Pricing Model [CAPM]. This model normally formulated as $R_i = R_F + (R_m - R_F)\beta$ identifies a relationship between risk and the rate

of return for listed shares held in efficient well-diversified porfolios. While CAPM leads to more plausible inferences, there are many problems which render it difficult to apply in practice. Cooke argues that the probabilities of the state of the economy and respective returns are all subjective variables which may be extremely difficult to estimate for each merger case. Furthermore, the critical assumptions of the model, namely perfect capital markets and homogeneous expectations, may not be realistic.

While the main criticism about CAPM is related to its empirical usefulness, one way of making the model more practicable is to assume that the beta factor of the target firm will continue in the future. This approach provides a framework within which the relevant variables are selected for consideration. Thus, the main advantage is that CAPM provides a series of logical steps to analyse mergers in which risk and return are taken into consideration in order to choose amongst alternative causes of action. Cooke then asserts that in practice, the CAPM is rarely used in the UK but is more common in the USA.

2.2.5 The Asset Basis

The main arguements presented by Cooke are those related to accounting problems and the main argument centres on whether 'fair value' or 'open-market value'

should be considered. Of course the relevant accounting principles and statements of standard accounting practice will have to be given due consideration.

2.2.6 The Superprofits Approach

This approach is formulated as follows:

$$A = A + \frac{P - VA}{m}$$

where:

- V represents the value of the company,
- A is the value of the net tangible assets as a going concern basis,
- P is the maintainable future profits,
- v is the normal return expected on the assets,
- M is the rate at which the super-profit is capitalized.

The rationale behind this approach is that a company should be valued not only on its net assets as a going concern basis, but also on the value over and above what is normal for those assets.

2.2.7 The Dual Capitalisation Approach

This approach merely takes a mean value of the

business valued in an assets basis and on an earnings basis. However there seems to be no rationale behind this method, other than it adopts a compromise approach for negotiation.

2.2.8 A Composite Approach

As one of the valuation methods for unlisted companies, Cooke cites the work in the USA by Faris, Holman and Martinelli [1983] who advocate a composite approach based on three valuation comcepts analogous to adjusted book value, earnings capitalization, and dividend yield. These concepts can be summerised as follows:

- effective liquidation value [ELV] which attempts to determine the fair market value of the fixed and operating assets of the business;

- gross revenues capitalization value [GRCV], which is based upon the use of average monthly gross revenues and multiples, and

- buyer's discretionary cash value [BDCV], which capitalizes the total direct monetary value of the business to its owner for a short-period of time.

These three estimates are then weighted so that the weighted composite value WCV is new:

$$WCV = A(ELV) + B(GRCV) + C(BDCV),$$

Where A, B and C are factor weights adding up to 100%. Holman and Martinelli argue that C is very important on the grounds that actual cash value dominates the thinking of many small businessmen. An arbitary 50 per cent is therefore allocated to C. Factory weights A and B are based on seven factors where a score of 0 indicates that the factor should be weighted in the direction of ELV and a score of 1 means that the emphjasis should be placed on GRCV. These seven factors are as follows:

- learning curve effects.

- degree of capital intensiveness.

- industry life-cycle.

- company life-cycle.

- risk of continuing income.

- competitive rating.

- industry glamour or status index.

This approach seems useful inasmuch as financial and strategic aspects are both considered. Furthermore, Cooke notes that the composite approach is not unique because for many years in the UK, valuations have been undertaken as a composite of earnings, dividends and assets.

Clearly the valuation methods discussed above [with the exception of CAPM] are not sophisticated enough to cater for many issues encountered in the valuation process as evidenced in the financial literature. Nevertheless, it is apparent that in practice, the accounting profession has adopted some of these methods as bench marks for arriving at fair conclusions during the complex valuation exercises on merger and acquisition targets.

Indeed, more research has also been to the effect that accounting ratios can be used to locate take-over targets but the results of most of these researches seem not to be encouraging. This aspect of using accounting information for mergers and acquisitions is our next consideration in the following section.

2.3 Using Accounting Ratios To Locate Take-Over Targets

Despite of the inherent shortcomings of the acounting information, ratios based on historical data are often considered as yardsticks for evaluating the financial condition and performance of the firm. Horrigan [1967][7] used them to determine the long-term credit standing of

the firm. Beaver [1967][8] and Altman [1968][9] used them for predicting corporate failure. O'Connor [1973][10] studied the usefulness of financial ratios to investors in common stock. Elam [1975][11] considered the effect of lease data on the predictive power of financial ratios. All these studies found that the information input obtained from the ratios is useful for making important financial decisions.

In the case of mergers and acquisitions the literature indicates that several attempts have been made to use financial ratios as predictors of take-over targets. Simkowitz and Monroe [1971][12] considered 24 financial items to derive variables to provide quantitative measures of the target firm's growth, size, profitability, leverage, dividend policy and liquidity. Stevens [1973][13] selected 20 items of measurement representing leverage, profitability, activity and liquidity. Many nore similar studies are also given in the literature.

Perhaps one of the most recent studies is that of Udayan P. Rece [1984][14] on Canadian take-overs. In this empirical study, Rece chose the following five ratios:- liquidity, leverage, payout, activity and profitability. He then formulated three hypotheses, that is HD_o, HF_o, and HRo representing domestic, foreign, and relative hypotheses respectively. These hypotheses state that a foreign taken- over firm can be distinguished from a non-taken-over firm [HD_o and HF_o], or a domestic taken-over firm [HR_o] on the basis of these five ratios.

Rece further argues that the hypotheses can be tested using both Univariate and Multivariate techniques. Thus, using the multiple discriminant analysis [MDA], he arrives at the following Z equation for the three hypothesis mentioned above.

$$Z_i = b_1 \cdot X_{1i} + b_2 \cdot X_{2i} + b_3 \cdot X_{3i} + b_4 X_{4i} + b_5 \cdot X_{5i}$$

where $X_1 \ldots\ldots X_5$ represent the ratios in the sequence given above, and

$b_1 \ldots\ldots b_5$ represent discriminant coefficients.

Rece further used the following standardized items of published accounting information relating to the acounting data reprinted for the preceding financial year of the taken-over firm:-

F_1 = Net sales.

F_2 = Earnings before interest, taxes and depreciation.

F_3 = Depreciation expense.

F_4 = Interest expense.

F_5 = Income taxes payable.

F_6 = Cash dividends.

F_7 = Current assets.

F_8 = Total assets.

F_9 = Current liabilities.

F_{10} = Long term liabilities.

F_{11} = Capital stock.

F_{12} = Retained earnings.

The measures for these ratios were then matched as follows:-

$$\text{Liquidity} = (F_7 - F_9)/F_8$$

$$\text{Leverage} = (F_9 + F_{10})/F_8$$

$$\text{Payout} = F_6/(F_2 - F_3 - F_5)$$

$$\text{Activity} = (F_1/F_8)$$

$$\text{Profitability} = (F_2 - F_3)/F_8$$

For the rest of the calculations, some statistical analysis is done after which a ranking of the five ratios is obtained for each of the three hypotheses. In the case of Univariate setting, Rece states that none of the variables is significant at either 95% or 99% level of confidence thus supporting the results he obtained under the multivariate analysis that the financial characteristics are not significant for distinguishing either domestic firm non-taken-over, foreign firm non-taken-over or foreign firm domestic taken-over firms. He then concludes that even if a connection between historical accounting information and the firm's expected cash flow were to be hypothesized; the semi-strong efficient capital market would ensure that accounting information would be impounded in the prices of securities of target firms. This would make it difficult to judge

their vulnerability to take-over solely on the basis of the ratios. Hence the results obtained in Rece's study are not inconsistent with the semi-strong form of market efficiency in the Canadian Capital Markets.

In another recent empirical study, Joel Harbrouk [1985][15] examined the financial characteristics of taken-over targets using q and other measures, but at the same time he asserted that a reliable predictive model of target selection is yet to appear in the literature.

The variables Harbrouk examined for their potential discriminatory ability are measures of q , financial leverage, liquidity and aize. The detailed analysis seems lengthy and the following is just the essential features of the variables.

QEQU = q measure of common equity, defined as: (market value of equity)/(replacement value of assets - market value of liabilities).

QASSET = q measure of the entire firm, defined as: (market value of equity + market value of liabilities)/(replacement value of assets).

LSIZE = Log (market - value of equity).

TDEBT = total financial leverage: (market value of liabilities)/(market value of equity).

LTDEBT = long-term financial leverage: (market value of long-term liabilities)/(current market value of equity).

CFIN = current liquidity (current financial assets)/(market value of equity).

CNFIN = net current liquidity: (current financial assets of net current liabilities)/(market value of equity)

The table below is a summary of the results of the univariate analysis in respect to these variables.

Table 2.1

Variable	Target Mean	Size-matched Control Group		Industry-matched Control Group	
		Mean	T-Statistic	Mean	T-Statistic
LSIZE	5.582	5.575	0.06	6.217	-4.81
QEQU	0.840	1.225	-3.65	1.161	-3.38
QASSET	0.905	1.142	-3.61	1.094	-3.23
TDEBT	1.331	1.045	1.34	1.052	1.36
LTDEBT	0.722	0.535	1.29	0.560	0.94
CFIN	0.705	0.527	2.34	0.595	1.40
CHFIN	0.095	0.017	1.99	0.101	0.02

Judging by the magnitude of the t-statistics, the most important determinant is LSIZE although this effect vanishes in the size matched sample. This finding is consistent with the proposition that the costs of effecting a take-over may be relatively higher for higher firms.

Next in apparent importance is the q ratio (both equity and assets) which imply that low q firms are more likely to be targets, and the effects are of similar size for both industry - and size matched control groups. The presence of a q effect in both analyses is suggestive of a firm-specific mechanism, while the similarity in significance associated with QEQU and Qasset is suggestive in a preliminary fashion of the irrelevance of capital structure as a determinant of take-over likelihood. The debt ratio differences suggest that the target firms are highly levered than the control firms. In general a multivariate logit regression also yields identical results.

In conclusion, Harbrouk contends that unregulated non- financial target firms are characterized by low q ratios (Market/replacement values) and to a lesser extent high current financial liquidity. Measures of financial leverage were not found to be significant.

From what has been said above it emerges that some further research needs to be carried out to establish plausible guidelines regarding the predictive ability of the accounting ratios as part of the valuation process of mergers and acquisitions.

2.4 Summary

In this chapter we learned that whereas mergers and acquisitions can be treated as any other decisions using valuation models based on DCF, there are practical problems and traditions which make the process difficult. Valuation methods for listed and unlisted companies were then examined and it was noted that various authors treat them with varying degrees of sophistication. Such methods as the earnings approach, the market model, CAPM and the composite approach seem to be quite popular although each one of them has some inherent weaknesses. Finally, we considered the accounting ratios and noted that while several attempts have been made to use them in locating take-over targets, the results given by the various empirical studies have not yielded plausible conclusions.

References to Chapter Two

1. Terence E. Cooke: 'Mergers and Acquisitions'. [1986] P. 251.

2. John Frear: 'The Management of Business Finance'. pp. 415 - 448.

3. Merret and Sykes: 'The Finance and Analysis of Capital Projects'. 2nd Edition, Chapts. 12 - 14.

4. Cooke, 1986 Op-cit, P. 133 - 163.

5. Adrian Buckley: 'The Take-over in the Context of a Capital Budgeting Framework'. Journal of Business Finance, Vol. 4, No. 2, 1972.

6. Fama, Fisher, Jensen and Roll: 'The Adjustment of Stock Prices to New Information'. International Economic Review, Vol. 10, No. 1, Feb 1969, pp. 1-21.

7. J. O. Horrigan: 'The Determination of Long-term Credit Standing With Financial Ratios' Journal of Accounting Research, 1967 - [supplement], pp. 44-62.

8. Beaver, W. H.: 'Financial Ratios as Predictors of Failure'. Journal of Acounting Research [1967] - supplement, P. 71 - 111.

9. Altman, E. I.: 'Financial Ratios, Discriminant Analysis and the Prediction of Failure'. Journal of Finance [Spetember, 1968], P. 589 - 609.

10. O'Connor, M. C.: 'On the Usefulness of Financial Ratios to Investors in Common Stock'. The Accounting Review [April 1973], pp. 339 - 352.

11. Elam, R.: 'The effect of Lease Data on the Predictive Ability of Financial Ratios'. The Acounting Review,

[January, 1975], P. 25 - 43.

12. Simkowitz and Munroe: 'A Discriminant Analysis Function For Conglomerate Targets'. Southern Journal of Business, [November, 1971].

13. Stevens, D. L.: 'Financial Characteristics of Merged Firms. A Multi-variate Analysis'. Journal of Financial and Quantitative Analysis, [March 1973], P. 149 - 158.

14. Udayan P. Rece: 'Accounting Ratios to Locate Take-over Targets'. Journal of Business and Accounting, Vol. 11, No. 3, [Autumn 1984], P. 301 - 311.

15. Joel Hasbrouk: 'The Characteristics of Take-over Targets, q and Other Measures'. Journal of Banking and Finance, (1985), P. 351 - 362.

CHAPTER THREE:

Methods of Financing Mergers and Acquisitions - The Significance of Their Role.

3.1 Methods of Financing Mergers and Acquisitions

An important consideration of any merger or acquisition from a financial standpoint is the medium of exchange. Therefore, like in other major financing decisions acquiring firms may either use cash, common stock, preferred stock, warrants, convertible bonds or preferred stock. A combination of any two or more of these modes of financing is also possible. Obviously, the use of one or more of these modes of financing raises a number of accounting and tax issues depending on the corresponding accounting standards, company and tax laws of a particular country such as the U.K. and USA. In addition to that there are costs associated with each of them; the lowest and highest being for cash and common stock respectively.

From what has been said above one may get the impression that there are advantages and disadvatages in using one or more of those financing modes. For example, Samuels and Wilkes[1] suggest the following advantages and disadvantages involving an acquisition by cash as compared to one by common stock.

- First, the price received by shareholders of the target firm is obvious compared to a share-to-share offer where the movement in the market price will alter their wealth. Furthermore, the effect of increased share units is uncertain on the part of the

purchasing company.

- Second, the cash purchase increases the liquidity of the target shareholders who are then in a position to alter their investment portfolio to meet any changing opportunities. Clearly, there are many sources of finance and shareholders need not hold actual cash in order to alter their portfolios.

- Third, the cash offer represents the only quick reasonably priced approach when resistance is expected subject to the exogenous factors facing the acquiring firm. Consequently, the firm will increase its own EPS assuming the increases of the new acquisition are greater than previously obtained in the purchase. But as we saw in Chapter Two, EPS accretion or dilution is of no economic significance to the shareholders of the combined firms at least in the short-term because what matters is the market value of the combined firms.

- One disadvantage to the shareholders in receiving cash is that they immediately become liable to capital gains tax that may have risen although this can be counterbalanced through the process of arbitrage.

- Another disadvantage with a cash offer is that

liquidity of the purchasing company is reduced depending on the prevailiang economic circumstances.

Samuels and Wilkes further state that cash payment has become the most popular method of payment in the UK [Annual Abstracts of Statistics for 1969-1976]. It is quite apparent that cash as a method of payment still occupies a significant proportion amongst other forms of exchange. As Table 3.1 below shows, for the largest 50 acquisitions and mergers reported in 'The Times 1000' for the period 1984/85, 16 were financed by cash, 16 by equity, 13 by both equity and cash, 3 by equity and other, and only 2 by other forms of exchange. The corresponding percentages of these forms of exchange indicate that equity financing was slightly above cash by only 1.4 per cent while in the overall financing by only 10 per cent.

Table 3.1: Largest Acquisitions & Mergers 1984/85

	Medium for Consideration £000	% of Medium for Consideration	No. of Companies Acquired
Pure Cash Exchange	1,901,511	34.6	16
Pure Equity Exchange	1,978,401	36.0	16
Cash and Equity	860,673	15.7	13
Equity and Other	720,086	13.1	3
Other	34,789	0.6	2
	5,495,500	100%	50
Overall Financing:			
Cash	2,364,029	43%	
Equity	2,917,086	53%	
Other	214,385	4%	
	5,495,500	100%	

Source: The Times 1000 1985-1986 (Summary of Data in Page 66)

Cooke[2] also states that cash financing is still popular in both the U.K. and USA as shown in Tables 3.2 and 3.3 respectively. It is interesting to note that for both countries, 1983 was the first year since 1973 in which stock exceeded cash as the main payment source. This feature probably reflects buoyant stock markets in these countries. 1983 was also the year that payments consisting a mixture of instruments were at an all time high in USA. It is also noticeable that in both the U.K. and USA in 1984 cash again became the major source of payment.

Table 3.2: UK Acquisition Currency (Percentages of Total Expenditure)

Year	Cash	Equity	Fixed Interest Securities
1969	27.7	51.6	20.7
1970	22.4	53.1	24.5
1971	31.3	48.0	20.7
1972	19.5	57.6	27.9
1973	53.0	35.7	11.3
1974	68.3	22.4	9.3
1975	59.4	32.4	8.6
1976	71.7	26.8	1.5
1977	62.1	36.9	1.0
1978	57.4	40.6	2.0
1979	56.3	31.1	12.6
1980	51.5	45.4	3.1
1981	67.7	29.6	2.7
1982	56.1	31.8	10.1
1983	43.8	53.8	2.4
1984 -	54.5	32.4	13.1

Source: Business Monitor Q7 - see Terence Cooke p. 18.

Table 3.3: Payment Trends in the USA: 1970-1984

Year	Cash	Stock	Combination	Debt
1970	29%	52%	16%	3%
1971	32	49	17	2
1972	34	51	14	1
1973	41	49	14	1
1974	48	33	16	3
1975	48	27	23	2
1976	52	26	20	2
1977	54	26	18	2
1978	46	30	23	1
1979	53	26	20	1
1980	47	31	21	1
1981	42	34	23	1
1982	37	29	31	2
1983	32	35	33	-
1984	43	26	13	1

Source: W.T. Grimm & Co. - see Terence Cooke p. 23.

So we have seen that various modes of exchange are being used in financing mergers and acquisitions whereby cash and equity seem to dominate. Perhaps one of the crucial factors in merger and acquisition financing is the cost to be incurred by the acquiring firm. In this case, the cost can be said to be the estimated premium that will be paid for the target firm over its value as a separate entity. Let us now briefly consider this important issue in the following sub-section.

3.1.1 Determining the Premiums for Mergers and Acquisitions

First in theoretical terms, Brealey and Myers[3] state

that it is a straight-forward problem to estimate cost as long as the merger is financed by cash. Therefore, taking the market reaction into consideration a contemplated merger of J with K may be ascertained using the following formula:

$$\text{Cost} = (\text{Cash} - \text{MVK}) + (\text{MVK} - \text{PVK}) \qquad \ldots(3.1)$$

The significant point in this formula is the fact that while the market value of the target firm is not wrong, it may not be its value as a separate entity. However, equally important is whether the market is efficient and if so then the management of the target firm may not be in a position to ascertain the real undervaluation. Therefore, in general terms, it may be said that the premium paid by the acquiring firm will in most cases depend on the relative bargaining strength of the participating firms.

Regarding equity financing, Brealey and Myers contend that the situation becomes more complicated due to the element of sharing post merger gains between the shareholders of the combined firms. Thus, it is sugested that the true cost will exceed the apparent cost because stock prices observed before the merger or acquisition announcement do not reflect the gains or their divisions between the share-holders of the acquiring and target firms. Despite of this difficulty, it is further suggested that financial managers need to make some

estimates based on the following equations:

$$PVJK = PVJ + PVK + Gain \quad ...(3.2)$$

$$True\ cost = XPVJK - PVK \quad ...(3.3)$$

Where XPVJK is the value of what the target's shareholders get and PVK is the value of what they give up.

In analysing the true cost when share-exchange is involved, some financial economists have attempted to demonstrate that premiums or discounts may accrue to the shareholders of the acquiring and target firms depending on the economic factors facing each case. This aspect of merger and acquisition analysis has been conducted by Conn and Nielsen [1977][4] who tested the Larson-Gonedes Model [1969][5] which states that the exchange ratio will be determined by each firm's assessment of the post-merger price-earnings multiple. The model further hypothesises that each firm requires that its equivalent price per share be at least maintained as a result of the combination. We have already seen in Chapter Two how the notion of PE ratios and EPS accretion or dilution dominated the approach to conglomerate mergers of the 1960's. However, the arguments against this notion are now strongly and plausibly established in the financial literature. So in developing their model, Larson and Gonedes also rejected the effect of mergers on EPS as a

test and argued the effects of mergers on market value would be an appropriate test. Does it then mean that the modes of financing are irrelevant?

To answer the above question, let us briefly consider the debate on capital structure and firm value. Since the original Modigliani Miller [1958][6] irrelevance proposition, numerous hypotheses have emerged which attempt to explain why capital structure decisions may be of consequence to the security holders of a firm. Each of these hypotheses presume the existence of one or more capital market imperfections. Such imperfections include corporate and personal taxes or bankruptcy costs, Kim [1978][7], De Angelo and Masulis [1980][8] , unequal access or imperfect substitutes Fama [1980][9], asymmetric information Leland and Pyle [1977][10] , Myers [1984][11] , Myers and Majluf [1984] [12], and agency costs, Smith and Warner [1979] [13] . Obviously, these studies sound too theoretical thus prompting some financial economists to establish the existence of the significance of such imperfections in the real world.

Surprisingly, some recent empirical studies suggest that capital structure have some impact on firm value. For example, Masulis [1980, 1983] [14] , Dann [1981] [15] , Varmaelen [1981] [16], McConnell and Schlarbaum [1981] [17] , Dann and Mikkeloson [1984] [18], Masulis and Korwan [1986] [19], Asquith and Mullins [1986] [20], all report significant security price movements in response to leverage-related firm specific events. But then, there still appears to be

a problem with these studies in that they do not indicate which imperfections singly or in combination lead to these findings.

This notion of capital structure has also been extended to the analysis of mergers and acquisitions although the treatment assumes a more or less modified approach. In the following section a brief consideration is given to some studies related to modes of financing and their effect on shareholder wealth in mergers and acquisitions.

3.2 Methods of Financing and Their Impact on Shareholder Wealth: An Empirical Review

Mergers and acquisitions can result in either a friendly or unfriendly attitude during the negotiating process and this is particularly true in the case of tender offers. In their study of 'Valuation Consequences of Cash Tender Offers' Kummer and Hoffmeister [1978][21] sought to examine the stock returns of target firms prior to the announcement of a tender offer, then they evaluated tender offers according to their success or failure in conjunction with resistance or non-resistance by incumbent management of target firms. They also investigated the returns to bidding firms prior and subsequent to the tender announcement.

In examining a sample of 88 target firms and 17 pairs of bidding and target firms, Kummer and Hoffmeister state that the valuation consequences of corporate tender offers

can be hypothesised as follows:

- Target firms are expected to have abnormally low returns prior to take-over because of the managerial inefficiency as well as other possible reasons.

- Those firms involved in target take-overs faced with management resistance will display poorer performance (prior to take-over) relatively to friendly take-overs.

- The bid premium required for unfriendly take-overs will be greater than for friendly take-overs.

- Bidding firms will increase their shareholder wealth in the event of a take-over.

It would appear that many other hypotheses may be valid regarding the returns bahaviour at the time of tender offer announcements. So, their findings support the contention that firms subject to take-overs have experienced abnormally low returns prior to a take-over announcement and the low returns are reflective of unrealised gains subject to the replacement of incumbent management. Nevertheless, target firms realise the amount of the bid premium, while the bidding firms also realise positive abnormal returns around and including the anouncement months. So, in general, cash take-overs can

result in increased shareholder wealth for both the target and bidding firms although as we shall see later in this chapter, some financial economists are opposed to this view.

One of the most direct empirical analyses of the role of the medium of exchange is by Carleton, Guilkey, Harris and Stewart [1983][22]. They argue that in most empirical studies of differences between mergers which are acquired and those which are not, researchers typically divided firms into two groups - acquired and non-acquired. Consequently, no systematic effort is made to explore the role played by the medium of exchange used in merger as it is quite possible that mergers consummated by different types of exchanges stem from different motives and hence that firms acquired by different forms of payment have different financial characteristics.

They base their argument on some Federal Trade Commission data for the period 1966-79 (see Figure 3.1 below) which indicate the increased use of cash as opposed to security exchange as a means of financing take-overs. This same point was mentioned earlier in this chapter (see Table 3.3 above). The reasons given for such a trend are many but a few of them will suffice our discussion. In the 1960s, many mergers were consummated with convertible bonds whereby interest payments were tax deductible but the Inland Revenue later waived this advantage in cases where convertible bonds were expressly issued by acquisitions.

Another factor that may have contributed to the increased use of cash is the upsurge of the number of hostile mergers and in such cases, cash is considered a more effective tool in the face of resistance by incumbent management where there is public controversy about the business merits of the combination.

Figure 3.1

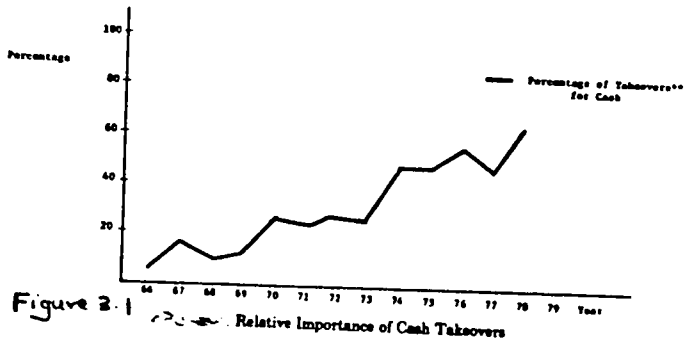


Figure 3.1 Relative Importance of Cash Takeovers

**Source: Federal Trade Commission Large Merger Series which covers acquisitions of manufacturing and mining firms with assets in excess of $10 million. The percentage for cash is defined as the (number of cash takeovers) divided by (the number of cash takeovers plus takeovers by security exchange). Takeovers using a combination of cash and securities and takeovers for which the medium of exchange is not reported are not included in the calculations.

It is also possible that some cash takeovers are a disguised form of share repurchase and in some instances represent an outflow of cash from an acquiring firm that no longer anticipates profitable internal investments. In this way the management of an acquiring firm may avoid certain negative consequences it may associate with share repurchase such as a negative signal to the market about future growth or a reduction in size with resultant loss in corporate prestige, etc.

As was also stated at the beginning of this chapter, the increased use of cash may be further understood by referring at the existing differences in the tax and

accounting consequences of cash takeovers and security exchanges. For example in the USA, a merger can be treated as a pooling for accounting purposes and as a tax-deferred transaction if there is a continuity of ownership on the part of the shareholders of the acquired firm. Of course, in each case planning the choice of tax-free or taxable status will depend upon the tax situations and bases of both the acquiring firm and those of the target firm.

Now coming back to the study of Carleton & Co., they examined 61 acquired firms [30 cash takeovers, 31 security exchanges) and 1352 non acquired firms which were all manufacturing and mining oriented for the period 1976 and 1977. After obtaining univariate and logit results, they conclude that when cash takeovers and security exchange mergers are empirically modelled as qualitatively different events, this expectation is statistically confirmed. Lower payout ratios and lower market-to-book ratios increase the probability of being acquired in a cash takeover relative to being acquired via an exchange of securities, even though neither variable can be shown to be an important explanatory factor for the simple categorisation of firms into those that have been acquired and those that have not been acquired.

In another study Eger C. E. [1983][23] attempts an empirical test of the redistribution effect in pure exchange mergers. Eger first argues that merger transactions involve differing degrees of change in

capital structure and asset distribution. As a result, different forms of merger could have different effects on security values of the firms involved. Like in the preceding study, Eger asserts that previous empirical studies primarily used samples that included all types of mergers and, therefore, her study examines the effect of one type of merger, 'pure stock exchange', on the values of the debt and equity of the firms involved.

The conclusions from Eger's study are that the empirical results support the theories already presented regarding wealth redistribution in general by other researchers. With respect to gains to bidding firms in pure exchange mergers, Eger states that the results are somewhat inconclusive. For the bididng firms with publicly traded bonds outstanding, there appears to be positive synergy. The net gain to the bond holders is positive, and the net gain to the stockholders is zero. However, the returns to shareholders acquiring larger targets with publicly traded debt outstanding are negative over the event period. One final general conclusion drawn by Eger is that further work is needed to develop a theoretical model to understand the financial implications of the various forms a merger can take. This would allow an empirical assessment of the structure of the merger transactions on the firms involved.

In a slightly earlier study but reported within the same year as Eger's, Weston and Halpern [1983][24] also comment that merger and tender offer studies usually

include in their samples events in which all types of payments have occurred. Some studies isolate one form of payment and the analysis at least holds this influence constant for example the cash takeover studies by Bradley.

Weston and Halpern further cite a study by Yagil who identifies the method of payment in a sample of pure exchange conglomerate mergers. Over the sample period 1948-1976 50% of the mergers were stock for stock exchanges, 29% were for cash and 21% a combination of various types of securities including convertibles, warrants, and straight preferred shares. Using the event date defined as the merger date, the CAR for -8 months to 0 is 5.3% for the acquiror and 18.7% for the selling firm when the acquisition was financed with securities. For cash mergers, the CAR over the same period was 7.9% for buyers and 31.9% for sellers. Similar results have also been obtained by Wansley, Lane and Young. While Weston and Halpern agree that the method of payment in a merger may be related to factors such as firm size of the target company and the rate of return on the merket portfoilio, among others, the results that are obtained for different financing methods may reflect more basic variables and hence such results are not plausible.

Furthermore, Copeland and Weston[25] comment in general terms that the different results obtained in many merger and acquisition studies may be explained in part by the signalling effect of the type of compensation used. Therefore, if a firm uses stock in the acquisition, this

may imply that it considers its stock to be overvalued. On the other hand the use of cash may reflect the firm's judgement that its own stock is too valuable to use or it is undervalued. When both cash and stock are used, these effects may be counterbalancing. In conclusion one may be tempted to say that like in many other financial issues the literature is not quite conclusive as to the significance of the modes of financing for mergers and acquisitions. It is also apparent that further research is being conducted in this area and this author hopes that more sophisticated analytical models will be established in the near future as a prerequisite to better results regarding medium of exchange and the resulting impact on shareholder wealth.

3.3 Summary

In this chapter we sought to learn the significance of the various methods of payment in as far as mergers and acquisitions are concerned. Six methods of payment were cited, that is, cash, common stock, preferred stock, warrants, convertible bonds and preferred stock. It was also noted that each of these methods of payment has some inherent advantages and disadvantages stemming from the accounting, taxation and company laws of a country.

We also saw that what worries management of acquiring firms is the level of premiums to be paid and various mathematical models were suggested among them the Larson-Gonedes Model. The thoery of capital structure was then

briefly considered in view of the fact that mergers and acquistions do result in changes in capital structure. And then finally, theoretical and empirical studies were considered concerning the use of any of these methods of payments after which we arrived at the general conclusion that the debate in this area is still far from being completed. In the next chapter, we shall examine how acquiring firms can go about implementing mergers and acquisitions and some of the issues discussed in this chapter will be revisited.

References to Chapter Three

1. Samuel and Wilkes: Management of Company Finance - 3rd Edition pp 377-397.

2. Terence E. Cooke: Mergers and Acquisitions [1986] Section One.

3. Brealey and Myers: Principles of Corporate Finance, 2nd Edition pp 701-726.

4. Conn, R. L. and Nielsen J. F.: 'An Empirical Test of the Larson-Gonedes Exchange Ratio Determination Model', Journal of finance [June 1977] pp 749-760.

5. Larson and Gonedes; 'Business Combination: An Exchange Ratio Determination Model'. The Accounting Review, [October, 1969] pp 720-728.

6. Modigliani and Miller 'The Cost of Capital, Corporation Finance, and theory of Investment', American Economic Review [1958] pp 261-297.

7. Kim E. H. 'A Mean-variance of Theory of Optimal Capital Structure and Corporate Debt Capacity' JF Vol. 33 [1978] pp 45-63.

8. De Angelo and Masulis: 'Optimal Capital Structure Under Corporate and Personal Taxation', Journal of Financial Economics Vol. 8 [1980] pp 3-30.

9. Fama 'The Effects of a Firm's Investment and Financing Decisions', American Economic Review Vol. 68 [1980] pp 272-284.

10. Leland and Pyle: 'Information Asymmetries, Financial Structure and Intermediation'. JF Vol. 32 [1977] pp 371-387.

11. Myers: 'The Capital Structure Puzzle', JF Vol. 39 [1984] pp 575-592.

12. Myers and Majluf: 'Corporate Financing and Investment Decisions When Firms Have Information' That Investors Do Not Have JFE Vol. 13 [1984] pp 187-221.

13. Smith and Warner: 'On Financial Contracting An Analysis of Bond Covenants'. JFE Vol. 7 [1979] pp 117-161.

14. Masulis R. W. 'Stock Repurchases by Tender Offer: An Analysis of Common Stock Price Changes' Jf Vol. 35 [1980] pp 139-178.

15. Dann L. Y. 'Common Stock Repurchases: An Analysis of Returns to Bondholders and Stock Holders' JFE Vol. 9 [1981] pp 113-138.

16. Vermaelen T. 'Common Stock Repurchases and Market Signalling: An Empirical Study' JFE Vol. 9 [1981] pp 139-183.

17. McConnell and Schlarbaum: 'Evidence on the Impact of Exchange Offers on Security Prices: The Case of Income Bonds' Journal of Business Vol. 54 [1981] pp 65-85.

18. Dann and Mikkelson 'Convertible Debt Issuance, Capital Structure Change and Leverage - Related Information: Some New Evidence' JFE vol. 13 [1984] pp 157-186.

19. Masulis and Korman: 'Seasonal Equity Ofering an Empirical Investigation' JFE Vol. 8 [1986] pp 91-118.

20. Asquith and Mullins 'Equity Issues and Offering Dilution' JFE Vol. 15 [1986] pp 61-90.

21. Kumma and Hoffmeister: 'Valuation Consequences of Cash Tender Offers' JF Vol. 33 [1978] pp 505-517.

22. Carleton, Guilkey, Harris and Stewart 'An Empirical Analysis of the Role of the Medium of Exchange in Mergers' JF Vol. 38 [1983] pp 813-825.

23. Eger C. E. 'An Empirical Test of the Redistribution Effect in Pure Exchange Mergers' Journal of financial and Quantitative Analysis Vol. 18 No. 4 [1983] pp 547-572.

24. Weston and Halpern: 'Mergers and Acquisitions: Corporate Acquisitions: A Theory of Special Cases' A Review of Event Studies Applied to Acquisitions JF Vol. 38 [1983] pp 287-314.

25. Copeland and Weston: 'Financial Theory and Corporate Policy' 2nd Edition pp 559-642.

CHAPTER FOUR:

Other Valuation and Financing Strategies in Merger and Acquisition Activities.

4.1 The Significance of Premiums in Merger and Acquisition Activities

One of the significant and crucial factors inherent in the process of valuing and financing of acquisition activities is the probability of their success or failure. Therefore, in the financial and economic literature this factor is considered from the point of view of post-merger profitability and of the actual physical achievement of the contemplated combination. Naturally the physical consummation precedes the former. In this chapter we shall examine the latter aspect of analysis (the physical consummation) and of course reference to the former (profitability) will also feature in our examination depending on the point under consideration. As it would be expected there are several underlying factors for the successful or unsuccessful achievement of anticipated acquisitions and due to lack of space only a few will be considered. To begin with, let us examine the 'significance of premiums' in merger and acquistion activities.

Well, some studies have tried to relate the success of a merger from the point of view of the acquiring firm's stockholders to various characteristics of the acquiring and acquired firms. For example, Mueller [1977]1 cites studies by Hogarty and Gort [1970], Nielsen and Melichev [1973], Piper and Weiss [1974] all of which lay emphasis on the premium paid over the pre-merger price of the

acquired company by its acquirer. It then emerges that the lower this premium is the greater the likelihood that acquiring firm's stockholders gain from the acquisition.

However, Mueller dismisses such an inference by arguing that on the basis of managerial efficiency hypothesis, there would be no particular reason to expect a merger with a premium of say 30 per cent to be more successful than one with 15 per cent. If anything such differences would reflect the greater potential gains following the merger and the higher price paid in a competitive acquisition market.

Mueller further argues that an inverse relationship betweeen merger success and the size of premium suggests instead that acquired firms do not have special characteristics among firms to warrant different prices for each. As we saw in Chapter One, in an efficient market, acquired companies would appear to be bundles of assets accurately priced in the market. Therefore the payment of a premium for these assets over their market value is on average at best a break even investment, and the smaller the premium one pays, the more the chances of doing better than breaking even.

On the other hand, Mueller concedes that although Nielsen and Melicher are not able to relate differences in premiums paid to real or financial [P/E magic] gains achieved through the merger, they do find the acquiring firm's cash flow and P/E ratio to be positively related to the size of the premium it is willing to pay. In this

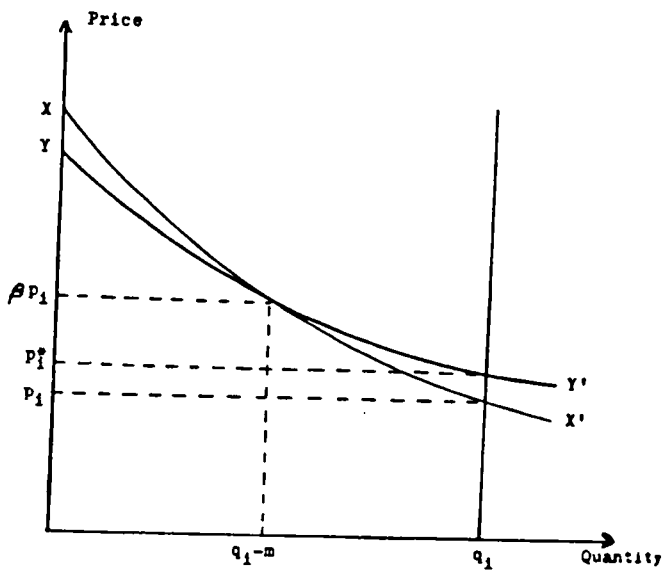
case, the premiums paid support rather consistently a managerial motive thesis about mergers. Therefore, Mueller concludes that the higher a firm's cash flow or price-earnings ratio the more it is willing to pay to acquire other firms. The amount it is willing to pay does not reflect post-merger gains and consequently the more it pays the less likely it is that the merger will be a success (profitability analysis).

We saw in Chapter One that merger and acquisition activities are of various types (horizontal, vertical, conglomerate) and Mueller notes that while the studies mentioned above do not deal directly with conglomerates, a study by Haugen and Udell [1972] found that ocnglomerate acquirers paid significantly higher premiums on average than non conglomerate acquirers but this study did not relate premium size to acquiring firms profitability.

In the UK scene, Appleyard and Yarrow [1975][2] presented a theoretical argument on the relationship between takeover activity and share valuation. In their mathematical analysis involving the application of CAPM, they argued (using the results of Singh's study [1954-1960 takeovers]) that if demand curves for corporate securities are downward sloping, a necessary condition for a successful takeover is that the bidder offer a premium on the market price of the firm's shares to induce the requisite sales of intra-marginal holdings. In a recent empirical study, Andrei Shleifer [1986][3] concludes that demand curve for stocks are downward sloping and a

plausible reason for such a behaviour is disagreement among investors over the value of securities that is not resolved through the observation of price. Thus as shown in Figure 4.1 below, Appleyard and Yarrow suggested that if XX' is the demand curve for the shares issued by the corporation and M is the number required to gain control, then P is the market price of shares and P is the minimum offer price required for a successful bid. They further argued that since in the event of a takeover many shareholders will receive a capital gain, it follows immediately that one of the factors affecting the demand for securities will be the anticipated likelihood of a takeover.

Figure 4.1



It is then hypothesised that the size of the price differential is:

- an increasing function of the probability of takeover, bounded above by $\beta - 1$, the bid premium (see Figure 4.2 below)

- an increasing function of the bid premium, which in turn depends upon the arc-elasticity of demand for shares between the points $q_i - m$ and q_i (the more inelastic is demand the greater is the bid premium - Figure 4.3 below).

- a decreasing function of $\mu_i - g_i$), which equals the dividend yield when $\alpha = 0$, in which it becomes the no-takeover dividend yield (where is the probability of takeover - see Figure 4.4 below).

Figure 4.2

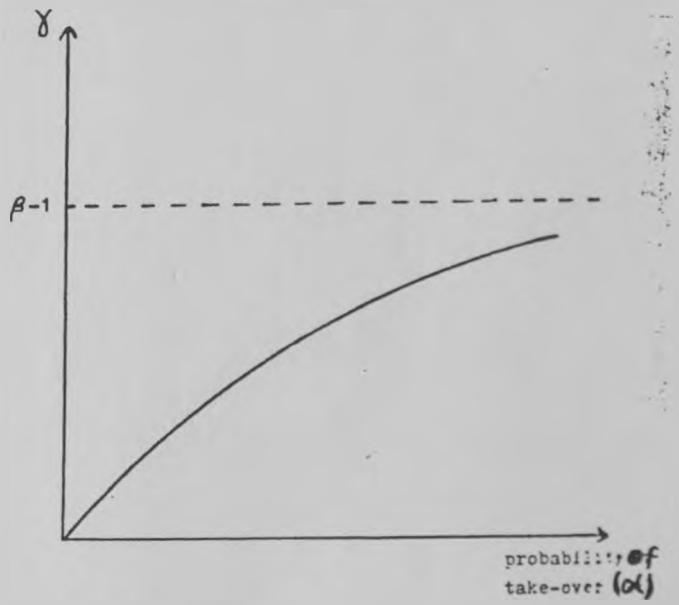


Figure 4.3

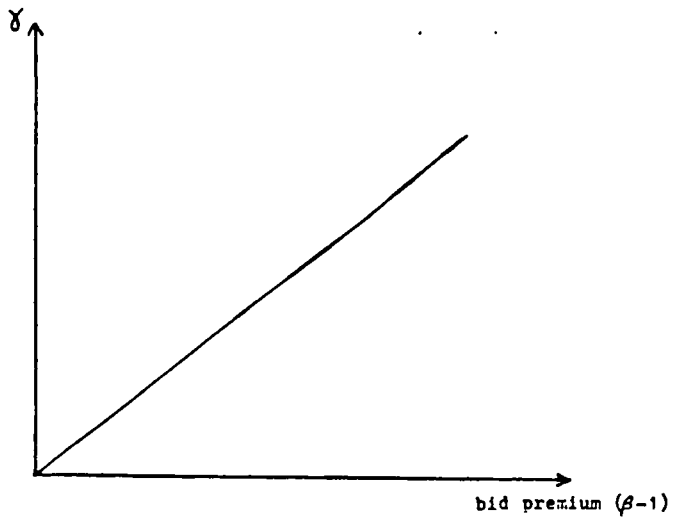
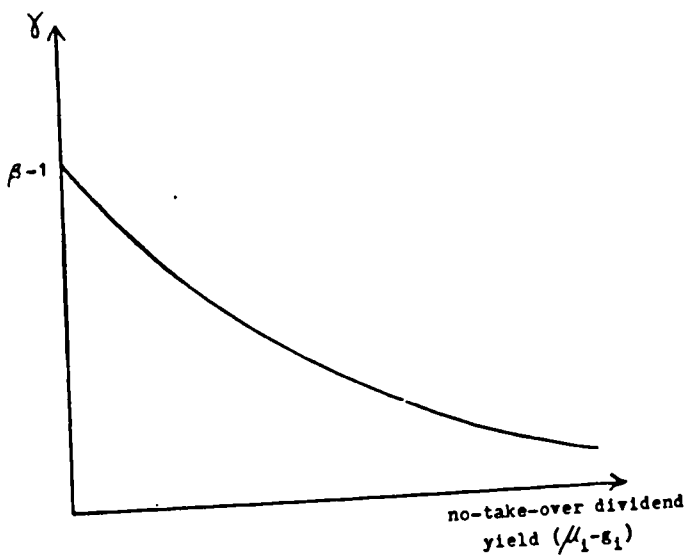


Figure 4.4



Finally Appleyard and Yarrow observed that the magnitude of the differential produced by the data was surprisingly large, which implied that approximately 15% of the market value of the representative firm would be accounted for by the takeover. Subject to the characteristics of the data used in the calculations, they concluded that these features of the analysis also seemed to contribute significantly to the result. The first is the use of the Sharpe-Lintner CAPM which may be inappropriate for the problem under consideration. The second feature is the assumption that the probability of takeover is a constant. And thirdly, a similar result could also occur if the bid premium were regarded by investors as a random variable rather than as a known constant.

In a more recent study Walkling and Edmister [1985][4] hypothesize that premium size is a positive function of potential related benefits and a negative function of the bargaining power of the bidder. In their attempt to assess the merger motives and bargaining strength in bid pricing, they formulated a regressive 'pricing model' which assumes that the percentage bid premium depends on the following eight variables.

- the target firm's debt-to-asset ratio trend.

- the firm's net working capital-to-ratio trend.

- the percentage of target shares outstanding controlled by the bidder prior to the offer.

- whether the combination is conglomerate or non-conglomerate.

- the presence or absence of opposing suitors at the time of the offer is made.

- whether the offer is contested or uncontested.

- whether the bidder is seeking control of 50 per cent or more of the target's shares.

The empirical testing of their model was based on complete data on 158 cash tender offers covering the period beginning of 1972 to end of 1977. 65 of the offers were conglomerate the remainder were either horizontal or vertical. Target managements opposed the bids in approximately 41% (64) of the cases. 19 of the offers involved a competing offer at the time of the bidder filed its last-bid revision. 41% of the entire sample (65) offers more announced in the financial press prior to their registration with SEC.

To test for model stability, Walkling and Edmister divided the data chronologically into an estimate sample comprising the period from January 1972 through September 1976 and containing approximately two-thirds of the total

observations and a validation sample comprising the period from October 1976 through December 1977 and containing one third of the total observations.

The results of estimating the model on the 108 offers in the estimation sample indicate that firms with declining amounts of leverage and firms with relativel low valuation ratios command significantly higher bid premiums. Bargaining strength (the percentage of shares controlled) and the ability to acquire enough shares to be able to implement potentially beneficial changes (the control variable) are also significant variables. When an opposing bid exists at the time an offer is made, premiums are on average 33.5 per cent higher than when competition is absent. The size of this premium differential raises the question of profitable arbitrage opportunities involving firms likely to be hotly contested targets.

Walkling and Edmister further observed that although target firm liquidity, conglomeration and opposition by target management appear to influence premiums in the anticipated manner, none of these variables proved statistically significant. They then conclude that unlike the naive models that ignore target and bid characteristics, the complete model explains more than 37% of the variation in bid premiums. However, it is quite apparent that a substantial degree of variability remains unexplained and this tends to confirm the statement we made in Chapter Three that it is not easy for financial managers to make an accurate estimate of the premium

likely to be paid. In the next section we examine other approaches to predicting merger and acquisition success or failure.

4.2 Other Approaches to Predicting Merger and Acquisition Success

In a separate study and using the same data first discussed above, Walkling [1985][5] developed a logistic model for the prediction of tender offer outcomes. Five variables are considered in this model, that is bid premium size, managerial resistance, percentage of shares owned by the bidder, soliciting fees, and competing bids. We have already seen the remarks on three of these variables except for managerial resistance and solicitors fees and the following is just a brief comment on these two.

Regarding managerial resistance, Walkling cites some studies among them being that of Hoffmeister and Dyle [1981] all which report that managerial opposition by the target firm is the most important deterrent to tender success. Such opposition can take many forms, as from withholding the list of shareholders to legal action against the bidder. This adverse influence of the target management on shareholders serves to reduce the pool of obtainable shares and decrease the probability of a successful offer. Moreover, target managements also influence the venture of an offer through their ownership

position in the target firms.

Similarly the payment of soliciting fees to brokers by bidders tends to encourage them to solicit shares on the bidder's behalf. Paying these incentives to brokers results increased discrimination of offer information and enlarges the pool of obtainable shares.

Coming back to Walkling's analysis, he reports that the full LOGIT model correctly classifies 79.6% of the 108 offers of the estimation sample. Accuracy levels for 72 successful offers and 36 unsuccessful offers are 85.5% and 63.9% respectively. Walkling then reports that results should be of interest to potential bidders who are not certain whether they will face opposition from the target management. Assuming that most bidders are likely to anticipate such resistance, then the accuracy of the models in predicting the outcome of contested or uncontested offers requires some further analysis and this is in view of the large amount of resources bidding firms seem to spend on these cases and the high amount of risk that is involved.

Thus, Walkling carried on some further analysis and reports that the predictive accuracy of the LOGIT model for the uncontested offers is 84% for the estimation sample and 82% for the validation sample. On the other hand, the predictive power of the model for the contested offers is high for both the estimation and validation samples. In this case, the model correctly classifies nearly 83% of the estimation sample and 63% of the

validation sample. He then remarks that this level of accuracy seems high considering the importance of correctly classifying this group and the fact that the percentage occurance of successful offers in these two samples is only 46% and 44% respectively. In conclusion, Walkling observed positive correlation between offer success and the variables measuring solicitation fees and bidder ownership of target shares. Target management opposition was a decisive deterrant to offer success.

Another more recent study is that by Giammarino and Heinkel [1986][6] whereby they propose a highly structured 'model of dynamic takeover behaviour'. In the analysis, they consider the behaviour of a target firm, T, and informed bidder, I, and an uninformed bidder, U. All of these agents are assumed to be risk-neutral value maximisers who apply a zero discount rate of future cash flows. The informed bidder is assumed to have studied the operations of the target firm and has identified a way in which a combination would raise the target's value above its current pre bid standardised value of 0. The informed bidder is also capable of generating the synegistic gain but is unable to identify the target until the informed has presented a bid. These authors then test their model on a theoretical basis by playing a game which leads them to the following comments.

Within a simple bidding game under asymmetric information, it is possible to explain many observed takeover/merger pheonomena. These include sequential

bidding, mistaken overbidding, managerial resistance, including the use of a white knight, and the reluctance of the market to reduce the price of the target following a rejected takeover. The key factor that provides the results of this model is the presence of an uninformed bidder who, despite an informational disadvantage, has incentives to sometimes counter a low initial offer by the informed bidder. Finally Giammarino and Henkel state that for their model the incentive for the uninformed bidder to enter follows from the tactical advantage provided by the structure of the contest. It is also argued that the game structure could be changed somewhat without destroying the informational and tactical asymmetries between bidders. Obviously, the real test of this proposal model of dynamic takeover behaviour lies in its predictive power when applied to empirical data and it is hoped that the authors and other researchers will pursue this point further.

Yet in another recent study by Samuelson and Rosenthal [1986][7] attempt to show that price movements in the target company's stock during the offer can be evaluated as predictions of the ultimate success or failure of the tender. They argue that if the tender is successful, the target stock will trade at (or very near) the tender price before being delisted. If the tender proves to be unsuccessful the stock will trade at a significantly lower value. It is further argued that prior to the conclusion date of the offer, daily movements in the target stock

price represent the collective opinion of the market participants as to the success or failure of the offer. Consequently, these price movements, one might expect, would signify the ultimate outcome of the offer. In particular, the greater the increase in the target stock price, the greater the 'market odds' of a successful tender offer.

So the empirical data examined by the authors consists of a sample of 109 tender offers during the years 1976 to 1981 and all members of the sample had the following characteristics.

- the offer was a cash tender for 100% of the target's outstanding shares.

- the tender price was at least 15% higher than the targets average stock price in weeks prior to the offer announcement date.

- there were no competing tender offers.

- the target firm was not a bank, insurance company, a utility.

- the target firm's common stock was traded on the New York or American stock exchanges.

Some of these characteristics require further

remarks. The restriction to 100% cash offer was designed to minimize the uncertainty in the valuation of the tender offer. A 15% minimum price premium was required to ensure that there would be a significant range for price movements during the offer period. The restriction to non-competitive tender offers is essential to the calculation of market forecasts. Finally, the second last requirement was imposed to ensure that the offer would not be subject to significant regulatory delay.

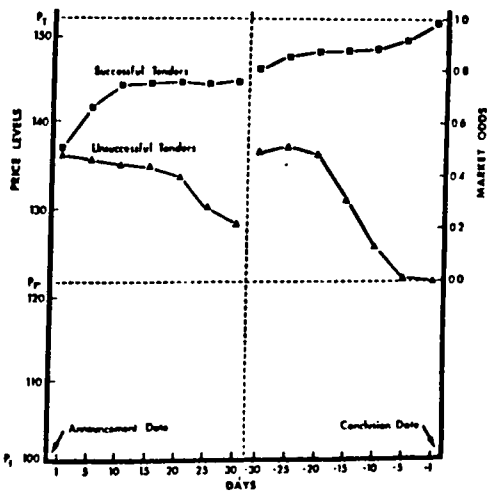
For each target firm in the sample, Samuelson and Rosenthal compiled the following information:

- the tender price,

- the success or failure of the tender offer, and the daily trading prices of the target stock during the offer period.

Figure 4.5 below summarises the essential features of their results.

Figure 4.5: Average Price Levels



In the preceding figure, P_F (on the vertical scale) represents the price of the target stock in the event that the tender offer is unsuccessful - that is the fallback prices. P_T is the tender price, and P_1 is the initial stock price prevailing prior to the tender announcement.

On the basis of the several calculations tested by Samuelson and Rosenthal the following general concluding remarks are then reached.

- movements in target stock prices during the offer period are informative of the success or failure of the tender. The higher the relative stock price, the greater the chance of tender success.

- the market's probability predictions improve monotonically over time (i.e. as the conclusion date nears). Both the calibration and the resolution of the forecasts improve.

- with few exceptions, market prices are well-calibrated, that is, the current target price during the offer period measures the expected (discounted) stock price at the conclusion date. In selected cases, it is possible that an optimal investment strategy could earn excess returns by producing undervalued targets. However, the opportunities for excess returns occur infrequently.

The authors finally concede that their study is an initial attempt to analyse the probabilistic forecasts implied by market price movements and as such carries with it important limitations. First unlike competitive tender offers uncompetitive ones allow for the drawing from the current target stock price an unambiguous estimate of the probability of tender success. Furthermore, the limitation to non competitive tenders introduces a potential sampling bias since in the chosen sample, competitive offers for the target failed to appear ex-post, a fact the market could not know ex ante. And thirdly, the construction of probabilistic market forecasts and their testing put heavy demands on the sample data.

4.3 Regulatory Requirements and Defensive Tactics:

Among the investment decisions undertaken by companies, merger and acquisition activities seem to attract much public comment from the investment and general community. Therefore, with the passage of time these activities have come to be under the close watch of various government agencies such as the 'Monopolies and Mergers Commission' in the U.K. and the Federal Trade Commission' in the USA. The supplementary role played by governing bodies on the stock exchanges is also vital. So what has emerged in the course of the historical

development of merger and acquisition activities [see Chapter One] is an intricate series of legal and code requirements all of which seem to have some strong bearing on their consummation.

What is being implied above is that as part of the valuation and financing process the implications of the legal requirements and those of the rules of conduct must be given some consideration. It would appear that this part of tactical decision making has been too complex leading to the demand for professional services. As Kenneth M. Davidson[8] says in his recent book on 'Mega-Mergers' it has become quite fashionable to employ the services of investment bankers, merger lawyers, printers, publicists, appraisers, insurers and arbitrageurs. Indeed we do sometimes read advertisements of investment bankers and other consultants which portray extravegant ability to consumate merger and acquisition activities. However, due to lack of space, detailed analysis is not feasible and this author wishes to mention one or so aspects of the legal and city-code requirements as provided in the UK.

One of the vital requirements related to the financing of takeovers is provided by Section 54 of the 1948 Companies Act. This section states that it is unlawful for a company directly or indirectly to give any financial assitance...for the purpose or in connection with the purchase of a subscription by any person. This requirement is vital given that mergers and acquisitions may involve an attempt to gain some controlling interest

in target companies through intricate and sometimes conflicting financing procedures by the use of shares.

Equally important is an awareness of the fact that target companies do put some defensive tactics particularly in hostile takeovers. Weinberg and Blank[9] mention a number of defensive tactics [see Appendix A] which are now restricted or forbidden in the UK by the terms of the City Code on Takeovers and Mergers but which have been successfully used in the past. Such defensive tactics can be adopted before a bid is imminent or when it is imminent or has been made. The interpretation of the legal requirements and rules of the code of conduct has always never been easy and consequently this has resulted in either successful or unsuccessful consummation of contemplated mergers and acquisitions whenever cases have been considered by the agencies mentioned above. Indeed much judicial decisions have been subjected to some empirical analysis with a view to establishing the implications on shareholder wealth and also unearthing the critical characteristics of the participating firms. For example, Copeland and Weston[10] make reference to studies of antitrust cases in the USA by citing studies of Ellert, Stillman and Eckbo which seem also to test the 'efficiency-collusion-concentration hypotheses' with a view to establishing the implications mentioned above.

So in conclusion it can be said that there are many significant factors which have to be considered for the successful consummation of contemplated mergers and

acquisitions. Indeed the process of valuing and financing of mergers and acquisitions is time consuming and the costs involved can be high and questionable by financial economists.

4.4 Summary

In this chapter we learned about the significance of bid premiums from the point of view of both physical consummation of merging companies and their post-merger profitability. The research conducted so far seems to give some support on the size of premiums paid although there are disagreemnts as to the underlying factors and methods of analysis. We noted that some predictive takeover models have been developed which attempt to offer solutions to successful takeovers. We also learned about studies which have attempted to show that the vlauation of price movements can lead to some significant indications as to the successful physical consummation of contemplated takeovers. Finally, some comment was made on the regulating requirements and the defensive tactics of the target firms. We then concluded that all such vital points mentioned in this chapter should be given some due consideration in the valuation and financing process of mergers and acquisitions.

4.5 Appendix A to Chapter Four: Defences Against Take-Over Bids

These have been summarised from Weinberg and Blank in Takeovers and Mergers, 4th Edition, pp 575-672.

(A) Defensive measures adopted before a take-over bid is imminent, namely

1. the conclusion of voting agreements between shareholders.

2. the creation of a situation of inter-locking shareholdings between S Co. and another company or series of companies.

3. the issue of a substantial block of shares to an outsider who is well disposed ot the directors and has an interest in maintaining the status quo.

4. the arrangement of a 'defensive merger' or a takeover by a company chosen by the directors.

5. the introduction into the capital structure of S Co. of non-voting shares or shares with restricted or weighted voting rights.

6. the introduction into the capital structure of S. Co.

of securities with rights to acquire equity shares.

7. the disclosure of favourable information designed to maximise the market price of shares of S. co.

8. selling key assets of S. Co. or removing them from the control of shareholders.

9. the conclusion of long-term service contracts on terms advantageous to the directors of S. co.

It will be noted that the first six defences relate to rearrangements involving the shareholders or their holdings. (7) and (8) operate to redress the balance between the value the market currently puts upon the shares of the company and the value which H. co. is prepared to put upon them and (9) looks to the direct personnel interests of the directors.

(B) Defensive measures adopted when a take-over bid is imminent or has been made, namely,

1. purchases of shares of S. Co in the market by the directors or by associates of S. Co.

2. the disclosure of favourable information with regard to the assets, earnings or prospects of S. Co.

3. an attack on H. Co. or on the vlaue of the securities of H. Co. offered for consideration.

4. the announcement of an increased dividend or a capitalisation issue.

5. a reconstruction of the capital of the company to increase gearing a tax efficiency.

6. an appeal to shareholder loyalty or, if the offer is by a foreign ocmpany, to patriotism.

7. appeal to the courts by S Co, on grounds of actual or potential infringement by H. Co. of S. Co's rights in the UK or elsewhere.

8. appeal or representations to the Monopolies and Mergers Commission or the European Commission to demonstrate that the take-over or merger should be prohibited under the relevant legislation.

4.6 References and Notes to Chapter Four

1. Mueller D. C., 'The Effects of Conglomerate Mergers: A Survey of the Empirical Evidence', Journal of Banking and finance No. 1 [1977] pp 315-347.

2. Appleyard A. R. and Yarrow G. K., 'The Relationship Between Takeover Activity and Share Valuation', Journal of finance Vol. 30 No. 5 [1975] pp 1239-1249.

3. Andrei Shleifer, 'Do Demand Curves for Stocks Slope Down?' JF No. 3 [July 1986] pp 579-589.

4. Walkling R. A. and Edminster R. O. 'Determinants of Tender Offer Premiums' Financial Analyst Journal [Jan/Feb. 1985] pp 27-37.

5. Walkling R. A. 'Predicting Tender Offer Success: A Logistic Analysis' Journal of Financial and Quantitative Analysis Vol. 20 No. 4 [1985] pp 461-78.

6. Giammarino R. M. and Heinkel R. L. 'A Model of Dynamic Takeover Behaviour' JF No. 2 [June 1986] pp 465-480.

7. Samuelson W. and Rosethal L, 'Price Movements of Tender Offer Success', JF No. 2 1986.

8. Kenneth M. Davidson 'Mega-Mergers - Corporate America's Billion-Dollar-Takeovers' 1985 Edition Chapter 2.

9. Weinberg and Blanck 'On Takeovers and Mergers' 4th Edition pp 575-672.

10. Copeland and Weston 'Financial Theory and Corporate Policy' 2nd Edition Chapter 17.

CHAPTER FIVE:

Summary, Suggestions and Conclusions.

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SUMMARY, SUGGESTIONS AND CONCLUSIONS

Summary, Suggestions and Conclusions

In this chapter we begin with a summary of this research. The central subject under study is the valuation and financing methods for mergers and acquisitions. Our interest in this subject is mainly from the standpoint of investment decision making by managements of acquiring companies. We stated that like most internal investment proposals, mergers and acquisitions are susceptible to evaluation using valuation models based on the discounting of cash flows.

Furthermore, our discussion of the financing methods stems from the much exalted and disputed theory of capital structure which requires us to believe that the type and composition of financing instruments cannot affect the market value of a firm and therefore they are irrelevant to investment decisions. Indeed, there are several valuation and financing methods let alone related issues in the literature and as part of our main objective, we sought to examine in detail just a few of them with a view to establishing their significance in the decision making process and also the trend of current research.

We must also stress that our detailed treatment of the valuation and financing methods should not be seen as an end in itself but as a means to gaining further insights into the problems facing corporate financial managers and others involved in merger and acquisition activities.

Therefore, this research can be summarised as follows:

(1) Merger and acquisition activities are fascinating economic phenomena whose historical development stretches back almost one century particularly for the advanced economies of the UK and USA. And while there are several theories which attempt to explain the underlying motivations, the sheer volume of empirical literature would suggest that many of the issues related to mergers and acquisitions are yet to be resolved.

One of the puzzling realities about merger and acquisition activities is that their periodical occurrence cannot be explained by one universal theory. Thus, some financial economists have wondered why they do not occur evenly over time. Clearly predicting the future has never been an easy task for any class of professionals and unless history repeats itself, the future development of this economic phenomenon may result in yet another unique feature which will in turn spark off some further debate as witnessed in the case of horizontal, vertical and conglomerate mergers.

We also observed that on the basis of modern portfolio theory and, therefore, the efficient market hypothesis, corporate financial managers cannot expect to manoeuvre their objectives by recommending investment opportunities such as mergers and acquisitions with a view to maximizing shareholder-wealth. This is because in an efficient market, prices fully and instantaneously reflect all available and relevant information. In such a situation, shareholders and potential investors can independently alter their portfolios and thereby diversify away unsystematic risk. But then, this does not mean that investment decisions related to mergers and acquisitions should not be undertaken. All that is being suggested in the literature is that financial managers should be aware of the fact that they are participating in an efficient capital market where there is little room for constantly taking advantage over others. Therefore, financial managers would be expected to devote their valuable energy and time in searching for those merger and acquisition candidates which will lead to synergistic and related results.

2. Our examination in Chapter Two, of alternative valuation methods, suggests that some formidable problems do confront those involved in the search and evaluation process for suitable target firms. So the major problem assumes a two-fold perspective; the appropriate DCF and related analytical techniques to apply and which firms

existing in the market should be approached. Target companies may be either listed or unlisted and this implies that some techniques may be conveniently applicable to both categories [earnings and dividends approaches], but others are unique to each category [the market model, and CAPM for listed companies]. Of course, in the final analysis the approach adopted will depend on the nature and sophistication of the problem under consideration. Some of the techniques discussed by other authors are heavily accounting oriented [see Cooke] particularly for unlisted companies and are, therefore, vulnerable to the shortcomings inherent in the accountant's approach to many vital financial decisions.

Furthermore, the use of accounting ratios has proved quite encouraging in certain areas of financial research for example, the association between market determined and accounting determined risk measures examined by Beaver, Kettler and Scholes [1970][1], and the prediction of business failure by Altman [1968][2]. However, similar analytical approaches which aim at predicting takeover targets while sounding impressive, they have yet to yield more convincing results through further research. Nevertheless, it must be emphasised that the whole of empirical work so far done using accounting ratios is quite minimal and as already said, the conclusions reached are only an indication of the amount of work for future reseachers. Certainly, a break-through by this approach will further strengthen the usefulness of accounting

information in crucial financial decisions such as mergers and acquisitions.

3. Chapter Three provides a clear picture of the high percentage in the use of cash when compensating shareholders of target companies in both the UK and USA since the late 1960s as opposed to stock and other means of payment. Of course, what is of great significance is not the form of payment but whether the market value of the combination is influenced in any way. According to the theory of capital structure, we would not expect either a positive or negative impact on the market value of the combination. Consequently, it has been strongly argued that the EPS accretion or dilution resulting from the issue of further shares does not matter - Copeland and Weston[3]. This explains why the P/E ratio and EPS approaches to investments in mergers and acquisitions no longer command an exalted position as in the 1960's and earlier 1970's.

Nevertheless, there is some empirical evidence which first attempts to show that valuation consequences on shareholder wealth can result in from the use of a particular medium of exchange as compared to another. Secondly, successful physical consummation of contemplated mergers can also be influenced by the form of payment particularly in hostile tender offers. On the other hand, some financial economists [Weston and Halpern] hold the view that results obtained for different financing methods

may reflect more basic variables and hence such results are of little significance. Similar views are also held by Copeland and Weston who assert that the types of financing would be merely presenting some signalling effects.

In the final analysis what concerns management of acquiring firms is the determining of the cost for acquiring other firms. We saw that the relevant cost is the premium paid above the pre-bid market value [for listed companies] but the ease with which it can be estimated depends on the form of payment used in the settlement. Thus, some authors [Brealey and Myers] suggest that it is a straight-forward problem when the financing is by cash than by stock at least in theory. Perhaps this would explain the common use of cash in both the UK and USA.

4. In Chapter Four we saw that unlike internal investment proposals, the handling of merger and acquisition activities can sometimes be delicate and embarrassing for the managements of acquiring firms and in particular where tender offers are involved on a competitive basis. Therefore, this situation has led to the application of other valuation and financing strategies if successful consummation of contemplated targets is to be achieved. So, some empirical evidence was cited which seems to indicate that the level of bid-premiums would have positive or negative implications on not only the consummation itself but also post-merger

performance. However, some authors do object to such inferences arguing that if anything differences on the premiums paid would reflect the greater potential gains following the merger and the higher price paid in a competitive acquisition market.

Other tactical considerations have been directed towards the implications of the downward slope of the demand curve for target companies' stock; understanding factors underlying premium size; logistic models for the prediction of tender offer success; a game theory model of dynamic takeover behaviour; and analysis of price movements in the target stock during the offer period. While the arguments for such tactical approaches seem to be strong and plausible, all we can note is that they do indicate a problematic picture facing managements of acquiring firms during their search for suitable target candidates.

It also emerges that with the passage of time, merger and acquisition activities have created undesirable effects in the economies of UK and USA and consequently they have come under the control of government agencies such as the Monopolies and Mergers Commission; and Federal Trade Commission. There are also company law requirements, rules of conduct, and defensive tactics all of which seem to make the whole exercise of valuing and financing contemplated acquisitions a complex one. Perhaps this explains why there has been a tremendous development in the use of professional services

[accountants, lawyers, merchant banks, insurance companies...]. It is also apparent that the claims made by the professionals sound extravagant in terms of their ability to offer successful guidance during the valuation and search process for target firms. While others would argue that some of the takeover strategies are expensive and unwarranted, it would still be argued that they are necessary from the administrative point of view. In any case, the proportion of the expenses incurred is quite negligible compared ot the total cost of acquisition and anticipated synergistic results.

Suggestions for Future Research

Our suggestions for future research are based on the observations made in the theoretical and empirical literature as some of them are difficult to interpret.

First, when considered as a budgeting problem it has been argued that mergers and acquisitions are hardly subjected to sophisticated DCF methods. Moreover authors like Stapleton [1974][4] have argued that both DCF methods and market oriented approaches are inappropriate particularly in the determination of the premiums to be paid. So we have those who advocate for more sophisticated DCF methods but they do not explicitly state in what way such methods would assist those involved in the valuation and search exercises. In addition to that, little empirical evidence exists explaining why

sophisticated DCF and related techniques are not being applied in mergers and acquisitions. In other words, can we say that if such methods were applied, managements of acquiring firms would be able to avoid certain pitfalls during the valuation and search exercises?

Too much empirical work has been achieved on the subject of implications on shareholder wealth following merger announcements and also post-merger performance. Surely, we also require to critically exmaine the valuation methods which would lead to better decisions in merger and acquisition activities. that is to say, future research should be directed towards the practical applicability of the more superior DCF methods with a view to demonstrating that better decisions and conclusions can be reached.

We also noted that some valuation methods such as CAPM are commonly used in the USA [see Cooke] but no strong argument is given for their practical inapplicability in the UK. Perhaps research in this area would also help us to understand the factors which determine the theoretical and practical considerations of the available techniques.

One other feature in merger and acquisition activities is the preference for cash to stock and other forms of exchange when compensating shareholders of the target firms. That one form of payment has consistently occupied a higher proportion over others is a matter which should have drawn the attention of some financial

economists. We noted that some empirical work is being directed towards this characteristic with a view to establishing whether consummation of contemplated mergers can be influenced by the form of payment adopted by acquiring companies. It is quite apparent that further research work has to be done in support of such views.

The use of accounting ratios and related information to predict takeover candidates has not been quite extensive and therefore the results so far achieved seem too discouraging. However, further research is required and with several simulation exercises, some significant results may be attained. Indeed, the development of predictive takeover models does seem to suggest that managements of acquiring firms are in a dilemna as to which firms to approach without leading to some negative consequences. That is to say, the search process is as difficult as the valuation process when compared to most internal investment proposals. To what extent does this underline the inadequacy of the valuation methods currently applied or theoretically recommended? This is one other vital area we would recommend for further investigation.

The role of bid-premiums has also received too much attention in the empirical literature whereby some authors argue that the levels of premiums paid for different target firms are an indication of post-merger benefits while others would argue that they do determine the physical consummation of contemplated takeovers. We hope

that some further research will be forthcoming in a much more forceful manner so as to put the views of the opposing camps in their proper perspective.

In tender offers, defensive tactics are brought into play by target firms and consequently acquiring firms tend to counter-attack by employing the services of various professionals. So what needs to be established is whether such tactics lead to rational decisions in terms of maximization of shareholder-wealth. We know from the notion of the efficient-market hypothesis that Chartists, fundamental analysts, and mutual fund managers cannot out-perform the market if it is efficient in its three forms [weak, semi-strong, strong]. Therefore, the claims of merger and acquisition professionals need to be dismissed in a similar manner through some empirical observations. In most cases, they claim to be able to locate takeover targets and also provide some professional guidance towards successful consummation. How far are these claims true and what is their bearing on the valuation procedures on the part of acquiring companies?

Conclusions

From what is contained in the theoretical and empirical literature, many problems do confront those charged with the responsibility of valuing and financing acquisitions. Therefore, as a budgeting problem, there seems to be no application of sophisticated DCF methods

compared to most of internal investment proposals.

Many attempts are being made in terms of developing sophisticated predictive takeover models thus indicating that locating takeover targets is another problematic area for managements of acquiring firms. At the same time, the information to be used in building up such models appears to present further hurdles for reliability in practical application.

Financing methods while considered irrelevant to investment decisions, some attention is being focused on their role in physical consummation of contemplated acquisitions and also post-merger profitability. The role of bid-premiums has also been extensively investigated and some financial economists think that they do play a role in determining either the physical consummation or post-merger profitability.

Defensive mechanisms and regulatory requirements have also played an important role in shaping the trend and outcome of many merger and acquisition activities.

Therefore, we come to the point where we state that valuation and financing methods for mergers and acquisitions form one part of the formidable task for corporate financial managers and much of the help they need should be forthcoming from the academicians.

References to Chapter Five

1. Beaver, Kettler, and Scholes 'The Association Between Market Determined and Accounting Determined Risk Measures'. The Accounting Review [October 1970], pp 654-682.

See also: Beaver & Menegold: 'The Association Between Market Determined and Accounting Determined Measures of Systematic Risk: Some Further Evidence' - Journal of financial and Quantitative Analysis [June 1975] pp 231-284.

2. Altman, E. I. 'Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy' The Journal of Finance [September, 1968] pp 589-609.

3. Copeland & Weston: et al Op. Cit. pp 628-635.

4. Stapleton R. C. 'The Acquisition Decision as a Capital Budgeting Problem' Journal of Business & Accounting [Autumn 1974] pp 187-201.