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Acquirer Type, Agency Monitoring and Post-Acquisition Performance: An Empirical Investigation

by

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Submitted for the degree of
Doctor of Philosophy

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Department of Accounting and Finance**

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DECLARATION

I grant powers of discretion to the University Librarian to allow this thesis to be copied in whole or in part without further reference to me. This permission covers only single copies made for study purposes, subject to normal conditions of acknowledgement.

ABSTRACT

The vast literature in finance examining the impact of takeovers on the share price of the bidder and target firms finds conclusive results for targets and inconclusive results for bidders. For both the UK and the US, previous studies show target firms to experience large positive abnormal returns at the time of the bid-announcement while bidder firm shareholders experience small abnormal gains as well as losses. Previous studies also show that approximately half the acquirers experience positive post-acquisition performance. There exists a serious gap in extant knowledge on what factors lead some acquirers to experience a positive post-acquisition performance while other acquirers experience a decline in their wealth. In this study we examine whether target firm managerial resistance to a takeover may be one factor which can affect the post-acquisition performance of acquirers. By segregating our sample of acquirers by the target firm management response to a takeover we are able to examine the post-acquisition performance of different acquirer types.

This study attempts to fill the gaps in our knowledge regarding the relative performance of different acquirer types by addressing three research questions:

- i) what is the relative post-acquisition performance of different acquirer types?
- ii) what are the sources of long run post-acquisition value creation for each acquirer type?
- iii) how effective are the agency monitoring mechanisms in determining the long run post-acquisition performance for each acquirer type?

In attempting to address the above questions we also examine a number of subsidiary issues that arise in the context of the relative post-acquisition performance of different acquirer types defined in terms of their financial profile. The subsidiary issues are:

- i) whether the acquirer firm size affects the long run post-acquisition performance?
- ii) whether the acquirer's profile as a glamour or value stock, measured by the market to book value, affects the long run post-acquisition performance?
- iii) whether the acquirer's profile as a glamour or value stock, measured by the price to earnings ratio, affects the long run post-acquisition performance?

We use a sample of 547 acquirers, consisting of friendly, single hostile, multiple hostile and white knights, in takeovers completed between the period 1983 to 1995 to generate wealth gains. Wealth gains are measured in the form of abnormal returns and estimated by event study methodology using five different benchmark models (i.e. Fama and French Three Factor, market to book value, size, mean and market adjusted models). Then we use multiple regression analysis to test a range of hypothesis based on previous literature in finance with respect to our research questions.

Our results show that single hostile acquirers outperform all other acquirer types in each of our three long run event windows. White knights tend to have a higher post-acquisition performance than either multiple hostile and friendly acquirers. Friendly acquirers tend to have the worst post-acquisition performance compared to other acquirer types. We find differences in the impact of the sources of value creation and agency monitoring mechanisms on different acquirer types. Consistent with previous studies we find that shareholders of value acquirers (based on the PE ratio and market to book value) experience greater wealth gains than shareholders of glamour acquirers. We also find that shareholders of large acquirers tend to experience greater wealth gains than shareholders of smaller acquirers.

CHAPTER ONE

OBJECTIVES AND OUTLINE OF THE THESIS

1. INTRODUCTION

One of the most extensively researched areas in finance has been whether mergers create value. This has become a very important question for researchers to answer as the level of takeover activity has increased since the 1960s. Acquisitions have become an integral part of western economies and have taken root in Eastern Europe and other emerging economies. Even though the takeover activity has been phenomenal in these countries over the last thirty years, by European standards it has been much higher in the UK (Jenkinson and Mayer, 1994 p3). For example, during 1988, which was the peak year of takeover activity in Europe, Jenkinson and Mayer (1994:p3) show that there were 937 corporate acquisitions in the UK, with a value of £7 billion. In France, the figure was 537 takeovers with a value of £7 billion while in West Germany 534 corporate acquisitions took place. More recent data from Dugan (1998:p11) shows that completed takeovers in Europe were worth US\$262.7 billion in 1996 and US\$447.6 billion in 1997. Of this, 34% of takeovers were carried out in the UK compared to 14% in France, 12% in Germany, 10% in Switzerland, 5% each in the Netherlands and Italy, and 18% in the rest of Europe.

The UK does not only have the highest level of takeover activity in Europe but also has a very large number of failed bids where the bidder does not manage to gain control of the target firm. The reason for this is that a very high proportion of UK takeovers are launched without seeking the prior approval or agreement of the target

firm management¹. During the peak takeover period of 1984 to 1989, an average of 26% of bids for quoted UK companies were contested.^{2,3} Jenkinson and Mayer (1994:p7) show that of the ten largest completed UK takeover bids carried out in 1989, seven of them did not receive the support of the target board and hence, were hostile takeovers. Jenkinson and Mayer (1994: p6-11) show that of the ten largest bids made each year between 1984-89, 40 out of 60 bids were hostile. Of these 40 hostile bids, in 47% of the cases the bidder failed to gain control of the target firm. In 27% of the cases there was a second bidder who was either a white knight or another hostile bidder. For the target firm, the probability of a successful defence against a takeover decreased with a second bidder with a failure rate on average of 34%.⁴ More recent data from Acquisitions Monthly (January, 1997:p34/5) shows that almost 10% of all completed acquisitions, in 1996, for publicly listed targets were hostile. Out of the ten largest acquisitions completed in 1996, with a market value of £17.2 billion, four of them were hostile takeovers with a market value of £8.2 billion.

As the level of takeover activity has increased over the last thirty years, the level of academic literature examining their causes and consequences has also expanded. The literature concerned with consequences of takeovers shows overwhelming support for

¹ A takeover consists of one target firm and at least one bidder firm. In a takeover, the latter purchases the shares and takes on the liabilities of the former. A successful bidder firm is referred to as an acquirer.

² The average number of hostile bids per year was calculated from data supplied by Acquisitions Monthly (1986 to 1990) and Investors' Chronicle (1983 to 1985).

³ A hostile bid, or contested takeover bid, is one, which does not receive the support or approval of the target firm's management. Under these circumstances, the target firm may employ a number of defensive strategies in order to avoid or stop the takeover. Sudarsanam (1991) lists over twenty defensive tactics at the disposal of the target firm of which one of the most frequently used strategies is to look for a friendly bidder. The friendly bidder in these circumstances is referred to as a 'white knight' because it attempts to save the target from the 'clutches' of the hostile bidder. There are instances in a hostile takeover when another company enters the battle to take control of the target firm without the approval of its management. We refer to bids involving two or more hostile bidders as multiple hostile takeovers. The different acquirer types are described in detail in section 2.2.2.

⁴ In other words, out of the 27% of hostile bids with a second bidder only 34% failed.

the case of target firm's shareholders experiencing a wealth gain (Holl and Kyriazis, 1997a; Sudarsanam et al., 1996; Franks and Harris, 1989; Jensen and Ruback, 1983) at the time of the announcement. The literature also shows that gains for target firm shareholders tend to be higher in a hostile takeover than in a friendly one (Gregory, 1997; Franks and Harris, 1989). Second, in a multiple bid, where there is more than one bidder, the target firm shareholders tend to experience greater wealth gains compared to takeovers with only one bidder (Franks and Harris, 1989). Third, in a white knight bid, the target firm shareholders tend to receive greater wealth gains than in non-white knight takeovers such as Banerjee and Owers (1992). There are a number of reasons why target firm shareholders should gain from a merger and these have been well documented and tested in finance literature.

Even though there has been a considerable amount of published research in the area of mergers, there are still a number unresolved issues. One such issue is the acquirer's post-acquisition performance and the factors which determine whether the takeover is a success or a failure.⁵ To date, there does not appear to be conclusive evidence to show that acquirer firm shareholders experience either positive or negative wealth effects. The empirical studies, so far, indicate that acquirers can experience negative gains (Dodd, 1980; Sudarsanam et al., 1996) close to zero gains (Gregory, 1997) and positive returns (Jensen and Ruback, 1983; Franks et al., 1991; Loughran and Vijh, 1997 for cash takeovers).

This study is motivated by the inconclusive results from previous studies regarding the post-acquisition performance of acquirers. Although the average post-acquisition acquirer performance may be inconclusive, there is no reason to assume that this experience is shared by all acquirer types. One reason for the inconclusive result regarding acquirer post-

⁵ Failure in this case refers to a takeover, which results in negative post-acquisition acquirer firm shareholder wealth. This is different from a failed bid whereby the bidder firm fails to gain control of the target firm.

acquisition performance is that a large number of previous studies ignore the motivations underlying the takeover. For example, a friendly takeover, according to Morck et al. (1988b) is motivated by synergy i.e. the idea that $2 + 2 > 4$. On the other hand, hostile takeovers are disciplinary in nature and attempt to correct target firm managerial failure (Franks and Mayer, 1996). However, this type of distinction cannot be made for white knights whose motives are less clear than those of other acquirer types.

A white knight, by its very nature, enters the competition to gain control of the target firm after a hostile bidder has been identified. In this case, if synergy is a motive then a white knight need not wait for a hostile bidder to make the first approach to the target firm. On the other hand, if discipline is a motive, it is most likely that the white knight will not receive the support of the target firm management. In this research we use a rigorous and clear-cut definition to differentiate between different acquirer types in order to study their relative long run post-acquisition performance.

The following part of this chapter is divided into four sections. In the first section, we describe the background to, and development of, mergers in the UK. We then define the focus of this research. We aim to explain the distinction between the various types of bidders based on the mood of the bid. This is important because different bidders have been shown to differ in their impact on the shareholder wealth effects of the acquirer. This is followed by detailing the objectives that this thesis hopes to achieve. In the penultimate section of this chapter, we look in depth at the contribution that this research makes towards extending our knowledge in the area of corporate takeovers. Finally, we present a preview of the chapters that follow and their respective conclusions.

1.1 MERGERS AND ACQUISITIONS IN THE UK

Early mergers were usually in related areas and were carried out to reduce competition and exploit economies of scale^{6,7}. Post-war experience of takeovers has taken on a new meaning. No longer are bidder firms content to take over targets in their own industry, but they do so in other areas of business as well, (see Hughes, 1989 for a survey of the post war impact of mergers in the UK). Along with the rise of takeovers, the emergence of a totally new type of bidder firm has arisen whose main objective is to take over targets and sell the component divisions. This type of acquirer is known as a corporate raider and assumes that the component parts of the target firm to be worth more than the whole. Over the last fifty years there have been six periods where there has been a boom in merger activity. These were the years 1958 to 1960, 1966 to 1968, 1970 to 1972, 1975 to 1978, 1983 to 1989 and 1992 to 1995 (Peacock and Bannock, 1991; Financial Statistics, 1998).⁸

A number of reasons have been put forward to explain the rise of takeovers, and more precisely hostile bids, which often give rise to white knights. First, it was generally believed that large firms were necessary to operate at the minimum efficient scale of production. This was important in the early merger waves (i.e. 1966 to 1968 and 1970 to 1972) which led to the creation of large companies such as GEC which acquired two of its main rivals, namely AEI and English Electric, or British Motor Holdings which merged with Leyland to form British Leyland Corporation. Many of the takeovers in the late 1960s and early

⁶ Strictly speaking, an acquisition or takeover is when the majority share capital of a firm, usually referred to as the target, is purchased by another company, usually referred to as the bidder. In contrast, a merger is when two or more companies pool or combine their resources to create a new entity which has the ability to exercise control over those assets. In this study we use the term acquisition, merger and takeover interchangeably.

⁷ The UK takeover experiences mirror those of the US to a large extent and both can be described simultaneously (see Cooke, 1986:ch1; Peacock and Bannock, 1991 p21).

⁸ We show the end of the merger boom to take place in 1995 to match the end of our sample period although the number and value of takeovers continued to increase.

1970s were encouraged by the Industrial Reorganisation Corporation (IRC) which was a government body with the aim of promoting structural change and efficiency (see Cosh, Hughes and Singh, 1980). Second, the post-war period has seen a greater use of equity markets as the main source of long run finance for firms. This has meant that as equity markets have risen, bidders have been more able to carry out takeovers by financing them through the issue of new equity. King (1989) found that during the period 1960-86 between 25% and 65% of UK takeover activity was financed by issuing new equity.

Morgan and Morgan (1990) argue that a takeover brings considerable revenues to a whole host of groups such as lawyers, accountants and so on. These groups have a vested interest in promoting takeovers, especially if the potential fees are considerable. Under these circumstances, advisers have a strong incentive to seek and identify possible targets for their clients in order that they themselves may earn higher profits. Advisers may also develop new ways of financing takeovers such as junk bonds, which were popular in the 1980s, in order to earn greater profits from an increase in takeover activity⁹. These new instruments allowed bidders to raise huge sums of money, especially for hostile takeovers, or where the bidder was smaller than the target. The latter usually appeared in the disguise of a corporate raider, whose aim was to acquire undervalued companies and break them up into smaller companies so they could be sold separately.

In the face of mounting hostile bids, targets began to develop new strategies to maintain their independence. Sudarsanam (1991) details over twenty different types of defensive strategies employed by targets, such as challenging the logic of the bid, making a profit

⁹ Bond issues, with a rating assigned by credit rating agencies such as Moody's Investor Services, Standard and Poor etc., in the top four categories, are referred to as investment grade bonds. Bond issues which are assigned a credit rating below the top categories are referred to as non-investment grade or more commonly as high yield or junk bonds (Stimpson, 1991.p73). The high yield bond market opens the possibility of credit for some firms that previously had no access to it.

forecast, revaluation of assets and so on. One of the most frequently used defensive strategies, according to Sudarsanam (1994b), was for the target firm to seek an alternative bidder or white knight. The target firm management may seek a white knight, even though they may have preferred to remain independent, because this may be a better alternative than to be taken over by the hostile bidder. The effectiveness of a white knight is reflected by Sudarsanam (1994b) who shows it to be the most successful defensive strategy employed by a target firm facing a hostile bid.

1.2 FOCUS OF THIS RESEARCH

In a review article, Jensen and Ruback (1983) summarise evidence from previous studies, which shows that approximately half the acquirers experience positive post-acquisition performance. The question then arises as to what factors lead to some acquirers to experience a positive post-acquisition performance while other acquirers experience a decline in their wealth. Target firm management resistance may be one factor which can affect the post-acquisition performance of acquirers. This is because an initial refusal by the target firm management may require the bidder to increase the price it is prepared to pay in order to acquire the target, and hence affect the post-acquisition return. In the case of a multiple bid (i.e. more than one bidder for a single target), it is very likely that the acquirer will have to overpay to purchase the target (Varaiya, 1988; Gilberto and Varaiya, 1988).

This research investigates the effect of target firm managerial resistance on the post-acquisition performance of different acquirer types. We then aim to explain the different acquirer type post-acquisition performance by analysing their relationship with various sources of value creation, which have been cited in the literature dealing with takeovers. Agrawal and Knoeber (1996) argue that there is a relationship between firm performance and the extent to which various agency control mechanisms are used. We attempt to test this for our sample of acquirers by examining the relationship between post-acquisition

acquirer performance and agency monitoring mechanisms. Finally, in the process of investigating the long post acquisition performance of acquirers, we also make a distinction between large and small market value, value and glamour acquirers.¹⁰

1.2.1 IMPACT OF MANAGERIAL RESISTANCE

The vast bulk of takeovers tend to be friendly in that the bidder firm receives the approval of the target board. However, where approval from the board of the target firm is not received, a bidder may choose to mount a hostile bid. In a situation where the bidder firm experiences resistance from the target management to the bid, it is likely to have an impact upon the division of gains between the two groups. This impact of managerial resistance cannot be determined from a prior argument. On the one hand, the management-shareholder alignment hypothesis suggests that target firm resistance would be in the interest of its shareholders because it leads to a higher premium.

The managerial entrenchment hypothesis suggests that target firm resistance reflects an attempt by managers to protect their job security, thereby reducing the probability of the takeover succeeding. In many ways, target firm resistance could impose considerable costs on target firm's shareholders, as managers employ corporate resources in opposing what could be a beneficial takeover. In the recent hostile takeover of Forte by Granada, the former spent over £35 million in an attempt to defend itself from latter (Financial Times 24/1/96 p26). In many ways, hostile takeovers are a mechanism by which inefficient target firm managers can be removed if the bid is successful (Morck, Shleifer and Vishny, 1988b).

¹⁰ Glamour firms are characterized by high market to book values and price to earnings (PE) ratios. Value firms on the other hand have a low market to book value and PE ratio.

If the target firm resistance succeeds, shareholders lose the opportunity to realise the gains that would result from the offer.¹¹

Bid hostility can also arise from information asymmetry because target firm managers have inside information that is not available to the bidder firm. If the bidder firm is uncertain as to the future prospects of the target firm it is more likely to seek a friendly takeover because the target management's inside knowledge becomes quite important. On the other hand, if the bidder is fairly certain and knowledgeable of the target's future prospects then the target management's inside information becomes less valuable (Schnitzer, 1996).

Target firm managerial resistance may lead to an auction taking place, i.e. more than one bidder. This is because target firms may receive additional bids before the first bid has lapsed, such as that from a white knight. A white knight is normally a late entrant into the 'bidding competition' who receives the support of the target firm management. In bids involving multiple hostile or white knight bidders, the successful bidder may have to pay more than the other bidders in order to acquire the target. Varaiya (1988) argues that the overpayment by the winning bidder in a multiple bid stems from its higher valuation of the target firm. Winners tend to overestimate the value of the target firm.

Our first aim is to determine the shareholder wealth effects experienced by bidders, both in the short and in the long run. Secondly, we also aim to determine the relative wealth gains for different acquirer types. Wealth gains in this study are measured in terms of shareholder

¹¹ Of course this assumes that the offer by the hostile bidder is far higher than what the target firm management can deliver in the future

abnormal returns estimated using event study methodology¹². We use five different models to estimate the abnormal returns for acquirers over a three-year post-acquisition period, for 547 publicly quoted acquisitions completed between 1983 and 1995. The empirical evidence from previous studies suggests that bidders in both hostile and multiple bids suffer negative wealth gains at the time of the bid and the period after. Banerjee and Owers (1992) find that hostile bidders experience a loss in shareholder wealth of -0.2% from the day before the bid announcement till the day after. De et al. (1996) find that successful acquirers in a multiple bid suffer a wealth loss of -1.71% at the time of the bid announcement compared with 0.03% for single bidders. Similar results have been found by Smiley and Stewart (1985) for white knights with losses of -3.3%.

1.2.2 SOURCES OF POST-ACQUISITION VALUE-CREATION

The second focus of this research is to investigate why takeovers take place. The simple answer to this question would be that the target firm is undervalued and there are efficiency gains to be made. If this were the case, then one would expect all takeovers to lead to wealth gains for acquirer firm shareholders. However, the empirical evidence does not support this and we know that different acquirer types experience differing relative post-acquisition shareholder wealth effects. In this study, we limit ourselves to looking at the synergistic, wealth transfer, target misvaluation and disciplinary sources of post-acquisition wealth creation for different acquirer types.

¹² Event study methodology attempts to measure the impact of a new item of information such as a dividend or takeover announcement of a company. This is done by calculating the abnormal return or the return which is not expected. The first step to this is to predict what the normal return would have been in the absence of the new information. The second step is to subtract the estimated return from the actual return to obtain the abnormal return. This methodology is explained in considerable detail in Chapter 4.

A very common reason for takeovers is to exploit synergies that arise as a result of combining two or more separate companies. Synergy can be divided into three categories, namely operational, financial and managerial. Operational synergy is based on the idea that average costs fall as output is increased (Estrin and Laider, 1995). At the same time, the combined group can benefit from economies of scale in marketing, purchasing or inventory through bulk buying, etc. The combined group is also able to capture economies of scope where a multi-product firm is able to produce two separate goods at a cost which is lower than the total cost of producing these goods by two single product firms. Operational synergy is more likely to occur when the bidders and targets are from the same industry rather than those from differing industries. This has been found by Chatterjee (1986), Singh and Montgomery (1987), Datta et al. (1992) and more recently by Barnes (1998) amongst others. However, other studies such as Lubatlin (1983), Limmack and MacGregor (1992) provide evidence that conglomerate takeovers can lead to superior post-acquisition performance relative to non-conglomerate mergers. At the same time, Seth (1990), and Slusky and Caves (1991) found no have difference in the performance of related and unrelated takeovers.

Takeovers may also provide the merging firms scope to exploit financial synergies, of which there are three types. The first type of financial synergy is the exploitation of the tax advantage of unused debt capacity, whereby if one party in a merger already operates at, or near, its optimal gearing level with a firm that has unused debt capacity then the combined firm will be able to gain from exhausting the unused debt capacity. This type of financial synergy predicts that the larger the difference in debt between the target and bidder firms the greater the increase in synergy. The second type of financial synergy arises from the complementary growth opportunities of the bidder and target firms. In other words, the mismatch between the resources and investment opportunities available to the merging firms allows the takeover to create value for both target and bidder firm shareholders. The third type of financial synergy is uncorrelated cash flows between the target and bidder firms which may reduce the risk of the combined group. The reduction in risk largely arises

from a fall in the variability of earnings which may enable their debt obligations to be more easily met and thereby reduce the bankruptcy risk of both firms.

Managerial synergy arises when a more efficient management team purchases an inefficiently managed company. This obviously assumes that management skills are transferable from one company to another. Rosen (1972) has identified three types of managerial synergy, namely firm-specific, industry-specific and generic managerial skill. The first refers to each firm's specific managerial skills which are particular to only one company and cannot be transferred to other companies. Second, industry-specific managerial skills refer to the skills managers acquire through familiarity with the specific industries. Due to the industry specific nature of these managerial skills they can only be transferred in related takeovers. Third, generic managerial skills refer to the general competence of managers. As these are the most general forms of managerial skills they are the most likely to be transferred, both in related and non-related takeovers.

Post-acquisition value-creation can also occur through the transfer of wealth from one group to another. This assumes that acquisitions do not lead to an increase in total wealth. Wealth can be transferred from four different groups to the bidder firm shareholders. One group is the customers who suffer as a result of an increase in monopoly power arising from a concentration in the market. Second, wealth can be transferred from the government to bidder firm shareholders through tax reductions which can encourage companies to merge.¹³ Third, mergers can force employees to accept a lower real salary or even redundancies. Finally, wealth can be transferred from target firm shareholders to the

¹³ King (1986) argues that a tax wedge may exist which favours acquisitions, as opposed to new investments i.e. the taxation system may make it more favourable for a firm to expand through and acquisition rather than the purchase of plant and machinery.

bidder firm shareholders. The simplest manner by which this can be achieved is through the purchase of undervalued companies without paying a takeover premium.

The misvaluation theory suggests that the bidder places a different value on the target firm from that of the stock market. The misvaluation can arise out of two factors; the first is that the bidder firm management feel that the target firm is not operating at its full potential, either due to the target firm managers being inefficient at managing their company or the bidder may have some private information regarding the target firm. Second, the misvaluation theory also suggests that differences between the market value and the replacement cost of the target could motivate an acquisition. A firm wishing to add to existing capacity, or diversify into new markets, may find it cheaper to acquire a target rather than invest in new plant and machinery.

Sudarsanam et al. (1996) find that the differential managerial efficiency of the bidder has a significant effect on the acquirer returns. Morck, Shleifer and Vishny (1988b) argue that friendly bids are motivated by synergy while hostile bids are disciplinary in nature. If discipline is the primary motive of bidders, then it implies that target firms underperform prior to the bid (Asquith, 1983). Agrawal and Knoeber (1996) argue that better performing companies are less likely to become takeover targets. The empirical evidence from Walsh (1988) shows that mergers are a mechanism by which inefficient management is removed. For the UK, Franks and Mayer (1996) find that 90% of hostile target firm management are replaced in the two years subsequent to the takeover. In contrast, friendly target firm management are replaced in only 50% of the cases over the same period.¹⁴

¹⁴ Franks and Mayer (1996) report no pre-bid underperformance of targets but they accept that hostile bids are disciplinary in nature. The higher management turnover in hostile bids reflects the disciplinary nature of the takeover.

1.2.3 AGENCY MONITORING MECHANISMS AND POST-ACQUISITION PERFORMANCE

The failure of some large and prominent companies, such as British and Commonwealth Holdings, Maxwell Communications, Polly Peck etc., has highlighted the need for corporate accountability. This is also important in the area of takeovers where 'efficient' control systems may prevent management from carrying out 'bad' acquisitions. In the absence of owners or shareholders managing the company, agents have to be appointed leading to a separation between ownership and control. This separation between ownership and control has meant that not just day-to-day operations of a company but strategic decisions are left to managers. However, in that event, managers may seek to further their own cause. Even if there is a contract between the shareholders and the agents, there is no guarantee that the latter will perform according to the wishes of the former.

We investigate the relationship between takeovers and three types of agency monitoring mechanisms, namely debtholders, corporate governance and owners.¹⁵ Jensen and Meckling (1976) argue that in the post-Modigliani and Miller (1958) framework, debt may be considered a monitoring tool by creditors and shareholders. Debtholders have the ability to restrict the activities of managers by imposing covenants. Common examples of restrictions placed on managers by debtholders include reduced dividend payments and limits on future borrowings. Managers can attempt to reduce the level of restrictions placed on them by debtholders through supplying greater information which reduces uncertainty, and hence information asymmetry. It is likely that if debtholders are informed of the present situation and future direction of the company, they are less likely to impose

¹⁵ We refer to agency monitoring mechanisms as explicit or implicit controls placed on the firm's management so that they carry out actions which maximize the economic welfare of stakeholders. A firm may have a number of stakeholders such as employees, customers, creditors etc. but not all of these are equally influential or have the same aims. Therefore, our research is limited to stakeholders who have broadly similar aims and influence on the agents.

restrictive terms on the managers. Jensen (1986a) argues that the fear of managers not being able to service their firm's debt acts as an effective motivating force leading to a much more efficient organisation.¹⁶ In terms of takeovers, bidders will be "influenced" not to overpay or carry out "foolish" acquisitions.

The Cadbury Committee Report (1992) defines corporate governance as a "system by which companies are directed and controlled". One important aspect of the corporate governance structure that monitors the behaviour of top management is the board of directors. This is because the board sets the standard that top management have to adhere to, and if they don't they are removed, at least in theory. Aspects of effective corporate governance providing efficient agency monitoring are the inclusion of non-executive directors, non-CEO duality and top management with outside experience.¹⁷ Non-executive directors perform the important task of evaluating the performance of top management. The empirical evidence shows that the presence of non-executives increases the relative performance of companies (see Mayers et al., 1997). Similarly, if the role of CEO and chairman is performed separately, greater discipline is induced. The evidence regarding the relative performance of companies with and without CEO duality is inconclusive. Duggal and Cudd (1996) find that companies with CEO duality tend to perform less well compared to those without. One reason for this may be that the concentration of power leads to management entrenchment to the detriment of shareholders. However, there is also evidence to show that this is not always the case as combined roles can promote focused objectives and a clear line of command (Lai and Sudarsanam, 1997). Finally, top

¹⁶ Increased efficiency can be brought about in a number of ways such as carrying out restructuring strategies (Ofek, 1993).

¹⁷ We define top management experience as executive or non-executive directorships held by the Chief Executive Officer or Chairman in other companies. An experienced top management will have a large number of outside directorships because other companies will want to exploit their knowledge and skills. At the same time, outside directorships extend the top management's outside experience.

management outside experience is also argued to lead to superior firm performance (see Lorsch and MacIver, 1989; Subramanyam et al., 1997).

Shareholders are the third group of agency monitors we examine in this study. One development that has taken place in the UK equity market is the move away from private investors to institutional shareholders. Although large shareholders can be very important as agency monitors, they do not all have the same incentives as private investors to do so. For example, large shareholders associated with the directors such as founding family trusts, etc., may be more aligned to the directors. In the case of institutional investors, they themselves are judged by their ability to select well performing firms with a good management team. This may mean that institutional shareholders have a strong incentive to influence the performance of companies in which they invest their clients' funds. Failure on the part of institutional investors to select profitable and well performing firms may have a negative impact on their own performance.

1.2.4 RELATIVE PERFORMANCE OF HIGH BOOK TO MARKET VALUE, PE RATIO AND MARKET CAPITALISATION ACQUIRERS

The classic Sharpe-Linter-Black version of the Capital Asset Pricing Model (CAPM) states that there exists a cross-sectional linear relationship between expected returns and beta. In this model beta explains the variation in share returns. The Sharpe-Linter-Black CAPM model has been widely tested and studies such as Dyckman et al. (1984) state that the model can be supported for short run data. Fama and French (1992) show that the beta does not capture much of the cross sectional variation in average share returns. Fama and

French (1992) find support for firm size and book to market value in explaining the cross-sectional variation in share returns.¹⁸

The failure of beta to explain the long run cross-section of expected returns has led researchers to look for alternative explanatory variables. One such variable is size or market capitalisation of the company, which Banz (1981) and Reinganum (1981) find to be important in explaining the cross-sectional variations in share returns. Levis (1989) for the UK finds that large and small companies experience different returns¹⁹. The size difference has an impact on the relative performance of bidders. Higson and Elliott (1998) show that small acquirers (i.e. with a low market capitalisation) in their sample experience CARs of -1.14% over a two-year post-acquisition period while the largest hundred bidders in their sample received a wealth gain of 1.33% during the same period. This implies that larger acquirers out-perform smaller ones.

The book to market value is the ratio of the book value of equity against its market value and attempts to proxy for unobservable common risk factors (Fama and French, 1992 and 1993). Fama and French (1993) argue that the book to market value ratio captures the 'relative distress' factor of a firm. In other words, the risk of a firm is related to its expected earnings and firms that are assumed to have low expected earnings tend to have a low share price and a high book to market value. Barber and Lyon (1996) examined the relative performance of high and low book to market value companies and found that the former

¹⁸ The non-uniform performance of companies has led researchers to categorise firms by their characteristics, such as book to market value, PE ratio etc. Firms characterised by low book to market value, high PE ratio etc. are referred to as glamour shares. On the other hand, firms characterised by high book to market value, low PE ratio etc. are referred to as value shares.

¹⁹ Dimson and Marsh (1996) show that the size effect for the UK is not constant. Between 1955 to 1988 small companies have tended to outperform larger ones. However, the relationship has now inverted with larger companies outperforming smaller ones, except for the years 1993 and 1994.

performed considerably better than the latter over the years 1972 to 1984. Rau and Vermaelen (1998) found that high book to market value bidders experienced higher wealth gains than low book to market value bidders .

An often used technique in differentiating between companies is to examine the share price to earnings per share ratio (PE). More formally, the PE ratio is the "esteem at which the company is held by investors" (Brealey, Myers and Marcus, 1995:p.449). However, empirical evidence, such as Levis (1989) for the UK, shows that over a long run period shareholders of companies with a low PE ratio tend to experience higher abnormal returns than companies with a high PE ratio. For the US, Fama and French (1992) and Lakonishok, Shleifer and Vishny (1994) find similar results with differences of 9.4% and 3.9% in abnormal returns respectively between the highest and lowest PE portfolios of companies.

1.3 OBJECTIVES OF THE THESIS

In the above discussion we have explained the issues that will be examined by this thesis. We now set out our specific objectives. The three focal points of this thesis are to consider the relative post-acquisition performance of different acquirer types. In Section 1.2.1 we saw that different acquirer types had different motives and differing post-acquisition performance. In particular, we are interested in white knight acquirers because their motives tend to be less clear than those of friendly and hostile acquirers. The second focus of this research is to determine the factors which may explain why some bidders experience positive long run post-acquisition returns while other bidders do not. The third focus is to be able to examine the effect of agency monitors such as the corporate governance

structure, debtholders and shareholders on the performance of the acquirer. These foci can be summarised as follows:

- i) What is the relative long run performance of different acquirer types during the post-acquisition period?
- ii) What are the sources of long run post-acquisition value creation for each acquirer type?
- iii) How effective are agency monitors in determining the long run post-acquisition performance of acquirers?

The thesis will also attempt to look at a number of subsidiary issues that arise in the context of the relative post-acquisition performance of different acquirer types defined in terms of their financial profile. The subsidiary issues are:

- i) Whether the acquirer firm size affects the long-term post-acquisition acquirer performance?
- ii) Whether the acquirer's profile as glamour or value stock, measured by the book to market value, affects the long-term post-acquisition performance?
- iii) Whether the acquirer's profile as growth or value stock, measured by the price to earnings ratio, affects the long-term post-acquisition performance?

1.4 CONTRIBUTION TO RESEARCH

This research differs from previous UK studies of successful takeovers in a number of ways. The main contributions of this work to our understanding of takeovers are firstly the analysis of post-acquisition performance by acquirer type. The literature in the area of takeovers has largely tended to focus on the overall performance of bidders, regardless of the mood of the takeover. The mood of the bid is especially important in our understanding of the long-term post-acquisition performance of acquirers. In this respect, this is one of very few UK studies using event study methodology that examines white knight and multiple hostile acquirers as separate groups of acquirers. This study is also one of a few that distinguishes between the different acquirer groups, using a rigorous and clear cut definition.

Secondly, this is to our knowledge the only UK study that examines the impact of the agency monitoring mechanisms on the long run post-acquisition performance of the acquirer. This thesis examines three agency monitoring devices which attempt to reduce agency conflicts, namely the corporate governance, debt and ownership structure of the firm. The results of this analysis will allow us to better understand the relationship between long run post-acquisition performance and each of these devices, and thereby assess their effectiveness.

Third, this is the only study for the UK, to our knowledge, that uses a daily reference portfolio to match the bidder firm based on size and book to market value. The vast bulk of previous UK studies, using event study methodology, tend to use only the general market index (such as the FT All Share Index) or the HGSC for small companies as a benchmark. Fama and French (1992) amongst others have shown the general market index to be a very poor benchmark by which to calculate the abnormal performance of bidder firms. In this study, we construct a daily index of returns for all UK listed companies from 1980 to the

present. The indices are then divided into quintiles based on size as well as market to book value.

Recent empirical evidence shows that long run event studies tend to be misspecified and the test statistic cannot be relied upon. (See Kothari and Warner, 1997; Barber and Lyon, 1996 and 1997; Cowan and Sargeant, 1997). In long run event studies there is a tendency for positive or negative performance to appear where none exists. The main cause of this problem is the inability of standard parametric tests to satisfy the common assumption in event studies of a zero mean and unit normality²⁰. Although, studies such as Gregory (1997) use the bootstrapping method this study attempts to employ an alternative technique suggested by Cowan and Sargeant (1997). The Cowan and Sargeant (1997) technique attempts to overcome problems associated with the bootstrapping technique.

1.5 CONCLUSION AND PREVIEW OF THE THESIS

This thesis is organised into ten chapters, of which this the introductory chapter developed the central focus of the research. In this chapter we have shown that of all the European countries, the UK has the highest levels of corporate takeovers (Jenkinson and Mayer, 1994:p3). We have also shown that a large number of takeovers in the UK are hostile in that they do not receive the support of the target firm (Jenkinson and Mayer, 1994:p6). The second chapter reviews the theoretical and empirical literature, which seeks to explain shareholder wealth effects due to a merger. We show that three alternative methods have been developed to study the post-acquisition performance of acquirers, namely accounting-based data, surveys and share price data. From this chapter, we

²⁰ Unit normality refers to a distribution with a mean of zero and a standard deviation of one (Adkins, 1964)

conclude that, in the case of target firms there appears to be conclusive evidence to show that shareholders receive a wealth gain but the results for acquirers tend to be inconclusive.

In Chapter 3 we present and discuss certain factors which have been found to affect acquirer returns. We find these certain factors may affect post-acquisition performance of acquirers but they are inadequate at explaining the inconclusive result that we have to date. We find that there is still a gap in our knowledge regarding the relative performance of acquirers that needs to be filled. We argue that, in part, the inconclusive acquirer post-acquisition firm results may be due to previous studies not segregating acquirers by the mood of the bid.

The fourth chapter describes the structure of our sample data. Our study uses shareholder returns calculated using event study methodology, and in this chapter we describe this technique along with its shortcomings. We also explain the econometric issues in event study methodology such as tests of statistical significance, bootstrapping etc. Recent studies have shown that the Sharpe-Linter-Black CAPM model is inadequate at explaining the cross-sectional returns. In this chapter we review the literature concerning the importance of size, market to book value and PE, in explaining the cross sectional variation in returns. In this chapter we also describe the basis and manner in which our reference portfolios were constructed.

The fifth chapter investigates the first of the three issues to be addressed in this thesis i.e. the relative performance of different acquirer types. In the first part of the chapter we highlight some methodological issues which are specific to this chapter. In the second section of the chapter we empirically investigate and report the results for our hypotheses and propositions. Chapter 6 reviews the literature on the sources of post-

acquisition value creation. The literature has shown that synergy, wealth transfer and target firm misvaluation are important sources of post-acquisition value creation. Chapter 6 also develops the hypotheses which we empirically test in Chapter 7 for our sample of acquirers. In the second section of Chapter 7 we define the sources of value creation and control variables. In the third section of this chapter we use the results from chapter five (discussed in the previous paragraph) to test the relationship between post-acquisition acquirer performance and the sources of value creation which is discussed in Chapter 6. In chapter eight we review the literature relating to agency monitoring mechanisms and their influence on firm performance and formulate the hypotheses which we empirically test in Chapter 9. In Chapter 9 we discuss the methodological issues specific to this chapter and report our results. Finally, chapter ten summarises the results of our study and suggests directions for further research.

CHAPTER TWO

ACQUIRER GAINS IN CORPORATE ACQUISITIONS:

THE THEORETICAL BACKGROUND AND PRIOR EMPIRICAL EVIDENCE

2. INTRODUCTION

The research on mergers has a very long history and is growing as new techniques become available. Previous studies examining the post-acquisition performance of acquirers tend to use three main types of analytical techniques, namely large sample accounting-based analysis, survey studies and event study methodology (i.e. the use of share prices). Accounting based analysis involves examining the pre- and the post-acquisition performance of the merging companies using financial variables from company annual accounts. These studies are commonly known as ex-post studies because they consider the company's performance after the takeover. In contrast to this, survey based studies involve examining each takeover individually. This approach attempts to be more specific and carry out an in-depth analysis of the companies involved. The third approach, in order to analyse the performance of the merging firm, is to use share price information i.e. event study methodology.

Early research using event study methodology such as Halpern (1973) sought to answer the question of whether or not mergers are value. In the process, these studies attempt to explain the average wealth experiences of the shareholders. That is, they combine the shareholder wealth effects of both the target and bidder firm shareholders.

More recent research attempts to disaggregate the data, and examine whether the shareholders of target and bidder firms have different wealth experiences following a bid announcement. The vast literature in finance examining the impact of takeovers on the share prices of the bidder and target firms finds conclusive results for targets and inconclusive results for bidders. For both the UK and the US, previous studies show target firms to experience large positive, and statistically significant, abnormal returns at the time of the bid announcement. Examples of US studies which show this to be the case are Jensen and Ruback (1983), Jarrell, Brickley and Netter (1988) and more recently Schwert (1996). For the UK, Franks and Harris (1989), Sudarsanam et al. (1996) and Holl and Kyriazis (1997a) have also found the same results as the US studies.

The empirical evidence on the returns to shareholders for bidder firms is more ambiguous. At the time of the bid announcement, US and UK studies report bidder firm shareholders to experience small and statistically significant abnormal losses (see Dodd and Ruback, 1977; Dodd, 1980; Sudarsanam et al., 1996; Gregory, 1997; Loughran and Vijh, 1997)². On the other hand, Franks Harris and Titman, (1991) find bidders to experience small positive gains, and argue that previous studies which report negative returns do so due to benchmark errors rather than to mis-pricing at the time of the bid announcement.

In this chapter we review the literature focusing on the performance of targets and acquirers using share price, accounting data and survey based techniques. We discuss the literature relating to the latter two techniques in order to provide a basis of

² Loughran and Vijh (1997) report negative bidder abnormal returns for equity offers and positive ones for cash tender offers.

comparison with the share price, or event study based, research of analysing the performance of acquirers. By examining the results from alternative techniques we are better able to determine if changes in equity values are due to a takeover, real economic gains/losses, or simply due to capital market inefficiencies.

2.1 EMPIRICAL RESEARCH USING ACCOUNTING DATA

Studies using accounting based measures of post-acquisition performance tend to focus on profitability. One reason for the popularity in the use of profitability as a performance measure is that it is a reflection of the efficiency with which a firm uses its assets. The measure of profitability, using ratios such as return on capital employed (ROCE), includes changes in the size of the assets of a firm as a result of the merger. Therefore, any benefit arising from the merger will affect the profitability of the acquirer firm. Early studies using accounting measures, such as those by Lev and Mandelker (1972), compare eleven different accounting measures for a sample of 69 US takeovers, during the period 1947 to 1968, and a matching control sample of firms³. The results show that differences in net income over total assets and the ROCE are statistically significant at the 1% level, between the pre- and post acquisition period. However, the difference between the control sample is small and statistically insignificant.

Utton (1974) and Meeks (1977) both find that measures of profitability deteriorate in the post-merger period relative to a control sample of firms. Utton (1974) examines a sample of 39 matched UK acquirers during the period 1961 to 1970. A comparison of

³ The bidder sample is matched against a control group of firms with similar pre-bid financial characteristics.

the profitability for the sample of acquirers to their industry average performance shows there to be very little difference between the two. However, a comparison between the sample of acquirers to a random control group of firms shows the former to experience lower levels of profitability growth during the post-acquisition period. Meeks (1977) also examines UK takeovers and finds similar results to Utton (1974) with significant post-acquisition under-performance. In the sixth year after the takeover, more than, 60% of acquirers experience significant losses.

Cosh et al. (1980) examine the financial performance of 225 acquirers during the period 1967 to 1970. The study compares the average pre- and post-acquisition financial characteristics (i.e. size, profitability, leverage and shareholder return) of the acquired, acquiring and a control group of firms. The results show that there is a marked difference in the pre-acquisition characteristics of the acquired, acquiring and control group of firms. However, there tends to be less of a difference between the acquired and the control group of firms. Acquirers tend to have higher growth rates, leverage ratios and size. In the post-acquisition period the acquirers have higher levels of growth, leverage and shareholder return than the control group of firms. In the case of profitability, Cosh et al. (1980) find only weak evidence that merging firms are more profitable in the post-acquisition period than the control group of firms. From these results, Cosh et al. (1980) conclude that takeovers do not have a negative effect on the post-acquisition performance of acquirers.

Holl and Pickering (1988) examine 133 UK takeovers during the period 1963 to 1975 consisting of 50 completed 50 abandoned and 33 contested bids. The last category refers to the situation where two or more bidders are bidding for the same target firm. Holl and Pickering (1988) find that bidders in their sample tend to be much larger, more profitable and have faster growth rates than targets in the pre-bid period.

However, during the post-acquisition period successful bidders experience a significant decline in their performance relative to unsuccessful bidders. Target firms which manage to successfully resist a hostile takeover experience a significant improvement in their post-bid performance. These results indicate that a takeover bid may stimulate the efficiency/management of target firms who successfully resist an acquisition. This study also shows target firms which resisted a takeover experience a greater growth in firm size rather than profits. This may be due to managerial entrenchment as the target firm management's primary aim may be to increase the size of its firm and not necessarily profit. It may be the case that the target firm management, previously involved in hostile bids, feel that an increase in size will be an effective deterrent against future bids.

Parkinson and Dobbins (1989) examine a sample of 68 targets who successfully resist takeover during the period 1975 to 1984. This study finds that in the pre-bid period target firms have lower profits, are more liquid and carry out less future growth related investment than bidders. Two years after the bid, targets who manage to successfully resist a takeover improve their ROCE, ROE, EPS AND PE ratios. Successful bidders, on the other hand, experience a significant decline in their ROCE, ROE, EPS and PE ratios. This result lends further support to Holl and Pickering's (1988) finding that a takeover bid improves the performance of targets who successfully manage to resist an acquisition while successful bidders experience a decline in their performance.

Taffler and Holl (1991) examine a sample of 55 UK takeovers during the period 1977 and 1981. Using the PAS score as a measure of financial performance, the study finds

that for bidders it is 51.5 while for targets it is 48.1⁴. The difference between the two groups of companies is not statistically significant, and hence the hypothesis that bidders are financially superior to targets in the pre-bid period cannot be supported. Taffler and Holl (1991) cannot find evidence to support Holl and Pickering's (1988) and Parkinson and Dobbins's (1989) finding that target firms who successfully resist a hostile takeover improve their post-bid performance. Taffler and Holl (1991) find that successful bidder firms do not experience any significant improvement in their financial performance, which is consistent with Holl and Pickering (1988) and Parkinson and Dobbins (1989).

Unlike previous studies that find successful bidder firms to experience a decline in the post-acquisition performance, Healy et al. (1992) obtain the opposite result. Using a sample of 50 US takeovers during the period 1979 to 1984 the authors find that operating cash flow returns improve for acquirers during the post-acquisition period relative to their industry average performance. In the pre-merger period the study did not find any evidence of acquirers experiencing higher than average industry performance. In the case of horizontal mergers the increase in operating cash flow was much more salient, implying that operating synergies may contribute to the improvement in performance. Healy et al. (1992) also show that the level of research and development does not affect the post-acquisition bidder performance. In the pre-merger period the median level of research and development undertaken by bidders was 2 while in the post-merger period it was 2.1 relative to the industry. The results show that both the pre- and post-bid research and development expenditures are comparable.

⁴ The Performance Analyses Score (PAS) is a measure derived through discriminate analysis of a set of financial ratios for a sample of failed and solvent firms (see Taffler 1983)

Manson et al. (1994) analyse the operating cash flow gains following a takeover for a sample of 38 acquirers and targets during the period 1985 to 1987. This study uses a similar method to that of Healy et al. (1992) of comparing cash flows after adjusting for industry averages. By comparing the combined acquirer and target pre- and post-acquisition cash flow levels the study finds them to be higher during the latter period than in the former. Based on these results Manson et al. (1994) conclude that, “operational cash flow gains result from takeovers and that these gains are related to the market’s assessment, at the time of takeover, of these gains”.

One can summarise the literature using accounting data to conclude that bidders experience superior pre-acquisition performance relative to the industry and compared to the target. In the post-acquisition period acquirers experience a significant decline in their financial performance. The only exception here is the study by Healy et al. (1992) which shows acquirers to experience an improvement in financial performance during the post-acquisition period. The decline in post-acquisition profitability suggests that managers may have the desire to increase firm size, lending support to the management entrenchment hypothesis as opposed to the shareholder alignment hypothesis. In the case of targets who resist a hostile bid, their performance improves significantly. From this one can conclude that there is a disciplinary motive to some of the takeovers.

Accounting based studies provide an alternative form of analysis of the gains accruing from a takeover to research using share prices. However, accounting-based studies suffer from a number of problems. First, company accounts are based on accounting principles adopted. This is especially the case for takeovers, where the acquirer can use either acquisition or merger accounting (see Sudarsanam 1995:ch10). Second, accounting based studies which use a matching sample of firms may have difficulty defining characteristics of such a control group. The impossibility of obtaining a

perfect match or control group may lead to the possibility of sample bias appearing in the results. Having said this, accounting-based studies do not suffer from the problems associated with event study based methodology which are discussed in Chapter 4 such as its reliance on the CAPM model or in some cases the arbitrary selection of the event date.

2.2 EMPIRICAL RESEARCH USING SURVEYS

Studies that attempt to use a survey approach in order to analyse the performance of the merging firms do so by examining each takeover event individually. Some survey-based studies may also separate the acquired parts of the company from the activities of the parent company to fully analyse the gains made from the takeover. In addition to this, survey-based studies may also seek the opinions of management, through an interview, regarding the gains/losses arising from the takeover. Alternatively, the survey may attempt to carry out a questionnaire to obtain information from those who took part in the takeover. This approach has the advantage in that it obtains 'first hand' information from those who were either influential or actually made decisions regarding the takeover. In this way, one is more able to determine the motives behind the takeover. However, this approach not only suffers from the problems associated with questionnaires and interviews but also that managers may conceal the truth especially if the takeover has not been a success.

An early study that uses a survey approach to study the post-acquisition performance of acquirers is by Kitching (1967) for a sample of 19 US mergers. Interviews with managers show that a third of them thought their takeover to be a failure. However, we are not able to compare managers' opinions with the stock market response to the takeover, as the study did not report the share price change. For the UK, Newbould

(1970) examines a sample of 38 horizontal UK takeovers using the same methodology to that of Kitching (1967). Extensive interviews with managers of the acquiring firm show that half of them did not benefit from any synergistic gains from the takeover. In the case of takeovers which lead to synergistic gains, these tend to be of an insignificant magnitude. From these results Newbold (1970) concludes that takeovers do not lead to any synergistic gains, and if they do they are very small.

Mueller (1985) examines 1,000 US takeovers during the period 1950 to 1972 using accounting data on individual business units as opposed to consolidated company accounts of the merged firms. The study finds no evidence to support the argument that mergers improve efficiency of the combined firm. The acquired units perform no better and perhaps even worse than the non-acquired companies in the same market sector. 82% of acquired units experience a decline in their sales. For the same period, only 12% for non-acquired companies experience a decline in their sales. Mueller (1985) argues that the decline in the acquired firm's performance takes place after the takeover and not necessarily before.

More recently, a study by the management consultancy division of Coopers and Lybrand (1993), examining 50 UK takeovers, finds that in half the takeovers managers argue that they did not achieve their pre-acquisition financial performance expectations for the combined firm. In many respects this result is in line with share price data studies which show that half the number of acquirers experience post-acquisition decline in their relative share price (see section 2.3). The main reasons put forward by managers for the post-acquisition under-performance are a difference in bidder and target management attitudes, and inadequate post-acquisition integration planning during the pre-acquisition period.

Survey-based studies show that the average acquirer tends not to experience any positive gains from a takeover and is more likely to under-perform relative to its peer group. However, there are also acquirers who do benefit from takeovers in terms of growth and profitability. This leads us to conclude that certain acquirers have the necessary skills, knowledge and judgement to extract value from a takeover and make it successful. Unfortunately, survey-based studies do not list the types of successful or unsuccessful acquirers. Instead, survey based studies present some factors which may contribute towards post-acquisition acquirer failure. Some of these factors are lack of proper post-integration planning, diversity in cultures between target and bidder firms and lack of clear pre-bid strategy resulting in the choice of an inappropriate target firm.

2.3 EMPIRICAL STUDIES USING EVENT STUDY METHODOLOGY

The third approach of examining the pre- and post-bid performance of merging companies is through the use of share price data in order to predict the rates of return that would have been obtained in the absence of an event, in this case a takeover bid. This type of approach is more commonly known as event study methodology and is by far the most popular method which previous studies use in examining shareholder wealth effects for the merging firms. Event study methodology attempts to calculate the difference between the actual and the predicted returns, called the abnormal return. We show in Chapter 4 that there are several different models available in order to estimate the predicted returns. Although event study methodology is a very popular technique that researchers use in their analysis of shareholder wealth effects due to a takeover, it is not free from criticism. We discuss some of these criticisms against event study methodology in Chapter 4.

One early study that uses event study methodology to assess the post-acquisition performance of merging firms is by Halpern (1973). This study examines the abnormal returns for the combined bidder and target firm. Halpern (1973) argues that any separation of gains to bidders and target firms is quite arbitrary and has no economic justification⁵. Using monthly data for the period 1950 to 1965, for successful mergers, this study finds consistently positive combined bidder and target shareholder wealth gains for the period three months prior to the announcement date. The Cumulative Abnormal Return (CAR) increases from less than 0.4%, three months prior to the announcement, to almost 8% on the month of the announcement⁶. The largest increases in CARs occur during the one month prior to, and including, the month of the bid announcement.

More recent literature separates the effects of a merger for both the target and bidder firm shareholders. These studies largely use industrial firms in their sample. However, there are some studies that consider only non-industrial firms (see James and Weir, 1985; Pettway and Trifts, 1985; Neely, 1987; Bertin et al., 1989; Hannan and Wolken, 1989). The main reason for excluding the financial sector, (i.e. banks and insurance companies) is that, unlike industrial companies, their day to day operations are usually regulated. Moreover, in some countries such as the UK, bank takeovers require approval from the Bank of England (i.e. the central bank). In the US, financial regulation did not allow bank takeovers until recently (see Pettway and Trifts, 1985). Such restrictions are not placed on industrial firms unless the takeover is against the public interest. In this section we aim to present the literature relating to shareholder

⁵ Halpern (1973) does not separate returns accruing to bidder and target firm shareholders because, for his sample of companies, he does not have adequate information to determine which party initiated the takeover.

⁶ Abnormal returns are the difference between actual and expected returns. We describe the calculation of abnormal returns and Cumulative Abnormal Returns (CARs) in detail in Chapter 4.

wealth gains accruing from a takeover for target firms first and then bidder firms. In reviewing the literature, we make a distinction between US and UK studies due to differences between the two countries in takeover regulation, tax laws etc. We first present the main empirical studies for the US and then for the UK.

2.3.1 TARGET FIRM SHAREHOLDER WEALTH GAINS

Review of US Studies

An early study that segregates the gains for bidder and target firms is that by Mandelker (1974). This study uses data from the Federal Trade Commission listing of 252 completed takeovers during the period 1948 to 1967, using monthly share prices. This study finds target firm shareholders to experience a CAR of 12% during the period -40 months to -1 month before the completion of the merger. The results also show a dramatic rise in the average monthly abnormal returns during the seven months prior to completion. The CARs are consistently negative during the period -35 to -7 months before completion. In the six months before completion the CAR becomes positive. One explanation for this behaviour in the results is that positive information regarding the acquisition flows to the market at about this time.

Later studies by Ellert (1976), Langetieg (1978), Dodd and Ruback (1977), and Dodd (1980) confirm the findings of Mandelker (1974). Ellert (1976) carries out a similar study to that of Mandelker (1974) whereby he examines 311 acquisitions during the period 1950 to 1970. Using monthly data from the University of Chicago Centre for Research on Share Prices (CRSP) database, the study finds that target firms show a negative CAR for the period -100 to -8 months, prior to the completion. However, from -7 months prior to the merger completion the CAR increases to 15%, statistically significant at the 1% level. One explanation for the negative CAR, during the period -

100 to -8 months prior to completion, is that target firms are poorly managed. The positive abnormal returns start from seven months prior to the announcement which is consistent with Mandelker's (1974) study and, again, the explanation is the possible flow of information to the market.

Langetieg (1978) attempts to replicate Mandelker's (1974) study using five different benchmark models.⁷ Langetieg (1978) finds that his results have the same sign as those of Mandelker (1974) but they differ in magnitude. Both Mandelker (1974) and Langetieg (1978) find target firms to experience negative pre-merger CARs for the period -72 to -19 months. As we explain above, Mandelker (1974) argues that target firm pre-merger underperformance is a reflection of their poor management. However, Langetieg (1978) cannot support this claim as he finds both targets and firms in the control sample to experience similar pre-merger negative CARs. Furthermore, the 'paired-difference' tests between targets and the control group show excess returns not to be significantly different from zero. Targets begin to experience positive abnormal returns from about six months prior to the merger, which is consistent with Mandelker (1974). (Langetieg, 1974 does not report returns for targets in the month of the merger or the post-merger period.) From these results Langetieg (1978) concludes that the inclusion of an industry factor has a considerable impact on the performance measurement. The positive pre-merger excess returns indicate that the merger contributes to shareholder wealth.

⁷ Langetieg (1978) uses four variations of the market model along with a control group. We describe the market model, along with a size based control group, in Chapter 4.

Dodd and Ruback (1977) and Dodd (1980) use a similar methodology to Mandelker (1974) and Ellert (1976) but instead of focusing on the merger completion date as the event date they examine the first date of the bid announcement.⁸ Using the first date of the bid-announcement has now become the common approach for researchers examining the shareholder wealth gains from a takeover. The reason for this is that it allows one to examine the reaction of the stock market to the takeover, prior to the effective date of the merger. Dodd and Ruback (1977) is one of the first studies to use the bid-announcement date as the event date and to consider targets in unsuccessful takeovers. Dodd and Ruback (1977) examine a sample of 136 targets in successful, and 36 targets in unsuccessful, tender offers during the period 1958 to 1976. The study finds that shareholders of both successful and unsuccessful target firms experience positive and statistically significant, at the 1% level, abnormal returns in the month of the bid-announcement. For targets in successful tender offers the abnormal return in the month of the bid-announcement is 21% while for unsuccessful targets it is marginally lower at 19%. From the month of the bid-announcement to a year later, targets experience statistically insignificant CARs of 8% and -3% for successful and unsuccessful tender offers⁹.

Dodd and Ruback (1977) conclude that bid-announcements lead to an improvement in wealth for target firm shareholders in successful and non-successful tender offers. However, they are marginally higher for the former than the latter. Also, once it appears that the tender offer will become unsuccessful, target firm shareholders begin to experience a decline in their wealth. Dodd (1980) uses a similar methodology to

⁸ An event date is the day on which an event, such as a bid announcement or completion, takes place.

⁹ There are many types of tender offers with different kinds of provisions and a bidder need not purchase 100% of the shares in the target firm. The terms 'successful' and 'unsuccessful' tender offer refer to where the bidder manages to acquire all the shares that it had sought to purchase (see Weston et al., 1998:p10).

Dodd and Ruback (1977) for a sample of 71 successful and 80 unsuccessful targets in takeover bids, during the period 1971 to 1977. Dodd (1980) finds targets to experience positive and statistically significant, at the 1% level, abnormal returns of 4%, at the time of the bid-announcement, for all takeover targets. However, targets in unsuccessful takeovers experience an abnormal return of 5% while it is 3% for targets in successful takeovers. During the post-bid period (i.e. +1 to +35 days) targets in unsuccessful takeovers experience a decline in their CAR of -10% while targets in successful takeovers experience a gain of 5%. From these results Dodd (1980) concludes that targets earn a large positive abnormal return from the announcement of a merger. However, the gains are initially larger for targets in unsuccessful, rather than successful, takeovers but decline for the former as it becomes apparent that the merger will not continue.

Asquith (1983) examines 211 successful, and 91 unsuccessful, takeover bids during the period 1962 to 1976 to find that a bid-announcement leads to a wealth gain for target firm shareholders. However, shareholders of targets in unsuccessful takeover bids experience a decline in their wealth. In the pre-bid period (i.e. -480 days to the bid announcement date) the CAR is consistently negative for targets in both successful and unsuccessful takeover bids. Following on from the bid-announcement date, only targets in successful takeover bids experience consistently positive CARs till the outcome date while targets in unsuccessful takeover bids experience consistently negative CARs. On the day of the bid-announcement the abnormal returns for targets in successful takeover bids is 3% while for targets in unsuccessful takeover bids is 2%¹⁰. On the day of the bid outcome targets in successful takeover bids experience

¹⁰ Asquith (1983) does not report significance levels for the CARs.

abnormal returns of 1% while for targets in unsuccessful takeover bids the abnormal return is -3%.

Bradley, Desai and Kim (1983) adopt a slightly different approach from previous studies by focusing on targets firms after an unsuccessful tender offer. Bradley et al. (1983) segregate their sample of 112 targets in unsuccessful tender offers during the period 1963 to 1980 into those which receive a subsequent bid and those which do not. The results show that targets which receive a subsequent takeover bid experience higher abnormal returns than those which do not receive subsequent takeover bids. The sample of targets subsequently taken over experience a statistically significant, at the 1% level, CAR of 17% over the period one month after the initial bid offer until two years later. Over the same period, targets which are not subsequently taken over experience a statistically significant, at the 1% level, CAR of -27%. From these results, Bradley et al. (1983) conclude that target firm shareholders benefit from an acquisition only if there is an opportunity to exploit potential synergies.

In a review article, Jensen and Ruback (1983) summarise evidence from thirteen studies that consider shareholder wealth effects due to mergers. Unlike some of the earlier studies, which use the completion date as the event date, all of the studies in Jensen and Ruback's (1983) review follow the Dodd and Ruback (1977) method of using the announcement date as the event date. However, the studies are not consistent in terms of the time period under observation or the length of the event windows. Nevertheless, all the studies produce fairly consistent results in that the target firm shareholders receive a positive wealth gain as a result of a merger or tender offer. In the case of successful takeovers all the CARs are statistically significant at the 1% and range from 14% to 22% depending on the event window and type of takeover. For the

seven studies which examine tender offers, the gain to target firm shareholders is statistically significant at the 1% level and range from 17% to 34%.

Weighting the abnormal returns to allow for sample size show that the CARs for target firms are 8% and 10% for successful, and unsuccessful, takeover bids respectively during the two day announcement period¹¹. For the period, 20 days prior to the bid-announcement date till 20 days after, the CARs for targets in successful and unsuccessful takeover bids are 16% and 17% respectively. Finally, from ten days prior to the bid-announcement to the outcome date, targets in successful and unsuccessful takeover bids experience wealth gains of 20% and to -3% respectively. In the case of unsuccessful takeovers, the gains to targets are lost as it becomes apparent that the merger will fail. From these results the authors conclude that takeovers generate large positive and statistically significant, at the 1% level, gains for target firm shareholders. However, for targets in unsuccessful takeovers the gains tend to decline.

As we mention above, Jensen and Ruback's (1983) review of previous studies examining shareholder wealth effects for the merging firms considers the period prior to 1981. A later review which focuses on takeover studies between 1981 and 1987 is contained in Jarrell, Brickley and Netter (1988). The authors find that target firm shareholders experience positive and statistically significant abnormal returns prior to the bid announcement. Jarrell et al. (1988) point to a number of influences on the pre-bid trading of target firm shares which may affect their behaviour. The influences are articles in the financial press, and information that develops on the bidder's foothold acquisition in the target. In the case of friendly bids there may be preliminary

¹¹ The authors do not report the t-statistic for weighted CARs.

communication. Jarrell et al. also find that abnormal returns tend to be larger in tender offers than in mergers. In both tender offers and mergers, the gain to target firm shareholders is not as a result of a redistribution of wealth from bidder firm shareholders but due to “real wealth gains”.

Although Franks, Harris and Titman (1991) largely examine the shareholder wealth effects for 399 acquiring firms during the period 1975 to 1984, they also report CARs for target firms. The entire sample of target firms experience statistically significant, at the 1%, CARs of 28% for the period -5 to +5 days relative to the announcement date. Schwert (1996) reports similar results for a sample of 1,814 targets during the period 1975 to 1991. For the period -42 to +126 days, the abnormal returns for tender offers is 35% and statistically significant at the 1% level. The unweighted average of the annual abnormal returns for all tender offers during the years 1985 to 1991 is statistically significant at 37%. For the years 1992 to 1996, covering 1,280 bids, the average of the median premiums paid to target firm shareholders is 32% while the average premiums is slightly higher at 41%, both of which are statistically significant.

Loughran and Vijh (1997) use a slightly different method to compute the abnormal returns over a period of time to previous studies. Previous studies tend to use the CAR while Loughran and Vijh (1997) use the buy and hold abnormal returns (BHAR).¹² For a sample of 516 acquisitions including 419 mergers and 97 tender offers during the period 1970 to 1989, the study finds that target firm shareholders experience abnormal returns which are consistent with previous studies. During the period -2 to 0 days, target firm shareholders experience BHARs of 26% and 25% respectively. However,

¹² We show how to calculate the CAR and BHAR along with the differences between them in Chapter 4.

not all target firm shareholders experience the same level of abnormal returns at the time of the bid announcement.

Loughran and Vijh (1997) find that target firm shareholders in the top quartile, measured by the target to bidder market capitalisation, experience lower pre-bid BHARs than targets in the lower quartiles. Average pre-bid (i.e. -2 to 0 days) BHARs for targets in the lowest quartile is 28% while for those in the top quartile it is 20%. (Both BHARs for high and low quartile targets are statistically significant at the 1% level.) Loughran and Vijh (1997) argue that in the five years following the failed bid, targets experience a decline in their BHARs especially in the case of those in the top target to bidder size quartile.¹³ However, after the bid-completion, the decline in BHARs is more likely to be a reflection of bidder firm underperformance and not that of the target firm.

Review of UK Studies

The results from UK studies confirm US evidence, in that target firm shareholders experience a large and statistically significant wealth gain at the time of the bid announcement. One of the earliest studies that uses UK data is by Franks, Broyles and Hechts (1977) which considers 70 mergers in the brewery and distilling industry. The study uses monthly data for the period 1955 to 1972 and examines CARs for both the bid-announcement and outcome dates. Franks et al. (1977) find consistently negative CARs for the period 40 months to one month prior to the bid announcement date. From one month prior to the bid-announcement date until the outcome date, the CARs

¹³ When reporting post-bid target BHARs, Loughran and Vijh (1997) assume that the capital from the target firm is invested in the bidder firm.

are consistently positive. The CARs are 16% and 21% for the period -40 months to the bid-announcement and from the bid-announcement till the outcome date. The greatest increase in the abnormal return occurs on the day of the bid-announcement. This study supports US findings that news of the merger leaks out prior to the official announcement.

Firth (1979) examines 224 mergers where the bidder firm holds less than 30% of the target firm equity at the time of the bid announcement during the period 1972 to 1974. Using monthly data, the study finds target firm shareholders receive CARs of 33% for the period -48 months until the announcement month. In the month of the bid-announcement, targets experience an abnormal return of 22%. In the two months following the bid-announcement, targets experience a CAR of 1%. Firth (1979) argues that the initial stock market reaction to the bid-announcement needs no correction. In this respect, stock markets adjust both immediately and correctly to any new information.

In a later paper, Firth (1980) examines target firms in successful and unsuccessful takeovers during the period 1969 to 1975. In the case of 434 targets in successful mergers, the CARs are consistently negative from -48 months till -2 months relative to the bid announcement date. In the month of the bid-announcement targets in successful and unsuccessful takeovers experience, statistically significant at the 1% level, abnormal returns of 28% and 31% respectively. For the three months after the bid-announcement, targets in successful takeovers experience positive abnormal returns in the region of 1%. In the case of 129 targets in unsuccessful takeovers, the results show that for the period -48 months to -4 months the CARs are consistently negative. In the month of the bid-announcement targets in unsuccessful takeovers experience an abnormal return of 31%. During the three months following the bid-

announcement, targets in unsuccessful takeovers continue to report positive abnormal returns averaging a little over 1% per month. For the longer event window of two years after the bid-announcement date, the CAR is 4% for targets in unsuccessful takeovers. This is different from the US studies which show the target firm shareholders to lose their wealth gain as soon as it becomes apparent that the merger is going to fail.

Franks and Harris (1989) examine the shareholder wealth effects for 1,898 targets in takeovers completed between 1955 and 1985. In the month of the bid-announcement target, firms experience a statistically significant, at the 1%, abnormal return of 23%. For the longer event window of -4 months to +1 month, target firms experience statistically significant, at the 1% level, abnormal return of 26%. Franks and Harris (1989) find that abnormal returns in the month of the bid-announcement are not equal across the different types of target firms. For targets which are less than half the size of the bidder, the abnormal return is 28% while those which are larger than the bidder the abnormal return is 20% in the month of the bid-announcement. A comparison of the abnormal returns for targets, during the period -4 months to +1 month, in the UK with those in the US show there to be no statistically significant difference¹⁴. From these results, Franks and Harris (1989) conclude that targets experience positive and statistically significant abnormal returns at the time of the bid announcement which are comparable to those in the US after controlling for the method of payment.

¹⁴ The comparison between the performance of UK and US targets is made after controlling for tender offers.

Limmack (1991) finds that shareholders of targets in completed and abandoned takeovers experience positive and statistically significant, at the 1% level, abnormal returns at the time of the bid-announcement. This study uses a sample of 552 targets in successful and unsuccessful takeover bids during the period 1977 to 1986. The results show that in the month prior to the bid-announcement, target firms in successful and unsuccessful takeovers experience positive and statistically significant, at the 1% level, CARs of 4% and 5% respectively. From the day after the bid-announcement to one day before the outcome date the CAR is 6% (significant at the 1% level) for targets in successful takeovers while the CAR is -3% and statistically insignificant for targets in unsuccessful takeovers. Using size or value weighted returns, Limmack (1991) finds that targets experience abnormal returns of 19% (significant at the 5% level) for the three months before the announcement till the outcome date. From these results Limmack (1991) concludes that both targets in successful and abandoned bids experience large and positive abnormal returns. However, in the case of unsuccessful bids the CAR declines and becomes negative in the post-bid period.

More recently, Kennedy and Limmack (1996), Sudarsanam, Holl and Salami (1996) and Holl and Kyriazis (1997a) find results that support earlier studies with regard to target firm shareholder wealth effects at the time of the bid announcement. Holl and Kyriazis (1997a), Kennedy and Limmack (1996), and Sudarsanam et al. (1996) investigate an almost identical time period of 1979 to 1989, 1980 to 1989 and 1980 to 1990 for a sample of 287, 345 and 429 UK targets respectively¹⁵. All the studies find target firm CARs to be statistically significant during the bid-announcement period. Kennedy and Limmack (1996) find that, in the month of the bid-announcement, targets experience a CAR of 29% which is statistically significant at the 1% level. Sudarsanam

¹⁵ Holl and Kyriazis (1997a) and Kennedy and Limmack (1996) used monthly data while Sudarsanam et al. (1996) used daily data.

et al. (1996) find that on the day of the bid- announcement target firms experience an abnormal return of 14% which is statistically significant at the 1% level. Holl and Kyriazis (1997a) find that, in the month of the bid- announcement target, firms experience an abnormal return of 22% which is statistically significant at the 1% level. For the longer event windows of three months before until four months after the bid-announcement, Kennedy and Limmack (1996) find that targets firm shareholders receive a CAR of 42% which is statistically significant at the 5% level. For the period 20 days before the announcement date till 40 days after, Sudarsanam et al. (1996) and Holl and Kyriazis (1997a) obtain an almost identical and statistically significant, at the 1% level, CAR of 29% and 26% respectively¹⁶. More recently, Barnes (1998) examines a slightly later period to that of Holl and Kyriazis (1997a), Sudarsanam et al. (1996) and Kennedy and Limmack (1996) but still finds targets to experience large positive abnormal returns. For a sample of 775 takeovers, during the period 1987 to 1993, Barnes (1998) finds that targets experience CARs of 25% during the period -40 days to 0. As in previous studies, such as Limmack (1991), targets in unsuccessful takeovers experience lower CARs than those in successful takeovers at 25% and 32% respectively.

The evidence to date, which we summarise in Table 2.1, suggests that target firms underperform relative to the general market index and to a control group of firms until about forty days prior to the bid-announcement. However, during the period forty days prior to the bid-announcement till the actual event date target firm shareholders experience a positive and statistically significant abnormal return. Jarrell et al. (1988) argue that articles in the financial press, information that develops on the bidder's foothold acquisition in the target firm, and leaking of news regarding preliminary

¹⁶ As Holl and Kyriazis (1997a) use monthly data we report the CARs for the period is -1 to +2 months.

communication between the merging firms go a long way towards explaining the positive abnormal returns which target firm shareholders experience immediately prior to the bid-announcement. Targets in successful takeovers maintain their positive abnormal returns until the completion date while those in failed takeover bids experience a decline in their share price. Finally, targets which are considerably smaller than the bidder experience higher abnormal returns at the time of the bid-announcement than targets which are larger than the bidder.

Table 2.1 Summary of Previous Studies Examining Target Firm Shareholder Wealth

^{a,b,c} refers to 1%, 5% and 10% significance levels respectively. * denotes studies that use the merger outcome date as the event date. ** refers to the start and end dates for the range of studies examined. *** refers to an average sample size for the studies examined. **** refers to start of the month to date of announcement. All abnormal returns refer to CARs (cumulative abnormal returns) unless otherwise indicated. BHARs refers to the Buy and Hold Abnormal Returns. (Both CARs and BHARs are explained in Chapter 4.)

Panel A: US Studies					
Study	Time Period	Returns Interval	Event Window	Sample Size	Abnormal Returns
Mandelker (1974) [*]	1948-67	Monthly	-40 to -1	252	12%
Ellert (1976) [*]	1950-70	Monthly	-100 to 0 -7 to 0	345	-3% 15% ^a
Langtieg (1978) [*]	1929-69	Monthly	-6 to -1 -1	149	13% ^b (paired difference abnormal returns) 1% (paired difference abnormal returns)
Dodd and Ruback (1977)	1958-76	Monthly	0 +1 to +12	136	21% ^a (targets in successful takeover bids) 19% ^a (targets in unsuccessful takeover bids) 8% (targets in successful takeover bids) -3% (targets in unsuccessful takeover bids)

Dodd (1980)	1971-77	Daily	0	-40 to +30	151	3% (targets in successful takeover bids) 5% (targets in unsuccessful takeover bids) 28% (targets in successful takeover bids) 17% (targets in unsuccessful takeover bids)
Asquith (1983)	1963-80	Daily	0		112	2.7% (targets in successful takeover bids) 2% (targets in unsuccessful takeover bids)
Bradley, Desai and Kim (1983)	1962-76	Month	+1 to +24		302	18% (targets subsequently taken over) -28% (targets not subsequently taken over)
Jensen and Ruback (1983)	1962-78**	Daily	-1 to +1 -20 to +20		180***	8% (targets in successful takeover bids) 10% (targets in unsuccessful takeover bids) 16% (targets in successful takeover bids) 17% (targets in unsuccessful takeover bids)
Franks, Harris and Titman (1991)	1075-84	Daily	-5 to +5		399	28% ^a
Schwert (1996)	1975-91	Daily	-42 to +126		1,814	35% ^a (tender offers)
Loughran and Vijh (1997)	1970-89	Daily	-2 to 0		947	26% ^a (BHARs)

Panel B: UK Studies						
Study	Time Period	Return Interval	Event Window	Sample Size	Abnormal Returns	
Franks et al. (1977)	1955-72	Monthly	-40 to 0	70	16%	
Firth (1979)	1972-74	Monthly	0	224	22%	
Firth (1980)	1969-78	Monthly	0	434	28% ^a (targets in successful takeover bids) 31% ^a (targets in unsuccessful takeover bids)	
Franks and Harris (1989)	1955-85	Monthly	0	1,898	23% ^a	
Limmack (1991)	1977-86	Monthly	0 ^{****}	552	25% ^a (targets in successful takeover bids) 24% ^a (targets in unsuccessful takeover bids)	
Kennedy and Limmack (1996)	1980-89	Monthly	0	345	29% ^a	
Sudarsanam et al. (1996)	1980-89	Daily	0	429	14% ^a	
Holl and Kyriazis (1997a)	1979-89	Monthly	0	287	22% ^a	
Barnes (1998)	1987-93	Daily	-40 to 0	775	26% (targets in successful takeover bids) 25% (targets in unsuccessful takeover bids)	

2.3.2 BIDDER FIRM SHAREHOLDER WEALTH GAINS

Review of US Studies

In the case of bidder firms, the results from past studies tend to be somewhat mixed with shareholders experiencing positive, negative and zero abnormal returns at the time of the bid-announcement. The inconclusive performance of bidder firms, at the time of the bid-announcement, is true for both US and UK studies. The mixed results relating to bidder firm returns date to the very early studies investigating the shareholder wealth effects from a merger, such as those by Mandelker (1974) and Ellert (1976). Mandelker (1974) finds that for a sample of 241 successful bidders, during the period 1941 to 1962, the abnormal returns prior to, and in the month of, the merger are positive. For the period 40 months before the merger to 40 months after, the CAR is 6%¹⁷. For a shorter event window of one month before the merger and two months after, the CAR is 1%. In the month of the merger the abnormal returns are 0.2%. From these results Mandelker (1974) concludes that acquisitions are profit maximising activities carried out by the acquiring firm.

Ellert (1976), for a sample of 205 bidder firms during the period 1950 to 1970, finds that takeovers lead to a fall in shareholder wealth for the acquiring firms. For the period 100 months to one month before completion, the CAR is 23% and statistically significant at the 1% level. In the month of the bid completion the abnormal return for bidders is negative at -2%. Ellert's (1976) results are in line with those of Mueller (1977) who reviews the results from eight previous studies which investigate mergers from 1941 to 1969, with a number of overlapping periods. A comparison of these studies shows bidder firm shareholders not to experience any improvement in their

¹⁷ Mandelker (1974) does not report the significance levels for the CARs.

wealth. Even when there is a positive wealth gain it is not significantly different from that of the control sample of firms. Moreover, studies in Mueller's (1977) review, which show the bidder firm shareholders to experience positive wealth gains, are not statistically significant from zero to any respected level.

Dodd and Ruback (1977) consider a sample of 124 successful and 48 unsuccessful bidder firms, in tender offers, during the period 1958 to 1976. During the year prior to the tender offer, successful and unsuccessful bidder firms experience statistically significant, at the 1% level, and positive CARs of 12% and 8% respectively. In the month of the tender offer, successful bidder firms experience an abnormal return of 3% which is significant at the 5% level. Over the same period, unsuccessful bidder firms experience a statistically insignificant and much lower abnormal return of 0.6%. In the post-bid announcement period both successful and unsuccessful bidders experience negative CARs.

Dodd (1980) examines a sample of 66 cancelled and 60 completed takeovers during the period 1971 to 1977, and finds that any gains from a bid-announcement accrue not to bidder firm shareholders but to those of the target. Unsuccessful bidder firm shareholders experience a small negative return on the day of the bid announcement of -1% which is higher than that for completed takeovers which are -0.2%. As in previous studies, bidders in both successful and cancelled takeovers experience positive CARs during the 40 days prior to the bid announcement. The CAR for the period -40 days to -1 day is 7% and 6% for cancelled and completed takeovers respectively. In the post-bid period both bidders in cancelled and completed takeovers experience positive CARs although they are larger for the latter. Bidders in cancelled

takeovers experience a CAR of 2% for the 35 days following the bid announcement while it is 1% for bidders in completed takeovers.

Asquith (1983) examines 196 successful and 89 unsuccessful bidders during the period 1962 to 1976 and finds that there is very little stock market reaction for the bidding firms on the day of the bid-announcement. On the day of the bid-announcement successful bidders experience an abnormal return of -0.5% while for unsuccessful bidders the abnormal return is 0%. Again, on the outcome day there is very little stock market reaction for bidder firms. Successful bidder firms experience an abnormal return of 0.2% while for unsuccessful bidders it is 0%. In both cases the abnormal returns are statistically insignificant. However, after the outcome date, shareholders of successful bidders experience a decline in their wealth. From these results Asquith (1983) concludes that shareholders of the acquiring firms experience very little, if any, change in their wealth on the announcement of a bid or the failure of a takeover.

Asquith, Bruner and Mullins (1983) find that bidders in general experience statistically significant, at the 1% level, and positive abnormal returns. During the 20 days prior to the bid- announcement, bidders experience statistically significant, at the 1% level, CARs of 2.8%. The CAR for the two day bid-announcement period is 1% and statistically significant at the 1% level. Asquith et al. (1983) find that bidders who carry out a number of takeover bids for different target firms over a period of time experience much higher CARs at the time of their most recent bid-announcement than bidders who carry out no previous bids. Bidders who carry out between two and four takeover bids in the last eight years experience CARs of 3% on the announcement of their most recent bid. In contrast to this, bidders with no previous experience of takeover bids experience CARs of 2% on the day of the bid announcement. The results lead Asquith et al. (1983) to argue that part of the positive CARs which bidder firms

experience may be due to the market's reactions to previous bids. The results also show successful bidders to experience CARs which are 40% greater than those for unsuccessful bidders for the period -21 day to the bid-announcement date. Asquith et al. (1983) find successful bidder firms to receive a reward (i.e. a higher abnormal returns) for their victory which may lend support to the argument that acquirers gain from a merger.

In their review article, Jensen and Ruback (1983) find that the announcement period (i.e. -20 to +20 days) CARs are positive for all the studies in their review. The average CARs during the period -20 to +20 days are 1% and 2% for successful and unsuccessful bidders respectively. However, these positive returns largely occur during the pre-announcement period as both the announcement date and the post acquisition period CARs are negative. During the two day bid-announcement period (i.e. -1 to 0 days) the CARs for the whole sample of studies are -0.05% and 0.2% for successful and unsuccessful bidders respectively. From the bid-announcement to the outcome date the authors find a negative abnormal return averaging -2% and -5% for successful and unsuccessful bidders. During the one year post acquisition period all the studies, except one, report a negative CAR averaging -5.5%. Jensen and Ruback (1983) conclude that mergers are zero net present value (NPV) investments. The authors also argue that the positive returns for terminated bid is consistent with bidders attempting to maximise shareholder wealth. Once the bidder management realise that the target is over-valued they abandon the takeover.

Jarrell, Brickley and Netter (1988) review studies which examine shareholder wealth effects from the 1980s to find that bidder firms experience positive and statistically significant, at the 1% level, abnormal returns at the time of the bid-announcement. During the period -10 days to +5 days bidders experience CARs of 1% while for the

longer event window (i.e. -10 days to +20 days) the CARs are 2%. Although bidders experience modest increases in their share price at the time of the bid-announcement, this is not necessarily the case for successful bidders who experience share price falls as often as rises. Jarrell et al. (1988) conclude that the evidence from their review of previous studies suggests that takeovers “reflect economically beneficial reshuffling of productive assets”.

Bradley, Desai and Kim (1988) examine a sample of 236 successful interfirm tender offers between 1958 and 1984. Due to the change in legislation regarding tender offers, the study partitions the sample into three time periods (i.e. 1963-68, 1968-80 and 1981-84). The study finds that CARs for acquirers are sensitive to the time period under investigation. Acquirers making a tender offer during 1963-68 experience statistically significant at the 1% level CARs for the period -5 to +5 days of 4%. During 1968-80 acquirers experience statistically insignificant CARs for the period -5 to +5 days of 1.3%. However, for the later period (i.e. 1981-84) acquirers experience statistically significant, at the 1% level, negative CARs for -5 to +5 days of 3%.

Franks et al. (1991) examine a sample of 399 US takeovers during the period 1975 to 1984. At the time of the bid-announcement the whole sample of acquirers experience wealth losses of -1% which are not statistically significant. However, in the three year post-acquisition period the authors compare their returns using four different benchmark models which show bidders to experience wealth losses as well as gains.¹⁸ Of the four benchmark models, the equally weighted index and the ten factor model show bidders to experience small and statistically insignificant wealth losses. The value

¹⁸ See Chapter Four for a discussion of the different benchmark models.

weighted index shows bidders to experience small positive CARs while the eight factor model exhibits no statistically significant abnormal performance for the sample of acquirers. From these results Franks et al. (1991) conclude that negative post-acquisition returns from previous studies are “due to benchmark errors rather than to mis-pricing at the time of announcement”.

Agrawal, Jaffe and Mandelker (1992) examine a sample of 937 mergers during the period 1955 to 1987 in order to test if acquirer post-acquisition returns are dependent on the benchmark as Franks et al. (1991) claim is the case. This study finds that both the value weighted index and the Returns Across Time and Securities (RATS) returns are statistically significant and negative at 10% and 11% respectively over the five years following the acquisition. Agrawal et al. (1992) argue that their results are robust to a variety of specifications and are not due to changes in the beta following a merger. Agrawal et al. (1992) conclude that “the efficient market anomaly of negative post-merger performance highlighted in Jensen and Ruback (1983) is not resolved”. This conclusion is contrary to Franks et al.’s (1991) results which Agrawal et al. (1992) argue to be specific to the time period under consideration, and the mixing of tender offers with mergers. Agrawal et al. (1992) find that acquirers experience negative post-acquisition returns for takeovers in the 1950s, 1960s and the 1980s but not for those in the 1970s which is when the bulk of the Franks et al. (1991) mergers take place.

Loderer and Martin (1992) attempt to test if the post-acquisition acquirer returns are negative. Loderer and Martin (1992) also attempt to find out if post-acquisition acquirer returns are period specific as Agrawal et al. (1992) claim or dependent on the benchmark as Franks et al. (1991) argue is the case. For a sample of 1,298 acquirers during the period 1966 to 1986 Loderer and Martin (1992) find negative returns in the first three years following a takeover but not for the fourth and fifth year.

Furthermore, post-acquisition acquirer returns are negative only for takeovers in the 1960s and zero for those acquisitions taking place in the 1970s and 1980s. From these results Loderer and Martin (1992) conclude that, on average, acquirers do not experience returns greater than, or less than, a control sample of firms during the first five years following a takeover.

Schwert (1996) examines 1,814 takeovers during the period 1975 to 1991 to find that acquirers experience a post-acquisition abnormal return which is not significantly different from zero. Prior to the bid-announcement, i.e. -42 to -1 days, bidders experience statistically insignificant returns of 10%. Bidder firm shareholders experience very little stock market reaction on the day of the bid-announcement, with an abnormal return of 0.5%. During the year following the bid-announcement, bidder firms experience a negative CAR of 7%. From these results Schwert (1996) concludes that the 'runup costs' (i.e. the probability of a successful takeover multiplied by the bid premium) is an added cost to the bidder leading to negative post-acquisition CARs. Using buy and hold abnormal return (BHAR) Loughran and Vijh (1997) also find acquirers to experience negative post-acquisition returns. For the period 1970 to 1989, the study examines a sample of 434 acquirers in mergers and their matching firms, chosen on the basis of market value and book to market ratio. Loughran and Vijh (1997) find that acquiring firms experience five year post-acquisition BHARs of -16%. From these results Loughran and Vijh (1997) conclude that mergers are not in the best interests of bidder firm shareholders.

Review of UK Studies

Franks, Broyles and Hecht (1977) is one of the first UK studies to examine the shareholder wealth effects for merging firms. The study examines a sample of 94 takeovers in the brewing and distilling industry during the period 1955 to 1972. The results from this study show that for the period two years prior to the bid-announcement, acquirers experience positive CARs of 5%. In the month of the bid-announcement, acquirers experience positive but very small abnormal returns of 0.1%. In the month of the bid outcome, acquirers experience a negative abnormal return of 1%. In the two year post-acquisition period, acquirers experience negative CARs of 5%. Franks et al. (1977) argue that one explanation for the decline in abnormal returns from the bid-announcement to two years after the acquisition is that the market corrects “unduly optimistic forecasts of future earnings at the time of a takeover”.

Firth (1979 and 1980) find bidder firm shareholders to experience negative returns at the time of the bid-announcement and during the post-acquisition period. Firth (1979) examines a sample of 224 bidders during the period 1972 to 1974 and finds bidder firms offering a non-equity payment experience CARs of 1% for the period four years prior to the bid announcement. Over the same period, bidders offering equity payments experience a CAR of 5%. In the month of the bid-announcement, bidders experience negative abnormal returns of -2% and -3% for those offering equity and non equity considerations respectively¹⁹. For the two year post-acquisition period, both bidders offering equity and non-equity payments experience very small negative CARs of 0.5%. Firth (1979) concludes that there are no gains or losses associated with takeovers for acquiring firms. More importantly, the stock market reacts correctly to a bid-announcement without the need for any revisions.

¹⁹ Neither Firth (1979) nor Firth (1980) carries out tests of statistical significance.

In a later study, Firth (1980) examines a larger sample of 486 takeovers during the period 1969 to 1975 and also differentiates between successful and non-successful bidders. Firth (1980) finds pre-bid CARs to be much lower than those in Firth (1979) and statistically insignificant. In the month of the bid-announcement, Firth (1980) finds successful and unsuccessful bidders to experience abnormal returns of -6%. For the period three years after the bid-announcement, Firth (1980) finds that successful and unsuccessful bidders experience CARs of 0% and 3% respectively. Firth (1980) argues that the relative superior performance of unsuccessful bidders against successful bidders may be due to the market taking a pessimistic view of takeovers for acquiring firms. If a bidder fails in its attempt to acquire the target, the stock market views this as good news and hence the positive CARs.

Barnes (1984) considers a small sample of 39 acquirers between 1974 and 1976 and finds that there is very little stock market reaction to a bid-announcement. However, once the takeover is complete the stock market views it as bad news and there are significant downward movements in the share price of acquirers. The CARs for acquirers declines from 1%, for the period -1 to the announcement month, to -4% for the period from the outcome to a month after. Dodds and Quek (1985) examine a larger number of bidders to that of Barnes (1984), covering a sample of 70 acquirers during the period 1974 to 1976. Dodds and Quek (1985) find acquirers to experience a CAR of -0.2% in the month of the bid-announcement, with 62% of acquirers reporting a negative wealth effect. However, in the case of active acquirers (i.e. those who have carry out a number of takeovers) the average abnormal return in the month of the bid-announcement is -2%, with 64% of companies reporting a negative return. For non-merger active bidders the abnormal return is considerably larger at 1% in the month of the bid-announcement, with 60% of bidders reporting a negative return. Five years after the bid-announcement, the CARs for the whole sample of takeovers is -7% while

for active merger and non-merger active firms it is -4% and -11% respectively. However, none of the CARs are statistically significant to any reasonable level.

Franks and Harris (1989) carry out a comprehensive study of 1,058 bidders during the period 1955 to 1985 and find them to experience small and statistically significant CARs. In the month of the bid-announcement, bidders experience statistically significant, at the 1% level, abnormal returns of 1%. Franks and Harris (1989) find a non-linear relationship between the relative size of the target to bidder, and the abnormal returns. Where the target is either larger than or less than half the size of the bidder, the abnormal returns to the bidder are negative at 1% and 0.1% respectively in the month of the bid-announcement. For targets between 50% and 100% of the size of the bidder, the latter experience positive abnormal returns of 2% in the month of the bid-announcement. Franks and Harris (1989) also examine the post-acquisition performance of acquiring firms using a number of different benchmark models and find that the CARs are sensitive to the model used. The market model shows bidders to experience a negative CAR during the period +1 month to +24 months. However, the market adjusted and CAPM models both show a positive CARs of 5% during the period +1 to +24 months.

Limmack (1991) examines 552 bids announced during the period 1977 to 1986 with adequate data. As in the case of Firth (1980) the sample is divided into successful and unsuccessful bidders. The CARs for bidder firm shareholders, during the six months prior to the bid announcement, is 7% and 9% for successful and unsuccessful bidders respectively. Unlike Firth (1980), Limmack finds a difference in the abnormal returns depending on the final outcome of the bid. In the case of successful bids the CAR from one month prior to the announcement to completion is 0.1% while for unsuccessful bidders it is -0.6%; although neither is statistically significant. Successful bidder firm

shareholders experience a negative but close to zero return during the period from the bid-announcement to the date of bid outcome. During the same period the abnormal return for unsuccessful bidders is -4% and statistically significant at the 5% level. For the period six months before the bid-announcement until completion the CARs are -0.2% and -6% for successful and unsuccessful bidders respectively, of which only the latter are significant at the 1% level. The post-outcome CAR is also much lower for unsuccessful bidders than successful mergers at -1% compared to 0.2%.

Three UK studies examining an almost identical period have found results which confirm earlier studies. Sudarsanam et al. (1996), Limmack and Kennedy (1996), and Holl and Kyriazis (1997a) examine the periods 1979 to 1989, 1980 to 1989 and 1980 to 1990 respectively. Sudarsanam et al. (1996) differs from the other two studies in that it uses a larger sample of 429 of acquirers, than 345 (Limmack and Kennedy, 1996) and 178 (Holl and Kyriazis, 1997a) as well as using daily as opposed to monthly data. Sudarsanam et al. (1996) find that on the day of the bid announcement acquirers experience abnormal returns of -1%²⁰. Holl and Kyriazis (1997a) find that in the month of the bid-announcement successful bidders experience wealth losses of -2%. For the longer event windows of -20 to +40 days, relative to the bid-announcement date, acquirers experience CARs of -4% according to Sudarsanam et al. (1996). A similar CAR was obtained by Holl and Kyriazis (1997a) of -4% for the period -1 to +2 months. Kennedy and Limmack (1996) find that in the first and second year after the bid-announcement, acquirers experience CARs of -0.2% and -5% respectively with only the second year CAR being statistically significant at the 1% level.²¹

²⁰ The CARs for both Sudarsanam et al. (1996) and Holl and Kyriazis (1997a) are statistically significant at the 1% level for acquirers.

²¹ The study does not report bidder returns in the month of the announcement or the immediate period surrounding it.

Gregory (1997) sought to investigate if bidders actually did experience negative abnormal returns at the time of the bid-announcement or whether the returns were due to some type of specification error. Using six different benchmark models of calculating abnormal returns, this study reports similar results to previous studies²². Gregory (1997) examines a sample of 420 UK acquirers during the period 1984 to 1992. The study excludes takeovers below £10 million in order to remove 'noise' that occurs from smaller acquisitions. The results across all six models show that in the month of the bid-announcement acquirers experience wealth losses ranging from 0.3% to 0.7% although none of them are statistically significant. From the bid-announcement date to completion bidder, BHARs range from -0.5% to 1.5% with none of them being statistically significant. For the period two years after the bid-announcement the CARs range from -8% to -12.4%, with all the models being significant at the 1% level. Gregory (1997) concludes that bidders experience negative abnormal returns in the post-announcement period and "the long run post-acquisition performance of UK acquiring firms is significantly negative and that this result is robust to alternative benchmark specifications".

More recently, Higson and Elliott (1998) examine a sample of 830 takeovers during the period 1975 to 1990, using monthly data. The results from this study show that in the month of the bid-announcement the BHARs accruing to bidders is 0.2%. For the one, two and three months after the bid-announcement the BHARs are 0.1%, 0.4% and 0.6% respectively. None of the BHARs are statistically significant to any reasonable level. The one and two year post-acquisition BHARs tend to be negative at -0.7% and 1% respectively while the three year BHAR is positive but not statistically significant at 0.8%. Higson and Elliott (1998) conclude that acquirers experience zero

²² The models used in Gregory (1997) and the differences between them are discussed in Chapter 4.

BHARs for the three years following a takeover. This result is in sharp contrast to those of Gregory (1997) who finds acquirers to experience negative BHARs during the post-acquisition period. One reason for this may be that Gregory (1997) excludes bids where the target firm is valued below £10 million and it may be the case that Higson and Elliott's (1998) results are affected by 'noise'.

The issue of 'noise' may also be relevant for Barnes (1998) who finds similar results to Higson and Elliott (1998). Like Higson and Elliott (1998) the study by Barnes (1998) does not exclude takeovers below £10 million. Instead, Barnes (1998) considers a near exhaustive sample of 755 takeovers during the period 1987 to 1993. Barnes (1998) finds that bidders experience statistically insignificant CARs of 0.4% for the period -40 days to 0. Also, there appears to be very little difference between the CARs for successful and unsuccessful bidders. Barnes (1998) argues that bidder firm performance at the time of the bid announcement is a reflection of its eagerness to merger. Our knowledge to date suggests that bidders experience positive, negative and zero abnormal returns at the time of the bid announcement. Table 2.2 summarises research findings from previous studies for the US and the UK which are largely similar.

Table 2.2 Summary of Previous Studies Examining Bidder Firm Shareholder Wealth

^{a,b,c} refers to 1%, 5% and 10% significance levels respectively. * denotes studies that use the merger outcome date as the event date. ** refers to the start and end dates for the range of studies examined. *** refers to an average sample size for the studies examined. Abnormal returns refers to CARs (cumulative abnormal returns) unless otherwise indicated. BHAR refers to the Buy and Hold Abnormal Return. (Both CAR and BHAR are explained in Chapter 4.)

Panel A: US Studies						
Study	Time Period	Return Interval	Event Window	Sample Size	Abnormal Returns	
Mandelker (1974) [*]	1948-67	Monthly	-1 to +2 0	241	0.8% 0.2%	
Ellert (1976) [*]	1950-70	Monthly	100 to -1 0	205	23% -2%	
Dodd and Ruback (1977)	1958-76	Monthly	0	172	3% ^b (bidders in successful bids) 0.6% (bidders in unsuccessful bids)	
Dodd (1980)	1971-77	Daily	0	126	-0.2% (bidders in successful bids) 1% (bidders in unsuccessful bids)	
Asquith (1983)	1963-80	Daily	0	285	-0.5% (bidders in successful bids) 0% (bidders in unsuccessful bids)	

Asquith et al. (1983)	1955-79	Daily	0	224	2.4% (First bid)
Jensen and Ruback (1983)	1962 to 78**	Daily	-1 to 0 -20 to +20	180***	-0.05% (bidders in successful bids) 0.2% (bidders in unsuccessful bids) 1% (bidders in successful bids) 2% (bidders in unsuccessful bids)
Jarrell, Brickley and Netter (1988)	1962-85	Daily	-10 to +5 -10 to +20	663	1% 2%
Bradley et al. (1988)	1963-84	Daily	-5 to +5	236	1% ^a
Franks, Harris and Titman (1991)	1975-84	Monthly	0 +1 to +36	399	-1% (mean adjusted abnormal returns) -0.2% ^a (equally weighted index) 0.4% ^a (value weighted index) -0.1% (ten factor model) -0.1% (eight portfolio model)
Agrawal, Jaffe and Mandelker (1992)	1955-87	Monthly	+1 to +60	937	-10% ^b (value weighted index) -11% ^b (RATS model)
Loderer and Martin (1992)	1966-86	Daily	+1 to +24	1,298	-1% ^b
Schwert (1996)	1975-91	Daily	0	1,814	0.5% ^a
Loughran and Vijh (1997)	1970-89	Monthly	+1 to +60	434	-16% ^a (BHARs)

Panel B: UK Studies					
Study	Time Period	Return Interval	Event Window	Sample Size	Abnormal Returns
Franks, Broyles and Hecht (1977)	1955-72	Monthly	0 +1 to +24	94	0.5% 4%
Firth (1979)	1972-74	Monthly	0 +1 to +24	224	2% 0.5%
Firth (1980)	1969-75	Monthly	0	486	-6%
Barnes (1984)	1974-76	Monthly	-1 to 0	39	1%
Dodds and Quek (1985)	1974-6	Monthly	0	70	-0.2%
Franks and Harris (1989)	1955-85	Monthly	0	1,058	1% ^a
Limmack (1991)	1977-86	Monthly	0 ^{***} + 1 to +12	529	0.1% (bidders in successful bids) -0.6% (bidders in unsuccessful bids) -1.5% ^c (bidders in successful bids) -10% ^a (bidders in unsuccessful bids)
Kennedy and Limmack (1996)	1980-89	Monthly	+1 to +11 +12 to +23	345	-0.2% -5% ^a

Sudarsanam et al. (1996)	1980-90	Daily	0 -20 to +40	429	-1% ^a -4% ^a
Holl and Kyriazis (1997a)	1979-89	Monthly	0 -1 to +2	178	-2% -4%
Gregory (1997)	1984-92	Monthly	0 +1 to +24	420	-0.3% (BHAR using the CAPM model) -12.4% ^a (BHAR using CAPM model) -11% ^a (BHAR using Dimson & Marsh) -11% ^a (BHR size adjusted returns) - 9% ^a (BHR using Multi-index model) -8% ^a (BHR using Hoare Govett index) -12% ^a (BHR using Fama & French)
Higson and Elliott (1998)	1975-90	Monthly	0 +1 to +12 +13 to +24	830	0.2% (BHAR) -0.7% (BHAR) 1% (BHAR)
Barnes (1998)	1987-93	Daily	-40 to 0	755	0.4%

2.4 DYNAMICS OF THE BID PROCESS

The empirical evidence presented so far suggests that target firms experience considerable wealth gains at the time of the bid announcement. In the case of bidder firms there appears to be an inconclusive result, with empirical studies showing both small positive and negative wealth effects during the bid announcement and post-acquisition periods. The literature in finance has sought to identify possible factors related to the dynamics of the bid process which may be important in determining bidder performance. In this section we present some of these possible factors and discuss the empirical evidence in their support. The possible factors discussed in this section are empirically tested in Chapters 7 and 9, as control variables to capture the dynamics of the bid process.

2.4.1 BIDDER'S TOEHOLD

When the shares of a company are widely held it may not be worthwhile for a shareholder with a small shareholding to spend money on monitoring the performance of its management. The reason for this is that the small shareholder can 'free-ride' on the monitoring activities of other shareholders (Grossman and Hart, 1980). By doing this, small shareholders are able to benefit from any changes or improvements made on the firm's performance without incurring a cost. In the case of takeovers, Grossman and Hart (1980) argue that the free rider problem reduces any incentive that an outsider may have in carrying out a costly acquisition in order to improve the performance of the target firm. This is because small (i.e. atomistic) shareholders will only sell their shareholding if they receive a price which is equal to the market price plus a premium.

The premium required by each atomistic shareholder varies depending on the differences in their marginal utility curves, capital gains tax and expectations regarding future profitability of the target as an independent enterprise. Furthermore, the individual decision of atomistic shareholders to accept or reject the bidder's offer does not affect the success of the takeover bid. However, if the takeover bid is successful, atomistic shareholders benefit from the improvements brought about by the takeover. In this way, atomistic shareholders are able to benefit from the efforts of the acquirer in identifying the full potential of the target. Of course, if all the target firm shareholders expect to free-ride the bid will fail and none of the shareholders will have a free ride.

Grossman and Hart (1980) propose a solution to the free-rider problem which involves the bidder acquiring a pre-bid shareholding in the target firm²³. In the situation where the bidder firm owns a proportion of the target firm's equity it is referred to as the 'bidder's toehold'. The bidder's toehold allows the acquirer to share in any increase in the value of the target firm due to a takeover. Therefore, the larger the bidder's toehold the greater the added value that accrues to the bidder firm from the acquisition. The likelihood of the acquirer being able to earn added value from the acquisition provides an incentive for it to carry out a takeover. This assumes that the related costs of a takeover, such as bid costs, are lower than the gain from the toehold. Also, for the pre-bid stake building strategy to succeed it has to be done in anonymously.

²³ Under the UK Companies Act 1985, shareholdings in excess of 5% have to be reported to the Company Announcements Office and disclosed in the annual accounts. As from 31st May 1990 the reporting figure was reduced from 5% to 3%. Under the City Code on Takeover and Mergers bids are divided into Mandatory and Voluntary based on the bidder's shareholding in the target firm. Once a bidder has acquired in excess of 29.9% of the target firm equity or holds 30%, and increases it by annual purchases of 1% or more, a

Shleifer and Vishny (1986a) propose a variation to the Grossman and Hart (1980) model by considering tender offers whereby the target firm shares are owned by one large shareholder and numerous atomistic shareholders. Shleifer and Vishny (1986a) make two assumptions; the first is that the gain from the toehold is equal to or larger than the bid costs. Second, the bid premium is equal to the expected added value due to the takeover. Under the Shleifer and Vishny (1986a) model, an increase in the shareholding of the large shareholder leads to an eventual takeover and a rise in the target firm share price. (The large shareholder need not be the eventual bidder and can play an important role by facilitating a bid by a third party.) An increase in the value of the target firm reduces the subsequent bid premium. With a fall in average bid premiums the bidder is able to make a profit, even if small post-acquisition improvements are made to the target firm. Therefore, the Shleifer and Vishny (1986a) model predicts a negative relationship between the size of the bidder's toehold and the bid premium.

Under the Shleifer and Vishny (1986a) model, once a large shareholder has built up a stake in the target firm, a takeover becomes certain. Hirshleifer and Titman (1990) relax this assumption and propose a model whereby the outcome of the bid depends on three factors; namely post-acquisition increase in target value, bid premium and information asymmetry. First, a bidder who expects to make large profits from post-acquisition improvements will not make a low offer due to the high opportunity cost of failure. Second, the probability of a bid succeeding increases with a large toehold and the possibility of diluting minority interests. Third, Hirshleifer and Titman (1990) argue, that with symmetric information, the bidder can purchase by bidding 1% above the post-acquisition value in a tender offer. With asymmetric information, not even a

Mandatory bid has to be made. Voluntary bids are those where the bidder holds less than 30% of the target firm (see Sudarsanam 1995:ch6).

strategy of over-bidding will guarantee success as a higher bid premium will be interpreted as the post-acquisition value is even higher. Hence, Hirshleifer and Titman (1990) predict not only an increase in the probability of a bid success with a toehold but also a fall in average bid-premium.

In a more recent study, Choudhry and Jegadeesh (1994) argue that the size of the toehold signals the post-acquisition value of the target. Using a theoretical model the authors show that bidders with a low post-acquisition target value tend not to have toeholds. Furthermore, these bidders refrain from purchasing target firm shares in the open market, even when the price is below their planned price in order to credibly signal their types and bid a lower amount. On the other hand, a bidder with a large toehold signals a high value for the target, and hence the subsequent bid-premium increases (Choudhry and Jegadeesh, 1990).

An early empirical study that examines the relationship between bidder's toehold and the division of shareholder wealth between the acquirer and target firms is Franks (1978). Using a sample of 71 UK mergers in the breweries and distilling sector, during the period 1955 to 1972, the study finds statistically significant differences between takeovers with and without bidder's toeholds. For the period four months prior to the announcement to one month after the CAR for bidder firms with toeholds is 4%. However, for bidder firms without toeholds the CAR is much lower at 2%. In the case of target firms where the bidder has a toehold, the CAR is 16% while for those without toeholds it is 17%. From these results, Franks (1978) concludes that a bidder's toehold increases the abnormal returns for the acquirer firm at the time of the bid-announcement. In the case of the target firm, the bidder's toehold has no effect on abnormal returns at the time of the bid-announcement.

Franks and Harris (1989) examine 1,058 acquirers over the period 1955 to 1985 to determine if the bidder's toehold is important in affecting acquirer abnormal returns at the time of the bid-announcement. Unlike Franks (1978) which simply separates takeovers between those which have a bidder's toehold or not, the later study by Franks and Harris (1989), considers the size of the toehold. Franks and Harris (1989) categorise bidders as those controlling more or less than 30% of the target firm's equity. The results from the study show that, in the month of the bid announcement, bidder firm shareholders with no toehold experience an abnormal loss of -0.5%, while bidders with less than 30% toehold in the target firm experience an abnormal return of 0.3%, and it is 2% for bidders with more than a 30% toehold. In the case of target firm shareholders, those with no toeholds experience an abnormal return of 21%, while those with a toehold of less than 30% receive abnormal returns of 28% compared to 22% for toeholds over 30%²⁴. The lack of statistical significance in their results leads them to conclude that there is evidence to support the view that toeholds reduce the gains for other (i.e. non-toehold) target firm shareholders or give the bidder any purchasing advantage to reap large profits.

Sudarsanam et al. (1996) empirically investigate the extent to which the bidder's toehold in the target firm can explain the abnormal return. The results from this study show that the CARs for various windows are positive, for both bidders and targets, prior to the bid- announcement. However, after the bid-announcement, bidders experience a consistent negative CAR for all event windows while that for targets it is positive. Sudarsanam et al. (1996) find that the bidder's toehold has a negative impact which is statistically significant, at the 1% level, on target firm abnormal returns at the time of the bid-announcement. A toehold has negative but statistically insignificant

²⁴ Only returns for toeholds of over 30% were statistically significant at the 5% level for acquirers while all the returns for targets were significantly at the 1% level.

impact on bidder firm abnormal returns at the time of the bid-announcement. From these results Sudarsanam et al. (1996) conclude that a higher bidder toehold reduces the bid premium but does allow the bidder to retain benefits from the takeover.

In summary, we can say that the theoretical literature examining bidder's toehold argues that it provides a possible solution to the free rider problem (Grossman and Hart, 1980). Further, the toehold increases the probability of a subsequent takeover bid and reduces the bid-premium (Shleifer and Vishny, 1986). The probability of a successful takeover is increases with a toehold (Hirsleifer and Titman, 1990). The toehold may signal the post-acquisition value of the target in that low value is associated with low or no bidder shareholding in the target firm (Choudhry and Jegedeesh, 1994). The empirical evidence suggests that bidders with a toehold experience higher abnormal returns at the time of the bid-announcement (Franks and Harris, 1989 amongst others). In the case of targets the abnormal return is lower at the time of the bid-announcements where the bidder has a toehold (Franks, 1978).

2.4.2 THE METHOD OF PAYMENT

In a perfect market one would expect the investor to be indifferent between the various methods of payment because there would be no difference in his wealth.²⁵ However, in reality this is not the case and investors have very definite preferences for certain forms of payment. There are a number of reasons why investors may prefer a certain form of payment but the two most important are informational asymmetry and tax differences

²⁵ Shapiro (1990:p538) defines a perfect capital market as one that is characterised by no taxes, transaction, flotation or information costs.

for different types of shareholders. In this section we review the theoretical and empirical literature relating to the method of payment.

2.4.2.1 THE EFFECTS OF INFORMATIONAL ASYMMETRY ON SHAREHOLDER WEALTH

In a merger situation there may exist an unequal distribution of information or the quality of information between the bidder and target firms. It may be the case that the target firm has superior information regarding itself. Under this condition the target has a clear advantage and will only agree to trade with the bidder if the value of its assets is less than the consideration being offered. From the bidder's point of view, a lack of quality information poses the problem of inaccurately valuing the target, i.e. leading to a valuation risk, and therefore is more likely to make an equity offer²⁶. The obvious reason for this is that it reduces the problem of adverse selection as any price paid now is determined by the future profitability of the takeover (or combined group) and hence the target firm shareholders bear some of the valuation risk. On the other hand, if the bidder has private information regarding the value of its equity then the target shareholders face a similar problem of adverse selection in that the equity offer may be overvalued. It will be profitable for the bidder to exploit and convert its overvalued equity into real assets. If this is the case the target firm shareholders may presume that cash offers will only be made if the bidder believes its equity to be undervalued. In this way the method of payment acts as an information signal and in cash offers bidder firm shareholders receive a higher abnormal return than in equity offers.

²⁶ Valuation risk is referred to as the possibility of a bidder incorrectly valuing the target's assets.

Myers and Majluf (1984) examine a model with managers having superior information relative to their own shareholders. Under this model bidder firm managers attempt to exploit their superior information by altering the method of payment. For example, if the managers judge (based on the superior information available to them) their firm's shares to be overvalued then it is most probable that the takeover will be funded through the sale of its equity. On the other hand, if the managers judge their firm's shares to be undervalued they are more likely to finance the takeover using debt. These conclusions imply that new equity will only be issued if the increase in value to new shareholders is less than that obtained from using the proceeds of the equity issue. Also, the issue of new equity does not provide any information to the market but simply shows that a transfer of wealth has taken place from new to existing shareholders.

Hansen (1987) develops a theoretical model to illustrate the choice of method of payment, under imperfect information, during a merger. The conclusions of the model are that under conditions where the target has an information advantage, i.e. is fully aware of its and the bidder's true value while the latter only knows its own true value, three possible outcomes will exist. First, equity offers will dominate cash offers as a medium of payment. This reflects the fact that an equity offer establishes the actual post-acquisition price. In this case the bidder can use an equity offer to reduce the problem of adverse selection associated with the uncertainty surrounding the target's true value. From the target's point of view an equity offer is preferred because it has no difficulty in determining the value of the equity offer since it has an information advantage²⁷. Therefore, if a cash offer with a pre-transaction value of $\text{£}C$ is acceptable

²⁷ The dominance of the equity offer in Hansen's model is based on the assumption that the bidder is able to create value from the acquisition. It is doubtful if the dominance of equity offers will hold in the absence of this assumption (i.e. where the bidders fail to create value from the takeover).

to the target, then an equity offer of £E which is at least equal to, or greater than £C will also be acceptable to the target. The pre-transaction value of £C puts a floor below which £E will not be accepted.

The second outcome in Hansen's (1987) model is where the probability of an equity offer decreases as the size of the bidder increases relative to the target. This conclusion is based on the idea that contingent pricing advantage of equity offers depends on the extent to which the target adds to the bidder's assets. Where the bidder is substantially larger than the target, in size, the beneficial price contingent effect of an equity is negligible. The third outcome reflects the fact that the contingent pricing advantage of an equity offer favours targets with high market value relative to the bidder. Similarly, this outcome also reflects the fact that as the bidder's gearing increases the contingent pricing advantage of equity offers also increases.

Wansley et al. (1983) examine 189 US mergers of which 87 are equity offers. The study finds that 40 days before to 40 days after the bid-announcement the CARs for target firm shareholders with cash offers is 22% while for equity offers the CAR is 17%. Huang and Walkling (1987) find that cash offers lead to abnormal gains of 29% for target shareholders. Again, for equity offers abnormal gains are at half the level at 14%. Travlos (1987) examines the impact of the method of payment on both bidders and targets to find similar results to those of Wansley et al. (1983). For the two day bid-announcement period target firm CARs are 12% for takeovers with equity payments while it is 17% for cash. In the case of bidder firms the two day bid-announcement CARs are -1.5% and 0.24% for equity and cash payments respectively. Travlos (1987) concludes the bidder firms earn only 'normal' abnormal returns in the case of cash payments.

Franks, Harris and Mayer (1988) examine a 30 year time period from 1955 to 1985 both for the UK and the US and report similar results. In the case of cash offers, Franks et al. (1988) find that in the month of the bid-announcement target firm shareholders receive an abnormal gain of 25% for the US sample and 30% for the UK. However, bidder firm returns are much lower at 2% for the US and 0.7% for the UK. In the case of equity offers, the bidder firm returns are -0.1% for the UK and -1% for the US while target firm shareholders experience abnormal gains of 15.1% for the UK and 11.1% for the US. Franks et al. (1988) conclude that bidder firms offering cash experience greater wealth gains than those offering equity.

Salami (1994) examines a sample of 504 UK takeovers during the period 1980 to 1989. This study finds that the market views high private information to be associated with the use of equity payments. On the day of the bid announcement, all bidders experience statistically significant, at the 1% level, abnormal returns of -1%. The market adjusted abnormal returns are -0.1% and -2% for pure cash and equity offers respectively at the time of the bid-announcement. Bidders offering a mixture of either cash or equity and cash with equity experience abnormal returns of -4% and 7% respectively. These results are consistent with those of Limmack and McGregor (1992) which also examine UK takeovers over a similar time period. Limmack and McGregor (1992) find statistically insignificant abnormal returns of -0.2% for bidders offering cash and -3% for those offering equity. Limmack and McGregor (1992) find their sample of bidders offering cash with equity to experience statistically significant, at the 1% level, abnormal returns of -6%.

More recently, Gregory (1997) examines the long run post-acquisition performance of acquirers who use different forms of payment methods. Gregory uses a sample of 452 acquirers during the period 1984 to 1992, of which 333 use equity as the payment

method, 84 use cash and 35 use a mixed form of consideration. The study shows that for all six abnormal return models, acquirers offering equity experience lower wealth gains than those offering cash for the two years following the acquisition.

To summarise, the theoretical and empirical literature examining information asymmetry and the method of payment implies that it may influence shareholder wealth for both the target and bidder firms. In the first instance, Myers and Majluf (1984) argue that the method of payment conveys information in that a cash offer assumes the bidder's equity is undervalued while an equity offer suggests that it may be overvalued. Where the target firm has an information advantage, Hansen (1987) argues three outcomes are possible i.e. equity offers will dominate cash offers, the probability of the equity offer diminishes with the bidder to target size and finally the contingent pricing advantage of equity offers depends on the extent to which the takeover increases the bidder's assets. The empirical literature finds higher abnormal returns for cash rather than equity offers at the time of the bid announcement and in the post-acquisition period. (Wansley et al., 1983; Travlos, 1987; Huang and Walkling, 1987; Franks et al. 1988; Limmack and McGregor, 1992; Salami, 1994; Gregory, 1997).

2.4.2.2 TAXATION AND SHAREHOLDER WEALTH

The gains made on the sale of any shares, under the UK taxation system are, when realised, liable for capital gains tax (CGT) and this may affect the preferences of target firm shareholders as to the method of payment. In the UK, the scope for increasing value through tax planning in an acquisition is extremely limited unlike the USA

(Salami, 1994:p37).²⁸ Nevertheless, it still may be very important for a bidder to efficiently plan for any tax liability due to a takeover because not to do so may lead to costly mistakes. From the shareholders point of view, taxation can have a direct impact on their wealth. Under present UK tax laws the sale of shares by a tax paying individual is taxable unless consideration is received by the vendor in the form of shares or debentures in another company. Therefore, in an equity offer the vendor can claim 'roll over' relief and avoid the immediate payment of capital gains tax (Sudarsanam, 1995:p179).²⁹ Therefore, in an equity payment, the tax liability is not immediately due and the target firm shareholders have considerable flexibility as to the timing of realisation of the payment and the associated tax burden³⁰.

In an efficient market, the differing tax of equity and cash offers will force bidders to either finance the acquisition through an equity offer or else offer a higher premium in a cash offer. The latter is to compensate target shareholders for the capital gains tax arising from the sale of their shares. Taxation systems around the world are not homogenous and differ considerably, and an example of this is the ability to 'roll over' Capital gains Tax (CGT). In the UK, the rollover of CGT applies to any proportion of the equity payment while in the US the equity must form at least half the consideration in order for CGT rollover to apply. Another difference between the UK taxation system and that of other countries is the ability to accelerate the rate of depreciation on the target firm's assets. In the US, bidders can step up the rate of depreciation on the

²⁸ For the US, prior to the Tax Reform Act 1986 it was assumed that tax planning could independently add value to an acquisition. Niden (1988:ch2) discusses the tax planning opportunities which were available to acquirers.

²⁹ If the vendor holds more than 5% of the equity then to obtain roll over relief it will be necessary to demonstrate that the transaction is executed for genuine reasons and not to avoid tax payments.

³⁰ Under UK tax regulation the tax on the sale of shares is paid at the end of the financial year after taking into account allowances, losses from other qualifying investments, etc. (Sudarsanam, 1995: p179).

target's assets, assuming certain conditions are met³¹. The effect of this is to lower the post-acquisition tax liability of the firm compared to the combined pre-acquisition tax of the merging firms.

There is no conclusive evidence to support the tax compensation hypothesis i.e. cash offers have a higher premium to offset the tax liability. Although Carleton et al. (1983), Wansley et al. (1983) and Huang and Walkling (1987) all show cash offers to have a higher bid premium, it can be the case that they are due to information asymmetry (Myers and Majluf, 1984) and not due to tax reasons. Franks et al. (1988) add further doubt to the ability of the tax compensation hypothesis to explain the higher bid premium which previous studies observe in cash offers. In the case of the UK, Franks et al. (1988) investigate the performance of acquirers and targets before and after the introduction of Capital Gains Tax (CGT) in 1965. If the introduction of CGT affects investor preferences between equity and cash payments then prior to 1965 there should be no difference in the target bid premium. The results show that prior to 1965 there is a difference in the target bid premium in the bid-announcement month of 8% and 16% after 1965. These results lead Franks et al. (1988) to conclude that "CGT can entirely explain differences in the premia of the two kinds of offers is therefore rejected". Franks et al. (1988) also test for the tax compensation hypothesis which holds if 'cash or equity' offers have a lower bid premium than 'all cash' offers. The reason for this is that, under the former, an individual is able to reduce any adverse personal tax consequences of the offer. For the UK, the study finds the target bid premium to be 28% for 'cash or equity' offers and 31% for cash only offers during the period -4 to +1 months. The comparable results between 'cash or equity' and cash offers leads Franks et al. (1988) to conclude that the tax compensation hypothesis does not hold and

³¹ For a detailed description of the conditions, see Hayn (1989) and Niden (1988:ch2).

personal tax considerations do not fully explain the higher target bid premium in cash offers.

For the US, Niden (1988:ch4) uses a number of proxies to test for the tax impact of a takeover. The tax proxies in Niden's (1988:ch4) are the CGT position of the target shareholders on the method of payment, proportion of target firm shares held by institutional investors, variability of the target firm's market adjusted return in the pre-bid period and the target firm's dividend yield. The latter measure is a proxy for the type of investor holding the company's shares. Niden (1988:ch4) argues that low tax investors buy shares in high yield companies and vice versa. The tax proxies are regressed against the type of consideration offered using a Logit regression. The results show the tax proxies not to be statistically significant or to have the expected sign. From these results Niden (1988:ch4) concludes that no relationship exists between the tax status of the target firm shareholders and the form of consideration offered in a takeover.

2.4.3 FREE CASH FLOW

Free cash flow is defined as the "cash in excess of that required to fund all projects that have positive net present values when discounted at the relevant cost of capital" (Jensen, 1986). Sudarsanam (1995:ch2) argues that such a cash flow is usually available to mature companies with few growth opportunities. Managers of companies with free cash flow can either distribute it to shareholders through a dividend payout, purchase shares in their own company i.e. share buyback or change the firm's capital structure so that debt is increased and equity is reduced. All these three options will reduce the size of the free cash flow and according to Jensen (1986a) reduce the power of managers and increase external monitoring of their behaviour. However,

managers need not follow any of these three options and can invest the firm's free cash flow in projects with a negative present value. Jensen's (1986a) free cash flow hypothesis predicts that managers with free cash flow, and a lack or absence of positive net present value projects, will tend to invest the surplus funds in projects with a negative net present value rather than distributing it to shareholders³². In the case of a takeover this implies that a bidder with a high level of free cash flow is more likely to pay a high bid premium to target shareholders. The effect of the higher bid premium is a transfer of wealth from bidder firm shareholders to target firm shareholders.

Lang et al. (1991) test the hypothesis that free cash flow will lead managers to invest in projects with a negative net present value. The authors use Tobin's Q ratio as a measure of investment opportunities available to the company. Firms with a high Tobin's Q ratio are likely to have projects with a positive net present value and therefore use their resources effectively³³. On the other hand, firms with a low Tobin's Q ratio tend to have projects with negative net present value. The results from the study show a negative relationship between bidder firm abnormal returns and the level of free cash flow (i.e. measured as Tobin's Q ratio). In fact, for every 1% increase in the free cash flow there is a decrease of 1% in the bidder gains from a takeover. However, the study could not conclusively show that there is a transfer of wealth from the bidder firm shareholders to the target firm shareholders because the target firm abnormal gains are not associated with the level of bidder firm's free cash flow.

³² Jensen (1986a) argues that diversification or unrelated mergers generally fit this category and predicts that they will lead to lower total gains.

³³ Tobin's Q ratio is defined as, "the ratio of the market value of the firm's securities to the replacement costs of its assets" (Weston et al., 1998:p78).

2.4.4 THE IMPACT OF RELATIVE TARGET SIZE ON SHAREHOLDER WEALTH

Relative size of the target and the bidder firms may affect the distribution of takeover gains because the share price impact of the acquisition may be disguised by the size of the former. Where the bidder is considerably larger than the target, the sterling gains, even if evenly split, between the merging firms, will translate into smaller returns for the former. The gains from a takeover for the merging firms will translate into different abnormal returns depending upon their size. Asquith, Bruner and Mullins (1983) examine shareholder wealth as a result of the difference in the size of the bidder and target firms. The results show that for the mergers before 1969 (the year of new US takeover regulation) where the target is larger than 10% of the size of the bidder, the latter experience a CAR of 7% during the period 20 days before and including the announcement day³⁴. After 1969, bidder CARs fall to 4% for the same group. For targets which are smaller than 10% of the size of the bidder firm, the CARs for the latter are 3% and 2% for mergers before and after 1969 respectively. Asquith et al. (1983) also find a positive and statistically significant, at the 1% level, relationship between bidder CARs and the relative size of the merging firms.

Jarrell and Poulsen (1989) examine the relative size of the bidder and target firms on the CARs accruing to US merging firms during the period 1963 and 1986. The authors find that the relative size of the target to the bidder firm has a positive and statistically significant effect on bidder CARs. The results show that if the target firm has a market value twice that of the bidder the estimated CAR for the latter increases by 1%. In other words, as the target firm increases in size relative to the bidder, the CARs of the

³⁴ This was the only event window for which the sample was portioned, based on relative target and bidder sizes.

former increase significantly. This suggests that the willingness of large bidders to pay a more generous price to smaller targets rather than to larger ones.

Sudarsanam et al. (1996) examine a sample of 429 UK takeovers during the period 1980 and 1990. The study finds a positive and statistically significant relationship, at the 1% level, between bidder and target CARs over the 20 days before and 40 days after the announcement and the relative size of the merging firms. This result suggests that bidder firm shareholders gain when their firm takes over relatively smaller target firms. However, the study finds that the importance of the relative size of the merging firms on their CARs may be a time sensitive variable. Sudarsanam et al. (1996) divide the sample into two time periods i.e. before and after 1985 and find that relative size is only important in the latter case for both bidders and targets and statistically significant at the 1% level³⁵.

2.4.5 BUSINESS CYCLES AND SHAREHOLDER WEALTH

In 1989, there were almost 1,500 takeovers of or by publicly listed companies in the UK while in 1981 the figure was less than 200 (Sudarsanam, 1995:ch1). This uneven pattern of takeover activity is not limited to the UK. For the US, De Bondt and Thompson (1992) found that between 1926 and 1988 merger activity has occurred in waves with peaks in 1928, 1932, 1955, 1967/8, 1982, 1989 and 1995. The extent of acquirer firm shareholder wealth gain may be dependent on the level of takeover activity and in periods of economic growth it may be lower.

³⁵ Sudarsanam et al. (1996) provide no explanation as to why they choose 1985 to partition their sample.

Jensen (1988) argues that mergers do not only occur in waves but affect certain industries at certain periods in time. The explanation given for this is that when changes occur in the industry some firms may have difficulty adjusting to them. Instead of pursuing change within the firm which may have a high probability of failure, managers attempt to make their companies 'good' takeover targets. In the UK building societies sector, some firms have realised that they may not be sufficiently large enough to compete effectively against banks. At the same time new entrants in the financial services market, such as telephone and internet banking, supermarkets etc. have increased competition and driven profit margins lower. Therefore, instead of changing their organisation they have attempted become takeover targets (Economist 19/7/97). Examples of these building societies include the Bristol and West, Birmingham Midshires and the National and Provincial.

DeBondt and Thompson (1992) found a market wide relationship between economic variables (e.g. Gross Domestic Product etc.) and the number of takeovers. Beckett (1986) argues that an important economic variable affecting takeovers is the interest rate available on 'Baa' rated corporate bonds. For the US, the return on this type of corporate bond is very sensitive to the immediate outlook for the economy. A high 'Baa' yield signals bad times ahead and an increased need for overall corporate restructuring. The high interest rates may also make it difficult for small firms to finance forcing, them to become takeover targets. More recently, Yagil (1996) investigated the relationship between macro-economic variables such as the interest rate and the degree of takeover activity in the US during the period 1954 and 1979. Yagil (1996) found a positive and statistically significant relationship, at the 1% level, for both the interest rate and change in investment against the level of merger activity. Based on these results, Yagil (1996) concludes that "whether mergers are motivated by operating or financial synergy, they are closely related to macro-economic factors".

2.5 CONCLUSION

The previous research examining the post-acquisition performance of acquirers largely uses three different methodologies. In the first instance previous studies compare the pre- and post merger performance of firms using accounting based measures. This chapter shows that studies using accounting data conclude that bidders experience superior pre-bid performance relative to the industry and to the target. However, the performance of acquirers tends to decline significantly in the post-acquisition period. The only exception is Healy et al. (1992) which finds acquirers to experience an improvement in their financial performance during the post-acquisition period. Accounting based studies show that managers are more likely to increase firm size, as opposed to profitability lending support, for the management entrenchment hypothesis as opposed to shareholder alignment.

The second type of methodology that previous studies examining takeovers use is a micro level or survey based approach. This type of methodology attempts to investigate each takeover individually, and in some cases, by separating the acquired units from the parent company. Studies using a survey study approach tend to show acquirers to experience a post-acquisition decline in performance. With hindsight, half the number of acquirer firm managers view the acquisition as a failure. The third, and most popular technique that previous studies use to investigate the post-acquisition performance of acquirers is event study methodology. This is a dynamic approach to the analysis of shareholder wealth effects which does not suffer from the same problems as accounting or survey based methodologies.

In this chapter, we reviewed the literature which seeks to explain shareholder wealth effects due to a merger using event study methodology. Early research using event study methodology attempts to answer the question whether mergers are value-creating or not. These studies are more concerned with the average performance by combining the effects on both bidder and target shareholders. The literature shows average returns to be between 12% and 28% (Halpern, 1973). More recent studies individually examine the returns accruing to target and bidder firm shareholders. One clear conclusion in both US and UK studies, is that shareholders of target firms receive statistically significant and positive wealth gains while bidder firms shareholders receive small positive, negative and zero CARs. A large number of previous studies using event study methodology have also sought to identify certain factors which may affect the distribution of takeover gains between the bidder and target firm shareholders. In this chapter we have presented and discussed the literature examining five of these factors namely: bidder's toehold; method of payment; free cash flow; the relative size of the bidder and target and the economic cycle.

CHAPTER THREE

ACQUIRER TYPE AND POST-ACQUISITION PERFORMANCE:

EMPIRICAL EVIDENCE AND HYPOTHESES

3. INTRODUCTION

In the previous chapter we show that the research examining takeovers, using share prices, finds target firm shareholders to experience positive and statistically significant wealth gains at the time of the bid-announcement (see Limmack, 1991; Sudarsanam et al., 1996; Kennedy and Limmack, 1996 and Holl and Kyriazis, 1997a). For bidders, the results tend to be inconclusive with previous studies showing both small positive and negative abnormal returns at the time of the bid announcement (see Franks et al., 1991; Sudarsanam et al., 1996; Kennedy and Limmack, 1996; Holl and Kyriazis, 1997a; Gregory, 1997; Higson and Elliott, 1998). Also, very little previous research has sought to examine the relative performance of different acquirer types. Morck et al. (1988) argue that hostile and friendly bidders have totally different motives. Studies which separate takeovers by the mood of the bid find that hostile acquirers experience lower wealth losses than either friendly or white knight acquirers in the long run (Kennedy and Limmack, 1996; Gregory, 1997).

Previous studies examine certain factors, which attempt to explain bidder firm performance at the time of the bid-announcement and during the post-acquisition period. As we show in Chapter 2, the literature relating to bidder's toehold in the

target firm, the method of payment, bidder firm free cash flow, relative target and bidder firm size and the economic cycle go a long way towards explaining bidder firm performance at the time of the bid-announcement and the post-acquisition period. However, none of these factors can fully explain the inconclusive results for bidder firms. In other words, there is still a gap in our knowledge regarding bidder firm returns. In view of this gap - regarding what affects bidder performance at the time of the bid-announcement and post-acquisition period - researchers, have sought to segregate takeovers by their motives. The theoretical and empirical literature suggests that the mood of the takeover bid is an important variable which influences the bid-announcement period returns (see Franks and Mayer, 1996; Holl and Kyriazis, 1997a; Sudarsanam et al., 1996; De et al., 1996). In this chapter we explain the theoretical reasons why the mood of the takeover is likely to influence shareholder wealth and review the relevant empirical evidence for both the UK and the US. In discussing the literature relating to acquirer type and post-acquisition performance we are also able to identify areas which require further research and hence develop our hypotheses.

3.1 THE IMPACT OF MANAGERIAL RESISTANCE ON SHAREHOLDER WEALTH

The literature review in section 2.3 shows that the target firm shareholders experience positive returns starting from a short period before the bid-announcement until completion. In the case of bidders the results are not so clear-cut and a difference in opinion exists. One reason for the difference in the evidence, relating to bidder firm shareholder returns, may be due to managerial resistance by the target firm. This is commonly referred to as the 'mood' of the bid which can either be friendly or hostile i.e. the bidder does or does not receive the recommendation of the target firm management respectively.

Two hypotheses can be put forward to explain the mood of the takeover bid or the reaction of the target firm management (Gaughan, 1996:p152). The first one is the shareholder welfare or management alignment hypothesis, which argues that managers aim to maximise their shareholder's wealth. By rejecting a bid, target firm managers aim to obtain a higher price for their company and hence a higher bid premium for their shareholders. In the case of a friendly takeover bid, managers may feel that this is the highest price that can be obtained for their company. To reject the bid under these circumstances would result in giving up a profitable opportunity.

The second hypothesis is the managerial welfare or entrenchment hypothesis, which claims that rejection of a bid, is driven by self-interest². Managers may reject a bid to retain their jobs and other related privileges which can be detrimental to shareholders' interests. Resistance could therefore impose costs on shareholders as managers expend corporate resources opposing what could be a beneficial takeover and shareholders lose the opportunity to realise the gains resulting from these offers. However, if a second (and in some cases a third) bidder enters the competition to acquire the target then it is very likely that target firm shareholder's gains will be higher. The managerial entrenchment hypothesis does not exclude the possibility that target firm shareholders may eventually be able to obtain higher returns. In this section we discuss the different types of acquirers which we examine in this study and the previous studies detailing their relative pre- and post-acquisition performance.

² See Shleifer and Vishny (1986a) for a discussion of how managerial entrenchment can be adopted and carried out.

3.2 ACQUIRER TYPES

Managerial resistance or non-resistance leads to different types of bidders and takeover situations. The most common is a friendly bidder, which receives immediate acceptance from the target firm board of directors. Friendly bidders can also be thought of as those who do not face any defensive strategy from the target firm (see section 4.2). Bidders whose offers are rejected and encounter some form of defensive tactic by the target firm are referred to as hostile bidders. There are also multiple bids where the target firm receives more than one offer, which can either be friendly or hostile. In this research we identify four types of successful bidders as follows:

- i Single friendly bidder - the only bidder and it receives the recommendation of the target board.
- ii Single hostile bidder - the only bidder and it wins despite resistance by the target management.
- iii Multiple hostile bidder - the bidder which wins in competition with other hostile bidders or a white knight.
- iv White knight bidder - a friendly bidder which wins in competition with other hostile bidders for control of the target firm.

The exact method by which the sample data of bidders are collected is described in section 4.2. The sample size of each acquirer type is shown in Table 4.2.

3.3 DETERMINANTS OF MANAGERIAL HOSTILITY

The managers of a target firm have a choice of whether to recommend the bid to their shareholders on a friendly basis or to reject it and ask the shareholders to do the same. Managerial alignment and entrenchment are two reasons why target firm managers

may accept or reject a bid. However, neither of these two theories can explain the characteristics of targets, which accept or reject takeover bids. In this section we examine previous literature which has sought to identify factors which may lead to a hostile takeover bid.

Morck, Shleifer and Vishny (1988b) examined the Fortune 500 companies in 1980 to identify characteristics of targets firms that made them resist a takeover bid. In the sample, 40 companies received a hostile bid, whilst 42 received a friendly bid during the period from 1981 to 1985. The first characteristic which Morck et al. (1988b) examined was ownership of the target firm which can be divided into six categories. The first category considered whether the descendants of the founding family were present in the top management. In a hostile takeover bid the target was less likely to be managed by members from the founding family. On average 41% of founding family members were present in the top management of targets in friendly bids, while for hostile takeovers it was only 10%. Secondly, ownership by the target board directors was also much less in the case of hostile takeovers, with a mean of 8% compared to 21% for friendly targets. In the case of ownership by the top two directors (i.e. Chairman and Chief Executive Officer), it was three times larger for friendly targets than for hostile targets. The average age of the chairman of both hostile and friendly targets was roughly the same at 57 and 59 years respectively. Finally, the dollar value of the top management's stake in the company differed significantly between the two groups. In the case of friendly bid targets, it was US\$83.75 million, while for hostile targets it was US\$9.22 million.

Schnitzer (1996) argues that information asymmetry can lead to hostility in a takeover bid. The information asymmetry comes about because the target firm managers have inside information that is not available to the bidder firm managers. The bidder's

decision as to whether to launch a hostile or friendly bid depends very much on the uncertainty regarding the future value of the target firm. The higher the level of uncertainty regarding the future value of the target, the greater the likelihood of a friendly bid because the target managers' inside knowledge becomes more important. Schnitzer (1996) also finds that the likelihood of a hostile bid increases with target board preference for control and their holding of shares. The probability of a hostile bid is also related to the cost of mounting a hostile bid. In other words, the greater the costs of mounting a hostile bid, the higher the probability of a friendly bid.

Powell (1997) examined 411 UK targets, in successful takeovers, during the period 1984 to 1991 and found significant differences between the characteristics of those involved in friendly compared to hostile bids. Targets, which resist a hostile bid, were found to have high levels of free cashflow and operating profit and be of a greater size. In part, these factors reflected the ability and the financial resources of the target firm to mount and effectively execute a defence against a hostile bidder. On the other hand, for targets involved in a friendly bid were found to have high levels of financial leverage and had a lower market capitalisation. By adjusting the target characteristics for economy and sector averages, the study found that the significant determinants in a hostile bid remained the same with the addition of growth in sales and tangible assets entering the list. For targets in friendly bids the list of significant characteristics was increased by the inclusion of tangible assets. The results also showed that firm and industry specific characteristics were important in determining hostile takeovers and to some extent were time sensitive.

3.4 BID HOSTILITY AND BIDDER FIRM SHAREHOLDER WEALTH

Hostile takeovers, as discussed in section 3.1, are those which are opposed by the target board's management. A characteristic feature of the UK stock market has been the large number of hostile takeovers relative to the total number of acquisitions. Between 1984 and 1989 a total of 26% of bids for UK publicly listed companies were rejected by the target management (Jenkinson and Mayer, 1994:7). Hostile takeovers are very high in the UK relative to other western countries. In Germany there have been less than six reported cases of hostile bids throughout the whole post war period. In France only a tiny proportion of takeovers have involved hostile bidders. In Japan hostile takeover bids have been extremely rare (Jenkinson and Mayer, 1994:p8).

On the surface it may seem that hostile bids are not attractive because of the costs that are incurred in gaining control of the target firm. More importantly, to gain control of the target firm the hostile bidder will have to pay a premium on the market price, thereby driving up the purchase price. This does not mean that a friendly takeover offers any greater financial benefits because a bidder has to pay a price which is attractive to the target firm managers³. If the target firm managers do not receive such a payment they will refuse to give their consent to the takeover. In this situation a hostile bid becomes an alternative mechanism for corporate control which does not require the consent of the target firm managers.

³ In some cases side payments or benefits may be paid to the target firm management but these also have to be attractive in order to gain their support for the takeover.

In their attempt to win control of the target firm, bidders frequently raise the price that they are willing to pay. This may have a negative effect on bidder firm shareholder wealth. Of course, for the target firm it leads to greater wealth gains than those available with a friendly takeover. While managerial resistance may affect the division of gains, its precise impact cannot be determined from theoretical arguments. The wealth maximisation hypothesis suggests that resistance would be in the target firm shareholder's interest since it can result in a higher bid premium from either the current bidder or another bidder. However, managerial welfare (or entrenchment) hypothesis argues that managerial resistance reflects an attempt by managers to protect their job security. Resistance to a takeover can impose costs on target shareholders as managers expend corporate resources opposing beneficial takeovers, and their shareholders lose the opportunity to realise the gains from these offers.

Although all takeover bids for public companies in the UK have to be made to the target firm shareholders, the bidder may seek to gain an initial approval from the target firm management. Of course, even if the target firm management disapprove of the takeover bid the bidder firm can still continue with it. A hostile bid according to the definition we have used (see sections 3.2) will face some kind of defensive action from the target firm management. In response to such a bid, target firm shareholders have to individually decide whether or not to tender their shares to the bidder firm⁴.

⁴ We accept that in some cases the target firm management may initially reject a takeover bid and then recommend it after a higher price has been offered or put forward to the shareholders.

The empirical studies examining acquirers in hostile bids have found rather mixed results both for the UK and the US. For the US, Bradley, Desai and Kim (1983) have found that bidders, in tender offers who were unsuccessful in their bid, experienced positive CARs for the period -20 to 180 days⁵. However, when a second bidder acquired the target the first bidder experienced negative CARs during the period -20 to 180 days. Bradley et al. (1983) argued that the difference in CARs between bidders who were unsuccessful in a tender offer and those who lost to a second bidder represented the market's perception of lost opportunities. Jensen and Ruback (1983) reviewed six previous studies which examined both successful and unsuccessful tender offers. The results from these studies showed successful and unsuccessful bidders in tender offers experienced average CARs of 3.8% and -1.1% respectively⁶. In the case of mergers, successful and unsuccessful bidders experienced CARs of 1.4% and 2.5% respectively. Rather different results were found by Loderer and Martin (1990) for a near exhaustive sample of takeovers between 1966 and 1984. This study found bidders in mergers, experienced higher CARs than those in tender offers. In the case of bidders in tender offers and mergers the CARs were 0.5% and 1% respectively.

Jarrell and Poulsen (1989) examine 404 tender offers during the period 1963 to 1986 which shows bidders experience positive and statistically significant at the 1% CARs of 9% during the period -10 to +20. The study also finds target firm opposition to the tender offer to have a negative, and statistically significant at the 1% level, impact on acquirer CARs. However, the impact and the statistical significance of the target firm opposition to the tender offer is not constant throughout the whole period. In the 1960s, target firm

⁵ In the US tender offers have been the most frequently used tool in hostile takeovers and therefore a number of studies have examined this type of takeover (Gaughan, 1996:217).

⁶ The event windows for each of these studies differed, as did the sample size.

opposition has the greatest negative impact (i.e. -5%) on bidder firm CARs while in the 1970s it is -1.8%. Jarrell and Pouslen (1989) argue that the changing impact of target firm opposition on bidder CARs is related to the regulatory and financial environment.

Franks et al. (1991) examine 399 takeovers completed during the period 1975 to 1984 and find acquirers experience negative and statistically insignificant mean adjusted CARs of 1% during the bid-announcement period. In the case of opposed bids, the mean adjusted bidder CARs are -3.5% and statistically significant at the 10% level. Franks et al. (1991) compare results from the mean adjusted returns against alternative benchmarks and find acquirers in opposed bids to experience CARs of 0.1% to 1.3% depending on the benchmark used during three year post-acquisition period. Friendly acquirers, on the other hand, experience CARs of -0.3 to 0.8% depending on the benchmark over the same time period⁷.

Although Banerjee and Owers (1992) examine white knight bidders, they nevertheless compare their results against a group of hostile bidders. The authors examine 47 hostile bidders during the period 1978 to 1987. In the case of a successful hostile bidder the CAR is -0.2% on the day before to the day of the bid-announcement. The results show that hostile bidder firm shareholders to experience positive CARs of 0.7% for the period, four days before to the day of the bid-announcement. For the longer window of 50 days before to the day of the announcement, the CAR is -1.9%. In terms of dollar gains/losses, they are US\$1.499 billion for the event window -50 days to the announcement of the white knight bidder entering the contest. The bulk of this return

⁷ Only the value weighted, mean adjusted and the ten factor CARs are statistically significant at 99%, 95% and 95% respectively. (The study does not carry out a test of differences between the CARs.)

is made at the time of a second bid announcement⁸. Like Banerjee and Owers (1992) the study by Niden (1993) also focuses on white knights while also comparing their relative performance with hostile bidders. Niden (1993) examined a sample of 73 bidders involved in successful and unsuccessful hostile mergers and tender offers. The results showed that during the bid-announcement period the full sample of bidders experienced abnormal returns of -2.2%, statistically significant at the 1% level. Hostile bidders experienced statistically insignificant abnormal returns of -1.5% during the same period. In dollar terms the difference in median shareholder wealth between the full sample and hostile bidders was \$1.2 million.

Loughran and Vijh (1997) examine 947 takeovers during the period 1970 to 1989 and find acquirers to experience negative and statistically insignificant buy and hold abnormal returns (BHARs) of 6.5%, against a control sample, during the five year post-acquisition period. Acquirers in mergers experience BHARs of -16% which are statistically significant at the 1% level. However, acquirers in tender offers experience much higher, and statistically significant at the 10% level, BHARs of 43% over the same period. Loughran and Vijh (1997) argue that, “on average, [mergers] were not in the best interests of [the acquirer firm] shareholders”.

For the UK, Kennedy and Limmack (1996) examine a sample of 345 UK friendly and hostile takeovers during the period 1980 to 1989. Using a size based index, the results show that for the three months prior to the bid-announcement, the whole sample of bidders experienced CARs of 2.9% while for hostile and friendly bidders it is 4.9% and 2.2% respectively. In the first year after the bid-announcement bidder CARs are -0.2%,

⁸ None of the CARs was statistically significant to any reasonable level.

0.1% and 0.3% for the whole sample, hostile and friendly acquirers respectively. In the second year after the bid-announcement, the CARs are -5%, -5.4% and -6.1% for the whole sample, hostile and friendly acquirers respectively.

Sudarsanam et al. (1996) examine a similar period to Kennedy and Limmack (1996) but use a regression to determine the explanatory power of the takeover mood. The dependent variable is the CAR for -20 to +40 days along with various independent variables. The study finds that a hostile bid has a positive and statistically significant at the 5% level effect on bidder firm CARs. However, separating the sample into takeovers, before and after 1985. The study reveals a hostile bid to have a negative and statistically insignificant effect on bidder CAR for the earlier period. For the latter period, a hostile bid leads to a positive and statistically significant effect on bidder CARs, implying that the mood of the bid has a non-constant effect on bidder returns (i.e. a time sensitive variable). Similar results are obtained by Holl and Kyriazis (1997a) who model the relationship between wealth creation and bid resistance for a sample of 178 UK takeovers during the period 1979 to 1989⁹.

Gregory (1997) examines a sample of 452 takeovers with a market value above £10 million during the period 1984 to 1992. The results show that acquirers in hostile takeovers experience negative and, in four out of the six benchmark models, statistically significant abnormal returns. In the case of acquirers in friendly takeovers the abnormal returns are also negative for all the six benchmark models. Hostile acquirers experience higher abnormal returns compared to friendly acquirers in four out of the six benchmark models. Gregory (1997) argues that acquirers in friendly

⁹ Holl and Kyriazis (1997a) carry out a simultaneous regression.

takeovers tend to overpay in order to acquire the target and this is reflected in their post-acquisition share price performance. However, the tests of differences between benchmark models shows that abnormal returns are statistically insignificant.

Higson and Elliot (1998) examine 830 takeovers during the period 1975 to 1990 of which about 15% of the sample were hostile acquirers¹⁰. This study finds that hostile acquirers experience higher BHARs compared to friendly acquirers at the time of the bid announcement. During the two year post-acquisition period hostile acquirers experience BHARs of 13% which are statistically significant at the 5% level. In contrast, the whole sample of acquirers experience BHARs of -1% over the same period. Friendly acquirers, on the other hand, experience negative BHARs of -4%. Further, Higson and Elliott (1998) argue that the stock market not only reacts favourably to hostile acquirers but does not correct expectations formed at the time of the bid-announcement. Barnes (1998) finds similar results for a sample of 412 acquirers during the period 1987 to 1993. Barnes (1998) finds hostile acquirers to experience marginally higher abnormal returns compared to friendly acquirers during the post-acquisition period. However, the difference in abnormal returns between friendly and hostile acquirers is not statistically significant.

The empirical evidence examined in this section suggests that hostile acquirers experience higher post-acquisition abnormal returns than friendly acquirers. One reason as to why this may be the case is that hostile bids are carried out in order to replace inefficient managers (Morck et al., 1988b). Also, it is likely that after a takeover the hostile bidder is able to infuse his better management ability upon the target firm. Based on this evidence we can derive the following hypothesis:

¹⁰ Higson and Elliott (1998) define a hostile bid as one where the first bid is rejected.

Hypothesis 1

Shareholders of hostile acquirers experience greater wealth gains than shareholders of friendly acquirers.

3.5 WINNER'S CURSE IN MULTIPLE BIDS

The vast bulk of literature on takeovers shows that shareholders of bidder firms suffer a loss or a small positive gain in wealth at the time of the bid-announcement (see Mandelker, 1974; Dodd and Ruback, 1977; Firth, 1979 and 1980; Bradley, 1980; Jensen and Ruback, 1983; De et al., 1996; Gregory, 1997). The loss in wealth, for bidder firms, can be attributed to two factors, namely overpayment and hubris. The hubris theory, as advanced by Roll (1986) suggests that bidders attempt to value the target which may be above that of the market, leading to a positive error. The positive error can arise from a lack of experience in carrying out takeovers or the refusal/inability to learn from past mistakes. Roll (1986) argues that the bidder convinces itself that its valuation is correct and the market may have simply miscalculated the target or the gains arising from the combined firm.

Seyhun (1990) examines a sample of 337 US completed takeovers during the period 1975 to 1986 but could find no evidence to support the hubris hypothesis. What is more likely, and the evidence in Chapter 2 suggests that, even though bidder firm managers intend on maximising shareholder wealth, they simply get things wrong for whatever reason. The evidence from Chapter 2 suggests that bidders may misjudge the value of the target and carry out a takeover that does not maximise its own shareholder wealth. The question then arises is whether two bidders who compete to acquire the

same target (i.e. a multiple bid) also 'get it wrong'? In a multiple bid the successful bidder can only gain control of the target firm if they offer to pay more than the other bidders. In managing to achieve control of the target firm in a multiple bid, the winning bidder is more likely to have overpaid. The phenomenon of the winning bidder having overpaid in a multiple bid is referred to as the 'Winner's Curse'¹¹.

Evidence of Winner's Curse shows that the market negatively responds to overpayment (Sung, 1993). A bid involving a white knight, is by definition a multiple bid with similarity to an auction. Varaiya (1988) and Giliberto and Varaiya (1989), argue that for non-financial firms and financial firms respectively, a winning bidder in a multiple bid values the target, on average, in excess of its true value and ends up overpaying. The severity of this problem increases with the uncertainty concerning the true value of the target and the number of multiple bidders. Michel and Shaked (1988) find support for this and show that winning bidders in a multiple bid experience CARs which are 8% lower than those for single bidders during the 50 days following the bid-announcement. Similarly, De et al. (1996) finds successful bidders in an auction experience negative gains in the range of -1% to -2% compared to single bidders of 0% to 0.5%. For the UK, Gregory (1997) finds that in four out of the six benchmark models the shareholders of the winning bidder, in a multiple bid, experience large wealth losses relative to single bidders. Only the Hoare Govett size adjusted and the three factor returns show single bidders to underperform the winning bidder in a multiple bid. From our discussion above we can derive the following hypothesis:

¹¹ In a takeover involving more than one bidder the acquirer likely pays in excess of the expected value of the firm. The acquirer (or winning bidder) is cursed because its bid exceeds the value of the target (Weston et al., 1997)

Hypothesis 2

Shareholders of single bid acquirers experience greater wealth gains than shareholders of acquirers in an auction.

3.5.1 WHITE KNIGHT BIDDERS

The entrance of a friendly second bidder or white knight, turns a takeover contest into an auction, whereby the firm willing to pay the highest price acquires the target. However, the motivations behind a white knight can be argued to be quite different from those of a hostile bidder. A white knight bidder may also differ from a hostile bidder in terms of pre-bid strategic evaluation of the bid, and easier access to information about the target¹². The latter may arise because a white knight is arranged by a target management faced with a hostile bid. The provision of information may act as an inducement to the white knight in that it reveals an opportunity that was not previously considered.

Smiley and Stewart (1985) examine 36 successful and 12 unsuccessful white knight takeovers during the period 1972 to 1978. The sample of white knight bidders is matched with a control group of the same size. Using common financial performance measures, the study finds that the white knight sample and the control group are very similar during the pre-bid period. The results point out that white knights perform better than the market prior to the bid-announcement with CARs of 17% for the period 5 years prior to the date of

¹² In the UK, under the non-statutory, self-regulating City Code on Takeovers and Mergers, the target management cannot withhold information from the unfriendly bidder that it has given to a favoured bidder (Sudarsanam 1995, Ch. 6). However, the hostile bidder has to specify the information which it wishes to receive and is not entitled to ask, in general terms for 'all the information' supplied to its rival (rule 20.2 of the Code). Thus the information advantage to the white knight may not be completely lost.

announcement. However, in the first nine months after the takeover, successful white knights, experience negative CARs of 5%. The results show that white knights underperform their control group throughout the three-year post-announcement period.

Banerjee and Owers (1992) examine the welfare implications of white knight takeovers using the concepts of the Pareto Criterion and the Kaldor-Hicks Principle. The Pareto Criterion is where it is possible to make one party better off without making another party worse off (see Estrin and Laidler, 1995). Through an exchange, both parties reach a point of Pareto Optimum - i.e. no-one can be made better off without making somebody else worse off. A variation of Pareto Optimality is the Kaldor-Hicks Principle, which examines the relative change to each party in an exchange. In other words, the Kaldor-Hicks Principle holds if the improvement in wealth to one party outweighs the losses to the other party so that, on a combined basis, both parties are better off than before the exchange took place. In this respect, the Pareto Criterion considers both the efficiency and equity of the welfare gain as opposed to the Kaldor-Hicks Principle, which examines only change in total welfare. In a takeover the Pareto Criterion holds if both the bidder and target firm shareholders experience an improvement in their wealth. In the case of the Kaldor-Hicks Principle, only the combined shareholder wealth of the bidder and target firm needs to improve.

With a three party contest - i.e. a target, one hostile bidder and a white knight bidder - the general Pareto Optimality situation may not be achievable. This is because in order to acquire the target, the white knight usually has to pay a price greater than the other bidder. By doing so, the shareholders of the target firm experience an improvement in welfare that is larger than it would have been in the absence of a white knight bid. White knights, on the other hand, may experience a decline in welfare as they may overpay in order to acquire the target. Banerjee and Owners (1992) argue that white

knights have a greater likelihood of experiencing a decline in their welfare. This is because of the friendly nature of a white knight bid which has the “economic connotation of resulting in a socially undesirable outcome on [the] acquisition”. However, even if there is a potential for one party in an exchange to experience a loss in welfare while another gains, a transaction can still take place under the Kaldor-Hick Compensation Arrangement. The Kaldor-Hicks Compensation Arrangement states that the party that has the potential to experience an improvement in welfare can bribe the other party so as to allow the exchange to take place. Bribery can take various forms such as sharing the economic welfare gains accruing to the winner with the loser so that both experience an improvement in welfare.

Banerjee and Owers (1992) investigate the welfare experiences of 100 US white knight bidders during the period 1978-1987. The study shows that on the day of the bid-announcement white knights experience statistically significant (at the 1% level) wealth losses of 1.7%. Over the two-day period, i.e. one-day before to the bid-announcement day, the CARs are -3% (significant at the 1% level). In the ten days after the bid-announcement the CARs are 0.33% and not statistically significant. Target firms, on the other hand, experience statistically significant (at the 1% level) positive CARs for all the event windows leading to a positive combined wealth effect. From these results the authors find support for the Kaldor-Hicks Principle but not for the more stringent efficiency and distributional requirements of the Pareto Optimum. Although Banerjee and Owers (1992) find evidence that supports the Kaldor-Hicks principle, it does not uphold the Kaldor-Hick Compensation.

Shleifer and Vishny (1986a) examine two defensive strategies adopted by target firm management, namely greenmail and white knights, and their effects on shareholder wealth. The authors provide a theoretical model in which the white knight firm enters

the contest after a target firm receives an unwanted offer. The model assumes that in a contest the firm wishing to pay the highest price will win and hence ignores the other bids. The price paid by the potential acquirer has to be high enough to induce the target shareholders to sell their shares. The presence of a hostile bidder dictates the minimum price that a white knight bidder has to pay in order to acquire the target. The minimum price may force the white knight to overpay in order to acquire the target. In practice the target firm management may recommend shareholders to accept a lower price bid by a white knight. If this is the case target firm shareholders will accept the lower bid on non-price considerations such as loyalty. If target firm shareholders place a higher value on non-price considerations than there may not be a need for the white knight to raise its price to that of the other bidder.

Niden (1993) compares the shareholder wealth effects for 334 US white knight, hostile and friendly bidders during the period 1974 to 1984. At the time of bid announcement the whole sample of bidders experience an abnormal loss of -2%. White knight bidders experience a far greater abnormal loss of -4% than hostile bidders at -1.5% while friendly bidders experience a loss of -2% during the period one day before and including the announcement day¹³. The differences are far greater when one compares the median dollar losses which are US\$5 million for the entire sample, US\$4.5 million for friendly bidders and over two and a half to three times as much for white knight bidders at US\$13 million, over the same period. The differences in losses are statistically significant for both white knight against friendly bidders and white knights against hostile bidders at the 1% level. Targets on the other hand do extremely well under a white knight bidder and worse with a friendly bidder. Abnormal returns for targets in white knight, hostile and friendly bids are 0.5%, 0.5% and 0.3% respectively.

¹³ Niden (1993) uses an event window which is -1 to 0 days for bidders who do not change their offer price. For bidders who revise their offers the event window starts at -1 and continues to the date of the last revision.

Again the returns are significantly different between the white knight sample and the friendly bidders at the 1% level.

For the UK Gregory (1997) finds that for five out of the six benchmark models white knight acquirers experience higher BHARs compared to friendly and hostile acquirers during the two-year post-acquisition period. Hostile acquirers experience higher BHARs for only the Dimson-Marsh model. (Due to the small number of white knights statistical inferences could not be drawn.) Our discussion suggests that shareholders of targets in white knight takeovers experience higher abnormal returns than in takeovers involving other acquirer types at the time of the bid-announcement. In the case of shareholders of white knight acquirers previous studies show them to experience greater wealth losses at the time of the bid-announcement than other acquirer types.

3.5.2 WHITE KNIGHT AS AN UNPLANNED BIDDER

An obvious characteristic of a white knight bid is that it is reactive, being cobbled together by a harried target management when faced with a hostile bid¹⁴. While the target's defensive impulse behind the white knight bid is apparent, less transparent is a possible similar motivation behind the white knight's willingness to play the role. Such a shared fear of hostile bids and the consequent need for a common defence may lead to the stock market perception that the takeover may not be value enhancing for a white knight bidder (Banerjee and Owers 1992). The hurried and unplanned nature of a

¹⁴ This is also true of the white knights in our sample where in all except one case, the white knight bidder emerged before a hostile bid was announced. In the one instance that a white knight made the first announcement it was done after information regarding an unwanted bid was leaked to the market. Also, white knight bidders entered the competition to gain control of the target firm within 40 days of the hostile bid.

white knight bid may also lead to the market perception that the strategic logic behind the bid is not sound. Thus, the market is likely to put less value on the target's merger with a white knight than with a hostile or friendly bidder.

The disadvantage of an unplanned bid may be mitigated by the easier access that a white knight will have to information about the real performance and prospects of the target¹⁵. Such privileged access can reduce the information asymmetry between the target and bidder. More importantly, this greater access to information reduces the scope for overpayment of premium by the bidder. However, the moot question is why the white knight had not exploited this advantage with an earlier friendly bid and thus pre-empted the hostile bidder?¹⁶ Thus, on balance, the advantage of easier access to target firm information may be offset, at least partly, by the perceived lack of forethought behind the white knight bid¹⁷.

Empirical evidence regarding white knights shows that they tend to overpay in order to gain control of the target firm and as a consequence of this they experience significant wealth losses (section 3.5.1). The loss in shareholder wealth for white knight acquirers may be due to the stock market having a negative perception of a bidder who wishes to takeover a target fearful of hostile bid (Banerjee and Owers, 1992). It may also be the case

¹⁵ Under rule 20.2 of the City Code on Takeovers and Mergers the target management cannot withhold information provided to one bidder while supplying it to another.

¹⁶ One could argue that prior to the emergence of a hostile bidder, the white knight would have been required to pay higher managerial rents to the target board and negotiate on the basis of information asymmetry (Schnitzer 1996). Once the hostile bidder has been identified, the friendly relationship between the white knight and target firm reduces the level of uncertainty regarding the value of the latter firm as it provides greater information (see previous footnote).

¹⁷ Even if the white knight bidder may have considered taking over the target firm, the sudden timing of the hostile bid may mean that the white knight bidder may not have been fully prepared.

that the late entrance of a white knight, and in a short space of time from the bid-announcement by the first bidder, may mean that the takeover has little logic behind it. If the white knight bidder has a constructive strategy and the target is a part of this then it would not wait for a hostile bidder to appear on the scene. Of course, there is no reason why a white knight bidder cannot exploit the vulnerable nature of the target faced with a hostile bid. The white knight cannot pay a price lower than that offered by the hostile bidder because if it were to do so it would not gain control of the target¹⁸. However, the white knight may be in a position to obtain access to information that may allow it not to overpay.

The evidence above suggests that shareholders of white knight acquirers are likely to suffer a wealth decrease or a smaller wealth gain than the shareholders of a bidder in a single bid whether friendly or hostile. Between a winning hostile bidder and a winning white knight however, the latter has the information advantage (see section 3.5.1) and can, therefore, value the target more accurately. Consequently, the white knight's shareholders may suffer less from the Winner's Curse than those of a multiple hostile bidder. Also, the friendly nature of the white knight bid means that it receives the acceptance of the target firm managers and needs only shareholder approval. It may also mean that target firm managers may be more willing to give up any managerial rent in order to safeguard their position (Schnitzer 1996)¹⁹. Results from previous studies allow us to derive the following hypotheses:

¹⁸ The board of the target firm can recommend a lower white knight bid and target firm shareholders can accept on non-price considerations such as loyalty.

¹⁹ Managerial rent is defined as the difference between his present reward (i.e. salary, privileges etc.) and what the next best alternative will provide.

Hypothesis 3

Shareholders of non-white knight acquirers experience greater wealth gains than shareholders of white knights acquirers.

3.6 CONCLUSION

No one theory has been found to explain why takeovers have taken place (Jensen and Ruback, 1983) or the bid-announcement and post-acquisition performance of bidders. However, certain factors have been identified which may explain the relative performance of bidders at the time of the bid-announcement and during the post-acquisition period. In this chapter we have presented and discussed both the theoretical and empirical literature relating to the mood of the bid (or type of acquirer).

This chapter has shown that there are four different types of acquirers; namely friendly, hostile (single and multiple) and white knights. Morck et al. (1988) argue that friendly takeovers were motivated by synergy while hostile bids were disciplinary in nature. However, the motives of the white knight bidder cannot easily be identified. If synergy were a motive, the white knight would not have waited till a hostile bidder had been identified. Similarly, if discipline was a motive it is likely that a white knight would not have received the support of the target board.

In this chapter we reviewed the theoretical and empirical literature relating to the relative performance of different acquirer types. Our discussion showed that the evidence to date has found that targets in hostile takeovers experienced greater wealth gains than those in friendly takeovers. (Franks and Harris, 1996). Bidders in hostile bids experienced wealth losses, which were greater than those in friendly bids, but lower than those in a white knight bid at the time of the bid- announcement. White

knight bidders experienced wealth losses that were higher than either friendly or hostile bidders at the time of the bid-announcement. From our discussion of previous studies we formulated three hypothesis which sought to extend and overcome gaps in our knowledge relating to the relative performance of different acquirer types.

CHAPTER FOUR

DATA AND METHODOLOGY

4 INTRODUCTION

This chapter attempts to describe both the sample data used in this study and the event study methodology which allows us to estimate shareholder wealth effects which we report in the next chapter. There are four parts to this chapter. In the first part we describe data sources and explain the criteria we employ for defining a bid as either white knight, hostile or friendly. The second part examines event study methodology and models used by previous studies in estimating abnormal returns. In this section we consider some of the weaknesses in employing event study methodology and discuss some of the ways in which they can be overcome. The third part of the chapter considers the various econometric issues involved in event study methodology such as the size effect, thin trading and bootstrapping¹. The fourth part of this chapter deals with the issue of the cross-sectional variation of average returns and discusses the construction of reference portfolios used in this study.

4.1 OBTAINING THE INITIAL SAMPLE OF MERGERS

Over the last few years there has been a large increase in the availability of computerised databases on mergers and acquisitions. However, the problem with almost all of these databases is that they hold only recent data. For example, the

¹ In this chapter we raise various methodological issues relevant to our study and in the following chapter we state exactly which technique we employ.

Acquisitions Monthly database 'Amdata' has data on mergers and acquisitions from only 1985. Our study employs data from 1983 and therefore, it was virtually impossible to use just this source. For the period before 1987 Amdata did not specify the mood of the takeover and this was an additional reason for using other sources.

4.1.1 PRIMARY SOURCES

The main primary sources of data were the EXTEL news summary cards, the Stock Exchange microfiches and Year Book, the Investors' Chronicle, the index of the Financial Times, the Financial Times Mergers and Acquisitions International, Acquisitions Monthly magazine and company accounts. The initial list of mergers during the period 1983 to 1995 was compiled by surveying the list of mergers and acquisitions printed in the Investors' Chronicle for the period before 1985. For the list of mergers and acquisitions after 1985 the Acquisitions Monthly magazine was used. The EXTEL news summary cards, along with the Stock Exchange microfiches, were used in order to determine the mood of the bid and the outcome dates for each bid.

From 1987 the Acquisitions Monthly magazine listed the mood of each bid and the names of all competing bidders. The outcome dates from 1985 were collected from the Acquisitions Monthly magazine. For the earlier period the Financial Times was used. Data on boardroom changes was collected from the Stock Exchange Year Book, Hemmington Scott Corporate Register and Company Guides; Directory of Directors and annual company accounts². Another primary source for share price and dividend data was ICV/Datastream. In addition to this, Datastream was also used in order to

² We also used these sources to cross check our data for accuracy.

obtain the returns on the Financial Times All Share Index, which served as one of our five benchmarks. The share prices obtained were also used to construct our own reference portfolios (see section 4.15).

4.1.2 SECONDARY SOURCES

We used secondary data such as Limmack's (1991) sample of acquisitions, which covered the period 1977 to 1986³. This sample consisted of a huge amount of data on a variety of bids including abandoned bids. This study did not employ Limmack's (1991) list but used it largely to compare and cross-check our list of bids obtained from the Investors' Chronicle.

4.2 DEFINING THE MOOD OF THE BID

The most common method of determining the mood of any bid is to consider the reaction of the management of the target company to any formal, or informal, bid offer. According to this definition, a hostile bid would be one where the management of the target company immediately rejects a bid from a bidder firm. Of course, there are a number of reasons why the target firm management may wish to reject the bid offer. The most important of these reasons could be to obtain a higher price. Therefore, the target company management may have the intention to sell to the bidder firm, with rejection amounting to a simple tactic to extract a higher price. A variation to the simple method of determining the mood to the bid is to identify if a defensive

³ This was kindly supplied by the late Peter Holl.

strategy has been employed by the target firm.⁴ If a defensive strategy is employed, one can argue that the bid is unwanted because the cost of employing such a tactic falls on the target company. All defensive strategies have the additional cost of employing advisers such as merchant banks, lawyers, accountants, public relations consultants and stockbrokers.⁵ This is quite different from the target firm management simply saying 'No' to a bid, which has no transactional cost, attached to it whatsoever.

We can illustrate the definition of a hostile bid by looking at some of the cases in our sample such as the bid by BTR for Hawker Siddeley in 1991. On 20th September 1991 BTR announced a £1.5 billion takeover bid for Hawker Siddeley which the board of the target company immediately rejected. Two days later the board of Hawker Siddeley initiated a series of defensive strategies beginning with the announcement of a demerger. The Hawker Siddeley defence document, published on 10th October 1991, announced that the company would carry out a 'radical restructuring', which included disposal of half the businesses to concentrate on core areas of electrical motors, industrial batteries and aerospace related industries. There were a number of reasons for doing this but the main one was to reduce the attraction of the target company to the bidder by disposing of subsidiaries which the bidder may be most interested in⁶. At the same time, an announcement of a demerger was expected to increase the value of Hawker Siddeley and make the takeover more expensive for BTR.

⁴ A defensive strategy is any action taken by the target firm management in order to resist the takeover. See Sudarsanam (1991).

⁵ For a detailed description of the role of advisers in a takeover see Sudarsanam (1995:ch7).

⁶ Asset sales of this type are designed so those parts of the company which are valuable, or of most interest to the bidder, are removed from the rest of the operations. In doing so, it is hoped that the bidder will not continue with a bid for the parts of the target company which are least attractive to it.

In response to Hawker Siddeley's defensive activities, the BTR board retaliated by attacking Hawker Siddeley's performance, thereby intensifying the conflict. BTR's board also argued that if the takeover were to succeed there would be a greater potential for Hawker Siddeley to grow. On the 8th November 1991, BTR increased its bid to £1.55 billion, which was rejected by the board but accepted by the majority of the shareholders. There were two aspects that made this bid hostile, and are present in all bids defined as such in our study; the first is that the bid is rejected by the board and the second is that the target company mounts some kind of defensive strategy.

The management of the target firm may receive more than one bid offer, which it may immediately reject. Again, we examine if defensive strategies had been employed against each bidder to determine the mood of the bid for the reasons explained above. In this study we define a situation where there is more than one hostile bidder as a multiple hostile bid. We can illustrate a multiple hostile bid from the cases in our sample. A typical example is that of Brooke Bond which received a takeover bid from Tate and Lyle and Unilever. Initially, Tate and Lyle made a bid for Brooke Bond on 5th July 1984, which was rejected by the latter's board. A series of defensive strategies were employed by the target board to maintain its independence. While Brooke Bond was defending itself from Tate and Lyle, the company received a bid from Unilever on 21st September 1984.

The board of the target company also rejected the bid from Unilever and began to defend itself from both companies. Meanwhile, both bidder companies were competing against each other to acquire Brooke Bond shares while also trying to persuade shareholders to accept their offer. At the end of this contest, Unilever gained victory after launching a dawn raid on Brooke Bond shares and having received the majority of acceptances. As with hostile bids, one can identify three aspects to multiple hostile

bids. The first is that all the bids are rejected by the board of the target company, even if the second bid is higher than the first. Secondly, the target firm employs defensive strategies against both bidders. Third, the contest usually results in each bidder attempting to outbid the other firm.

In contrast to hostile bids, there are friendly bids, which have been agreed and recommended by the management of the target company. The announcement of these bids is usually followed by positive statements by the board of both the target and bidder firms. The vast bulk of bids that take place in the UK are of this type and consist of both small and large bidders. One interesting point that occurs with friendly bids is that the mood does not remain constant and changes over time. Hostility of the target firm can be eliminated in many ways but the easiest is to make a very attractive offer. This fickleness of target management mood limits the usefulness of this definition as the takeover starts off being hostile and ends up being friendly. Our definition of friendly is more clear cut in that a bid has to be agreed without the use of any defensive tactic⁷.

In between the hostile and friendly bid, one has the white knight bid although, by definition, it is a friendly bid. A white knight bidder is a second bidder and usually enters the contest after a hostile bidder has been identified. The role of the white knight bidder is to 'save' the target firm from a takeover by a hostile bidder. The case of Rank Hovis McDougall provides a good example of a white knight bid used in this study. On 5th October 1992 Hanson launched a bid for Rank Hovis McDougall which was rejected by the target board. However, the chairmen of both companies met the next

⁷ In our definition of friendly bids we include those which may have been rejected but are accepted once a higher price is offered without the use of any defensive tool.

day to exchange their views on the bid. Hanson was supported by Goodman Fielder Wattie who announced that they were willing to purchase Rank Hovis McDougal's European baking and milling business if the Hanson bid succeeded. In response to this and the criticisms made by Hanson, the target firm's management announced that they would demerge the company into three separate companies, and the shareholders would receive shares in each one.

On 29th October 1992 Tomkins launched an agreed bid for Rank Hovis McDougal. In Tomkins the board of Rank Hovis McDougall found a white knight, which would save them from Hanson. In the face of a rival bid, Hanson decided not to enter into a contest and withdrew from battle by abandoning the bid. The important aspect of a white knight bidder is that it has the backing of the target board and enters the bidding game after a hostile bidder has been launched. We summarise definitions of different acquirer types as follows:

- i Single friendly bidder - the only bidder and it receives the recommendation of the target board.
- ii Single hostile bidder - the only bidder and it wins despite resistance by the target management.
- iii Multiple hostile bidder - the bidder which wins in competition with other hostile bidders or a white knight.
- iv White knight bidder - a friendly bidder which wins in competition with other hostile bidders for control of the target firm.

4.3 SAMPLE OF ACQUISITIONS

From the primary and secondary sources, a comprehensive list of all successful UK takeovers completed between 1983 and 1995 was compiled. From this initial list of over a thousand acquisitions, those involving either a private (i.e. non-listed) or foreign-listed bidder or target were removed.⁸ This brought the list of acquisitions down, to almost eight hundred, with the bulk of these being friendly bids. The third screening that took place was to make sure that the share price, dividend data (in order to calculate the returns) and the market to book value were available on ICV/Datastream. (The market to book value was required to calculate the market to book value adjusted returns.) This left a sample of 696 takeovers, consisting of friendly, white knight, single and multiple hostile bids.

More recent studies on takeovers have tended to focus their attention on large acquisitions. One such study is by Gregory (1997) which removed all takeovers where the bid value was less than £10 million. Gregory (1997) argued that “even though the cut off, whilst somewhat arbitrary, was chosen to avoid the problem of ‘noise’ which could occur when firms acquire very small companies”⁹. Although we agree with Gregory (1997) in that acquisitions of ‘micro’ companies is of little economic significance, we disagree with the arbitrary cut-off point of £10 million in 1996 prices. Instead, we examine all the companies listed on the UK Stock Exchange between 1983

⁸ There are studies which have examined takeovers of private companies but as they do not have a quoted share price they cannot be used in an event study based research such as ours. The complexity, and for some countries impossibility, of calculating accurate reference portfolios leads us to exclude foreign listed acquirers.

⁹ Gregory (1997) does not define or describe what he refers to as ‘noise’ but argues that small acquisitions are of little economic significance and therefore not worthy of any attention. Takeovers of larger companies tend to lead to more significant effects on their industry and the stock market. The latter usually occurs because shares of larger companies are more widely held (hence followed) and traded.

and 1995.¹⁰ We construct quintiles for all the companies listed on the UK Stock Exchange and take the value of the largest firm in the smallest quintile as the cut off value for takeovers in our sample. We refer to all the companies in the smallest quintile as micro stocks. Any bid value below that of the largest company in the smallest quintile is removed. On 1st January 1996, the value of the smallest company, out of the micro stocks was just £300,000 while the largest was about £10 million¹¹.

As any student of finance is aware, £10 million on 1st January 1996 is not the same as on 1st January 1983, when our sample starts. Simple present value calculations tell us that it is inappropriate to have a standard cut-off point throughout the whole period. Instead of a standard cut-off point, such as the type used by Gregory (1997), we calculate the one-year present value of £10 million for each year using the inflation rate as the discount rate. Using the present value of £10 on 1st January 1996, as the starting point, we have the cut-off points for each year, as shown in Table 4.1

¹⁰ This is explained in detail in section 4.15 where we discuss the construction of reference portfolios.

¹¹ We use 1st January 1996 because our sample of completed takeovers ends on 31st December 1995 and to be consistent with studies such as Gregory (1997). However, reversing the process and using the data for 1983, when our sample starts, does not drastically alter the number of takeovers in our study.

Table 4.1 Cut-Off Values for Our Sample of Takeovers Between 1983 and 1995

	Retail Price Index	Inflation Rate	Cut Off Value For Takeovers in Our Sample (i.e. Real Value of £10m)
1996	-	-	10
1995	149	3.40	9.67
1994	144.1	2.42	9.43
1993	140.7	1.59	9.28
1992	138.5	3.75	8.94
1991	133.5	5.87	8.43
1990	126.1	9.46	7.68
1989	115.2	7.76	7.06
1988	106.9	4.91	6.69
1987	110.3	4.14	6.41
1986	385.9	3.40	6.19
1985	373.2	6.08	5.83
1984	351.8	4.98	5.53
1983	335.1	4.59	5.27

Source and Notes:

Inflation is calculated as the annual percentage change in the retail price index (RPI).

RPI data is obtained from Annual Abstract of Statistics 1987 and 1996

1974 and 1987 are base years for the retail price index.

Using the cut off values from Table 4.1 leaves the final sample with 547 takeovers consisting of friendly, white knight, single hostile and multiple hostile bids. Table 4.2 illustrates the number of takeovers by the mood of the bid. The greatest proportion of bids are friendly, followed by single hostile and then white knight takeovers. We also find that generally bidders tend to be concentrated in the top two quintiles (i.e. quintile 4 and 5). The concentration of large firms in our sample is most noticeable for white knights who have 89% of the sample in the top two quintiles. In the case of multiple hostile acquirers 70% of the sample appear in the top two quintiles with none of them in the bottom quintile. Although, single hostile acquirers are represented in the lower quintiles the sample is nevertheless skewed towards the top quintiles. Friendly acquirers are less concentrated in the top quintiles compared to other acquirer types. Table 4.3 shows the number of successful takeovers for each year of the sample. The

peak years for takeovers were from 1985 to 1988/9. Prior to 1986, the number of takeovers was increasing each year. After 1988/9 the number and value of takeovers fell substantially and continued to drop each year until 1995¹².

Table 4.2 Number of Successful Takeovers by Acquirer Type

Type of Bid	Number	%	Size Quintile				
			1	2	3	4	5
White Knight Bidders	27	(4.9)	1 (3.7)	1 (3.7)	1 (3.7)	5 (18.5)	19 (70.4)
Multiple Hostile Bidders	20	(3.7)	0 (0.0)	2 (10.0)	4 (20.0)	7 (35.0)	7 (35.0)
Single Hostile Bidders	75	(13.7)	3 (4.0)	3 (4.0)	11 (14.7)	11 (14.7)	47 (62.6)
Friendly Bidders	425	(77.7)	18 (4.2)	37 (8.7)	63 (14.8)	118 (27.8)	189 (44.5)
Total Bids	547	(100)	22 (4.0)	43 (7.9)	79 (14.4)	141 (25.8)	262 (47.9)

Notes:

- i) For definitions of bidder type see section 4.2
- ii) Size quintile 1 refers to the smallest 20% of list on the UK Stock Exchange in the year of the bid announcement (excluding micro shares). For a discussion of the construction of our size quintiles see section 4.15.
- iii) Figures in brackets refer to percentages

¹² Our sample of acquirers may not correspond exactly to figures from Acquisition Monthly or the Office of National Statistics Acquisition and Mergers Bulletin because we exclude acquirers which are foreign owned, non-listed or where the value of the target is below the threshold as shown in Table 4.1.

Table 4.3 Number of Successful Takeovers for Each Year of the Sample

Year	83	84	85	86	87	88	89	90	91	92	93	94	95
White Knight	3	2	4	3	4	3	3	1	0	1	1	1	1
Multiple Hostile	0	5	1	8	0	3	1	0	1	0	0	0	1
Single Hostile	5	5	12	10	10	6	8	5	5	1	2	3	3
Friendly	11	26	39	85	71	55	41	20	17	8	16	14	22
Total	19	38	56	106	85	67	53	26	23	10	19	18	27

Notes:

- i) Bid year refers to the year in which the bid announcement was made public.
- ii) For definitions of bidder type see section 4.2.

4.4 TIMING OF EVENTS

We refer to the first day of public announcement of a takeover as the day on which the bid becomes known to non-insiders or the public at large¹³. In some cases, a public announcement is made on the same day as a formal offer is made to the management of the target firm. Even though a formal offer may be made to the target firm board it does not mean that the necessary offer documents have been received by the target board. The City Code on Takeovers and Mergers lays down a very strict timetable as shown in Table 4.4, the days by which various documents have to be sent and received.

The timetable also lays down the date of completion, which is usually taken to be the day when the bid becomes unconditional. In this study the bid-announcement date is obtained from Acquisitions Monthly for bids after 1985 and the Financial Times for those prior to 1985.

¹³ In the case of white knight and multiple hostile bids we use the announcement date on which these acquirers enter the competition to gain control of the target firm.

Table 4.4**Bid timetable under the City Code**

Announcement day	Formal announcement of the takeover bid with terms and conditions.
Posting day (Day 0)	Date the offer document is posted (it cannot extend to more than 28 days from the offer announcement date)
Day 14	Final date for target response to offer documents
Day 21	First offer closing day which may be extended. The offeror may purchase shares above 30%, in the target firm, under voluntary offer rules.
Day 35	End of grace period for acceptance when offer went unconditional on Day 21
Day 39	Final date for publication of new information by target firm.
Day 42	Date at which target shareholders can withdraw their acceptances if offer is unsuccessful on Day 21
Day 46	Final date for bidder to revise and post offer terms.
Day 60	Final closing date – the bid either fails or is declared unconditional as to acceptances.
Day 81	Final date for clearing all bid conditions attached to bid.
Day 102	Final date for delivery of consideration.

Source: Sudarsanam (1995:p87)

4.5 EVENT STUDY METHODOLOGY

Event study methodology is a convenient tool which researchers have employed in order to analyse the impact of a specific event on the share price¹⁴. Early studies employing the technique were by Fama, Fisher, Jensen and Roll (1969) which examined the effect on the share price of a share split; Ball and Brown (1968) considered the effects of earnings announcements; Ibbotson (1975) examined initial public offerings, and Mandelker (1974) examined the effect on the share price of merger announcements. These early studies led to a glut of studies employing this technique, especially in the US and UK. (See Campbell, Lo and MacKinley, 1997:ch4 for a detailed description of event study methodology).

Event study methodology rests on the idea of selecting a specific event date during an event period. The event date is the date at which a particular activity occurred such as a merger announcement, share split and so on. The event period is the time period under examination surrounding the event date¹⁵. However, there may be a number of event dates that can be used in the case of a merger. One can consider the announcement date as well as the completion date. After the selection of the event date/period is made, the next step is to estimate the actual and predicted returns discussed later in this chapter. The difference between the actual and predicted returns result in the abnormal return as shown in equation 4.1:

¹⁴ It is assumed that the impact of a news item such as a bid announcement can be measured because the share price adjusts to new information quickly. In this respect event study methodology assumes semi-strong market efficiency i.e. incorporates historical and public information.

¹⁵ The event period may be examined where there exists difficulty in determining the event date or the effects last for more than one day.

$$AR_{it} = R_{it} - C_{it} \quad (4.1)$$

where:

AR_{it} is the abnormal return for the i th firm during period t

R_{it} is the return for the i th firm during period t .

C_{it} is the control rate of return in the absence of the event for the i th firm during period t .

4.5.1 ESTIMATING ACTUAL RETURNS

The actual returns are calculated from the observed share prices for the companies in the sample. Actual returns are calculated for both the estimation period and the observation period. The returns are calculated as shown in equation 4.2 below. In equation 4.2 the term R_{it} is the estimated actual return for company $i = 1, 2, 3, \dots, n$ over time $t = 1, 2, 3, \dots, n$. The return includes dividends and therefore it is calculated as the sum of the capital gain plus the dividend received during the holding period:

$$\log_e(R_{it}) = \log_e\left(\frac{P_{it} + D_{it}}{P_{i,t-1}}\right) = \log_e(P_{it} + D_{it}) - \log_e(P_{i,t-1}) \quad (4.2)$$

where:

P_{it} is the price of the share in firm i at period t .¹⁶

$P_{i,t-1}$ is the price of the share in firm i at one time period before time t .

D_{it} is the cash dividend per each share in firm i during time t .¹⁷

¹⁶ One can use either the opening or closing share price as long as one is consistent.

¹⁷ We use the ex-div date share price as opposed to the actual date the dividend is paid. The reason for this is that shareholders purchasing shares in the company after the ex-dividend date are not entitled to receive the dividends.

The usual practice is to convert the prices and dividends into a natural logarithmic form in order to allow for continuous compounding. Also, the logarithmic returns are less skewed and therefore more normally distributed (see Markowitz, 1959; Fama et al., 1969).

4.5.2 ESTIMATING PREDICTED RETURNS

If an event, such as a bid announcement, were to occur it is assumed to affect the share price. The effect of the event can then be measured simply as the change in the share price. However, to do this will lead to incorrect results as it does not take into account share price fluctuations prior to the event. One way of overcoming this problem is to estimate the predicted returns for the estimation period. Any deviation of the return for the company from the estimated value can be attributed to the event. In this section we present and discuss the various models that have been put forward to predict 'normal' returns during the observation period.

4.5.2.1 THE RAW RETURNS MODEL

Some of the very early studies that measured the abnormal returns did so by calculating the actual realised returns after the event. This assumes that the expected returns are equal to zero and therefore any actual returns by definition must be abnormal returns. The method can be criticised for not taking into account changes in the market portfolio of shares or risk. The raw returns model is calculated as shown in equation 4.2.

4.5.2.2 THE CAPITAL ASSET PRICING MODEL (CAPM) AND THE MARKET MODEL

The CAPM was introduced by Sharpe (1964), Linter (1965) and Black (1966) in order to explain how the capital market evaluates the prices of assets under conditions of equilibrium. CAPM assumes that all investors have the facility to borrow and lend funds at the prevailing market rate of interest. The second assumption of CAPM is that all investors have the same expectations regarding the existing investment projects. CAPM seeks to explain the relationship between risk and return for any asset, in that there exists a positive relationship between risk and return. Risk, according to this model, can be divided into two categories namely systematic or market risk which cannot be reduced through portfolio diversification and non-systematic risk which can be reduced through portfolio diversification. Under the CAPM model the return is calculated as the expected return from an efficient combination of risky assets plus a riskless asset such as a treasury bill¹⁸. The CAPM model can be expressed in the following manner:

$$E(R_{it}) = R_f + \beta_i [E(R_{mt}) - R_f] \quad (4.3)$$

where:

$E(R_{it})$ is the predicted return for the i th firm during period t .

$E(R_{mt})$ is the expected return on the market portfolio.

R_f is the return on the risk free asset.

β_i measures the sensitivity of the share to movements in the market.

¹⁸ A treasury bill is a bill issued by the government.

The sensitivity of the share price to movements in the stock market can be thought of as the systematic risk which cannot be reduced through portfolio diversification. Formally, the systematic risk is equal to the covariance on the return of a particular share (i.e. R_{it}) and the return from the market (i.e. R_{mt}) divided by the variance of R_{mt} . The difference between the return on the market (R_{mt}) and the risk free rate of return (R_f) is referred to as the market risk premium and represents the excess return of the market index over a riskless asset that one receives as compensation for bearing the market level systematic risk.

The market model is derived from the CAPM and was first used by Fama, Fisher, Jensen and Roll (1969) in their study which examined the behaviour of share prices on the announcement of share splits. The market model employs the same linear relationship as the CAPM between return on a particular share and the return on the market portfolio. The market model is written as:

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it} \quad (4.4)$$

where:

e_{it} is the random error term which reflects that part of a firm's return which is not explained by movements in the market index. The market models assumes that the error term is homoscedastic, follows a normal distribution, has zero expected value and is serially independent

α_i is the regression constant obtained from regressing R_{it} on R_{mt} . This measures the mean return over the estimation period which is not explained by the market.

β_i is the market risk or the systematic risk obtained from regressing R_{it} on R_{mt}

R_{mt} is the return on the market portfolio represented by the market index at time period t .

The ordinary least squares regression analysis is applied to equation 4.4 during the estimation period in order to estimate the predicted returns for the observation period. During the regression analysis, the returns are converted into a logarithmic form and the results are used to obtain the predicted returns for the observation period. According to the market model, the returns for the i^{th} firm are dependent on movements in the market index so that the predicted returns are related to each firm's specific characteristics and the market portfolio performance.

4.5.2.3 MEAN ADJUSTED RETURNS MODEL

This model assumes that the average return obtained during the pre-event period represents the predicted return during the observation period. This means that the return of each share will not be affected by movements in the market and the beta term in equation 4.4 will be equal to zero. Under this type of assumption equation 4.4 can be written as follows:

$$\log R_{it} = \frac{\sum_y^x R_{it}}{n} \quad (4.5)$$

where:

R_{it} is the predicted return for each company (i.e. i) at time t .

R_{ai} is the average historical return for each firm i .

y is the starting point of the estimation period in days, weeks etc.

x is the end point of the estimation period in days, weeks etc.

n is the number of points during the estimation period.

4.5.2.4 MARKET ADJUSTED RETURNS MODEL

The market-adjusted model assumes that the return on any share should be equal to the return from the market portfolio during the observation period. This means that the standard market model, as in equation 4.4 above, can be used but the alpha term is assumed to equal zero and the beta term is one for all companies in the sample. In this respect the market-adjusted model entirely relates the predicted return with that of the market portfolio. This has the disadvantage of not relating specific characteristics such as risk of individual returns of each firm with those of the market portfolio.

4.5.2.5 SIZE AND MARKET TO BOOK ADJUSTED RETURNS MODEL

Like the market adjusted returns model, the size adjusted returns model assumes that the alpha term is assumed to equal zero and the beta term is one for all the companies in the portfolio. However, the size-adjusted model assumes that the return for a company should be related to a portfolio of companies of similar size¹⁹. The size-adjusted model can be argued to be a more reliable predictor of returns because companies of a similar size behave largely the same (Dimson and Marsh, 1996).²⁰ The market to book value adjusted model return is calculated in the same manner but we change the constituents of the portfolio. Like the size adjusted model, the market to

¹⁹The construction of reference portfolios is explained in section 4.15

²⁰ Dimson and Marsh (1996) argue that a comparison of the Hoare Govett small company index to either the FT All Share Index shows them to behave very differently over time implying that the size of the firm affects its performance.

book value adjusted model aims to improve the match between the sample firm and the control group. To obtain the market to book value portfolios all the control sample of companies are segregated by size (i.e. market capitalisation) into quintiles. Each quintile is then sub-divided into smaller quintiles based on their market to book value. In total we end up with 25 market to book value groups (i.e. 5 size quintiles multiplied by 5 market to book value sub-groups).

4.5.2.6 FAMA AND FRENCH THREE FACTOR ADJUSTED RETURNS MODEL

The importance of beta in the Sharpe-Linter-Black capital asset pricing model (CAPM) came into question in the late 1970s and early 1980s with work of Basu (1977) and Banz (1981). The results from these studies show that the price to earning ratio and market capitalisation provide greater explanatory power than beta (see section 4.14 for a discussion on the cross-sectional variation in returns). Fama and French (1992) conclude that the market to book value also has considerable predictive powers. In Fama and French (1993), the authors report an empirical extension of the CAPM abnormal returns model which incorporates both the market to book value and market capitalisation.

Fama and French's (1992) justification, or rationale, for expanding the CAPM model is that size and market to book value factors are very important in explaining average returns across shares²¹. However, size and market to book value by themselves cannot

²¹ We discuss in detail the rationale for including the difference in returns between the low and high book to market value as well as small and large companies in section 4.14.

explain the large difference in average returns between equity return and the risk free rate. Fama and French (1993) argue that the relationship between returns from equity and the risk free rate can best be explained by what they refer to as, 'the market factor', i.e. the Sharpe-Linter-Black version of the CAPM model. The Fama and French (1992) empirical CAPM abnormal return can be written as:

$$FF = R_{it} - R_{ft} + \beta_{i1}(R_{mt} - R_{ft}) + \beta_{i2}(SML) + \beta_{i3}(HML) \quad (4.6)$$

where:

FF is the abnormal return using the Fama and French Three factor model for firm i at time period t

R_{it} is the return for firm i .

R_{ft} is the risk free return.

R_{mt} is the return on the market portfolio.

HML is the excess return for low book to market value companies (i.e. bottom 50%) compared to a portfolio of high book to market value companies (i.e. top 50%)²².

SML is the excess return on small 30% of companies on the market compared to the 30% of largest companies²³.

B_{i1} , B_{i2} , B_{i3} respectively refer to the slope coefficients obtained by calculating the return for company i against the excess return on the market, market to book value and market capitalisation indices²⁴.

²² The database of companies listed on the London Stock Exchange was manually compiled by taking the 1979 fourth quarter list of companies on the Risk Management Service Quarterly Review. This was then updated on a quarterly basis for new listings, delistings, change of name and mergers using data supplied in the Stock Exchange Quality of Markets.

²³ The SML portfolios were constructed by obtaining market capitalisation values, for each year from 1980 to 1998, from Datastream for all UK listed companies. In the case of SML an average or equally weighted return was calculated for the smallest and largest 30% of the companies on a daily basis. The difference between the return for smallest and largest portfolios form the SML value on a daily basis. In order to take account of changes in market capitalisation and the introduction of new companies, as well as delistings, we rebased the portfolios every three months.

²⁴ The HML portfolios were constructed by obtaining market to book values, for each year from 1980 to

Fama and French (1993) use the 28-day US Treasury bill rate as the risk-free rate (see equation 4.6). For our study, we use the return on the 28-day UK government treasury bill rate. However, the risk-free rate is provided as an annualised figure, rather than simply the rate received by the investor for the month. For our purposes, the situation is slightly different because we use daily data. This does not mean that one can simply take the annualised rate and divide it by 360 days. The annualised rates compound the returns including any cashflows which are received during the period. In other words, the annualised rate is higher than what one would receive for holding a 28-day Treasury Bill. Therefore, the annualised Treasury Bill rate has to be converted into a daily rate in order for use in equation 4.6.

One can convert annualised rates in daily rates by first calculating the market value of the government bill. This is simply the face value of the treasury bill discounted by the interest rate and calculated as:²⁵

$$MV_t = 100 - (t \times r \times 100) \quad (4.7)$$

1998, from Datastream for all UK listed companies. However, Datastream did not keep market to book values for all UK companies during the early period. For the later years the drop out rate falls to about 25% and in this respect the Fama and French Three Factor model may suffer from survivorship bias for the UK. All the companies with market to book values were ranked and divided into two equal sized groups i.e. high and low market to book value. For each day an average or equally weighted return was calculated for both portfolios. The difference between the returns on the high and low portfolios forms our HML value. In order to take account of changes in the market to book values and the introduction of new companies as well as delistings we rebased the portfolios every three months.

²⁵ This procedure was kindly made available to me by Professor Roy Batchelor.

where:

MV is the market value of a 28-day treasury bill.

t is the time to maturity as a proportion of 365 days.

r is the percentage interest rate per annum.

The second stage is to calculate the yield on the treasury bill which is:

$$\text{Monthly Return or Yield} = Y = \frac{FV - MV_t}{MV_t} \quad (4.8)$$

where:

Y is the monthly return or yield from the treasury bill.

FV is the face value of the treasury bill.

MV is the market value or price of the treasury bill.

Finally, for our purposes, we have to convert the monthly yield such as the one from equation 4.8 into a daily rate²⁶. This is done by calculating 1/28th of the monthly yield - i.e.:

$$(1 + Y)^{1/28} \quad (4.9)$$

²⁶ For our purposes we used a daily series of an annualised risk free rate of return which was converted in an effective daily return using equation 4.10.

The whole procedure can summarised as²⁷:

$$\text{Daily return} = \left[\frac{100}{100 \left[\left(1 - \frac{28}{365} \right) r \right]} \right]^{1/28} - 1 \quad (4.10)$$

4.6 ESTIMATION OF CUMULATIVE ABNORMAL RETURNS

The most important step in using event study methodology in assessing the effect of a takeover is to calculate the change in shareholder wealth in terms of the abnormal return. What is of interest is not only the impact of a specific event on a single company but all the companies in the sample and, therefore, one has to calculate the average abnormal return (AAR_t) for a particular time period. The AAR_t for all the companies in a sample can be calculated for a particular time period t as follows:

$$AAR_t = \frac{\sum_{i=1}^n AR_{it}}{n} \quad (4.11)$$

where:

AAR_t is the average abnormal for a portfolio of firms $i = 1, 2, 3, \dots, n$ during the period t.

AR_{it} is the abnormal return for the ith firm during period t.

N is the number of firms in the portfolio.

²⁷ Strictly speaking this expression can be further simplified.

Once we calculate the AAR's for each period(i.e. day, week etc.) we then calculate the Cumulative Abnormal Return (CAR). The CAR provides a picture of the total effect of the event over a period of time under observation. The CAR_t for time period t is calculated as follows:

$$CAR_t = \sum_{t=x}^n AAR_t \quad (4.12)$$

where:

x refers to the starting point in the event window (t).

n is the last time period in the event window (t).

4.7 INDEPENDENCE ASSUMPTION T-STATISTIC

Each CAR has to be measured for statistical significance by testing it against the null hypothesis (H_0) that abnormal performance is absent and the alternative hypothesis (H_1) that it is present. The test statistic shown in equation 4.13 assumes that the cross-sectional correlation between the abnormal returns for any two companies i and j equals zero. This assumption will be valid where the event dates for the sample of merging companies are widely spread over a long period of time. The independence assumption t-statistic is calculated as follows:²⁸

$$SAR_{it} = \frac{AR_{it}}{SD(AR_{it})} \quad (4.13)$$

²⁸ The term 'independence' assumes that event dates are not clustered. See Brown and Warner (1980, 1985).

where :

AR_{it} is the abnormal return for company i during period t.

$SD(AR_{it})$ is the standard deviation of the abnormal return calculated as:

$$SD(AR_{it}) = \sqrt{\frac{\sum_{t=x}^{t=n} (AR_{it} - \bar{AR}_i)^2}{d-1}} \quad (4.14)$$

where:

t = x refers to the starting date of the observation period.

t = n is the final date of the observation period.

d is the total number of days (or weeks, months etc.) in the observation period.

\bar{AR}_i is calculated as:-

$$\bar{AR}_i = \frac{\sum_{t=x}^{t=n} AR_{it}}{d} \quad (4.15)$$

Given this, the independence assumption t-statistic for N firms on day t is simply calculated as the standardised abnormal return for day t divided by the square root of the number of

observations in the sample (i.e. N firms) as shown in equation 4.16.

$$SAR_t^{IND} = \frac{\sum_{i=1}^N SAR_{it}^{IND}}{\sqrt{N}} \quad (4.16)$$

The t-statistic for a multi-day (or weekly, monthly etc.) period i.e. to test the CAR using the independence assumption can be obtained as shown in equation 4.17:

$$SCAR_{t1,t2}^{IND} = \frac{\sum_{t=t1}^{t=t2} SAR_t^{IND}}{\sqrt{t2 - t1 + 1}} \quad (4.17)$$

where:

SAR_t^{IND} is the standardised abnormal return for the portfolio with normal distribution.

$t1=$ is the starting interval of the event window.

$t2=$ is the final interval of the event window.

4.8 DEPENDENCE ASSUMPTION TEST STATISTIC

If the event date for takeovers is clustered in any particular calendar time, or the firms are in identical or related industries, then the assumption of cross-sectional independence in the abnormal returns is violated²⁹. The test statistic that one employs

²⁹ The term dependence implies that event dates are clustered, see Brown and Warner (1980,1985).

in this case is the dependence assumption t-test as shown in equation 4.18.

$$SAR_t^{DEP} = \frac{AR_t}{SD(AR)} \quad (4.18)$$

where:

AR_t is the average abnormal return.

$SD(AR_t)$ is the standard deviation which is given by equation 4.19 shown below:

$$SD(AR_t) = \sqrt{\frac{\sum_{t=x}^{t=n} (AR_t - \overline{AR})^2}{d-1}} \quad (4.19)$$

where:

$t=x$ is the starting date of the observation period.

n is the final date of the observation period.

d is the number of intervals within the period (i.e. number of days, weeks etc.)

\overline{AR} is calculated as shown in equation 4.15

The dependence t-statistic for a multi-day period or cumulative return is calculated as follows:

$$SCAR_{t1,t2}^{DEP} = \frac{CAR_{t1,t2}}{SD(AR)\sqrt{t2-t1+1}} \quad (4.20)$$

where:

t_1 and t_2 are the starting and end point of the interval period

CAR_{t_1,t_2} is the cumulative abnormal return as shown in equation 4.12

SD is the standard deviation as shown in equation 4.19.

4.9 THE PROBLEM OF THIN TRADING

The market model estimation of the beta term suffers from a bias which is commonly referred to as the thin trading problem. The thin trading problem arises as a result of the non-synchronous trading between shares which are not frequently traded but included in the sample and those which are frequently traded and form part of the benchmark or market index. In the event of non-trading, the last share price is recorded. However, if a share price is recorded to be the same for a number of time periods due to infrequent trading then the market model generates biased and inconsistent OLS estimates. Dimson (1979) demonstrates that the estimated betas of infrequently traded shares rises as the trading interval rise. This means that shares which are frequently traded will have an upward bias in the beta while those which are infrequently traded will have a downward bias when the market model is estimated. The estimation bias will be greater the longer the shares remain non-traded. This is more likely to occur in the case of daily data, rather than monthly, data. Also, there is a greater likelihood that the infrequently traded shares are the smaller companies. The biased beta estimates, if used, result in biased estimates of abnormal returns and consequently misspecified results in an event study.

A number of approaches have been suggested to overcome the problem of thin trading. The most commonly referred to approaches are those applied by Scholes and Williams (1977), Dimson (1979) and Fowler and Rorke (1983). All of these approaches have

the common objective of attempting to reduce the downward bias in the beta estimates of infrequently traded securities by regressing a combination of synchronous and non-synchronous market returns on each of the security returns examined.

4.9.1 SCHOLLES AND WILLIAMS MODEL

Scholes and Williams (1977) show that under the assumption that a transaction takes place in every time period a consistent estimate of the beta term would be:

$$\beta_{sw} = \frac{\beta_{-1} + \beta_0 + \beta_{+1}}{1 + 2 r_1} \quad (4.21)$$

where:

β_{-1} is the slope coefficient in an OLS regression of R_{it} against $R_{m,t-1}$.

β_0 is the slope coefficient in an OLS regression of R_{it} against $R_{m,t}$.

β_{+1} is the slope coefficient in an OLS regression of R_{it} against $R_{m,t+1}$.

r_1 is the first order serial correlation of the market index.

The method involves running a single OLS regression of the return of each share return (R_{jt}) against the return on the market index (R_{mt}). The first term has one lagged return for the market index, the second uses the current return for the market index and the third uses one leading return for the market index. All the betas from the regression are summed up and divided by the first order serial correlation plus one.

4.9.2 DIMSON MODEL

The Dimson (1979) aggregated coefficient estimator does not require a transaction to take place in every measurement interval. The Dimson (1979) estimate of the beta term is obtained by regressing the share return on day t against a range of leading, synchronous and lagging returns from the market index in order to obtain a set of slope coefficients. The Dimson (1979) method can be illustrated as:

$$\beta_{DIM} = \sum_{t=-n}^n \beta_t \quad (4.22)$$

where: β_t , $t = -n, \dots, 0, \dots, n$ are the slope coefficient in a multiple regression of the return on the security in period t against the return on the market index in period $t-n, \dots, 0, \dots, t+n$.

4.9.3 FOWLER AND RORKE MODEL

Fowler and Rorke (1983) argued that the Dimson (1979) method was misspecified especially in the case where the share skips a single price observation. At the same time, the Fowler and Rorke (1983) method aims to improve the Scholes and Williams method (1977) by adding an extra leading and lagging term. The Fowler and Rorke method can be illustrated as:

$$\beta_{FW} = \frac{(\beta_{-2} + \beta_{-1} + \beta_0 + \beta_{+1} + \beta_{+2})}{1 + 2(\rho_1 + \rho_2)} \quad (4.23)$$

where:

β_n is the slope coefficient from regressing the share return in period t against the return on the market in period $t+n$.

r_1 is the first order serial correlation coefficient of the market index.

r_2 is the second order serial correlation coefficient of the market index.

The β_{FW} expression can be generalised for shares that skip two or more consecutive observations as:

$$\beta_{FR} = \frac{(\beta_{-n} + \beta_{-n+1} + \dots + \beta_0 + \beta_1 + \beta_n)}{[1 + 2(\rho_1 + \rho_2 + \dots + \rho_n)]} \quad (4.24)$$

In our study we do not use any of the three thin trading adjustments mentioned above because they are relevant for the CAPM model which we do not use. In our study we use size and market to book value portfolios which attempt to match the acquirers in our sample.

4.10 BIASES IN LONG RUN EVENT STUDIES

Event study methodology is very effective in measuring the impact of an event on the shareholder wealth in the short run. Since event study methodology was used, a number of new models have been developed in order to estimate the predicted returns along with tests of statistical significance (see sections 4.7 and 4.8). Event studies examining a long run period may suffer from some weaknesses or biases which we discuss in this section.

Kothari and Warner (1997) and Barber and Lyon (1996 and 1997) argue that long run event study statistical tests of significance are misspecified with a strong tendency to indicate an abnormal performance when none is present. Their findings show that results for previous studies may have been due to model misspecification rather than any temporary or permanent mispricing. Event studies attempt to estimate the abnormal return but over a long run period the expected return estimates across different benchmark models can be very large. In other words, long run event study results are very sensitive to the model used for estimating expected returns. Event study tests tend to accumulate average returns during a specific period to arrive at the CAR. The reason for this is that a positive bias occurs due to the bid-ask spread which is accumulated with a traditional CAR³⁰. Not only does the CAR vary widely with the benchmark model used to estimate the abnormal returns, but so do the variance and hence the test statistic. Kothari and Warner (1997) argue that CAR variance estimation models underestimate its true level, hence over-reject the null hypothesis of no abnormal performance³¹.

An alternative method which avoids positive biases from additive accumulation is the buy and hold procedure (Roll, 1983). This approach is argued by Cowan and Sargeant (1997) to more accurately reflect the actual change in the value of the company with any dividends re-invested. This is because the buy and hold return is an arithmetic return which when multiplied gives the actual wealth changes unlike log returns. The buy and hold abnormal return (BHAR) is calculated as shown in equation 4.25:

³⁰ Each share price has a buying and selling price (i.e. bid-ask) with the latter being higher. Event studies overcome this problem by using a mid price (i.e. the average of the bid-ask price) but this is higher than what the investor would get if he were to sell his shares.

³¹ This type of bias is sometimes referred to as the measurement bias.

$$BHAR = \prod_i^t (1 + HPAR_{it}) - 1 \quad (4.25)$$

where:

$HPAR_{it}$ is the holding period abnormal return for company i over period t . The $HPAR_{it}$ attempts to imitate an investor who purchases shares for a specified period and is calculated as:

$$HPAR_{it} = HPR_{it} - HPR_{\text{benchmark},t} \quad (4.26)$$

where:

HPR_{it} is calculated as shown in equation 4.27

$$HPR_{it} = \frac{P_{it} - P_{it-1} + D_{it}}{P_{it-1}} \quad (4.27)$$

where:

P_{it} is the share price at period t .

P_{it-1} is the share price at period $t-1$.

D_{it} is the gross tax dividend if the share becomes ex-div during the period t .

and

$HPR_{\text{benchmark},t}$ is the buy and hold return on the benchmark during time period t .

For short windows such as a few days or even a single day, the difference between the traditional CAR and BHAR is trivial. For longer windows, Conrad and Kaul (1993) amongst others, argue that the BHAR more accurately reflects the experiences of the

investor than a policy of regular rebalancing.

The fourth type of bias arises from excluding returns for companies that are no longer present. In other words, CARs are sensitive to survival bias and there occurs the problem of how to weight firms which do not survive the observation period. This problem can potentially affect the specification of test statistics. Kothari and Warner (1997) acknowledged this to be a potential problem but their tests using buy and hold abnormal returns showed that misspecification errors were not highly sensitive to survival bias. In a large sample study (such as ours) the problem of survival bias is reduced because only a tiny proportion of companies drop out due to either bankruptcy (e.g. Polly Peck, British and Commonwealth Holdings etc.) or being targets themselves at a later date (e.g. Ward White, TSB etc.).

Kothari and Warner (1997) argue that long term tests of abnormal returns around firm specific events are severely misspecified. The same conclusion is arrived at by Barber and Lyon (1997) who attribute long run misspecification, using a market index, to new listings, rebalancing and skewness bias. New listing occurs when the structure of the benchmark changes as new companies are added during the holding period. Barber and Lyon (1997) argue that new stocks underperform existing shares, leading to a downward bias. Cowan and Seargeant (1997) test for new listing bias by comparing portfolios with and without new shares over a one, three and five year periods. They found that new listing bias was largely limited to smaller companies³².

³² In our example we exclude stocks i.e. the smallest 20%, so the effect of new listing bias will be minimal at best (see section 4.3).

Rebalancing refers to changing the constituent shares in a benchmark due to changes in these companies. For example, the constituent shares in the Financial Times 100 index are changed every quarter to reflect changes in the market capitalisation of these companies. The rebalancing bias takes place when the compounded returns from a benchmark are calculated assuming that periodic changes take place while those of the sample companies are compounded without rebalancing. Barber and Lyon (1997) argue that monthly rebalancing leads to a negative bias in the portfolio returns. The third type of bias that can occur is the skewness bias³³. The skewness bias is when averaging the returns of companies in the benchmark reduces the skewness of the portfolio. Therefore, the skewness of the sample of companies (in our case acquirers) is greater than the skewness of the benchmark portfolio, hence the abnormal return, is also positively skewed. This leads to a negative bias in the statistical tests of the mean abnormal return³⁴.

4.11 BUY AND HOLD CUMULATIVE ABNORMAL RETURN T-STATISTIC

The buy and hold t-stat tests the null hypothesis that the cross-sectional average abnormal return during the event period is zero, as well as that for the sub-periods. The literature in this area, such as Kothari and Warner (1997) tends to calculate the t-stat based on the independence assumption as follows:

³³ Positive skewness refers to when the mean is greater than the median.

³⁴ The reason for this is that uniform random samples from a positively skewed population contain more observations which are below the real or true mean than above thereby inducing a negative bias in the statistical tests of the mean.

$$t_{BHAR} = \frac{AHPAR_{pt}}{\mathcal{G}(AHPAR_{pt})} \quad (4.28)$$

where:

$AHPAR_{pt}$ is the average holding period abnormal return for the portfolio over the period t and is calculated as:

$$AHPAR_{pt} = \frac{1}{N} \sum_{i=1}^N HPAR_{it} \quad (4.29)$$

where:

$HPAR_{it}$ is simply the holding period abnormal return as shown in equation (4.26).

N is the number of companies in the sample.

i is the i th company.

t is the time period under investigation.

$\mathcal{G}(AHPAR_{pt})$ is the standard deviation of the average holding period abnormal return of the portfolio and is calculated as follows:

where:

$$\mathcal{G}(AHPAR_{pt}) = \sqrt{\frac{1}{N} \left(\sum_{i=1}^N BHAR_{it} - BHAR_{pt} \right)^2} \quad (4.30)$$

The buy and hold test statistic will be unit normal if the average returns during the period t are independent and identically distributed.

To calculate the t-statistic over a period of T days, one can use the following formula:

$$t_{BHAR} = \frac{BHAR_{pt}}{\mathcal{G}(AHPAR_{pt})\sqrt{T}} \quad (4.31)$$

where: $BHAR$ is the buy and hold cumulative abnormal return as calculated in equation 4.13 and $\mathcal{G}(AHPAR_{pt})$ is explained above in equation 4.30.

4.12 BOOTSTRAPPING TECHNIQUES

As we have discussed above, long run event studies suffer from a positive skewness in abnormal returns, in part due to extreme observations. Extreme observations and the associated non-normality can cause statistical tests to be severely mis-specified. One manner by which one can overcome some of the problems associated with skewness and extreme observations is to use a nonparametric test such as the bootstrap procedure. The logic behind the bootstrap procedure is to improve the manner in which standard errors are estimated. The bootstrap procedure is able to calculate standard errors when the available formulas make assumptions, such as a normally distributed sample, which are not relevant for the data in question. Of course; the procedure can also be used to test or verify that the assumptions regarding the data do not affect the results. The usual manner of calculating the standard error is as follows:

$$S_y = \sqrt{\frac{\sum(Y_i - \bar{Y})^2}{(n-1)}} \quad (4.31)$$

where:

Y_i is the sample value.

\bar{Y} is the sample mean.

n is the number of observations.

The result from this formula is determined by the sampling distribution³⁵. The sampling distribution itself is determined by the distribution of the population and the formula used to estimate the statistic.

One can derive the sampling distribution analytically in some but not all the cases. For example one can calculate the standard error as shown in equation 4.31 (with a normally distributed population). The second case, when the standard error can be calculated analytically, is where the population size rises to infinity. In this case the sampling distribution converges to a normal distribution and one can use this 'asymptotic' result to calculate the standard errors on a finite sample even though we know it to be incorrect. If the sample distribution is non-normally distributed then equation (4.31) cannot be used to calculate the standard errors. However, the bootstrap technique overcomes this problem through simulation in that the observed distribution is assumed to be a good substitute for the actual or underlying distribution. If this assumption holds then the bootstrap procedure produces a good estimate of the

³⁵ The probability distribution of the sample mean is called the sampling distribution (Gujarati, 1992:68).

standard error as well as all the other statistical measures of accuracy.

The bootstrap procedures can be broken down into a series of steps. The first is to start with a data set containing N observations. From the data set, x observations are randomly selected, with replacement. In such a random procedure some observations will appear once, more than once, or not at all. The sub sample of x observations is then used to calculate the test statistic. The whole process of selecting x observations and calculating the statistic is repeated again and again while keeping a record of the estimated statistic for each replication. The accuracy with which the sampling distribution is estimated depends on the number of replications carried out. The established literature in finance using this technique tends to carry out 1,000 replications (see Cowan and Sergeant, 1997; Kothari and Warner, 1997 etc.) which is argued to produce good estimates for the standard error. The standard error under the bootstrap procedure is estimated as in equation 4.31 but the sample mean of the replications is substituted for the actual sample mean.

4.12.1 CRITICISMS OF THE BOOTSTRAP PROCEDURE

One problem with the bootstrapping technique is the fact that it is relatively new and the limits of its applicability are not entirely understood. Stine (1990) argues that the bootstrapping technique may fail for statistics which rely on a, "very narrow feature of the original sampling process". The reason for this is that the simulation procedure does not remove the bias in the sample used to carry out the replications, and may actually exaggerate it. Therefore, the more representative the sample (from which the replications are carried out) is of the whole population the more likely that the simulation will produce an accurate estimate with a narrow or biased sample of the whole population.

Efron and Stein (1981) argue that the bootstrapping procedure is effective because of the underlying assumption of reproducing the population based on the sample. This assumes that the sample is a good approximation of the entire population to allow one to produce good estimates of the sampling distribution. This assumption also gives rise to two situations where it may not hold. The first of these is that the smaller the original sample, the lower the probability that all the essential characteristics of the population will be represented in the sampling process (Schenker, 1985). This problem is of particular relevance to the development of bootstrapped confidence intervals which rely on the tails of the estimated sampling distribution.

The second situation under which the underlying assumption of bootstrapping may fail is when the original sample data is not collected using random sampling techniques. This may lead to a doubt as to whether the empirical distribution function (EDF) is a good estimator of the population distribution function (PDF). In the case of takeovers, their non random nature makes this an important limitation on the use of the bootstrap technique.

4.12.2 THE WINSORISING TECHNIQUE

The range of returns that an acquirer can experience are from -100% to infinity. The former arises because the most a shareholder can lose is the amount of money invested. However, the maximum positive returns that a bidder can experience are not limited and in theory can reach infinity. Therefore, the returns are more biased towards positive returns than towards negative returns, leading to extreme skewness in the data. Extreme skewness and other types of non-normality can lead to incorrectly specified statistical tests.

In an empirical study it is not always possible to avoid extreme observations nor is it correct to remove them from the sample. However, it is possible to limit the deviation of the extreme observations to a desired degree from the central limit.³⁶ The deviation from the central limit is arbitrarily set and is referred to as winsorising. Winsorising can be defined more formally as “a method of estimating the mean of a sample of observations by using linear systematic statistics and replacing extreme observations by those next in magnitude” (Marriott, 1990)³⁷. Hence, the winsorising procedure reduces the standard deviation, skewness and kurtosis as the observations move closer to one another. Cowan and Sargeant (1997) argue that “winsorised abnormal returns should be less likely to produce a false positive result and not much more likely to produce a false negative one” [than non-winsorised abnormal returns].

The literature on statistics has identified a number of weaknesses in the winsorising method, such as the choice of maximum deviation, from the central limit. It may be the case that one can use a level of deviation which improves the final results. However, there are general norms, such as setting the maximum value to two or three standard deviations, which limit the validity of this criticism. More recently, researchers such as Cowan and Sargeant (1997) show that winsorising produces results which are equal, if not superior, to the bootstrapping technique. Further, it is much simpler to apply than the bootstrapping technique and does not suffer from the same problems such as those described in 4.12.1. According to Cowan and Sargeant (1997), “winsorising the data allows the investigator to explore the sensitivity of the influence to extreme returns”.

³⁶ The central limit theory states that the distribution of the sample mean averages towards the normal distribution as the sample size grows regardless of the underlying distribution (Gujarati, 1992:70).

³⁷ This procedure was proposed by CP Winsor for dealing with extreme observations.

They go on to argue that limiting the extreme observations increases the robustness of the results³⁸.

4.13 CRITICISMS OF EVENT STUDY METHODOLOGY

Although event study methodology has been very popular in finance, it has faced a number of criticisms which future studies have to take into account. The most basic of these criticisms is that the results solely depend on the choice of the event date which may be arbitrarily determined. Some events such as mergers have a number of dates which have an impact on the share price. Early studies used the completion date, or the date the bid became unconditional, as the event date but these results underestimated the true effect of the takeover. Franks, Broyles and Hecht (1977) compared the abnormal returns on the announcement date against those from the completion date and found the latter to be much lower. One reason for this was that the market had discounted much of the information regarding the bid prior to the completion. The study also found that the abnormal returns accrued some three to four months prior to the formal announcement because of market anticipation.

The results obtained through event study methodology are dependent on the length of the estimation and observation periods. The reason for this is that as the time period increases, the firm changes and so do its characteristics, as well as its performance. A change in the characteristics leads to a change in the risk and reward to holding the shares in the company. In the case of the market model, the α_i and the β_i term may

³⁸ We carry out winsorising to two standard deviations (see section 4.1.3).

differ depending on the pre-event period. Franks and Harris (1989) find support for the argument that the bidder firm beta changes after the takeover. Loderer and Mauer (1986) also argue that a change in the bidder firm beta takes place after the takeover but focus primarily on the alpha term. They claim that prior to the takeover the alpha term will be biased upwards as the bidder firms begin an acquisition programme³⁹. This overestimate of the alpha term for the bidder firms will result in a negative bias in the market model residuals after the takeover.

Different studies employing event study methodology tend to use differing lengths of event windows. One reason for this is that the choice of the event window is quite arbitrary with some studies focusing on the announcement period while others concentrate their efforts on the completion or even the post-completion period. One example of a study that focused its attention on the post-completion period is Ruback (1988a) which examined a three-year post-acquisition period. A relatively long post-announcement period was chosen because it fully captured the impact of the bid in the long run. Of course, using long event windows does mean that there is an increasing bias in the abnormal returns obtained due to the shifts in the alpha and beta terms. Brown and Warner (1980) argue that the problem of changing alpha and beta terms can be avoided if short event periods are selected. Short event windows also avoid problems associated with size adjusted returns, discussed in section 4.14.1. below.

The firm prior to a takeover is not necessarily the same as the one after the takeover, largely due to the change in its risk characteristics. The risk characteristics of the

³⁹ Loderer and Mauer (1986) argue the market model parameter estimates to be positively biased for bidder firms if the estimation period is limited to the pre-bid period. They argue that the estimation bias is stronger for the alpha term because bidders (in most cases) initiate takeovers following a period of earnings growth.

combined group may differ from the pre-takeover position for a number of reasons but the most common are the difference in sizes, levels of gearing or even industry sectors whereby the target firm's activities are totally unrelated to the bidder firm's. If the bidder firm's risk characteristics change after the takeover then any use of the pre-bid beta will lead to erroneous abnormal returns. One way around this problem is to use a combination of the pre-takeover and post-takeover betas. This means that the betas will be calculated using an estimation period which precedes the takeover and an estimation period that covers the post-acquisition period (Bradley, Desai and Kim, 1988).

Bradley, Desai and Kim (1988) compared the pre-bid alpha against a mixture of the pre- and post-bid alphas. This study found that the average pre-bid alpha was -0.01% while the post bid average alpha was -0.02%. Although the post bid alpha was twice as large as the pre-bid alpha, neither of them were significantly different from zero. Bradley et al. (1988) argued that the constant term to be negative and close to zero. Bradley et al. (1988) also argued that these results may be different from Loderer and Mauer (1986) because the latter used monthly data, and the problem of biased alpha term may be specific to it.

A major criticism of event study methodology, especially in the case of the market model, stems from its reliance on the CAPM which has recently been brought into question. The CAPM has suffered from allegations that it is incapable of explaining the variation of return and risk and their interrelationship. Fama and French (1992) found that a higher beta term does not necessarily imply a higher return nor does a lower beta term lead to lower returns. The study used monthly data for the period 1941-90 and divided the sample into different portfolio groups based on beta. The results showed that beta could not totally explain the variation of returns, regardless of the presence of

other variables in the model, leading to the conclusion that the positive relationship between risk and reward could not be confirmed. However, other studies such as the one by Kothari et al. (1995) have provided contradictory evidence to that of Fama and French (1992). Kothari et al. (1995) used annual data for the US which showed that the beta term was capable of explaining a part of the cross-sectional variation in the expected returns. More importantly, it may be somewhat premature to reject the CAPM model because Kothari et al. (1995) found that the book to market value ratio, although useful, could not be substituted for beta, as Fama and French (1992) report in their study.

According to event study methodology, the statistical significance of abnormal returns is tested by cross-sectionally averaging in the event period and then testing the hypothesis that the average abnormal return is zero. However, this procedure assumes that the abnormal returns are independent (i.e. the cross-sectional correlation between the abnormal returns for any two firms should equal zero) and do not suffer from the clustering problem. This arises when the event date for one company is the same for another company. Collins and Dent (1984) used both analytical and simulation techniques in order to investigate the problem of cross-sectional correlation of returns. The results from this study show that "severe errors of inference" can result if the event date is the same for all the firms in an industry. The reason for this is that the variance is no longer constant. This usually occurs if there is a regulatory change that affects most firms in an industry. There are a number of ways by which one can reduce the problem of cross sectional correlation. The most frequently used method is that suggested by Brown and Warner (1985) whereby they construct a dependence t-statistic (this is discussed in section 4.9).

Event studies have dominated empirical research on takeovers for over thirty years. Even though they have been argued to suffer from weaknesses such as estimation bias,

changing risk characteristics etc., it does not render the procedure useless. Instead, the weaknesses associated with event study methodology focus on areas of concern that should be borne in mind when formulating conclusions, based on these results and using this procedure. Research using event studies has shown that for its successful application it is important that the event date is correctly identified. In cases where the date is difficult to identify, or the event is partially anticipated, event studies have been less successful (Campbell et al., 1997:ch4). Event studies are subject to a number of possible biases such as those arising from accumulating abnormal returns (see section 4.6) and from non-synchronous trading (see section 4.9). However, these problems can be eliminated by using buy and hold returns for the former and thin trading adjustments for the latter. Brown and Warner (1980, 1985) argued that in their tests with a large sample size, accurate event dates, and short estimation and observation periods, the market model performed extremely well in estimating abnormal performance. In conclusion, event studies have increased our knowledge of takeovers.

4.14 CROSS SECTIONAL VARIATIONS IN ABNORMAL RETURNS

One of the most influential and widely tested areas of finance research has been that of the Capital Asset Pricing Model (CAPM).⁴⁰ Sharpe (1964), Linter (1965) and Black (1972) argued that there existed a linear relationship between a cross section of expected returns and beta. It was further argued that beta was sufficient to explain the cross variation in returns without supporting these claims through any tests. Although there may be some support for the Sharpe-Linter-Black version of the CAPM model,

⁴⁰ How the Sharpe-Linter-Black CAPM model measures the market risk of a share depends on the sensitivity of its movements to market shares. The sensitivity of share rise to market movements is referred to as beta and it measures the systematic risk of a share (Brealey et al. 1995).

in the short run, using daily and monthly data, in the long run, it has been argued to be misspecified.⁴¹

The failure of beta to explain the long run cross-sectional variation of expected returns has led researchers to look at alternative variables. The early studies in this area were by Banz (1981) and Reinganum (1981) which found that the company size or market capitalisation added to the explanatory power of the beta-adjusted cross section of average returns. After controlling for beta they found the average returns for small companies are high while for large companies the opposite is true.⁴² More recently, Fama and French (1992) and Knez and Ready (1996) have found evidence to support the results of these earlier studies. Similar results have been found for other major countries, e.g. Chan, Hamao and Lakonishok (1991) for Japan, Hawawini and Viallet (1987) for France and Levis (1989) for the UK.

Another important determinant that has been found to explain the cross-sectional variation in returns is the PE ratio. Nicholson (1960) attempted to examine the relationship between the PE ratio and average returns and found that low PE ratio companies had returns, which were higher than the average. For the UK, Levis (1989) found that during the period 1961 to 1985, the lowest PE quintile had an average monthly return of 1.5% compared to 1% for the highest-ranking quintile. Similar results were also found by Strong and Xu (1997) with a monthly difference of 0.6% between the highest and lowest PE deciles. In the case of takeovers, Rau and

⁴¹ For support of the Sharpe-Linter-Black CAPM model in the short run see Dyckman, Philbrick and Stephen (1984).

⁴² Recent studies such as Dimson and Marsh (1998) show that average returns for smaller companies is not always higher than that for larger companies. In the case of the UK, during the period 1993 to 1997, larger companies have higher abnormal returns than smaller companies.

Vermaelen (1998) examined a sample of 987 US acquisitions, during the period 1980 to 1989, and found that low PE bidders outperformed high PE bidders.

Another contradiction of the Sharpe-Linter-Black CAPM model is that the expected returns are positively related to the ratio of the market-to-book-value.⁴³ The ability of the market to book ratio to explain expected returns has been considered by a number of researchers (Stattman, 1980; Rosenberg, Reid and Lanstein, 1985; Fama and French, 1995 for the US; Chan et al., 1991 for Japan; Arshanpalli et al., 1997 for 18 countries in North America, Europe and the Pacific Rim). The general conclusion of these studies is that low market to book ratio companies tend to perform better over the long run than the high market to book ratio companies.

4.14.1 MARKET CAPITALISATION

The ability of firm size to capture a significant proportion of the average cross-sectional returns is now undisputed. The wealth of literature in this area from Banz (1981) and Reinganum (1981) to date have shown that share returns are on average negatively related to size⁴⁴. The very different share price behaviour of large and small firms can be explained by two theories, namely risk adjusted valuation and relative dispersed effect. In the case of risk adjusted valuation, one can argue that size is a

⁴³ The market to book value is defined as the firm's market capitalisation against the book value of its common equity. Sometimes this ratio is expressed as the book to market value and in this research will make references to both versions of the ratio.

⁴⁴ For the UK, the relationship between size and return depends on the time period under consideration. Dimson and Marsh (1996:exhibit 25) show that from 1955 to 1988 small companies outperformed large companies except for 1975. Dimson and Marsh (1996, 1998) show that from 1989 onwards large companies have outperformed small companies apart from 1993 and 1994.

proxy for risk. As smaller companies have a greater risk attached to them they should also offer higher rewards. Chan, Chen and Hsieh (1985) argue that the size effect is similar to high and low grade corporate bonds, which in principle capture default risk through their returns.

The size effect is of considerable importance when analysing the shareholder wealth effects by acquirer type especially in the long run. The size effect becomes more relevant in long run studies because of its time varying nature (Dimson and Marsh, 1986).⁴⁵ Barber and Lyon (1996) found that during the period 1973 to 1984 small firms experienced wealth gains of 2% per month for both financial and non-financial firms. Large firms during the same period experienced monthly returns of 1%. However, in the following 10 years, (i.e. 1984 to 1994), the situation was reversed with small firms experiencing monthly returns of 1.1% and 1% while large firms gained a wealth increase in monthly returns of 1.21% and 1.3%, for financial and non financial firms respectively.

Franks et al. (1991) examined a sample of 399 US acquirers during the period 1975 to 1984. This study found that the post-acquisition performance of different sized acquirers was not the same. For instance, the smallest quintile of acquirers, by market capitalisation, experienced abnormal returns of 1.85%. During the same period the quintile of largest acquirers experienced abnormal returns of 0.23%. Franks et al. (1991) suggest that previous studies which found a non-zero performance for acquirers may be due to the size effect.

⁴⁵ This occurs because of variability and/or seasonality in the size effect.

Although, Agrawal et al. (1992) argued that the positive post-acquisition acquirer results obtained by Franks et al. (1991) were specific to their sample time period and the fact that they did not differentiate between tender and non-tender offers they nevertheless found a similar size effect. Agrawal et al. (1992) examined a sample of 937 US mergers and 227 tender offers completed between 1955 and 1987. The results showed that for the whole sample of bidders the three year post-acquisition CAR was -7.38%, statistically significant at the 1%. However, the smallest quintile of bidders experienced statistically insignificant CARs of 2.4%, 1.3%, -0.2%, -1.5% and -3.4% for 1,2,3,4 and 5 years after the takeover. Large bidders experienced much greater and statistically insignificant CARs of -5.9%, -5.2, -9.3, -10.3 and -16.3 for the period 1,2,3,4 and 5 years after the takeover. From these results the authors concluded that acquirers tended to under-perform in the long run, regardless of the benchmark used, contrary to results obtained by Franks et al. (1991). However, smaller bidders are likely to experience lower wealth losses than larger bidders.

Although, the size effect in the UK is time dependent, recent studies such as Higson and Elliott (1998) tend to show that smaller bidders outperform larger ones⁴⁶. Higson and Elliott (1998) examined 830 UK takeovers completed between 1975 to 1990. The entire sample of bidders experienced statistically insignificant abnormal returns of 0.2% in the month of the bid. Three months after the acquisition, the whole sample of acquirers, experienced CARs of -0.32%. Partitioning the sample shows that the abnormal returns are not equally divided between the different sized bidders. The largest hundred bidders experienced statistically insignificant CARs of -1.7% and 1% for the month of the bid and three months after the takeover respectively. These results indicate that larger bidders experienced lower abnormal returns than to smaller bidders.

⁴⁶ The study does not report abnormal returns for the smaller companies.

4.14.2 MARKET TO BOOK VALUE

Research investigating the cross sectional returns has shown that there are several predictable components. One such predictable component is the firm's market to book value. This is not a new variable and dates back to the work of Graham and Dodd (1934) who called for a strategy based on selecting firms with a high book to market value. Fama and French (1992) argued that the book to market ratio was a proxy for unobservable common risk factors and their findings support this view.

An alternative explanation for the predictive power of the book to market ratio is provided by Lakonishok, Shleifer and Vishny (1994). Lakonishok et al. (1994) claim that financial ratios are capable of predicting share returns because they capture the systematic errors of investor expectation of future returns and the inefficiency of stock markets. The systematic errors can be divided into two groups: the first is associated with the inability of investors to differentiate between systematic and idiosyncratic risk. This error comes about because investors assume that value shares (i.e. ones with a low market to book value) are more risky than glamour shares (i.e. those with a high market to book value). This error is reflected in the share price and corrected over a period of time leading to a reversal of performance.

The second type of systematic error is the result of stock market response to different groups of firms (i.e. glamour, value etc.)⁴⁷. This comes about because, with a 'bad news' item, investors become overpessimistic regarding the future performance of value shares. Similarly, any 'good news' leads investors to become overoptimistic regarding future performance of glamour shares. This type of stock market response is

⁴⁷ This result assumes that arbitrage is incomplete.

reflected in the share price, which is corrected over a period of time leading to a reversal in relative performance. La Porta (1996) examined IBES earnings forecasts for companies listed on CRSP and Compustat, during the period 1982 to 1991. The results showed that the market was over-pessimistic in estimating raw returns of the lowest MTBV quintile (i.e. value firms) which were assumed to be 8.6% compared to an actual growth of 29.5% (i.e. a difference of 20.9%) over a ten year period. Similarly, growth shares were assumed to increase earnings at a faster level of 26.13% for the highest quintile compared to an actual rate of 8.6% over the 10-year period.

Fama and French (1992) found greater support for the predictive power of market to book value than they did for size. Also, market to book value has been found not to suffer from the same time varying properties as size. Barber and Lyon (1996) looked at 'growth' and 'value' firms over two time periods, namely 1973 to 1984 and 1984 to 1994. From 1973 to 1984, non-financial and financial 'value' firms experienced a monthly return of 2.6% and 2.5% respectively. For the period, 1984 to 1994, the monthly returns for value firms were 1.7% and 1.3% for non-financial and financial value firms respectively. Similar results were found by Kothari and Warner (1997) where value firms had a positive return on average while growth firms had a negative return on average over a three-year period.

Very few studies have examined the differential performance of bidders based on their market to book value. Rau and Vermaelen (1998) examined a sample of 987 takeovers during the period 1980 to 1991. The results showed that glamour acquirers (i.e. those with a high market to book values) in a merger experienced gains of -21%, -22% and -14% during the first, second and third years respectively after completion - all statistically significant at the 1% level. This is contrasted by value acquirers (i.e. those with a low market to book value) who received wealth gains of 9%, 7% and 10%

during the first, second and third years after completion - all significant at the 1% level. Glamour acquirers suffered worse wealth losses than value acquirers, in bids financed by either equity or cash. Glamour acquirers received wealth losses of -18.63%, -13.63% and -3.83% in the first, second, and third years respectively after completion (only the first two were statistically significant at the 1% level) compared to -3.3%, -2.44% and -3.02% for value bidders in equity financed bids (none of the value CARs were statistically significant). In cash financed bids, glamour acquirers suffered wealth losses of -13.08%, -20.88% and -9.39 in the first, second and third year respectively after completion, compared to 7.57%, 4.32% and 9.69% for value bidders.

4.14.3 SHARE PRICE TO EARNINGS (PE) RATIO

A commonly used technique in valuing shares is to look at the price to earnings ratio (PE) which "is a measure of the esteem in which the company is held by investors" (Brealey, Myers and Marcus, 1995:p449). One reason for this is that it is easy and convenient for investors to calculate using all known or past information. Ball (1978) found earnings announcements resulted in excess returns which led him to conclude that the PE ratio is a proxy for future returns. Recent studies have found evidence to the contrary where companies with a low PE ratio outperform those with a high PE ratio in the long run. Levis (1989), for the UK, found that a portfolio of the smallest PE ratio companies had a monthly return of 1.48% compared to 0.90% for the portfolio of the highest PE ratio companies.

Similar results have been found for other countries. Chan, Hamao and Lakonishok (1991), for Japan, found a difference of 5% between the portfolios of the highest and lowest PE companies. For the USA, Fama and French (1992) and Lakonishok, Shleifer and Vishny (1994) found differences of 9% and 4% respectively between the highest

and lowest PE portfolios with the former outperforming the latter. Even in long run studies such as Jaffe, Keim and Westerfield (1989), for the period 1951 to 1986, there appears to be a strong negative relationship between PE and abnormal returns. In an international study of France, Germany, the Netherlands and the UK, Brouwer et al. (1996) found that a portfolio of companies with the lowest values outperformed one with the highest PE values by 5%.

The PE ratio is not only a measure of the esteem which investors hold a company in (Brealey et al., 1995:p449) but is also reflective of the industry. The reason for this is that companies within the same industry tend to have similar PE ratios (Goodman and Peavy, 1983). There have been some studies, such as Goodman, Peavy and Cox (1989) which have found that the PE ratio acts as a good proxy for size and this may explain why differences in companies with different PE ratios experience differing returns. However, this relationship is not conclusive, as Brouwer et al. (1996) point out that in their sample of companies there was no correlation between PE ratio and either size or market-to-book value.

The studies above show that for a sample of low and high PE ratio companies the share price performance is very different. If this is true for a random sample of companies then one can argue that for a random sample of bidders the same should hold. Rau and Vermaelen (1998) is one of the few studies that have examined bidders with different PE ratios. The study did not find any support for the argument that high PE bidders tend to purchase low PE targets. In fact, their study shows that there was little difference between the PE of bidders and targets⁴⁸.

⁴⁸This study did not partition the acquirer sample based on PE ratio during the post-acquisition period.

4.15 CONSTRUCTING REFERENCE PORTFOLIOS

In order to calculate size, market to book and Fama and French Three Factor Model abnormal returns, in this study we constructed our own reference portfolios. The reference portfolios were based on two factors, namely the size (i.e. market capitalisation) and market to book value of the firm. The first step in the construction of the reference portfolios was to compile a list of all firms listed on the London International Stock Exchange between 1980 to the present. This was done by obtaining the initial list from the Winter 1979 edition, of the Risk Management Service Journal, produced by the London Business School. Then, every quarter in 1980, companies entering the London Stock Exchange (i.e. initial public offerings) were added to the list. The list for 1980 was also adjusted for mergers, suspensions and change of names. The latter exercise was carried out to keep a track of companies for future changes. The details of these changes were obtained from the Stock Exchange Quality of Markets Quarterly Report.⁴⁹ Then, the Datastream codes were obtained and inserted onto the list.

Once the list for 1980 was completed, the whole process was repeated for 1981. In this way, for each year the quarterly list for the previous period was used to add to, and remove, companies from the list for that quarter. The daily share price, market capitalisation and market to book values were obtained from Datastream.⁵⁰ The price used is the end of day mid-price, and market capitalisation is defined as the number of shares outstanding multiplied by the current share price. The market to book value is

⁴⁹ Between Q1:1980 and Q3:1990, this data was in tables B1 to B3. From Q3:1990 until Q4:1992, the data was in tables B1, B4 and B5. After Q4:1992, the data was in tables B9, B13, B14 and B15.

⁵⁰ Morse (1984) states that the only reason for favouring monthly data over daily data is where there exists uncertainty regarding the announcement date. This problem does not occur in our study, as we know precisely the bid announcement dates and hence favour daily data.

defined as the market capitalisation, as described above, divided by the net tangible assets. The latter value is obtained from the last published accounts of the company. The returns for each company were calculated as the one-day 'buy and hold' return, as shown in equation 4.25.

At the beginning of each quarter, all the companies listed on the London Stock Exchange were ranked according to their market capitalisation and formed into quintiles. Companies in the smallest quintile were removed from the sample because of their size. On 1st January 1996, the smallest company in the bottom quintile had a market capitalisation of only £300,000 while the largest had one of about £10 million. Many of these companies in the lowest quintile (i.e. micro companies) suffered from thin trading largely due to the difficulty in trading in these shares. Also, all the acquirers in our sample were larger than the values of the companies in the smallest quintile so it made little sense to include them in our reference portfolios⁵¹ (see section 4.3). We use the value of the largest company in the bottom quintile (i.e. micro companies) as our threshold to eliminate companies from our index.

Of the remaining four quintiles, the companies were ranked once again by market capitalisation and formed into new quintiles. In each quintile, the return for each day was averaged across the companies. In other words, there was a single average daily return for each quintile⁵². (We refer to this, as the size quintile returns in our size-adjusted calculations of abnormal returns.) When calculating the Fama and French (1993) style, small and large company returns we use exactly the same method as

⁵¹ See section 4.3 for a description of the data.

⁵² The daily return is the average of the buy and hold returns for all firms in the portfolio.

described above but create three groups, i.e. 30% of the largest companies and 30% of the smallest companies (again excluding micro firms as described above)⁵³.

We calculate quintiles based on market capitalisation as well as for market to book values. For each quarter, we rank all companies by market capitalisation to form quintiles⁵⁴. We then rank the companies in each quintile by their market to book value to form sub-quintiles. For each of the 25 smaller groups the daily average return is calculated.⁵⁵ (We refer to this as the market to book sub-quintile when calculating the market to book adjusted returns). However, for the purposes of the Fama and French Three-Factor Model we rank all companies above our threshold (as explained above) for each quarter and form two groups i.e. 50% of the highest and 50% of the lowest market to book value companies. For each of the two groups a daily average return is calculated (see sections 4.5.2.5 and 4.5.2.6).

4.16 CONCLUSION

This chapter has provided the background for the results, which will be presented and discussed in the next chapter. This chapter has explained the construction of the sample of 547 UK takeovers during the period 1983 to 1995. The chapter also explained the sources of data and the manner in which they were collected. The hypotheses tested in the next chapter are dependent upon the mood of the takeover and this chapter has sought to explain how this was determined.

⁵³ See section 4.5.2.6 for a description of the Fama and French Three Factor Model.

⁵⁴ In other words, the size and MTBV portfolios were rebased every quarter.

⁵⁵ This study ranks the companies first by market capitalisation and then by market to book value. Rau and Vermaelen (1998) show that a ranking or sorting of companies, initially by MTBV and then by market

Although event study methodology has come under criticism, it still remains a very important and useful mechanism by which the impact of a takeover on shareholder wealth can be measured. Criticism of event study methodology centres on the length of the observation period, changes in the risk characteristics of the sample firms, appropriate test statistics and the problem of non-synchronous share trading between sample and benchmark companies. The latter can be overcome by carrying out adjustments to the returns (see Scholes and Williams, 1997; Dimson, 1979 and Fowler and Rorke, 1983). Recently, the bootstrapping and winsorising techniques have been applied to improve the manner in which test statistics are estimated (see Kothari and Warner 1997 and Cowan and Seargeant, 1997 respectively). In the case of changing risk characteristics, one can use a combination of pre- and post-event betas (see Bradley et al., 1988). Biases that occur in long run event studies can, to a large extent, be overcome by using more appropriate benchmarks as well as buy and hold returns. Finally, the chapter discussed the underlying assumption of event study methodology, namely the CAPM model and studies which show that other variables are also capable of explaining the variations in expected returns apart from beta. In addition to the beta, we have discussed the effects of size, market to book value and PE ratio on expected returns. The specific manner in which these variables are tested is discussed in the next chapter.

capitalisation makes little difference to the result.

CHAPTER FIVE

SHAREHOLDER WEALTH EFFECTS BY ACQUIRER TYPE: THE EMPIRICAL TEST AND RESULTS

5 INTRODUCTION

In the UK, the vast bulk of takeovers are friendly in that the board of directors of the target firm recommend acceptance of the bid. However, there are instances where this is not the case and the bid becomes hostile as the target board attempts to defend itself from the bidder firm. Of course, the target firm may reject a bid purely to obtain a higher price but, as we show in section 4.2, the mood of the bid can be determined by the language and defence mechanisms employed by the target firm. In Chapter 3 we show that previous studies find the mood of the bid to affect acquirer firm shareholder wealth at the time of the bid-announcement.

In this chapter we attempt to empirically examine how differences in acquirer type affects shareholder wealth, both in the short and long run. We test three explanations that have been put forward to explain the differing acquirer wealth effects: (i) target firm resistance to the takeover bid (see section 3.4); (ii) the presence of a second bidder (see section 3.5); (iii) whether the bid was planned or unplanned (see section 3.5.2). This research goes beyond a replication of earlier studies which examine the impact of the mood of the takeover bid on acquirer shareholder wealth, in that we seek to identify the source of the differing acquirer shareholder wealth effects based on the above theoretical arguments.

In Chapter 4 we showed that market capitalisation, market to book value and price to earnings ratio (PE) have to some degree been argued to affect the post-acquisition performance of different acquirer types. There is now strong evidence that both size and market to book value explain cross-sectional variation in average returns (see section 4.13).

Similarly, an earnings related variable such as the PE ratio has also been found to help explain average returns (see Levis, 1989; Chan et al., 1991; Fama and French, 1992).

This chapter is divided into three sections; the first discusses the specific methodological issues, relating to this chapter. In the second section, we empirically investigate and report the results for the hypotheses discussed in Chapter 3 for a sample of 547 UK takeovers completed during period 1983 to 1995. In the third section we examine the relative performance of glamour and value acquirers as well as large and small acquirers. We also construct a range of benchmarks to test the robustness of our results which include market capitalisation (i.e. size), market to book value and Fama and French type three factor model returns. For each benchmark, shareholder wealth effects are calculated, for different acquirer types. Differences in shareholder wealth effects across acquirer types are then tested for statistical significance.

5.1 METHODOLOGICAL ISSUES

In Chapter 4 we discussed a broad range of methodological issues relating to event studies. In this section we focus on issues which are relevant for our study.

5.1.1 AGGREGATING ABNORMAL RETURNS

In Chapter 4 we discussed two different methods of aggregating abnormal returns received over a number of time periods i.e. cumulative abnormal return (discussed in section 4.6 and shown in equation 4.12) and the buy and hold abnormal return (discussed in section 4.10 and shown in equation 4.25). The results reported in this study use the BHAR (as shown in equation 4.25) because it avoids positive biases from additive accumulation and better reflects the actual returns accrued to shareholders (Conrad and Kaul, 1993; Cowan and Sargeant, 1997).

5.1.2 THE BENCHMARK PROBLEM

Franks et al. (1991) showed that using the mean adjusted CARs acquirers experienced negative returns of -1% at the time of the bid-announcement. However, when alternative benchmark models were used, acquirers were found to receive positive CARs in two of the four cases (i.e. the value weighted and eight portfolio models). To overcome this problem we calculate abnormal returns for our sample of acquirers using five different benchmark models. By calculating abnormal returns using a number of different benchmark models we are not only able to compare our results with previous studies but avoid problems which are specific to any one technique.

In table 4.2 we saw that our sample is not homogeneous in size therefore it is inappropriate for us to use a general market index such as the Financial Times All Share Index. Gregory (1997) matches his sample of acquirers against the Hoare Govett Small Companies (HGSC) index. For our purposes the HGSC index is inappropriate because it is a monthly series whereas we are using daily data. Instead, we calculate our own benchmark portfolios starting from 1980 (i.e. three years before the first bid announcement in our sample) to the 1998. We calculate two different types of benchmark portfolios, i.e. one based on market capitalisation and the second on market to book value (see section 4.15 for a discussion on the construction of these benchmark portfolios).

5.1.3 PROBLEMS WITH MIS-SPECIFICATION

Kothari and Warner (1997), along with Barber and Lyon (1997), argue that long run studies using abnormal returns may be mis-specified, showing positive or negative returns when none are present. This is likely to occur due to the presence of extreme observations and a skewed data set (Cowan and Sargeant 1997). In chapter four we discussed two different types of parametric tests namely bootstrapping and winsorizing (see section 4.12

and 4.12.2) which can overcome these problems. Although, bootstrapping has been used in some recent studies (such as Ikenberry et al., 1995; Kothari and Warner, 1997) it does suffer from various problems which are discussed in section 4.21. To overcome the problems associated with bootstrapping we use the winsorizing technique which is, "better specified and often more powerful than previously proposed tests" (Cowan and Sargeant 1997). In this study we carry out winsorising to two standard deviations.

5.1.4 SURVIVORSHIP BIAS

Mitchell and Lehn (1990) provide empirical evidence which shows that companies which carry out 'bad takeovers' become takeover targets themselves. They find that the probability of a firm being a target is inversely related to the share price effects associated with the firm's earlier acquisitions: the more negative these effects, the higher the likelihood of a subsequent takeover attempt. Methodologically, the exclusion of firms which do not survive the full period for which the study is carried out can lead to a survivorship bias. In other words, the results of the study are based on firms which survive while excluding those which do not. The rate at which firms exit from our sample (i.e. the drop out rate of firms) is about 10% over a three year period. The drop out rate in our study is in line with takeover frequency in general in the UK¹.

Hughes (1993) reports that annually, on average, between 2.7% and 4.2% of the UK quoted companies were taken over during the period 1982-90. The overall average is about 3.5% or about 10.5% in a three year period, as in our case. Therefore, our sample of acquirers are no more vulnerable to takeovers than the average UK firm. Moreover, there are not enough non-surviving (i.e. firms who have either been taken over or cease to trade) firms in our sample to significantly affect our results. This is consistent with Higson and Elliott (1998) who also find that their sample of acquirers was no more likely to be taken

¹ Over 90% of the non-surviving acquirers in our sample are taken over by another company. The rest simply go out of business, such as British and Commonwealth or Polly Peck.

over than any other company listed on the UK stockmarket. Higson and Elliott (1998) also find that the difference in BHARs between including and excluding non surviving firms is not statistically significant. In this study we calculate the returns for all acquirers in our sample until the day of delisting for the companies taken over during the holding period.

5.1.5 EVENT DAY AND WINDOWS

The main aim of this chapter, as mentioned in the introduction, is to find the impact of a takeover announcement on different acquirer types both in the short and long run. As such, we use the first bid-announcement date as the event date (see section 4.4). In the case of white knight or multiple hostile bidders we use the date on which its intention was first made public. We use an estimation period of 250 days (i.e. -290 to -41) to obtain the parameters for our benchmark models so that we can calculate the predicted returns. The estimation period ends 40 days before the bid-announcement so as to exclude effects of market anticipation.

We examine six event windows which cover the period before during, and after, the bid-announcement. The first event window we calculate is for the period -40 to -2 days and attempts to examine acquirer shareholder wealth effects leading to the bid-announcement. This event window also highlights the level of market anticipation to the bid-announcement. The next window examines the period immediately surrounding the bid-announcement (i.e. -1 to +1) and measures the non-anticipated response to the bid-announcement. The third event window examines shareholder wealth effects after the bid-announcement through to outcome. (Usually the outcome of a bid is determined 40 days after the bid-announcement.) In order to examine the long run performance of acquirers, we calculate BHARs for the periods -40 to +250, -40 to +500 and -40 to +750 days. These event windows also enable us to compare our results with previous studies.

5.2 RESULTS

In this section we report the BHARs experienced by different acquirer types for various holding periods. This section is divided into two parts. First, we discuss the results for each holding period. The second part of this section discusses the overall results in relation to our hypotheses and previous studies. We report winsorised results in Tables 5.1 to 5.10 and the non-winsorised results in appendix 1 to 9.

5.2.1 PRE BID-ACQUIRER SHAREHOLDER WEALTH EFFECTS

In Table 5.1 we see that the returns for the whole sample are positive and in the region of 2% although slightly lower for the mean adjusted model, with all the CARs being statistically significant at the 1% level for all models. This result is consistent with the literature which shows bidders to experience positive pre-bid abnormal returns (see section 2.3.2). For the UK, Parkinson (1991) finds that her sample of acquirers to receive a CAR of 4.35% which is statistically significant at the 10% level for the period two months before till the announcement month. Limmack (1991) obtains a similar positive CAR of 2.99% for the two months prior to the announcement month. More recently, Kennedy and Limmack (1996) report bidders to experience returns of 2.92%, which are statistically significant at the 10% level, for the period three to one month before the bid announcement. This CAR was obtained using a size-based control model which compares well with our result of 2.82% using our size adjusted model².

Segregating the results by acquirer type, we see from Table 5.1 that for each benchmark model, shareholders of multiple hostile acquirers experience higher wealth gains than all other groups. In the case of multiple hostile acquirers, the BHARs range from 3.8% to 6.2%, with the mean adjusted and FFTF models being statistically significant at the 10%

² As explained in Chapter 4, we construct our own size portfolios for the period 1980 to 1998 - see section 4.14 for further details.

Table 5.1 Pre-Bid Announcement Winsorised Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The pre-bid announcement period is defined as days -40 to -2. A single friendly (F) acquirer is sole bidder recommended by the target management. A single hostile (SH) acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight (WK) acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile (MH) acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.14. Winsorising is carried out with extreme observations replaced by two standard deviations (see section 4.12.2). p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

PANEL A: BHARs by Acquirer Type												
Model			Whole Sample		Friendly		Single Hostile		White Knight		Multiple Hostile	
Market (FT All Share) Adjusted Returns			2.97 ^a p=57.6 ^a		2.89 ^c p=56.9 ^a		3.26 ^a p=64.0 ^a		2.68 p=51.9		3.94 p=55.0	
Mean Adjusted Returns			1.39 ^a p=51.9 ^c		1.30 ^b p=52.2 ^c		0.55 p=48.0		1.46 p=55.6		6.22 ^c p=55.0	
Size Portfolio Adjusted Returns			2.19 ^a p=54.7 ^a		2.09 ^a p=53.9 ^a		2.71 ^b p=57.3 ^b		0.01 p=51.9		3.80 p=65.0 ^a	
Market to Book Value Adjusted Returns			2.03 ^a p=54.6 ^a		1.81 ^a p=52.7 ^b		3.14 ^a p=62.7 ^a		0.89 p=55.6		3.97 p=65.0 ^a	
Fama and French Three Factor Adjusted Returns			3.21 ^a p=59.8 ^a		3.09 ^a p=54.7 ^a		3.57 ^a p=62.7 ^a		2.04 p=59.3 ^b		5.86 ^b p=70.0 ^a	
Sample Size			547		425		75		27		20	
PANEL B: Pairwise Test of Differences in Means and Proportions												
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model			
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop		
F vs SH	-0.3	-1.2	0.5	0.7	-0.6	-0.6	-1.1	-1.6	-0.4	-1.3		
F vs WK	0.1	0.5	-0.1	-0.4	0.4	0.2	0.4	-0.3	0.4	-0.5		
F vs MH	-0.4	0.2	-1.4	-0.3	-0.6	-1.0	-0.8	-1.1	-1.0	-1.4		
SH vs WK	0.2	1.1	-0.3	-0.7	0.6	0.5	0.8	0.7	0.5	0.3		
SH vs MH	-0.2	0.7	-1.5	-0.6	-0.4	-0.6	-0.3	-0.2	-0.7	-0.6		
WK vs MH	0.3	-0.2	-1.1	0.0	-0.8	-0.9	-0.9	-0.7	-1.0	-0.8		

and 5% levels respectively. The superior pre-bid performance of multiple hostile acquirers, relative to other acquirer types, may go some way to explain why they can mount a bid of this type³. However, we cannot fully support this argument as the test of difference in proportions between acquirer groups (see Panel B of Table 5.1) shows that in every case the abnormal returns for multiple hostile acquirers against other acquirer types are not statistically significant at the 10% level. The same is also true of the test of difference in means between multiple hostile and other acquirer types.

Friendly acquirers experience returns which range from 1.8% to 3.1% while single hostile acquirers receive returns which range from 0.6% to 3.3%. In the case of friendly and single hostile acquirers, there appears to be very little difference between them. In half the number of benchmark models, friendly acquirers outperform single hostile acquirers and vice-versa. In most cases the returns tend to be significant at the same level for both groups. A test of difference in proportions and means between friendly and single hostile acquirers shows them not to be statistically significant at the 10% level. We also find that both friendly and single hostile acquirers to have a similar statistically significant number of positive observations. The only exception is the mean adjusted return model which shows the positive BHARs for single hostile to be statistically insignificant. Our results suggest that there is very little if any difference between the pre-bid performance of friendly and single hostile acquirers.

Our results show that on average white knight acquirers have the lowest relative performance compared to other acquirer types. Table 5.1 (Panel A) shows white knight acquirers to experience BHARs ranging from 0.01% to 2.7%. Only the proportion of positive observations for the FFTF model is statistically significant at the 5% level. Although, we find white knights to experience lower BHARs than other acquirer types we do not find the differences to be statistically significant (see Panel B of Table 5.1). Generally, our results show that during the pre-bid period different acquirer types experience rather similar performance.

³ This is especially the case if multiple hostile acquirers pay the target firm using their over-valued equity.

5.2.2 BID-ANNOUNCEMENT ACQUIRER SHAREHOLDER WEALTH EFFECTS

In the period day -1 to +1, the whole sample of acquirers shows negative abnormal returns in order of 1.5% (see Table 5.2) with all models being statistically significant. We also find the test of proportion of positive observations to be statistically significant at the 1% level. Using monthly data for the UK, Franks et al. (1977) found their sample of acquirers to experience a wealth gain of 0.05% in the month of the bid announcement. Our results, which use daily data, show a negative return which is more consistent with Sudarsanam et al. (1996) and Holl and Kyriazis (1997a) who report CARs of -1.26% and -1.4% respectively. On the other hand, we find acquirers to experience abnormal returns which are lower than those of Gregory (1997) who reports returns of -0.3% to -0.7% depending on the benchmark model. Nevertheless, our results add further support to the argument that generally acquirers experience negative abnormal returns at the time of the bid announcement.

Looking at the different acquirer types, one finds that the pre-bid performance ranking of acquirer performance has changed. During the bid-announcement period all acquirer types experience negative wealth gains. However, the largest negative abnormal return (i.e. worst performer) are the single hostile acquirers. Single hostile suffer from wealth losses in the region of 1.8%. We find that on average 29% of single hostile acquirers experience positive abnormal returns at the time of the bid-announcement which is lower than for the other acquirer types. In the case of friendly acquirers we find that they experience wealth losses in the region of 1.5% which is slightly lower than that for single hostile acquirers. Friendly acquirers also tend to have a higher percentage of positive observations compared to single hostile acquirers. Although, friendly acquirers experience a marginally higher performance than single hostile acquirers we do not find the difference to be statistically significant. (See Panel B of Table 5.2 where we show that the test of difference in

Table 5.2 Bid-Announcement Period Winsorised Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The bid-announcement period is defined as days -1 to +1. A single friendly (F) acquirer is sole bidder recommended by the target management. A single hostile (SH) acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight (WK) acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile (MH) acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.14. Winsorising is carried out with extreme observations replaced by two standard deviations (see section 4.12.2). p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

PANEL A: BHARs by Acquirer Type												
Model			Whole Sample		Friendly		Single Hostile		White Knight		Multiple Hostile	
Market (FT All Share) Adjusted Returns			-1.40 ^c p=34.4 ^a		-1.45 ^c p=34.1 ^a		-1.84 ^a p=29.3 ^a		0.02 p=51.9		-0.61 p=35.0 ^a	
Mean Adjusted Returns			-1.50 ^a p=32.5 ^a		-1.57 ^a p=32.0 ^a		-1.94 ^a p=29.3 ^a		0.43 p=51.9		-0.90 p=30.0 ^a	
Size Portfolio Adjusted Returns			-1.43 ^a p=34.0 ^a		-1.48 ^a p=34.1 ^a		-1.81 ^a p=29.3 ^a		-0.01 p=48.1		-0.91 p=30.0 ^a	
Market to Book Value Adjusted Returns			-1.41 ^a p=34.7 ^a		-1.46 ^a p=34.8 ^a		-1.82 ^a p=28.0 ^a		0.11 p=51.9		-1.01 p=35.0 ^a	
Fama and French Three Factor Adjusted Returns			-1.34 ^a p=34.0 ^a		-1.40 ^a p=34.4 ^a		-1.79 ^a p=26.7 ^a		0.32 p=51.9		-0.67 p=30.0 ^a	
Sample Size			547		425		75		27		20	
PANEL B: Pairwise Test of Differences in Means and Proportions												
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model			
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop		
F vs SH	0.6	0.8	0.6	0.5	0.5	0.8	0.6	1.2	0.6	1.3		
F vs WK	-1.6	-1.9 ^c	-1.9 ^c	-2.1 ^b	-1.4	-2.2 ^b	-1.5	-1.8 ^c	-1.7 ^c	-1.8 ^c		
F vs MH	-0.9	-0.1	-0.7	0.2	-0.6	1.6	-0.5	-0.0	-0.7	0.4		
SH vs WK	-1.7 ^c	-2.1 ^b	-1.9 ^c	-2.1 ^b	-1.6 ^c	-2.0 ^b	-1.7 ^c	-2.2 ^b	-1.8 ^c	-2.3 ^b		
SH vs MH	-1.2	-0.5	-0.9	-0.1	-0.8	-0.1	-0.7	-0.6	-1.0	-0.3		
WK vs MH	0.46	1.15	0.94	1.5	0.7	1.3	0.8	1.2	0.7	1.5		

proportions and means between single hostile and friendly are not significant at the 10% level.) Our results suggest that friendly and single hostile acquirers tend to experience a rather similar performance during the bid-announcement period.

Acquirers in competition with another bidder, in order to acquire the same target, do not tend to experience greater wealth losses at the time of the bid-announcement than other acquirer types⁴. Multiple hostile acquirers experience statistically insignificant returns, ranging from -0.7% to -1%. We find that these returns are similar to those of De et al. (1996) who report returns of -1.45%, statistically significant at the 5% level, for the period one day before till the announcement date. We find that on average 30% of multiple hostile acquirers experience a positive abnormal return at the time of the bid-announcement. Although, multiple hostile acquirers experience higher abnormal returns than either friendly or single hostile acquirers we do not find the tests of difference in proportions or means to be statistically significant at the 10% level (see Panel B of Table 5.2).

White knight acquirers tend to experience statistically insignificant BHARs which range from -0.01% to 0.4%. Our results show white knights to experience abnormal returns which are much lower than those of Banerjee and Owers (1992) who find their sample to receive statistically significant, at the 1% level, returns of -1.7%. The interesting point about white knight acquirers is that about half of the sample (i.e. 52%) experience positive returns compared to friendly, single and multiple hostile acquirers who have far fewer positive observations. This indicates that during the bid-announcement period more white knights experience a positive gain compared to any other group. However, all except white knight acquirers have statistically significant positive observations at the 1% level.

⁴ In the case of multiple hostile and white knight acquirers the bid-announcement date is the date on which the these acquirers enter the competition to gain control of the target firm.

We find the tests of difference in means and proportions to show that the performance of white knight acquirers not to be statistically different from those of multiple hostile acquirers at the 10% level. Panel B of Table 5.2 shows that the test of difference in proportions between white knights and friendly acquirers to be statistically significant at the 5% level for the size and mean adjusted models and at the 10% for the rest of the benchmarks. In the case of the test of difference in means we find that mean and the FFTF models to be statistically significant at the 10%. Our results suggest that the announcement of a bid by a white knight is greeted favourably by the stock market compared to that of a friendly acquirer even though both types of acquirers receive the recommendation of the target board. We also find a difference in the reaction of the stock market to bid-announcements by single hostile acquirers against those of white knights. Panel B of Table 5.2 shows that both the tests of difference in means and proportions are statistically significant across all benchmark models. The differences in means are significant at the 10% while the differences in proportions are significant at the 5% level across all benchmark models.

5.2.3 BID PERIOD ACQUIRER SHAREHOLDER WEALTH EFFECTS

In the third event window (i.e. +2 to +40 days as shown in Table 5.3) acquirers realise negative BHARs which range from -0.3% to -2%. The only exception is the FFTF model which shows a positive BHAR of 0.4%. However, only the mean and size adjusted returns are statistically significant at the 1% and 10% level respectively. If we exclude the FFTF, our results appear to be consistent with previous studies such as Loderer and Martin (1992) who find their sample of acquirers to experience a CAR of -1% for the period +1 to +24 days. Niden (1993) also reports her sample of acquirers to experience a negative CAR of -2.2%, statistically significant at the 1% level, for the period one day before the announcement till 40 days after. For the UK, Limmack (1991) reports a CAR of -0.2% which is almost identical to our market adjusted return of -0.3%. More recently, Gregory (1997) finds abnormal returns for his sample of acquirers to range between -0.5% to 1.5%, which are broadly similar to our results.

Table 5.3 Bid Period Winsorised Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The bid period is defined as days +2 to +40. A single friendly (F) acquirer is sole bidder recommended by the target management. A single hostile (SH) acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight (WK) acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile (MH) acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.14. Winsorising is carried out with extreme observations replaced by two standard deviations (see section 4.12.2). p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

PANEL A: BHARs by Acquirer Type											
Model		Whole Sample		Friendly		Single Hostile		White Knight		Multiple Hostile	
Market (FT All Share) Adjusted Returns		-0.29 p=47.5 ^b		-0.35 p=48.2		0.87 p=46.7		0.86 p=51.9		-4.75 ^a p=30.0 ^a	
Mean Adjusted Returns		-1.94 ^a p=40.6 ^a		-2.14 ^a p=40.0 ^a		-0.62 p=42.7 ^b		-0.77 p=40.7 ^b		-4.13 p=45.0	
Size Portfolio Adjusted Returns		-0.68 ^c p=45.2 ^a		-0.72 p=45.2 ^a		0.55 p=49.3		0.00 p=48.1		-5.49 ^a p=25.0 ^a	
Market to Book Value Adjusted Returns		-0.65 p=44.2 ^a		-0.68 p=44.7 ^a		0.66 p=48.0		-0.26 p=44.4		-5.53 ^a p=20.0 ^a	
Fama and French Three Factor Adjusted Returns (FFTF)		0.44 p=49.2		0.39 p=49.9		1.46 p=49.3		1.46 p=51.9		-3.66 ^b p=40.0 ^c	
Sample Size		547		425		75		27		20	
PANEL B: Pairwise Test of Differences in Means and Proportions											
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model		
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	
F vs SH	-1.1	0.3	-1.0	-0.4	-1.1	-0.7	-1.2	-0.5	-1.0	0.1	
F vs WK	-0.7	-0.4	-0.5	-0.1	-0.4	-0.3	-0.2	0.0	-0.6	-0.2	
F vs MH	2.4 ^b	1.6	0.7	-0.5	2.9 ^a	1.8 ^c	3.0 ^a	2.2 ^b	2.4 ^b	0.9	
SH vs WK	0.0	-0.5	0.1	0.2	0.3	0.1	0.5	0.3	-0.0	-0.2	
SH vs MH	2.8 ^a	1.3	1.5	-0.2	3.2 ^a	2.0 ^b	3.4 ^a	2.3 ^b	2.6 ^a	0.7	
WK vs MH	2.3 ^b	1.5	0.9	-0.3	2.4 ^a	1.6 ^a	2.3 ^b	1.8 ^c	2.2 ^b	0.8	

Table 5.3 shows that although the whole sample experiences negative BHARs the experience is not universal among the different acquirer types. Multiple hostile acquirers experience the largest negative BHARs ranging from -4% to -5.5%, statistically significant at the 1% level for all models except the FFTF return which is statistically significant at the 5% level and the mean adjusted BHAR which is statistically insignificant. It appears that white knights, who like multiple hostile acquirers are also involved in an auction, experience relatively lower BHARs than single hostile acquirers but higher than friendly acquirers. The BHARs for white knights range from -0.8% to 1.5% with approximately 40% of firms reporting a positive return. Finally, single hostile acquirers perform better than friendly acquirers during the bid period. The BHARs for single hostile acquirers range from -0.6% to 1.5% while for friendly acquirers it is -2% to 0.4%.

Between the bid-announcement and completion it appears that the number of companies reporting a positive BHAR increases from approximately 35% to 45%. The only exception are white knights who have a lower proportion of positive observations than in the bid-announcement period event window (see Table 5.2). Although, there is a greater number of positive observations, the test of difference in percentage positive BHARs shows they are largely statistically insignificant. In the case of single hostile and white knight acquirers only the positive observations for the mean adjusted returns model are statistically significant at the 10% level.

The test of difference in means shows that the BHARs for multiple hostile acquirers are significantly different from other acquirer types across all except the size adjusted benchmark model (see Panel B of Table 5.7). In the case of friendly and multiple hostile acquirers the difference in means for the market and FFTF models are statistically significant at the 5% level and at the 1% level for size and MTBV adjusted models. The difference in means between single and multiple hostile acquirers are statistically significant at the 1% level for all except the mean adjusted benchmark model. In the case of multiple hostile and white knight acquirers the difference in means are statistically significant at the 5% level for the market, MTBV and FFTF models and at the 1% level for the size adjusted

model. The tests of difference in proportions presents a similar picture between multiple hostile and other acquirer types. Our results suggest that although the performance of multiple hostile acquirers is not significantly different from other acquirer types at the time of the bid-announcement (see Table 5.2) this is not true during the bid-period. It appears from our results that the stock market takes a very grim view of a hostile contest to acquire the target. Our results also show that during the bid-period friendly, single hostile and white knight acquirers experience BHARs which are not significantly different from each other.

5.2.4 ONE YEAR SHAREHOLDER WEALTH EFFECTS BY ACQUIRER TYPE

The results from the first of the three long run event windows (-40 to +250 days) shows that acquirers generally realise negative BHARs ranging from -12% to 2.4% (see Table 5.4). The BHARs are statistically significant at the 1% level for the mean adjusted and size adjusted models and at the 10% level for the market to book model. Parkinson (1991) finds acquirers to experience a positive abnormal returns of 6.25%. We do not find acquirers to experience positive one year abnormal returns. Our results are negative and consistent with Limmack (1991), Kennedy and Limmack (1996), Gregory (1997) and Higson and Elliott (1998).

Although the whole sample of acquirers tends to experience negative BHARs, this is not the case for all acquirer types, with some of them showing large wealth gains. The group with the largest wealth gains are the single hostile acquirers⁵. The BHARs for single hostile acquires range from -7.6% to 8% with only the mean adjusted and the FFTF

⁵ Only the mean adjusted returns show a negative return of -6% and -7.6% for non-winsorised and winsorised data respectively.

Table 5.4 One Year Winsorised Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The one year period is defined as days -40 to +250. A single friendly (F) acquirer is sole bidder recommended by the target management. A single hostile (SH) acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight (WK) acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile (MH) acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.14. Winsorising is carried out with extreme observations replaced by two standard deviations (see section 4.12.2). p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

PANEL A: BHARs by Acquirer Type											
Model		Whole Sample		Friendly		Single Hostile		White Knight		Multiple Hostile	
Market (FT All Share) Adjusted Returns		-0.43 p=47.3 ^b	-1.59 p=46.4 ^a	4.92 p=54.7		0.50 p=48.1		2.72 p=40.0 ^c			
Mean Adjusted Returns		-11.94 ^a p=33.5 ^a	-13.96 ^a p=32.7 ^a	-7.63 ^c p=32.0 ^a		-8.48 p=40.7 ^b		-10.07 p=45.0			
Size Portfolio Adjusted Returns		-3.99 ^a p=41.7 ^a	-5.20 ^a p=40.0 ^a	2.24 p=52.0		-3.99 p=40.7 ^b		-1.61 p=40.0 ^c			
Market to Book Value Adjusted Returns		-4.04 ^a p=42.2 ^a	-5.40 ^a p=40.0 ^a	3.90 p=57.3 ^b		-5.71 p=37.0 ^a		-2.62 p=40.0 ^c			
Fama and French Three Factor Adjusted Returns		2.40 ^c p=49.9	0.97 p=47.8 ^c	8.07 ^b p=62.7 ^a		2.02 p=48.1		11.99 p=50.0			
Sample Size		547		425		75		27		20	
PANEL B: Paiwise Test of Differences in Means and Proportions											
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model		
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	
F vs SH	-1.8 ^c	-1.3	-1.3	0.1	-2.2 ^b	-1.9 ^b	-2.7 ^a	-2.8 ^a	-1.8 ^c	-2.4 ^a	
F vs WK	-0.4	-0.2	-0.6	-0.9	-0.2	-0.1	0.1	0.3	-0.2	-0.0	
F vs MH	-0.5	0.6	-2.1 ^b	-1.1	-0.5	0.0	-0.4	0.0	-1.2	-0.2	
SH vs WK	0.7	0.6	0.1	0.0	1.0	1.0	1.6 ^c	1.8 ^c	0.9	1.3	
SH vs MH	0.3	1.2	-1.5	-1.1	0.5	1.0	0.9	1.4	-0.4	1.0	
WK vs MH	-0.2	0.00	-1.3	-0.3	-0.3	0.1	-0.4	-0.2	-0.9	-0.1	

models being statistically significant, at the 10% and 5% level respectively. Single hostile acquirers also experience a greater number of positive returns compared to other acquirer types. A test of proportion of positive BHARs shows them to be statistically significant for a greater number of benchmark models. The positive observations are statistically significant at the 10% level for the mean adjusted and the FFTF returns and at the 5% level for the market to book value adjusted returns. In the case of friendly acquirers we find them to generally experience lowest levels of BHARs ranging from -13.96% to 0.97%. Also friendly acquirers tend to have a higher level of negative observations. A comparison of the relative performance between friendly and single hostile acquirers, using the tests of differences in means and proportions is found, to be largely statistically significant. Our results suggest that the post-acquisition conduct of single hostile acquirers allows them to experience higher relative BHARs than other acquirer types.

During the bid period multiple hostile acquirers experience the highest wealth losses, as shown in Table 5.3. In the first year after the takeover, multiple hostile acquirers continue with their declining performance with BHARs of -10% (for the mean adjusted model) to -2.6% (for the market to book value adjusted model). However, the FFTF and market adjusted models produce a positive BHAR of 12% and 3% respectively. None of the BHARs for multiple acquirers are statistically significant. Multiple hostile acquirers experience a similar number of positive observations as other acquirer types. However, only the positive observations for the market, size and market to book value adjusted returns is statistically significant at the 10% level. Multiple hostile acquirers do not experience BHARs, which are significantly different from other groups, apart for the mean adjusted model against friendly acquirers at the 10% level, as shown in Panel B of Table 5.4. Like multiple hostile acquirers white knights are also involved in a contest in order to acquire the target.

Our results show that white knights experience BHARs which are somewhat lower than those of single hostile acquirers but nevertheless higher than multiple hostile acquirers for two of the five benchmark models. Panel B of Table 5.4 shows that the tests of differences in means and proportions between white knights and other acquirer types are not statistically significant for any of the five benchmark models. We find that any disciplinary nature of a hostile bid may be not be fully utilised, in the post-acquisition period, by multiple hostile acquirers.

5.2.5 TWO YEAR SHAREHOLDER WEALTH EFFECTS BY ACQUIRER TYPE

The two year BHARs show that bidders experience wealth losses ranging from -20% to 0.7% which are all significant at the 1% level except for the FFTF model (see Table 5.5). Thus, it seems that takeovers are bad investments for the overall sample of bidding firms when they are examined in the long run. Negative BHARs are generated by all except the FFTF model, although they are much lower with the market adjusted model (at -20%). The size adjusted and market to book value adjusted are very similar at 10.6% and 10.8% respectively. The market adjusted model tends to produce the higher returns at -4.5%. Interestingly, the number of positive BHARs has fallen from the bid period where it was an average of 45% to 40% in the first year to 35% in the second year. This shows that, with time, a greater proportion of acquirers under-perform relative to the market and firms of a similar nature. This lends support to the argument that acquirers may have carried out 'bad takeovers' where expected pre-bid gains did not materialise. Our results cannot support those of Parkinson (1991) who reports her sample of acquirers to experience positive abnormal returns of 4.2%. Our results are more in line with those of Kennedy and Limmack (1996), Gregory (1997), Holl and Kyriazis (1997a) and Higson and Elliott (1998) who all report negative two year post bid-announcement abnormal returns of -5.08%, -11.22% to

Table 5.5 Two Year Winzorised Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The two year period is defined as days -40 to +500. A single friendly (F) acquirer is sole bidder recommended by the target management. A single hostile (SH) acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight (WK) acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile (MH) acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.14. Winsorising is carried out with extreme observations replaced by two standard deviations (see section 4.12.2). p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

PANEL A: BHARs by Acquirer Type										
Model	Whole Sample	Friendly	Single Hostile	White Knight	Multiple Hostile					
Market (FT All Share) Adjusted Returns	-4.52 ^a p=42.8	-6.49 ^a p=40.7	4.95 p=53.3	0.62 p=51.9	-5.15 p=35.0					
Mean Adjusted Returns	-20.10 ^a p=30.7	-23.12 ^a p=28.2	-11.85 ^c p=36.0	-8.68 p=44.4	-2.30 p=45.0					
Size Portfolio Adjusted Returns	-10.64 ^a p=35.5	-12.52 ^a p=35.1	-1.18 p=41.3	-6.18 p=25.9	-12.19 p=35.0					
Market to Book Value Adjusted Returns	-10.80 ^a p=36.9	-12.92 ^a p=35.1	0.50 p=49.3	-6.74 p=37.0	-13.47 p=30.0					
Fama and French Three Factor Adjusted Returns	0.68 p=47.5	-1.57 p=45.4	10.31 ^b p=58.7	5.34 p=51.9	5.93 p=45.0					
Sample Size	547	425	75	27	20					
PANEL B: Pairwise Test of Differences in Means and Proportions										
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model	
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop
F vs SH	-2.4 ^a	-2.0 ^b	-1.6 ^c	-1.4	-2.6 ^a	-1.0	-3.1 ^a	-2.4 ^a	-2.3 ^b	-2.1 ^b
F vs WK	-1.3	-1.2	-1.2	-1.8 ^c	-1.2	1.0	-1.2	-0.2	-1.0	-0.7
F vs MH	-0.1	0.5	-1.4	-1.6 ^c	-0.0	0.0	0.1	0.5	-0.7	0.0
SH vs WK	0.6	0.1	-0.2	-0.8	0.8	1.4	1.1	0.0	0.6	0.6
SH vs MH	0.9	1.5	-0.6	-0.7	1.1	0.5	1.5	1.5	0.4	1.1
WK vs MH	0.5	1.2	-0.3	-0.0	0.6	-0.7	0.7	0.5	-0.1	0.5

-18.01%, -32% and -1.14% respectively. Apart from the FFTF model the range of our BHARs for the overall sample across the different benchmark models is within the range reported by Gregory (1997).

The segregated results show that single hostile acquirers tend to outperform other acquirer types in three out of five models. The BHARs for single hostile acquirers range from 10% (for the FFTF model) to -12% (for the mean adjusted model). However, only the mean adjusted and FFTF returns are statistically significant at the 10% and 5% level respectively. The BHARs for single hostile acquirers are slightly lower than those for the first year after the takeover, as are the number of positive returns. Panel B of Table 5.5 also shows that both the differences in means and proportions are statistically significant between friendly and single hostile acquirers. The differences in means are significant at the 1% level for the market, size and MTBV adjusted models and at the 5% level for the FFTF. The differences in proportions are significant at the 5% level for the market and FFTF models and at the 1% level for the MTBV model.

Our results suggest that single hostile acquirers experience higher two year BHARs than friendly acquirers. Kennedy and Limmack (1996) also show that in the 23 months following the bid announcement hostile (what they refer to as disciplinary) bids outperform friendly (or in their terminology non-disciplinary) ones by 0.72%. Gregory (1997) finds that hostile acquirers outperform friendly ones in half the number of models used. More recently, Higson and Elliott (1998) find that their sample of hostile acquirers experience CARs of 12.8% statistically significant at the 5% level compared to -1.1% for the whole sample for the two years following the bid announcement. In contrast, friendly acquirers experience wealth losses of 3.74% over the same period.

Table 5.5 also shows that white knight acquirers experience a decline in performance during the period -40 to +500 compared to the relatively shorter period of -40 to +250. Interestingly, the performance of white knights is relatively superior to that of the multiple hostile acquirers during the period -40 to +500. This is a shift from their relative performance during the shorter event window (i.e. -40 to +250) whereby multiple hostile acquirers performed better than white knights. White knights experience BHARs in the range of -6.7% to 5% while that for multiple hostile acquirers it is -13.5% to 6%. However, Panel B of Table 5.5 shows that the difference in returns between white knights and multiple hostile acquirers is not statistically significant. Finally, friendly acquirers underperform against all the acquirer types with BHARs of -1.6% to -23%. This underperformance may go some way to supporting the idea that friendly acquirers have to pay a price that is attractive for target firm management not to refuse. At the same time, in order to receive the support of the target firm, they are limited by the level of changes that they can carry out.

5.2.6 THREE YEAR SHAREHOLDER WEALTH EFFECTS BY ACQUIRER TYPE

Table 5.6 shows that three year BHARs for the whole sample of acquirers ranges from -18% to 0.5%. A comparison between Tables 5.5 and 5.6 shows that the overall sample of acquirers experience only a small decline in the performance during the latter period. This implies that the bulk of the losses is experienced in the first two years after a takeover. However, the lack of improvement in the wealth experiences of acquirers implies that, on average, they tend to be wealth reducing investments. This is reflected in the number of positive BHARs which is in the region of 35% and far lower than the bid period. All the

Table 5.6 Three Year Winsorised Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The three year period is defined as days -40 to +750. A single friendly (F) acquirer is sole bidder recommended by the target management. A single hostile (SH) acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight (WK) acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile (MH) acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.14. Winsorising is carried out with extreme observations replaced by two standard deviations (see section 4.12.2). p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

PANEL A: BHARs by Acquirer Type												
Model			Whole Sample		Friendly		Single Hostile		White Knight		Multiple Hostile	
Market (FT All Share) Adjusted Returns			-6.62 ^c p=43.5 ^a		-9.21 ^a p=40.7 ^a		5.58 p=57.3 ^b		0.81 p=48.1		-7.21 p=45.0	
Mean Adjusted Returns			-18.39 ^a p=28.0 ^a		-21.45 ^a p=26.6 ^a		-12.06 p=30.7 ^a		-2.72 p=37.0 ^a		1.61 p=35.0 ^a	
Size Portfolio Adjusted Returns			-13.88 ^a p=35.5 ^a		-16.00 ^a p=33.6 ^a		-3.53 p=48.0		-7.59 p=29.6 ^a		-17.23 ^c p=35.0 ^a	
Market to Book Value Adjusted Returns			-13.92 ^a p=35.8 ^a		-16.11 ^a p=33.4 ^a		-2.38 p=50.7		-7.53 p=29.6 ^a		-19.30 ^b p=40.0 ^c	
Fama and French Three Factor Adjusted Returns			0.53 p=46.4 ^a		-2.24 p=43.5 ^a		10.97 ^c p=58.6 ^a		8.79 p=55.6		9.03 p=50.0	
Sample Size			547		425		75		27		20	
PANEL B: Pairwise Test of Differences in Means and Proportions												
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model			
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop		
F vs SH	-2.7 ^a	-2.7 ^a	-0.9	-0.7	-2.6 ^a	-2.4 ^a	-2.8 ^a	-2.9 ^a	-2.1 ^b	-2.4 ^a		
F vs WK	-1.4	-0.8	-1.0	-1.2	-1.3	0.4	-1.3	0.4	-1.2	-1.2		
F vs MH	-0.2	-0.4	-1.0	-0.8	0.1	-0.1	0.3	-0.6	-0.8	-0.6		
SH vs WK	0.6	0.8	-0.5	-0.6	0.5	1.7 ^c	0.7	1.9 ^c	0.2	0.3		
SH vs MH	1.0	1.0	-0.6	-0.4	1.2	1.0	1.6 ^c	0.9	0.1	0.7		
WK vs MH	0.6	0.21	-0.2	0.1	0.8	-0.4	1.0	-0.7	-0.0	0.4		

BHARs are statistically significant at the 1% apart from the market adjusted and FFTF models with only the latter being statistically significant for the winsorised data. Higson and Elliott (1998) report a positive return of 0.83% in the third year following the takeover. We find only the FFTF returns to be similar to those of Higson and Elliott (1998). However, consistent with Higson and Elliott (1998) we find our sample of acquirers to improve their performance during the period -40 to +750 days compared to the -40 to 250 and -40 to 500 days.

Looking at the performance of different acquirer groups we find that single hostile acquirers out-perform all other acquirer groups. The BHARs for single hostile acquirers range from -12.1% to 11% which are slightly lower than those for the two year post acquisition period. However, the number of positive BHARs has increased compared to the two year post acquisition results. The proportion of positive returns for single hostile acquirers tends to be in the region of 50%. Panel B of Table 5.6 shows that single hostile acquirers experience BHARs which are significantly different from those of friendly acquirers for the market, size adjusted and FFTF returns. Single hostile acquirers also have BCARs which are significantly different from multiple hostile acquirers at the 10% level using the market to book model.

White knight experience BHARs ranging from -7.6% to 8.8%. However, none of them are statistically significant. Even though there has been a small change in the performance of white knights the number of positive BHARs has actually fallen compared to Table 5.5. This implies that the general trend is downwards with on average 60% of white knights experiencing negative three year BHARs. Multiple hostile acquirers have a similar number of positive BHARs but lower returns. The returns for multiple hostile acquirers range from -19% to 9%. Again, this performance is slightly lower than that for the two year period (see Table 5.5). The only significant results tend to be for the size and market to book value models at the 10% and 5% level respectively. The long term under-performance by multiple

hostile acquirers leads one to assume that they do not overcome the winner's curse effect. Finally, friendly acquirers experience BHARs ranging from -21% to -2% which are all statistically significant at the 1% level except for the FFTF returns. Like the other acquirer groups, friendly acquirers also experience a small decline in their performance. This result may imply that friendly acquirers not only overpay to purchase their target but are constrained by their purchase, and opportunities to carry out disciplinary action may be limited. The market, size and market to book value returns for friendly and single hostile acquirers are statistically significant different at the 1%, 5% and 1% levels respectively.

All the models used in this study show single hostile acquirers to outperform all other acquirer types. Similarly, friendly acquirers tend to under-perform all acquirer types while white knight and multiple hostile acquirers experience abnormal returns which are not significantly different from each other (see Table 5.6). However, multiple hostile acquirers tend to under-perform white knights for all models, except the FFTF model, and have a greater proportion of companies reporting a negative return.

5.2.7 OVERALL RESULTS

Using five different models for calculating abnormal returns, this study finds that they all produce rather similar results except for the FFTF model which shows acquirers to experience positive returns. Although the results appear to be similar, the magnitude of returns tends to be different across the models. The difference in magnitude is more relevant for mean adjusted returns than for the other models. In many ways one would expect this to be the case because (as explained in section 4.5.2.3) the mean adjusted model assumes that the return in the estimation period will be expected in the post-bid period. Of course, a merger is bound to change the bidder firm during the observation period and returns from the estimation period are no longer relevant.

All the models show acquirers to perform well prior to the bid with abnormal returns in the region of 2% to 3%. An examination of the different acquirer types during the pre-bid returns suggests that acquirers in multiple hostile bids outperform other acquirer types while white knights experience the worst pre-bid performance. However, the test of differences in means shows that none of the returns are significantly different from each other during the pre-bid period. The long run event windows (i.e. -40 to +250, -40 to +500 and -40 to +750 days) show the whole sample of acquirers to experience negative abnormal returns which are consistent with Limmack (1991), Kennedy and Limmack (1996), Holl and Kyriazis (1997a), Gregory (1997) and, to some extent, with Higson and Elliott (1998).

An examination of the shareholder wealth experience of different acquirer types shows that single hostile acquirers consistently experience higher returns than the other groups. Our results show single hostile acquirers to outperform friendly acquirers by an average of approximately 12% and 13% for non winsorised and winsorised data respectively. The outperformance of hostile acquirers relative to friendly acquirers is also true for acquirers in multiple hostile bids although the difference is not statistically significant for the latter case. Table 5.6 shows that acquirers in multiple hostile bids outperform friendly acquirers by an average of approximately 9%. Only the size and market to book value models show friendly acquirers to outperform multiple hostile acquirers. Our results of superior performance by hostile acquirers is consistent with those of Franks et al. (1991), Servaes (1991) for the US and Kennedy and Limmack (1996), Gregory (1997) and Higson and Elliott (1998) for the UK. Based on the results presented in this chapter, we find partial support for our first hypothesis that shareholders of hostile acquirers will experience greater wealth gains compared to those of friendly acquirers.

Varaiya (1988) found that the winning bidder in a multiple bid tended to over-estimate the value of the target. De et al. (1996) also found that successful bidders in multiple bids

under-performed other acquirer types. Our results show that between the bid-announcement and completion dates acquirers in a multiple bid (both friendly and hostile), tend to under-perform acquirers not competing with another bidder to purchase the target. In each of the three long term event windows (i.e. -40 to +250, -40 to +500 and -40 to +750 days) it appears that the average return to single acquirers (both friendly and hostile) is greater than that of acquirers in a contest with another bidder (i.e. white knights and multiple hostile acquirers)⁶. During the period -40 to +750 days our results show that the difference between single and multiple acquirers is much lower. This is largely due to a poor performance by friendly acquirers and an improvement in the performance of white knights.

Franks et al. (1991) for the US and Gregory (1997) for the UK found little evidence to support the argument that a second bidder leads to a worse performance by the winning bidder. Franks et al. (1991) find that single acquirers under-perform relative to multiple acquirers by an average of 0.42%. Gregory (1997) finds that the size adjusted and the FFTF models show bidders in contested takeovers to outperform those in non-contested takeovers. Our results show that for the one, two and three year event windows there only appears to be a statistically significant difference in BHARs between friendly and single hostile acquirers. The inability to find both friendly and single hostile acquirers (i.e. single acquirers) to outperform white knight and multiple hostile (i.e. multiple) acquirers leads us to reject our second hypothesis that shareholders of single acquirers will experience greater wealth gains than shareholders of acquirers involved in an auction.

Banerjee and Owers (1992) and Niden (1993) find that white knight acquirers under-perform relative to other acquirer types at the time of the bid announcement. Our results show that shareholders of white knight acquirers tend to receive higher abnormal returns than other acquirer types at the time of the bid announcement (see Table 5.2). In each of

⁶ This is calculated as the average equally weighted returns received by friendly and single hostile acquirers across all five models compared to the average return for white knights and multiple hostile acquirers.

the three long run event windows we find that shareholders of white knight acquirers experience higher wealth gains than shareholders of friendly or multiple hostile acquirers but not as high as those of single hostile acquirers. To a certain degree our results are similar to those of Gregory (1997) who finds that white knight acquirers outperform friendly acquirers. However, unlike Gregory (1997), we do not find any evidence of white knight acquirers outperforming single hostile acquirers⁷. Even though white knights experience higher abnormal returns than friendly and multiple hostile acquirers, Tables 5.4, 5.5 and 5.6 show that the differences in means are not significantly different from one another during the periods -40 to +250 days, -40 to +500 days and -40 to +750 days. Similarly, the difference in means are not statistically significant between white knight and single hostile acquirers. Based on the results presented in this chapter we do not find evidence to support our third hypothesis that shareholders of planned (i.e. non white knight) acquirers experience greater wealth gains relative to unplanned acquirers.

5.3.1 LONG RUN SHAREHOLDER WEALTH EFFECTS OF ACQUIRERS BY MARKET CAPITALISATION

In section 4.14.1 we argue that a firm's market capitalisation is very important in determining the cross-section of average returns. Two explanations have been offered for the differing performance of large and small companies, namely undervaluation and overreaction. In the case of the former one has the argument that size is a proxy for risk and as smaller companies have a greater level of risk they should be associated with greater returns (Fama and French, 1992). Overreaction takes place when market participants overestimate the value of positive information leading to rise in the share price (for negative news the opposite will take place). Very few previous studies attempt to examine the size effect of acquirer firms but those that do report rather mixed results. Earlier studies such as Franks et al. (1991) find that the smallest portfolio of acquirers outperform the largest in all

⁷ Gregory (1997) finds that for five out of six benchmark models white knights experience higher abnormal returns than single hostile acquirers. Only the Dimson and Marsh model shows single hostile acquirers to experience higher abnormal returns than white knight acquirers.

Table 5.7 BHARs for Different Sized Acquirer Portfolios (Winsorised BHARs)

Market capitalisation is defined as the price per share, three months before the bid announcement, multiplied by the number of shares outstanding. The high market value portfolio is constructed by ranking all the 547 acquirers according to their market value and selecting only the 183 largest firms. The low market portfolio is constructed in the same way as the high market value portfolio but includes only the 182 smallest firms. We refer to firms neither in the high or low portfolios as neutral. The share price, number of shares outstanding, returns for acquirers, Financial Times All Share Index, size, market to book value and Fama and French Three Factor (FFTF) portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.14. Winsorising is carried out with extreme observations replaced by two standard deviations (see section 4.12.2). *p* refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels. BHARs are reported as percentages.

Panel A: Event Window 1 (-40 to +250 days)			
	High Market Capitalisation	Neutral Market Capitalisation	Low Market Capitalisation
Market Adj.	1.23 <i>p</i> =51.4	-2.42 <i>p</i> =42.3 ^a	-0.12 <i>p</i> =48.4
Mean Adj.	-4.48 ^c <i>p</i> =37.2 ^a	13.06 <i>p</i> =31.3 ^a	-18.33 ^a <i>p</i> =31.9 ^a
Size Adj.	-2.30 <i>p</i> =42.6 ^a	-5.44 ^a <i>p</i> =36.8 ^a	-4.24 ^c <i>p</i> =45.6 ^b
MTBV Model	-2.69 <i>p</i> =44.3 ^a	-5.16 ^a <i>p</i> =37.4 ^a	-4.27 ^c <i>p</i> =45.1 ^a
TTFT Model	3.76 ^c <i>p</i> =51.4	2.95 <i>p</i> =51.6	0.47 <i>p</i> =46.7 ^c
Panel B: Event Window 2 (-40 to +500 days)			
	High Market Capitalisation	Neutral Market Capitalisation	Low Market Capitalisation
Market Adj.	0.23 <i>p</i> =48.1	-6.88 ^a <i>p</i> =39.0 ^a	-6.94 ^b <i>p</i> =41.2 ^a
Mean Adj.	-8.78 ^b <i>p</i> =38.3 ^a	-20.75 ^b <i>p</i> =27.5 ^a	-30.85 ^a <i>p</i> =26.4 ^a
Size Adj.	-6.52 <i>p</i> =37.7 ^a	-12.40 ^a <i>p</i> =31.9 ^a	-13.04 ^a <i>p</i> =36.8 ^a
MTBV Model	-6.71 ^a <i>p</i> =42.6 ^a	-12.03 ^a <i>p</i> =31.3 ^a	-13.67 ^a <i>p</i> =36.8 ^a
FFTF Model	4.03 <i>p</i> =52.5	1.86 <i>p</i> =48.9	-3.88 <i>p</i> =41.2 ^a
Panel C: Event Window 3 (-40 to +750 days)			
	High Market Capitalisation	Neutral Market Capitalisation	Low Market Capitalisation
Market Adj.	-1.32 <i>p</i> =47.5	-8.17 ^a <i>p</i> =42.3 ^a	-10.39 ^a <i>p</i> =40.7 ^a
Mean Adj.	-6.06 <i>p</i> =32.8 ^a	-15.88 ^b <i>p</i> =28.6 ^a	-33.31 ^a <i>p</i> =22.5 ^a
Size Adj.	-10.45 ^a <i>p</i> =35.0 ^a	-15.11 ^a <i>p</i> =33.0 ^a	-16.11 ^a <i>p</i> =38.5 ^a
MTBV Model	-10.30 ^a <i>p</i> =37.7	-14.32 ^a <i>p</i> =33.0 ^a	-17.16 ^a <i>p</i> =36.8 ^a
FFTF Model	3.06 <i>p</i> =50.3	2.31 <i>p</i> =47.3	-3.81 <i>p</i> =41.8 ^a

Table 5.7 Continued

Panel D: Pairwise Test of Differences in Means and Proportions (Event Window 1)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	1.37	1.74 ^c	0.43	0.57	-0.71	1.17
Mean Adjusted	2.09 ^b	1.19	3.13 ^a	1.07	1.13	0.12
Size Adjusted	1.24	1.13	0.68	-0.58	-0.41	1.71 ^c
MTBV Model	0.96	1.34	-0.55	-0.15	-0.30	1.49
FFTF Model	0.27	-0.04	0.98	0.90	0.72	-0.94
Panel E: Pairwise Test of Differences in Means and Proportions (Event Window 2)						
	Large vs Neutral		Large vs Small		Neutral vs Small	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	1.96 ^b	1.75 ^c	1.71 ^c	1.33	0.01	0.43
Mean Adjusted	1.99 ^b	2.20 ^b	3.70 ^a	2.43 ^a	1.58	-0.24
Size Adjusted	1.76 ^c	1.16	1.77 ^c	0.18	0.16	0.99
MTBV Model	1.59	2.24 ^b	1.94 ^c	1.13	0.43	1.11
FFTF Model	0.54	0.69	1.83 ^c	2.17 ^b	1.25	-1.48
Panel F: Pairwise Test of Differences in Means and Proportions (Event Window 3)						
	Large vs Neutral		Large vs Small		Neutral vs Small	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	1.56	1.00	1.85 ^c	1.31	0.43	-0.31
Mean Adjusted	1.07	0.87	3.34 ^a	2.20 ^b	1.98 ^b	-1.34
Size Adjusted	1.18	0.40	1.32	-0.69	0.22	1.10
MTBV Model	1.01	0.94	1.64 ^c	0.18	0.64	0.76
FFTF Model	0.15	0.57	1.29	1.64 ^c	1.08	-1.06

of the five benchmarks used. On the other hand more recent studies such as Higson and Elliot (1998) find that the whole sample of acquirers experience wealth losses of -1.14% over a two year post-acquisition period. However, the hundred largest acquirers performed better than the whole sample with a CAR of 1.33%.

Table 5.7 shows the BHARs for three different sized acquirer portfolios with one third of the sample in each group⁸. The first year (i.e. -40 to +250 days) BHARs for the whole sample range from -12% to 4% (see Table 5.4). However, the larger sized (i.e. highest market capitalisation) acquirers experience BHARs ranging from -4.5% to 3.8% while that for the smallest companies range from -18% to 0.5%. For the neutral companies the BHARs range from -5.4% to 13%. The differences between the large and small samples show the former to outperform the latter for all benchmark models. The difference in most cases is very small and in the region of 2% to 3%. The only exception being the mean adjusted model which shows an under-performance by smaller companies of 13.8%. The tests of differences in means between different sized acquirers (see panel D of table 5.7) shows only the mean adjusted returns between high versus neutral and high versus low companies to be statistically significant.

The two year (i.e. -40 to +500 days) BHARs for the whole sample range from 0.7% to -20% (see Table 5). However for the large companies it tends to be around -6% to -9% (except for the market adjusted and FFTF models where it is 0.2% and 4% respectively). For smaller acquirers during the same period the BHARs tend to range from -3.9% to -31%. In every model the larger companies tend to outperform the smaller companies. The differences between the large and small acquirers is in the region of 7% (except for the mean adjusted model where it is 22%). Panel B of Table 5.7 shows that for all benchmark models the tests of differences between high and low companies are statistically significant. However, the tests of differences in proportions between high and low companies is only

⁸ We construct three portfolios of acquirers based on their market capitalisation. This is carried out by segregating the sample of acquirers into three groups based on their market value three months prior to the bid-announcement.

statistically significant for the mean adjusted and FFTF models.

The three year (i.e. -40 to +750 days) BHARs in Table 5.7 show that the largest acquirers outperform the smallest acquirers. The whole sample of acquirers experience wealth losses ranging from -18% to 0.5% (see Table 5.6) while those for the larger companies ranges from -10.5% to 3%. Smallest acquirers on the other hand experience far greater wealth losses ranging from -3.81% to -33%. In every model the larger acquirers outperform the smaller acquirers by an average of 6% to 9% except for the mean adjusted model where it 27%. Panel B of Table 5.7 shows that for all except the size adjusted benchmark models the tests of differences between high and low companies are statistically significant. However, the tests of differences in proportions between high and low companies is only statistically significant for the mean adjusted and FFTF models⁹.

Based on these results, we cannot find support for the argument that acquirers with a small market capitalisation experience greater wealth gains than shareholders of acquirers with a larger market value. Our results indicate that larger acquirers tend to outperform smaller acquirers. Our construction of size quintiles along with the ABM Amro Hoare Govett Smaller Companies (HGSC) index (see Dimson and Marsh, 1996) shows that the performance of small and large companies has not been constant throughout the last 40 years. It appears from the HGSC index (see Dimson and Marsh, 1996:exhibit 25) that when our sample of acquirers started in 1983, smaller companies in the HGSC index outperformed the FT All Share index by about 17%. The HGSC index outperformed the FT All Share index from 1983 to 1988 and thereafter the relationship changed. From 1989 to the present the FT All Share index has outperformed the HGSC index apart from 1993 and 1994. Therefore, as smaller companies performed less well against larger companies, in the 1990s, this would be reflected in their long run BHARs (i.e. -40 to +250, -40 to +500 and -40 to +750 days).

⁹ The higher abnormal returns for large bidders can also be explained in terms of their relative size in relation

5.3.2 LONG RUN SHAREHOLDER WEALTH EFFECTS OF ACQUIRERS BY MARKET TO BOOK VALUE

Graham and Dodd (1934) argue that a successful investment strategy is based on selecting companies with a low market to book value (i.e. high book to market value). The recent empirical CAPM models, such as the Fama and French (1992) type, incorporate market to book value as a proxy for unobservable common risk factors. Lakonishok et al. (1994) extend this argument by claiming that financial ratios are efficient at predicting returns on shares because they capture the systematic errors of investor expectations of future returns and the inefficiency of stockmarkets. In the area of takeovers Rau and Vermaelen (1998) investigate acquisitions completed between 1980 and 1991 and find the whole sample of acquirers experience wealth effects in the region of -13% over a three year period. They find acquirers with a low market to book value to experience wealth effect of 25.5% over the same period. However, acquirers with a high market to book value experience far worse wealth effects of -47.7% over a three year post acquisition period.

In Table 5.4 we show the BHARs for the whole sample of acquisitions which range from -12% to 2.4% for the period -40 to +250 days. In Panel A of Table 5.8 we report the BHARs for acquirers based on their market to book value. We divide acquirers into three groups, namely those with high, neutral and low market to book values. Acquirers with a high market to book value experience negative BHARs ranging from -14.9% to 1.8%. All BHARs are statistically significant at the 1% level except for the market to book value returns and the mean adjusted and FFTF models which are insignificant. For acquirers with a low market to book value the BHARs tend to be higher ranging from -8.4% to 2.8%. The results are significant at the 1% level for the mean adjusted returns and at the 10% level market to book value returns. The results show that in every case acquirers with a low market to book value outperform those with a high market to book value in the range of 1% to 4.5%. Also, the number of positive returns tends to be higher for acquirers with a

to the target (see section 2.4.4). Also, it may be the case that large companies carry out acquisitions which are different to those by smaller acquirers.

Table 5.8 BHARs for Different Market to Book Value Acquirer Portfolios (Winsorised BHARs)

The market to book value is defined as the market capitalisation of the firm's equity and the book value of total debt divided by the book value of total assets. Market capitalisation is defined as the price per share, three months before the bid announcement, multiplied by the number of shares outstanding. The high market to book value portfolio is constructed by ranking all the 547 acquirers according to their market to book value and selecting only the 183 firms with the highest values. The low market portfolio is constructed in the same way as the high market value portfolio but includes only the 183 firms with the lowest values. We refer to firms in neither the high or low portfolios as neutral companies. The share price, number of shares outstanding, book values, returns for acquirers, Financial Times All Share Index, size, market to book value and Fama and French Three Factor (FFTF) portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.14. Winsorising is carried out with extreme observations replaced by two standard deviations (see section 4.12.2). p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels.

Panel A: Event Window 1 (-40 to +250 days)						
	High MTBV Portfolio		Neutral MTBV Portfolio		Low MTBV Portfolio	
Market Adj.	-3.37	p=43.2	0.93	p=48.4	1.15	p=50.5
Mean Adj.	-14.86 ^a	p=27.9	-12.54 ^a	p=34.3	-8.43 ^a	p=38.5
Size Adj.	-7.08 ^a	p=35.5	-2.00	p=45.6	-2.88	p=47.0
MTBV Model	-6.36 ^a	p=38.8	-2.08	p=45.1	-3.66 ^c	p=42.9
TTFT Model	1.75	p=50.3	2.61	p=48.1	2.84	p=51.1
Panel B: Event Window 2 (-40 to +500 days)						
	High MTBV Portfolio		Neutral MTBV Portfolio		Low MTBV Portfolio	
Market Adj.	-10.55 ^a	p=36.6	-0.49	p=47.3	-2.49	p=44.5
Mean Adj.	-25.08 ^a	p=25.8	-21.55 ^a	p=30.2	-13.70 ^a	p=36.3
Size Adj.	-16.62 ^a	p=29.0	-6.33 ^a	p=39.0	-8.93 ^a	p=38.5
MTBV Model	-15.72 ^a	p=33.9	-6.07 ^a	p=40.1	-10.55 ^a	p=36.8
FFTF Model	-3.16	p=42.6	3.00	p=48.1	2.23	p=51.6
Panel C: Event Window 3 (-40 to +750 days)						
	High MTBV Portfolio		Neutral MTBV Portfolio		Low MTBV Portfolio	
Market Adj.	-15.02 ^a	p=36.6 ^a	-1.09	p=46.2 ^b	-3.68	p=47.8
Mean Adj.	-24.10 ^a	p=24.2 ^a	-21.35 ^a	p=28.6 ^a	-9.77	p=31.3 ^a
Size Adj.	-21.06 ^a	p=30.6 ^a	-8.47 ^a	p=39.6 ^a	-12.06 ^a	p=36.3 ^a
MTBV Model	-19.45 ^a	p=34.4 ^a	-8.40 ^a	p=39.6 ^a	-13.85 ^a	p=33.5 ^a
FFTF Model	-5.84	p=42.6 ^a	5.83	p=49.5	1.64	p=47.3

Table 5.8 Continued

Panel D: Pairwise Test of Differences in Means and Proportions (Event Window 1)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	-1.44	-1.00	-1.48	-1.40	-0.07	0.40
Mean Adjusted	-0.52	-1.32	-1.42	-2.15 ^b	-0.94	0.83
Size Adjusted	-1.87 ^c	-1.97 ^a	-1.48	-2.23 ^b	-0.32	0.27
MTBV Model	-1.57	-1.22	-0.93	-0.80	0.57	0.36
FFTF Model	-0.26	0.42	-0.33	-0.15	-0.07	0.57
Panel E: Pairwise Test of Differences in Means and Proportions (Event Window 2)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	-2.58 ^a	-2.07 ^b	-1.92 ^c	-1.54	0.50	-0.54
Mean Adjusted	-0.57	-0.94	-1.80 ^c	-2.17 ^b	-1.28	1.24
Size Adjusted	-2.86 ^a	-2.02 ^b	-2.06 ^b	-1.92 ^b	0.73	-0.10
MTBV Model	-2.72 ^a	-1.23	-1.39	-0.58	1.30	-0.65
FFTF Model	-1.44	-1.06	-1.21	-1.72 ^c	0.18	0.67
Panel F: Pairwise Test of Differences in Means and Proportions (Event Window 3)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	-2.96 ^a	-1.86 ^c	-2.34 ^b	-2.17 ^b	0.54	0.31
Mean Adjusted	-0.33	-0.95	-1.57	-1.52	-1.31	0.56
Size Adjusted	-3.02 ^a	-1.80 ^c	-2.08 ^b	-1.16	0.85	-0.65
MTBV Model	-2.66 ^a	-1.03	-1.30	0.18	1.32	-1.21
FFTF Model	-2.18 ^b	-1.32	-1.40	-0.90	0.79	-0.42

low market to book value. Panel D of table 5.8 shows that none of the differences in means between high and low MTBV acquirers are statistically significant across all benchmark models. In the case of differences in proportions between high and low MTBV acquirers only the mean and size adjusted models are statistically significant at the 5% level.

In Table 5.5 we show that in the second long run event window (i.e. -40 to 500 days) the whole sample of acquisitions show a returns range of -20% to 0.7%. In Panel B of Table 5.8 we show that acquirers with a high market to book value experience wealth losses of 3% to 25%. For all benchmark models, except the FFTF, the BHARs for acquirers with a high market to book value are significant at the 1% level. Low market to book value acquirers outperform other groups with BHARs ranging from -14% to 2%. All except the mean adjusted and FFTF models produce significant returns at the 1% level. For every model the low market to book value acquirers outperform the other groups. Panel E of Table 5.8 shows that only differences in means for the market, mean and size adjusted BHARs tend to be significantly different for the high and low market to book value groups. In the case of differences in proportions between the high and low MTBV acquirers only the mean, size and FFTF models are statistically significant.

In Table 5.6 we show that the three year event window (i.e. -40 to +750 days) shows the whole sample of acquirers experience BHARs of -18 to 0.5%. In Panel C of Table 5.8 we show that acquirers with a high market to book value the BHARs range from -24% to 0% with all, except the FFTF returns being statistically significant at the 1% level. This represents a small decline in the BHARs compared to the previous period (i.e. -40 to +500 days) as do the number of positive returns. In the case of acquirers with a low market to book value the BHARs range from -13.9% to -1.6%. However, only the size and the market to book value models are significant at the 1% level. The results show that for all models the low market to book value acquirers outperform the high group, as well as having a higher number of positive BHARs. These results lead us to support the argument

that low market to book value acquirers experience greater wealth gains than high market to book value acquirers. These results also tend to be consistent with previous studies which have found that low market to book value companies outperform high market to book value companies such as Barber and Lyon (1996). Also, in the area of takeovers, as mentioned above, Rau and Vermaelen (1998) found that low market to book value acquirers outperformed high market to book value acquirers in each of the three post acquisition years.

5.3.3 LONG RUN SHAREHOLDER WEALTH EFFECTS OF HIGH AND LOW PRICE TO EARNINGS RATIO ACQUIRERS

Table 5.4 shows the relationship between the PE ratio or as Brealey et al. (1995:449) state, “the esteem at which the company is held by investors” and the post-acquisition abnormal returns. For the whole sample of acquirers the BHARs range from -12% to 2.4%, during the period -40 to +250 days. Over the same period a portfolio of acquirers with a high PE ratio at the time of the takeover experience BHARs which range from -20% to 2.5% (see Panel A of Table 5.9). All the BHARs are statistically significant except for the market adjusted and FFTF models. For a portfolio of low PE ratio acquirers the BHARs range from -7.8% to 2.9%. Only the mean adjusted returns is significant at the 1% level. Low PE acquirers tend to have a larger number of positive BCARs across all models. Also, the returns tend to be greater for the low PE group in every case compared to the high PE group and these differences are statistically significant at the 1% level.

In the second long run event window (i.e. -40 to +500 days) the whole sample of takeovers experience BHARs ranging from 0.7% to -20% (see Table 5.5). Over the same period a portfolio of high PE ratio acquirers experience BHARs ranging from -36.9% to -3.3% with

Table 5.9 BHARs for Different Price to Earnings Ratio Acquirer Portfolios (Winsorised BHARs)

The price to earnings (PE) ratio is defined as the price per share, three months prior to the announcement, divided by the earnings per share. The high PE ratio portfolio is constructed by ranking all the 547 acquirers according to their PE ratios and selecting 183 firms with the highest values. The low PE portfolio is constructed in the same way as the high PE portfolio but includes only the 182 firms with the lowest values. We refer to in neither the high and low portfolios as neutral. The share price, PE ratio, returns for acquirers, Financial Times All Share Index, size, market to book value and Fama and French Three Factor (FFTF) portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.14. Winsorising is carried out with extreme observations replaced by two standard deviations (see section 4.12.2). p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels.

Panel A: Event Window 1 (-40 to +250 days)			
	High PE Portfolio	Neutral PE Portfolio	Low PE Portfolio
Market Adj.	-0.46 p=46.6	-1.45 p=46.2 ^b	0.60 p=49.5
Mean Adj.	-20.12 ^a p=25.7	-7.93 ^a p=35.7 ^a	-7.81 ^a p=39.0 ^a
Size Adj.	-0.97 ^a p=38.3	-4.59 ^b p=40.7 ^a	-2.42 p=45.2 ^b
MTBV Model	-5.48 ^a p=37.7	-4.06 ^b p=42.9 ^a	-2.58 p=46.2 ^b
TTFT Model	2.49 p=50.3	1.84 p=50.5	2.86 p=48.9
Panel B: Event Window 2 (-40 to +500 days)			
	High PE Portfolio	Neutral PE Portfolio	Low PE Portfolio
Market Adj.	-7.03 ^a p=39.9 ^a	-6.02 ^b p=41.8 ^a	-0.54 p=46.7 ^c
Mean Adj.	-36.90 ^a p=21.9 ^a	-14.61 ^a p=31.3 ^a	-8.86 ^b p=39.0 ^a
Size Adj.	-13.96 ^a p=32.8 ^a	-11.92 ^a p=32.4 ^a	-6.07 ^b p=41.2 ^a
MTBV Model	-14.57 ^a p=33.3 ^a	-11.55 ^a p=34.6 ^a	-6.30 ^a p=42.9 ^a
FFTF Model	-3.28 p=45.4 ^b	-0.35 p=46.2 ^b	5.63 ^c p=51.1
Panel C: Event Window 3 (-40 to +750 days)			
	High PE Portfolio	Neutral PE Portfolio	Low PE Portfolio
Market Adj.	-12.09 ^a p=37.2 ^a	-6.72 ^c p=44.5 ^a	-1.07 p=48.9
Mean Adj.	-43.23 ^a p=18.0 ^a	-10.36 ^c p=32.4 ^a	-1.67 p=33.5 ^a
Size Adj.	-19.41 ^a p=29.5 ^a	-14.47 ^a p=35.7 ^a	-0.78 ^a p=41.2 ^a
MTBV Model	-19.58 ^a p=30.6 ^a	-13.68 ^a p=36.3 ^a	-8.52 p=40.7 ^a
FFTF Model	-6.05 ^a p=41.5 ^a	0.82 p=48.1 ^a	0.78 ^c p=52.7

Table 5.9 Continued

Panel D: Pairwise Test of Differences in Means (Event Window 1)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	0.33	0.08	-0.35	-0.56	-0.68	0.63
Mean Adjusted	-2.80 ^a	-2.07 ^b	-2.78 ^a	-2.72 ^a	-0.02	0.65
Size Adjusted	-0.14	-0.47	-0.91	-1.34	-0.79	0.87
MTBV Model	-0.51	-1.01	-1.02	-1.65 ^c	-0.53	0.63
FFTF Model	0.20	-0.04	-0.11	0.27	-0.31	-0.31
Panel E: Pairwise Test of Differences in Means (Event Window 2)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	-0.25	-0.37	-1.58	-1.31	-1.33	0.94
Mean Adjusted	-3.81 ^a	-2.03 ^b	-4.68 ^a	-3.55 ^a	-0.91	1.54
Size Adjusted	-0.57	0.08	-2.15	-1.66 ^c	-1.60	1.74 ^c
MTBV Model	-0.85	-0.26	-2.31 ^b	-1.89 ^c	-1.45	1.64 ^c
FFTF Model	-0.69	-0.15	-2.06 ^b	-1.09	-1.37	0.94
Panel F: Pairwise Test of Differences in Means (Event Window 3)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	-1.12	-1.42	-2.30	-2.26 ^b	-1.16	0.84
Mean Adjusted	-4.16 ^a	-3.17 ^a	-4.92 ^a	-3.39 ^a	-0.93	0.22
Size Adjusted	-1.19	-1.26	-2.73 ^a	-2.38	-1.55	1.08
MTBV Model	-1.42	-1.15	-2.65 ^a	-2.02 ^b	-1.21	0.86
FFTF Model	-1.30	-1.27	-2.42 ^b	-2.15 ^b	-1.10	0.88

all except the FFTF BHARs being significant at the 1% level (see Table 5.9). On the other hand the portfolio of acquirers with low PE ratios experience BHARs which are much higher ranging from -8.9% to 5.6%. All except the market adjusted returns are statistically significant. Across benchmark models the portfolio of low PE ratio acquirers outperform those with a high PE ratio and these differences are statistically significant at the 1% level except for the market and size adjusted models. Also, the portfolio of low PE ratio acquirers have a higher proportion of positive BHARs than the high PE ratio group. Panel E of Table 5.9 shows that the differences in means are significant for the mean adjusted at the 1% level and the market to book value and FFTF models at the 5% level.

The three year event window (i.e. -40 to +750 days) BHARs for the whole sample of acquirers ranges from 0.5% to -18% (see Table 5.6). Over the same period we show in Table 5.9 that for a portfolio of high PE acquirers the BHARs range from -6% to -43%. On the other hand those for the low PE ratio acquirers the BHARs range from 0.8% to -8.5%. The BHARs for the high PE ratios are significant at the 1% level. In the case of low PE ratio acquirers only the size and FFTF returns are statistically significant at the 1% and 10% level. Panel F of Table 5.9 shows that the portfolio of high and low PE companies are significantly different for all except the market model in the three year event window. These results lead us to support the argument that shareholders of acquirers with a low PE ratio will experience greater abnormal returns than shareholders of high PE ratio acquirers. This result is consistent with previous studies such as Rau and Vermaelen (1998) which have found similar results.

5.4 CONCLUSION

In this chapter we sought to examine the effect of different acquirer types on their long term performance. In doing so we attempted to answer three questions. First, as to whether friendly or hostile acquirers experience superior relative post-acquisition performance. Second, whether the winning bidder in a takeover with more than one bidder experiences lower relative post-acquisition performance. Third, whether

unplanned (i.e. white knight acquirers) or planned acquirers experience superior performance. This chapter has also sought to investigate the relationship between post-acquisition performance and acquirer market capitalisation, market to book value and PE ratio. In the light of the discussion presented in the previous section we can summarise our final conclusions as follows.

First, in all except the FFTF model, we find acquirers to experience negative post-acquisition BHARs in the region of -2% to -3%. This result is consistent with recent evidence from Limmack (1991), Kennedy and Limmack (1996), Holl and Kyriazis (1997a) and Gregory (1997). An examination of different acquirer types shows that single hostile acquirers outperform all other types by an average of 12% in each of the three long run event windows (i.e. -40 to +250, -40 to +500 and -40 to +750 days). A comparison of friendly and multiple hostile acquirers shows that in the long run the latter outperform the former by an average of 7.6% and 9% for non winsorised and winsorised BHARs respectively. The difference in means between friendly and single hostile acquirers are statistically significant. However, the same is not true for multiple hostile and white knights or friendly acquirers. From these results we find partial evidence to support our first hypothesis that shareholders of hostile acquirers receive greater wealth gains than shareholders of friendly acquirers.

Our results show that in the short run (i.e. during the bid announcement and completion period) acquirers involved in multiple bids tend to under-perform other acquirer types. In each of the three long run event windows single acquirers (i.e. friendly and single hostile) tend to outperform multiple bidders (i.e. white knights and multiple hostile) acquirers. However, the difference between single and multiple hostile acquirers is much lower in the third year following the takeover. Our results reject the second hypothesis which states that shareholders of acquirers not competing with another bidder to purchase the target will experience greater wealth gains than to those

acquirers involved in an auction.

This chapter has shown that white knights experience returns which are higher than those of friendly or multiple hostile acquirers for each of the three long run event windows. Even though white knights experience higher abnormal returns relative to friendly and multiple hostile acquirers, they are not significantly different from each other in the second or third year following a takeover. Based on these results we reject our third hypothesis that shareholders of white knights experience lower abnormal returns relative to other acquirer types.

This chapter has sought to investigate whether portfolios of acquirers with differing market capitalisation experience similar performance. Our study has shown that shareholders of large acquirers (by market capitalisation) outperform relative to shareholders of small acquirers (by market capitalisation). Second, we do find that shareholders of acquirers with a low market to book value to experience greater abnormal returns than shareholders of acquirers with a high market to book value. We also find that our portfolio of acquirers with a low PE ratio tend to outperform those with a high PE ratio.

Appendix 5.1 Pre-Bid Announcement Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The pre-bid announcement period is defined as day's -40 to -2. A single friendly acquirer is sole bidder recommended by the target management. A single hostile acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.15. *p* refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

PANEL A: BHARs by Acquirer Type												
			Whole Sample		Friendly		Single Hostile		White Knight		Multiple Hostile	
Market (FT All Share) Adjusted Returns			3.62 ^a p=57.6 ^a		3.67 ^a p=56.9 ^a		3.28 ^a p=64.0 ^a		3.47 p=51.9		4.09 p=55.0	
Mean Adjusted Returns			1.73 ^a p=51.9 ^c		1.78 ^b p=52.2 ^c		0.40 p=48.0		1.38 p=55.6		6.22 ^c p=55.0	
Size Portfolio Adjusted Returns			2.82 ^a p=54.7 ^a		2.86 ^a p=53.9 ^a		2.71 ^b p=57.3 ^b		1.70 p=51.9		3.93 p=65.0 ^a	
Market to Book Value Adjusted Returns			2.65 ^a p=54.7 ^a		2.58 ^a p=52.7 ^b		3.14 ^a p=62.7 ^a		1.32 p=55.6		4.00 p=65.0 ^a	
Fama and French Three Factor Adjusted Returns			3.87 ^a p=59.8 ^a		3.85 ^a p=45.7 ^a		3.60 ^a p=62.7 ^a		3.20 p=59.3 ^b		6.26 ^b p=70.0 ^a	
Sample Size			547		425		75		27		20	
PANEL B: Pairwise Test of Differences in Means and Proportions												
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model			
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop		
F vs SH	0.3	-1.2	0.8	0.7	0.1	-0.6	-0.4	-1.6 ^c	0.2	-2.7 ^a		
F vs WK	0.2	0.5	0.1	-0.3	0.4	0.2	0.5	-0.3	0.2	-1.4		
F vs MH	-0.1	0.2	-1.3	-0.3	-0.4	-1.0	-0.5	-1.1	-0.8	-2.1 ^b		
SH vs WK	-0.1	1.1	-0.3	-0.7	0.3	0.5	0.6	0.7	0.1	0.3		
SH vs MH	-0.3	0.7	-1.6	-0.6	-0.4	-0.6	-2.3 ^a	-0.2	-0.8	-0.6		
WK vs MH	-0.1	-0.2	-1.0	0.0	-0.6	-0.9	-0.7	-0.7	-0.7	-0.8		

Appendix 5.2 Bid-Announcement Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The bid-announcement period is defined as days -1 to +1. A single friendly acquirer is sole bidder recommended by the target management. A single hostile acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.15. p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

	Whole Sample	Friendly	Single Hostile	White Knight	Multiple Hostile					
Market (FT All Share) Adjusted Returns	-1.31 ^a p=34.4	-1.41 ^c p=34.1 ^a	-1.37 ^c p=29.3 ^a	-0.15 p=51.9	-0.56 p=35.0 ^a					
Mean Adjusted Returns	-1.40 ^a p=32.5 ^a	-1.52 ^a p=32.0 ^a	-1.43 ^c p=29.3 ^a	0.27 p=51.9	-0.90 p=30.0 ^a					
Size Portfolio Adjusted Returns	-1.34 ^a p=34.0 ^a	-1.43 ^a p=34.1 ^a	-1.36 ^c p=29.3 ^a	-0.18 p=48.1	-0.88 p=30.0 ^a					
Market to Book Value Adjusted Returns	-1.32 ^a p=34.7 ^a	-1.41 ^a p=34.8 ^a	-1.40 ^b p=28.0 ^a	-0.04 p=51.9	-0.98 p=35.0 ^a					
Fama and French Three Factor Adjusted Returns	-1.24 ^a p=34.0 ^a	-1.35 ^a p=34.5 ^a	-1.29 p=26.7 ^a	0.16 p=51.9	-0.65 p=30.0 ^a					
Sample Size	547	425	75	27	20					
PANEL B: Pairwise Test of Differences in Means and Proportions										
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model	
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop
F vs SH	-0.0	0.8	-0.1	0.5	-0.1	0.8	-0.0	1.2	-0.1	1.3
F vs WK	-1.1	-1.9 ^c	-1.5	-2.1 ^b	-1.0	-1.5	-1.2	-1.8 ^c	-1.3	-1.8 ^c
F vs MH	-0.8	-0.1	-0.6	0.2	-0.6	0.4	-0.4	-0.0	-0.7	0.4
SH vs WK	-0.9	-2.1 ^b	-1.2	-2.1 ^b	-0.9	-1.8 ^c	-1.0	-2.2 ^b	-1.0	-2.4 ^a
SH vs MH	-0.6	-0.5	-0.4	-0.1	-0.4	-0.1	-0.3	-0.6	-0.5	-0.3
WK vs MH	0.3	1.2	0.8	1.5	0.5	1.25	0.6	1.2	0.5	1.5

Appendix 5.3 Bid Period Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The bid period is defined as days -1 to +40. A single friendly acquirer is sole bidder recommended by the target management. A single hostile acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.15. *p* refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

	Whole Sample	Friendly	Single Hostile	White Knight	Multiple Hostile					
Market (FT All Share) Adjusted Returns	0.17 p=47.5 ^b	0.19 p=48.2	1.10 p=46.7	0.86 p=51.9	-4.75 ^a p=30.0 ^a					
Mean Adjusted Returns	-1.95 ^a p=40.6 ^a	-2.20 ^a p=40.0 ^a	-0.39 p=42.7 ^b	-0.77 p=40.7 ^b	-4.13 p=45.0					
Size Portfolio Adjusted Returns	-0.29 p=45.2 ^a	-0.24 p=45.2 ^a	0.77 p=49.3	0.00 p=48.1	-5.49 ^a p=25.0 ^a					
Market to Book Value Adjusted Returns	-0.29 p=44.2 ^a	-0.25 p=44.7 ^a	0.86 p=48.0	-0.26 p=44.4	-5.53 ^a p=20.0 ^a					
Fama and French Three Factor Adjusted Returns	0.70 p=49.2	0.67 p=49.4	1.74 p=49.3	1.46 p=51.9	-3.66 ^b p=40.0 ^c					
Sample Size	547	425	75	27	20					
PANEL B: Pairwise Test of Differences in Means and Proportions										
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model	
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop
F vs SH	-0.7	0.2	-1.1	-0.4	-0.8	-0.7	-0.9	-0.5	-0.8	0.0
F vs WK	-0.4	-0.4	-0.5	-0.1	-0.1	-0.3	0.0	0.0	-0.4	-0.3
F vs MH	2.7 ^a	1.6	0.7	-0.5	3.1 ^a	1.8 ^c	3.2 ^a	2.2 ^b	2.5 ^a	0.8
SH vs WK	0.1	-0.5	0.1	0.2	0.4	0.1	0.6	0.3	0.1	-0.2
SH vs MH	2.8 ^a	1.3	1.2	-0.2	3.2 ^a	1.9 ^b	3.4 ^a	2.3 ^b	2.7 ^a	0.7
WK vs MH	2.3 ^b	1.5	0.9	-0.3	2.3 ^b	1.6 ^c	2.3	1.8 ^c	2.2 ^b	0.8

Appendix 5.4 One Year Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The one year period is defined as days -40 to +250. A single friendly acquirer is sole bidder recommended by the target management. A single hostile acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.15. p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

	Whole Sample	Friendly	Single Hostile	White Knight	Multiple Hostile					
Market (FT All Share) Adjusted Returns	0.49 p=47.3 ^b	-0.96 p=46.4 ^a	7.90 ^c p=54.7	0.50 p=48.1	3.50 p=40.0 ^c					
Mean Adjusted Returns	-9.98 ^a p=33.5 ^a	-12.52 ^a p=32.7 ^a	-5.95 p=32.0 ^a	-7.17 p=40.7 ^b	-25.06 p=45.0					
Size Portfolio Adjusted Returns	-3.16 ^a p=41.7 ^a	-4.69 ^a p=40.0 ^a	5.28 p=52.0	-3.99 p=40.7 ^b	-1.15 p=40.0 ^c					
Market to Book Value Adjusted Returns	-3.16 ^a p=42.2 ^a	-4.86 ^a p=40.0 ^a	7.05 p=57.3 ^b	-5.71 p=37.0 ^a	-1.80 p=40.0 ^c					
Fama and French Three Factor Adjusted Returns	3.53 ^b p=49.9	1.87 p=47.8 ^c	10.79 ^b p=62.7 ^a	2.23 p=48.1	13.42 p=50.0					
Sample Size	547	425	75	27	20					
PANEL B: Pairwise Test of Differences in Means and Proportions										
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model	
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop
F vs SH	-1.9 ^c	-1.3	-1.2	0.1	-2.2 ^b	-1.9 ^b	-2.6 ^a	-2.8 ^a	-1.8 ^c	-2.4 ^a
F vs WK	-0.3	-0.2	-0.5	-0.9	-0.1	-0.1	0.2	0.3	-0.1	-0.0
F vs MH	-0.5	0.6	-1.9 ^b	-1.1	-0.5	0.0	-0.4	0.0	-1.2	-0.2
SH vs WK	1.1	0.6	0.1	-0.8	1.4	1.0	2.0 ^b	1.8 ^c	1.15	1.3
SH vs MH	0.5	1.2	-1.5	-1.0	0.8	1.0	1.1	-0.3	-0.3	1.0
WK vs MH	-0.3	0.6	-1.5	-0.3	-0.3	0.1	-0.5	0.0	-1.0	-0.1

Appendix 5.5 Two Year Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The two year period is defined as days -40 to +500. A single friendly acquirer is sole bidder recommended by the target management. A single hostile acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.15. p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

	Whole Sample	Friendly	Single Hostile	White Knight	Multiple Hostile					
Market (FT All Share) Adjusted Returns	-3.15 ^c p=42.8 ^a	-5.31 ^c p=40.7 ^a	7.90 p=53.3	1.01 p=51.9	-4.13 p=35.0 ^a					
Mean Adjusted Returns	-16.59 ^a p=30.7 ^a	-19.51 ^a p=28.2 ^a	-9.23 p=36.0 ^a	-8.44 p=44.4	7.01 p=45.0					
Size Portfolio Adjusted Returns	-9.50 ^a p=35.5 ^a	-11.53 ^a p=35.1 ^a	1.27 p=41.3 ^a	-5.35 p=25.9 ^a	-12.19 p=35.0 ^a					
Market to Book Value Adjusted Returns	-9.59 ^a p=36.9 ^a	-11.79 ^a p=35.1 ^a	2.62 p=49.3	-6.03 p=37.0 ^a	-13.47 p=30.0 ^a					
Fama and French Three Factor Adjusted Returns	2.20 p=47.5 ^b	-0.17 p=45.4 ^a	13.13 ^b p=51.9	5.45 p=51.9	7.22 p=45.0					
Sample Size	547	425	75	27	20					
PANEL B: Pairwise Test of Differences in Means and Proportions										
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model	
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop
F vs SH	-2.2 ^b	-2.0 ^b	-1.3	-1.4	-2.3 ^b	-1.0	-2.8 ^a	-2.4 ^a	-2.1 ^b	-1.0
F vs WK	-1.1	-1.2	-0.9	-1.8 ^c	-1.1	1.0	-1.0	-2.0	-0.8	-0.7
F vs MH	-0.1	0.5	-1.3	-1.6 ^c	0.1	0.0	0.2	0.5	-0.6	0.0
SH vs WK	0.9	0.1	-0.1	-0.8	0.9	1.4	1.2	1.1	0.9	0.0
SH vs MH	1.0	1.5	-0.7	-0.7	1.3	0.5	1.7 ^c	1.5	0.5	0.6
WK vs MH	0.4	1.2	-0.6	-0.0	0.6	-0.7	0.7	0.5	-0.1	0.5

Appendix 5.6 Three Year Buy and Hold Abnormal Returns (BHARs) by Acquirer Type

The three year period is defined as days -40 to +750. A single friendly acquirer is sole bidder recommended by the target management. A single hostile acquirer is the only bidder for the target firm and wins despite resistance by the target management. A white knight acquirer is a friendly bidder which enters the contest for the target after a hostile bidder and wins the contest. A multiple hostile acquirer is one which wins in competition with another hostile bidder or a white knight. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.15. p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels respectively using a two tail test. BHARs are reported as percentages.

	Whole Sample	Friendly	Single Hostile	White Knight	Multiple Hostile					
Market (FT All Share) Adjusted Returns	-5.30 ^a p=43.5 ^a	-7.66 ^a p=40.7 ^a	6.24 p=57.3 ^b	0.81 p=48.1	-6.75 p=45.0					
Mean Adjusted Returns	-9.57 p=28.0 ^a	-15.36 ^a p=26.6 ^a	-5.80 p=30.7 ^a	-2.52 p=37.0 ^a	-8.98 p=35.0 ^a					
Size Portfolio Adjusted Returns	-12.57 ^a p=35.5 ^a	-14.52 ^a p=33.6 ^a	-2.26 p=48.0	-7.21 p=29.6 ^a	-17.23 ^c p=35.0 ^a					
Market to Book Value Adjusted Returns	-12.65 ^a p=35.8 ^a	-14.64 ^a p=33.4 ^a	-1.62 p=50.7	-7.03 p=29.6 ^a	-19.30 ^b p=40.0 ^c					
Fama and French Three Factor Adjusted Returns	2.42 p=46.4 ^a	-0.39 p=43.5 ^a	13.06 ^b p=59.7	9.22 p=55.6	13.15 p=50.0					
Sample Size	547	425	75	27	20					
PANEL B: Pairwise Test of Differences in Means and Proportions										
	Market Model		Mean Adj.		Size Adj.		MTBV Adj.		FFTF Model	
	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop	Mean	Prop
F vs SH	-2.4 ^b	-2.7 ^a	-0.7	-0.7	-2.3 ^b	-2.4 ^a	-2.6 ^a	-2.9 ^a	-2.0 ^b	-2.6 ^a
F vs WK	-1.2	-0.8	-0.7	-1.2	-1.1	0.4	-1.1	0.4	-1.0	-1.2
F vs MH	-0.1	-0.4	-1.0	-0.8	0.3	-0.1	0.5	-0.6	-0.8	-0.6
SH vs WK	0.6	0.8	-0.2	-0.6	0.6	1.7 ^c	0.7	1.9 ^c	0.3	0.4
SH vs MH	1.0	1.0	-0.9	-0.4	1.3	1.0	1.7 ^c	0.9	-0.0	0.8
WK vs MH	0.5	0.2	-0.9	0.1	0.8	-0.4	1.1	-0.7	-0.2	0.4

Appendix 5.7 BHARs for Different Sized Acquirer Portfolios (Non-Winzorised BHARs)

Market capitalisation is defined as the price per share, three months before the bid announcement, multiplied by the number of shares outstanding. The high market value portfolio is constructed by ranking all the 547 acquirers according to their market value and selecting only the 183 largest firms. The low market portfolio is constructed in the same way as the high market value portfolio but includes only the 182 smallest firms. We refer to firms in neither the high or low portfolios as neutral firms. The share price, number of shares outstanding, returns for acquirers, Financial Times All Share Index, size, market to book value and Fama and French Three Factor (FFTF) portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.15. p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels. BHARs are reported as percentages.

Panel A: Event Window 1 (-40 to +250 days)				
	High Market Capitalisation	Neutral Market Capitalisation	Low Market Capitalisation	
Market Adj.	1.3 p=51.4	-1.38 p=42.3 ^a	1.55 p=48.4	
Mean Adj.	-2.6 p=37.2 ^a	-10.60 ^a p=31.3 ^a	-16.78 ^a p=31.9 ^a	
Size Adj.	-2.24 p=42.6 ^a	-4.37 ^b p=36.8 ^a	-2.86 p=45.6 ^b	
MTBV Model	-2.66 p=44.5 ^a	-4.05 ^c p=37.4 ^a	-2.77 p=45.1 ^a	
TTFT Model	4.42 ^b p=51.4	3.95 p=51.6	2.21 p=46.7 ^c	
Panel B: Event Window 2 (-40 to +500 days)				
	High Market Capitalisation	Neutral Market Capitalisation	Low market Capitalisation	
Market Adj.	0.43 p=48.1	-5.40 ^c p=39.0 ^a	-4.49 p=41.2 ^a	
Mean Adj.	-6.21 p=38.3 ^a	-13.51 ^b p=27.5 ^a	-30.10 p=26.4 ^a	
Size Adj.	-6.19 ^a p=37.7 ^a	-10.58 ^a p=31.9 ^a	-11.74 ^a p=36.8 ^a	
MTBV Model	-6.40 ^a p=42.6 ^a	-9.89 ^a p=31.3 ^a	-12.50 ^a p=36.8 ^a	
FFTF Model	5.55 ^c p=52.5	3.43 p=48.9	-2.39 p=41.2 ^a	
Panel C: Event Window 3 (-40 to +750 days)				
	High Market Capitalisation	Neutral Market Capitalisation	Low Market Capitalisation	High - Low Groups
Market Adj.	-0.92 p=47.5	-6.89 ^c p=42.3 ^a	-8.11 ^c p=40.7 ^a	7.19 ^a
Mean Adj.	5.27 p=32.8 ^a	-0.78 p=28.6 ^a	-33.28 ^a p=22.5 ^a	38.55 ^a
Size Adj.	-10.04 ^a p=35.0 ^a	-13.30 ^a p=33.0 ^a	-14.40 ^a p=38.5 ^a	4.36 ^a
MTBV Model	-9.88 ^a p=37.7 ^a	-12.43 ^a p=33.0 ^a	-15.66 ^a p=36.8 ^a	5.78 ^a
FFTF Model	5.08 p=50.3 ^a	4.81 p=47.3	-2.63 p=41.8 ^a	7.71 ^a

APPENDIX 5.7 Continued

Panel D: . Pairwise Test of Differences in Means and Proportions (Event Window 1)						
	Large vs Neutral		Large vs Small		Neutral vs Small	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	0.91	3.90 ^a	-0.07	0.57	-0.77	1.17
Mean Adjusted	1.61	1.19	2.80 ^a	1.07	1.16	0.12
Size Adjusted	0.76	1.13	0.19	-0.58	-0.44	1.71 ^c
MTBV Model	0.49	1.38	0.03	-0.12	-0.37	1.49
FFTF Model	0.14	-0.04	0.58	0.90	0.44	-0.94
Panel D: Pairwise Test of Differences in Means and Proportions (Event Window 2)						
	Large vs Neutral		Large vs Small		Neutral vs Small	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	1.46	1.75 ^c	1.06	1.33	-0.18	0.43
Mean Adjusted	0.90	2.20 ^b	3.66 ^a	2.43 ^a	2.04	-0.24
Size Adjusted	1.16	1.16	1.40	0.18	0.26	0.99
MTBV Model	0.92	2.24 ^b	1.58	1.13	0.60	1.11
FFTF Model	0.46	0.69	1.64 ^c	2.17 ^b	1.14	-1.48
Panel D: Pairwise Test of Differences in Means and Proportions (Event Window 3)						
	Large vs Neutral		Large vs Small		Neutral vs Small	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	1.29	1.00	1.35	1.31	0.21	-0.31
Mean Adjusted	0.35	0.87	2.76 ^a	2.20 ^b	2.51	-1.34
Size Adjusted	0.75	0.40	0.95	-0.69	0.22	1.10
MTBV Model	0.59	0.94	1.29	0.18	0.65	0.76
FFTF Model	0.05	0.57	1.32	1.64 ^c	1.21	-1.06

Appendix 5.8 BHARs for Different Market to Book Value Acquirer Portfolios (Non-Winsorised BHARs)

The market to book value is defined as the market capitalisation of the firm's equity and the book value of total debt divided by the book value of total assets. Market capitalisation is defined as the price per share, three months before the bid announcement, multiplied by the number of shares outstanding. The high market to book value portfolio is constructed by ranking all the 547 acquirers according to their market to book value and selecting only the 183 firms with the highest values. The low market portfolio is constructed in the same way as the high market value portfolio but includes only the 183 firms with the lowest values. We refer to firms in neither the high or low portfolios as neutral companies. The share price, number of shares outstanding, book values, returns for acquirers, Financial Times All Share Index, size, market to book value and Fama and French Three Factor (FFTF) portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.15. Winsorising is carried out with extreme observations replaced by two standard deviations (see section 4.12.2). p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels.

Panel A: Event Window 1 (-40 to +250 days)			
	High MTBV Portfolio	Neutral MTBV Portfolio	Low MTBV Portfolio
Market Adj.	-2.30 p=43.2 ^a	1.54 p=48.4	2.25 p=50.5
Mean Adj.	-13.13 ^a p=27.9 ^a	-10.33 ^a p=34.1 ^a	-6.48 ^c p=38.3 ^a
Size Adj.	-6.21 ^a p=35.5 ^a	-1.37 p=45.6 ^b	-1.87 p=44.0 ^a
MTBV Model	-5.17 ^b p=38.8 ^a	-1.36 p=45.1 ^a	-2.93 p=42.9 ^a
TTFT Model	2.83 p=50.3	3.96 p=48.4	3.80 p=51.1
Panel B: Event Window 2 (-40 to +500 days)			
	High MTBV Portfolio	Neutral MTBV Portfolio	Low MTBV Portfolio
Market Adj.	-9.85 ^a p=36.6 ^a	0.57 p=47.3	-0.12 p=44.5 ^a
Mean Adj.	-22.44 ^a p=25.7 ^a	-19.04 ^a p=30.2 ^a	-8.30 p=36.3 ^a
Size Adj.	-15.68 ^a p=29.0 ^a	-5.63 ^b p=39.0 ^a	-7.13 ^b p=38.5 ^a
MTBV Model	-14.45 ^a p=33.9 ^a	-5.42 ^b p=40.1 ^a	-8.86 ^a p=36.8 ^a
FFTF Model	-2.13 p=42.6 ^a	4.59 p=48.4	4.18 p=51.6
Panel C: Event Window 3 (-40 to +750 days)			
	High MTBV Portfolio	Neutral MTBV Portfolio	Low MTBV Portfolio
Market Adj.	-13.80 ^a p=36.6 ^a	-0.07 p=46.2 ^b	-1.97 p=47.8
Mean Adj.	-19.70 ^a p=24.0 ^a	-7.32 p=28.6 ^a	-1.68 p=31.1 ^a
Size Adj.	-19.60 ^a p=30.6 ^a	-7.39 ^a p=39.6 ^a	-10.68 ^a p=36.3 ^a
MTBV Model	-17.84 ^a p=34.4 ^a	-7.47 ^a p=39.6 ^a	-12.59 ^a p=33.5 ^a
FFTF Model	-3.86 p=42.6 ^a	8.58 ^b p=49.5	2.62 p=47.3

Appendix 5.8 Continued

Panel D: Pairwise Test of Differences in Means (Event Window 1)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	-1.31	-1.00	-1.28	-1.40	-0.21	0.40
Mean Adjusted	-0.80	-1.28	-1.31	-2.11 ^b	-0.74	0.83
Size Adjusted	-0.98	-1.97 ^b	-1.32	-1.66 ^c	0.16	-0.31
MTBV Model	-0.66	-1.22	-0.67	-0.80	0.51	-0.42
FFTF Model	-0.15	0.36	-0.26	-0.15	0.04	0.52
Panel D: Pairwise Test of Differences in Means (Event Window 2)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	-0.21	-2.07 ^b	-2.06 ^b	-1.54	0.15	-0.54
Mean Adjusted	-1.24	-0.96	-1.76 ^c	-2.19 ^b	-1.38	1.24
Size Adjusted	-1.34	-2.02 ^b	-2.02 ^b	-1.97 ^b	0.37	-0.10
MTBV Model	-0.98	-1.23	-1.33	-0.58	0.88	-0.65
FFTF Model	-1.13	-1.11	-1.27	-1.72 ^c	0.09	0.61
Panel F: Pairwise Test of Differences in Means (Event Window 3)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop	Mean	Prop	Mean	Prop
Market Adjusted	-0.98	-1.86 ^c	-2.23 ^b	-2.17 ^b	0.36	0.31
Mean Adjusted	-0.65	-1.00	-1.44	-1.52	-0.34	0.52
Size Adjusted	-0.75	-1.80 ^c	-1.87 ^b	-1.16	0.72	-0.65
MTBV Model	-1.10	-1.03	-1.11	0.18	1.16	-1.21
FFTF Model	-1.12	-1.32	-1.11	-0.90	1.02	-0.42

Appendix 5.9 BHARs for Different Price to Earnings Ratio Acquirer Portfolios (Non-Winsorised BHARs)

The price to earnings (PE) ratio is defined as the price per share, three months prior to the announcement, divided by the earnings per share. The high PE ratio portfolio is constructed by ranking all the 547 acquirers according to their PE ratios and selecting 183 firms with the highest values. The low PE portfolio is constructed in the same way as the high PE portfolio but includes only the 182 firms with the lowest values. We refer to firms in neither the high and low portfolios as neutral companies. The share price, PE ratio, returns for acquirers, Financial Times All Share Index, size, market to book value and Fama and French Three Factor (FFTF) portfolios are based on data obtained from Datastream International. The construction of the size and market to book value portfolios is explained in section 4.15. Winsorising is carried out with extreme observations replaced by two standard deviations (see section 4.12.2). p refers to the proportion of positive observations in each group. ^{a,b,c} refers to 1%, 5% and 10% significance levels.

Panel A: Event Window 1 (-40 to +250 days)			
	High PE Portfolio	Neutral PE Portfolio	Low PE Portfolio
Market Adj.	12.11 p=46.4 ^b	-1.11 p=46.2 ^b	1.36 p=49.5
Mean Adj.	-18.40 ^a p=25.7 ^a	-5.52 p=35.7 ^a	-6.03 ^c p=39.0 ^a
Size Adj.	-3.58 p=38.3 ^a	-4.30 ^b p=40.7 ^a	-1.59 p=46.2 ^b
MTBV Model	-4.04 ^c p=37.7 ^a	-3.73 ^c p=42.9 ^a	-1.71 p=45.9 ^b
TTFT Model	3.74 p=50.3	2.85 p=50.5	4.00 p=48.9
Panel B: Event Window 2 (-40 to +500 days)			
	High PE Portfolio	Neutral PE Portfolio	Low PE Portfolio
Market Adj.	-5.39 ^c p=39.9 ^a	-5.39 ^c p=41.8 ^a	1.31 p=46.7 ^c
Mean Adj.	-35.35 ^a p=21.9 ^a	-11.92 ^b p=31.3 ^a	-2.56 p=39.0 ^a
Size Adj.	-13.24 ^a p=32.8 ^a	-11.34 ^a p=32.4 ^a	-3.94 p=41.2 ^a
MTBV Model	-13.90 ^a p=33.3 ^a	-10.89 ^a p=34.6 ^a	-4.02 p=42.7 ^a
FFTF Model	-0.87 p=45.4 ^b	1.15 p=46.2 ^b	8.30 ^b p=51.1
Panel C: Event Window 3 (-40 to +750 days)			
	High PE Portfolio	Neutral PE Portfolio	Low PE Portfolio
Market Adj.	-10.20 ^a p=37.2 ^a	-6.18 ^c p=44.5 ^a	0.45 p=48.9
Mean Adj.	-39.02 ^a p=18.0 ^a	2.38 p=32.4 ^a	7.83 p=33.5 ^a
Size Adj.	-18.09 ^a p=29.5 ^a	-13.95 ^a p=35.6 ^a	-5.73 p=41.2 ^a
MTBV Model	-18.46 ^a p=30.6 ^a	-13.00 ^a p=36.3 ^a	-6.52 ^c p=40.7 ^a
FFTF Model	-4.42 p=41.5 ^a	2.03 p=45.1 ^a	9.20 ^b p=52.7

Panel D: Pairwise Test of Differences in Means and Proportions (Event Window 1)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop.	Mean	Prop.	Mean.	Prop.
Market Adjusted	0.66	0.04	-0.04	-0.59	-0.74	0.06
Mean Adjusted	-2.59 ^a	-2.07	-2.59 ^a	-2.72 ^a	-0.10	0.65
Size Adjusted	0.22	-0.47	-0.62	-1.53	-0.88	1.06
MTBV Model	-0.09	-1.01	-0.72	-1.59	-0.65	0.58
FFTF Model	0.23	-0.04	-0.07	0.27	-0.31	-0.31
Panel E: Pairwise Test of Differences in Means and Proportions (Event Window 2)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop.	Mean	Prop.	Mean	Prop.
Market Adjusted	-0.00	-0.37	-1.42	-1.31	-1.46	0.94
Mean Adjusted	-3.51 ^a	-2.03 ^b	-4.24 ^a	-3.55 ^a	-1.15	1.54
Size Adjusted	-0.50	0.08	-2.23 ^a	-1.66 ^c	-1.78 ^c	1.74
MTBV Model	-0.80	-0.26	-2.43	-1.85 ^c	-1.67 ^c	1.59
FFTF Model	-0.87	-0.15	-2.31 ^b	-1.09	-1.41	0.94
Panel F: Pairwise Test of Differences in Means and Proportions (Event Window 3)						
	High vs Neutral		High vs Low		Neutral vs Low	
	Mean	Prop.	Mean	Prop.	Mean	Prop.
Market Adjusted	-0.77	-1.42	-2.00 ^b	-2.26 ^b	-1.29	0.84
Mean Adjusted	-2.75 ^a	-3.17 ^a	-3.80 ^a	-3.39 ^a	-0.32	0.22
Size Adjusted	-0.93	-1.24	-2.59 ^a	-2.34 ^a	-1.76 ^c	1.10
MTBV Model	-1.24	-1.15	-2.57	-2.02 ^b	-1.40	0.86
FFTF Model	-1.13	-0.69	-2.34 ^b	-2.15 ^b	-1.26	1.45

CHAPTER SIX

SOURCES OF POST-ACQUISITION VALUE CREATION: THEORY, EMPIRICAL EVIDENCE AND HYPOTHESES

6 INTRODUCTION

The literature on takeovers has shown that acquisitions have been driven by a number of different motives. Jensen and Ruback (1983) concluded that, “knowledge of the sources of takeover gains still elude us”. To date we have not yet conclusively determined the sources of takeover gains and our knowledge in this area is incomplete. We have seen from the discussion in Chapter 2 that the vast bulk of previous studies examining corporate acquisitions have attempted to answer the question of whether takeovers were value creating. As such these studies concentrated on the average wealth experiences of all shareholders. We have also seen from the discussion in Chapter 3 and the empirical evidence in Chapter 5 that the mood of the bid is an important variable which determines the announcement period and long run post-acquisition returns. In this chapter we review the literature relating to the sources of post-acquisition value creation.

The literature dealing with the sources of post-acquisition value creation is vast but nevertheless it can be categorised into four main theories: efficiency, wealth transfer, mis-valuation and strategic theories. These classifications are by no means unique and

are used purely for simplicity. This chapter intends to review the literature concerning efficiency, mis-valuation and wealth transfer theories¹. From the literature review we are able to identify areas which require further research, especially for the UK, and hence develop our hypotheses.

6.1 EFFICIENCY THEORY

A popular rationale for corporate takeovers is to exploit efficiencies or synergies between the target and bidder firm. Synergy is simply the ability of two firms to increase their performance through combining their activities. Efficiency theory suggests that mergers have a potential for social benefit and will result in the realisation of available synergies, which can be operational, financial or managerial in nature. The realisation of synergy from takeovers is usually referred to as the “ $2 + 2 > 4$ ” effect.

6.1.1 OPERATIONAL SYNERGY

Proponents of operational synergy argue that once the target and bidder firms combine their operations, average costs will fall. There are two reasons why this may occur: the first is due to economies of scale and the second to economies of scope. Economies of scale arise because of indivisibilities. As initial overhead costs are spread over larger volumes of output, unit production costs begin to fall. As production rises the marginal cost falls and with it the average cost also falls with consequent increasing returns to the producer. Economies of scale can be obtained from overhead costs such as

¹ We do not review the literature relating to strategy theories for takeovers because they are not empirically tested in this study.

investment in plant and machinery, research and development, marketing, purchasing or inventory management etc.

The second source of operational synergy is economies of scope which arises when a multi-product firm is able to produce or sell two separate goods at a cost which is lower than the combined cost of producing, or selling, these goods by two single product firms. In order to realise economies of scope the two products must share some common inputs which are quasi-public in nature². Hence, once these common inputs are acquired to produce one product they must be costlessly available for use in producing the other product. Additionally, the two products must share factors of production which are imperfectly divisible. So that, for instance, the production of one product leaves excess capacity which can be diverted costlessly to the production of the other product. For example, an electronics company that is producing mobile telephones has the experience to do research, production and marketing of related electronic products that use the same or similar facilities.

The empirical evidence examining takeover gains due to operational synergy find mixed results. Studies such as Singh and Montgomery (1987) which examine a sample of 105 US takeovers between the period 1975 to 1979 find evidence to support operational synergy. This study finds higher abnormal returns in related takeovers than in unrelated takeovers. Also, the standardised dollar gains are much higher for related takeovers than for unrelated takeovers. Rather different results are reported by Seth (1990) for a sample of 104 tender offers completed during the period 1962 to 1979.

² The quasi-public nature of the good is essential to generate economies of scale because it allows for a sharing of resources between the production/sale of the goods in question. If the production/sale of a good was totally private then no sharing of resources is possible.

The results show that the combined bidder and target gains are higher in related than in unrelated takeovers. However, Seth (1990) finds little support for the argument that related takeovers lead to greater synergistic gains. Similar results are reported by Slusky and Caves (1991) who examine 100 US takeovers during the period 1986 to 1988. The study finds that in 52% of the cases the target and bidder firms are in related areas of business. However, the results show there to be only a weak relationship between the premium paid to target firm shareholders and industrial relatedness.

Bradley, Desai and Kim (1988) examine synergistic gains accruing to single and multiple bidders measured by the change in the total bidder and target shareholder wealth. The authors find that successful tender offers generate significant synergistic gains for both the target and bidder firms. Bradley et al. (1988) argue that in a multiple bid the successful bidder has to offer a price which is close, if not higher than, that of the rival bidder. The competition to acquire the target forces rival bidders to increase the price that they are prepared to pay, and hence Bradley et al. conclude "total synergistic gains are larger in multiple bidder acquisitions". This may explain why target firm shareholders in takeovers with multiple bidders receive greater wealth gains relative to those with single bidders. Of course, the higher wealth gains received by the target firm shareholders are made at the expense of the acquiring firms but also from associated synergistic gains due to the nature of the merger.

In summary one can say that takeovers may allow the merging firms to reduce their post-acquisition operating costs due to economies of scale and scope. By their very nature, economies of scale and scope are easier to realise in related rather than unrelated mergers. The empirical evidence examining the impact of related takeovers on the performance of the bidder firm tends to find mixed results. However, if related takeovers do create value for the acquirer then we expect hypothesis 1 to be

supported.

Hypothesis 1

Shareholders of acquirers experience significantly greater wealth gains in related than in unrelated takeovers due to operational synergies.

6.1.2 FINANCIAL SYNERGY

The second type of synergy that can motivate takeovers is to exploit financial aspects of the bidder and target firms. There are three sources of financial synergy: tax gains from unused debt capacity, growth opportunities and coinsurance. Lewellen (1971) suggests that a merger between two firms with differing cash flows could result in financial synergies due to the reduced risk of default on the outstanding debt of the combined firm. However, as Galai and Masulis (1976) point out, in the absence of any increase in cash flow as a result of the merger, the reduction in the probability of default will result in a transfer of wealth from the shareholders to the debt holders. In the presence of taxes (which have the ability to alter a firm's debt management decisions) and bankruptcy costs, the reduction in the default risk of the combined firm could increase the cash flow of the combined firm.

The reduction in the probability of default will increase the debt capacity of the combined firm. Since interest expenses are tax deductible, the increased use of debt could result in an increase in the value of the firm. The value of shareholder wealth would increase if the cash flow increase from the tax subsidy on debt is greater than

the wealth transfer to the debt holders. Stapleton (1982) uses the option pricing model to show that where bankruptcy costs are significant, the decrease in the default risk of the firm will reduce the expected value of the bankruptcy costs. The decrease in the expected value of bankruptcy costs increases the debt capacity of the firm and consequently increases the expected value of the tax savings from the increased use of debt.

The ability of the bidder firm to carry out a takeover to exploit tax advantages or at least to reduce tax payments is simply a transfer of wealth from the governments to the shareholders³. Unlike other forms of financial synergy, taxation is very complicated and the actual scope for exploiting this in the UK is limited (Sudarsanam, 1995:ch10). Bad tax planning may be costly for the firm. It is not necessarily the case that good tax planning will add any value to the acquisition. Although the scope for exploiting tax benefits may be limited in the UK, it nevertheless has an effect on the bid premium paid by bidders to target firm shareholders, due to Capital Gains Tax (CGT). According to UK law the gains from the sale of shares is taxable unless the recipient receives the shares as payment whereby it is 'rolled over' until they are sold^{4,5}.

A conglomerate merger involves two firms in unrelated types of business activity. Financial synergy through increase in the debt capacity of the merged firm is more likely to be realised when the cash flow of the bidder and the target are not related. Myers and Majluf (1984) refer to this as the complementary fit between a 'slack rich'

³ This is discussed in greater detail in section 6.3.2.

⁴ See Sudarsanam (1995) chapter 10 and Section 85 of the Capital gains Tax Act 1979.

⁵ The tax rules for qualifying corporate bonds are different to those for shares.(see Sudarsanam, 1995:ch15).

bidder (i.e. with a low gearing level) and 'slack poor' target (i.e. with high gearing level). According to their model the bidder has surplus funds but an absence of positive net present value investment opportunities. On the other hand the target has a deficit of funds but positive net present value investment opportunities. The merger of these two firms can correct the mismatch between resources and investment opportunities leading to positive gains for both bidder and target firms.

Empirical evidence such as that by Nielsen and Melicher (1973) shows that the premium paid to a target is much larger when the cashflow of the bidder is greater than that of the target. The explanation for this is a redeployment of capital from the bidder to the target firm. Another feature of financial synergy is the ability to carry out investments using internal funds. Nickell (1978) argues that the ability to capture unexpected investment opportunities is related to the size of internal funds. Markham (1973) finds that in a sample of 30 large mergers, the post-merger investment outlay rose by 220% compared to the pre-merger period supporting the view that mergers improve investment opportunities. Sudarsanam et al. (1996) explicitly investigate the hypothesis that a merger will bring about greater investment opportunities for the acquirer for a sample of 429 UK takeovers during the period 1979 and 1989. The authors carried out a multiple regression and found that a merger between firms with contrasting levels of financial resources and investment opportunities was value creating for both bidder and target shareholders.

Even if post-acquisition investment opportunities are not financed by internal funds, the merged firm has a greater ability to raise external finance. Higgins and Schall (1975) find that in mergers involving bidders and targets with non-correlated cash flows, debt coinsurance increased to the benefit of the bondholders and at the expense of the shareholders. However, Galai and Masulis (1976) state that this unequal benefit

arising to bondholders can be evened out by increasing the leverage of the combined firms. The obvious effect of increasing borrowing is the tax saving resulting from the savings in tax payments, as interest payments are a tax deductible item. Where the merging companies have differing levels of unused debt capacity then a takeover will benefit both the target and bidder due to the tax advantage of debt. If unused debt is a motivating factor for takeovers then we expect hypothesis 2 to be supported.

Hypothesis 2

Shareholders of acquirers experience significant wealth gains due to financial synergy when either one of the merging firms has unused debt capacity.

6.1.3 MANAGERIAL SYNERGY

Managerial synergy arises when a more efficient management team acquires a company, in order to replace an inefficient management team or to force the existing management team to follow profit maximising policies. This idea of efficient managers replacing inefficient managers is formalised by Jensen and Ruback (1983) who view the market for corporate control as an arena in which managers compete for the right to control the resources of a firm. Efficient managers will compete for, and acquire the resources of, less efficient managers (Manne, 1965). The transfer of control from inefficient to more efficient managers can take place in two ways. The first is where the inefficient managers see the error of their ways and voluntarily decide to leave or arrange a merger. In the second case the managers tend to be entrenched and refuse to leave or mend their ways. The reluctance of incompetent managers to leave can be explained by the loss in benefits that they would have to give up as a result of the

change. In this case the incompetent managers may prevent what can be a profitable merger so that they can maintain their position and benefits. One of the mechanisms for removing incompetent managers under these conditions is through a hostile takeover.

The managerial competition model assumes that managerial skills can be transferred from one firm to another. However, this may not always be the case and is dependent on the type of managerial skill. Rosen (1972) separated managerial skills into three types (i.e. firm specific, industry specific and generic managerial skill). Each firm's specific managerial skill refers to those which are acquired when management become familiar with the its particular production arrangements, control systems, employee characteristics, 'political' culture etc. These managerial skills are firm specific and cannot be easily transferred to other firms through a merger. The transfer of firm specific skills could be feasible in horizontal mergers, although the problems involved in imposing the cultural environment of one firm onto another firm could make such a transfer very difficult. Firm specific skills would probably not be transferable in vertical or conglomerate mergers.

Industry specific managerial skills refer to the skills managers acquire through familiarity with the production, technological and marketing functions in their specific industries. These skills can be transferred within an industry through a merger. Horizontal and vertical mergers represent the main vehicles for the transfer of industry specific managerial skills. Next, one has generic managerial skills which refer to the general competence of managers in the management functions of production planning, financial control, personnel supervision, marketing etc. Generic managerial skills are the skills most easily transferred through a merger. A practical question arising from the managerial competition model is why the shareholders of the inefficient target firms do not replace their own managers, rather than wait for a bidder firm to appear and

replace inefficient managers. A possible answer to this lies in the nature of the managerial skills which are being transferred between firms. The overall competence of management results from the managers working as a team. The team effect results from managers obtaining information about the talents and skills of individual employees and then matching each employee to other employees with complementary skills and talents. This team effect cannot be easily transferred through the labour market, by the hiring of individual managers.

Weston et al. (1990) suggest reasons why the team effect is more important in the transfer of industry specific managerial skills than in the transfer of generic managerial skills. First, a smaller team size is needed to produce generic managerial services, than that to produce managerial resources related to production, technology and marketing. Hence, the organisation of a managerial team for control and planning would take less time than that required for other managerial services. This suggests that it is easier to replace inefficient generic managerial teams than managerial teams providing other services. Second, information on senior managers who perform the generic services of planning and control is more public than on managers who perform the production and marketing functions. This suggests that the labour market for senior managers will be more responsive to firm performance than for middle and lower ranking managers. Therefore, it will be senior managers who will be more likely to be replaced as opposed to middle or junior managers.

As we have seen from the discussion above that managerial synergy arises when a more efficient management team acquires an inefficiently managed company. This assumes that managerial skills can be transferred from one company to another. We use the relative valuation ratio of the bidder and target firms to proxy for superior managerial efficiency of the acquirer (see section 7.2.2). If the motivating factor behind

a takeover is to acquire inefficiently managed firms then hypothesis 3 should be supported.

Hypothesis 3

Shareholders of acquirers with a high valuation ratio relative to the target firm experience significant wealth gains due to the impact of superior managerial efficiency managerial efficiency of the bidder.

6.2 DISCIPLINE

Takeovers have been argued to perform two functions in an economy. In the first case takeovers allow the merging firms to realise synergistic gains (which we discuss in sections 6.1.1 to 6.1.3) or benefit from a transfer of wealth (which we discuss in sections 6.3.1 to 6.3.3). The second function that takeovers perform in an economy is to transfer the ownership and control of an unsuccessful firm to a more successful or efficient firm. The second function of takeovers is more often referred to as the, 'the market for corporate control' (Manne, 1965). In this way mergers are a way in which underperforming firms can be taken over by better performing ones. The literature surveyed in Chapter 2 indicates that target firms tend to suffer wealth losses prior to the announcement of a bid (see Asquith, 1983). This implies that target firms tend to be under-performing companies which are taken over by more efficient firms. In a recent article, Agrawal and Knoeber (1996) examine firm performance and agency control mechanisms. This study shows that better firm performance is associated with fewer takeovers while poor performing firms are more likely to be taken over.

Grossman and Hart (1980) argue that the relationship between the firm's management and shareholders is governed by formal contracts. However, the firm is dynamic and no contract can include every single future eventuality and, in time, these contracts become outdated. When contracts become outdated then managers have the ability to carry out actions at their discretion which may not be in best interests of the shareholders. In this case, takeovers provide the best possible mechanism by which inefficient managers can be removed and the ability to renegotiate contracts. In this respect, acquisitions can be disciplinary because they restrict the extent to which managers can carry out self-serving actions which lower the value of the firm and make takeovers more profitable. The self-serving nature of the managers may not be an immediate response to outdated contracts but partly due to information symmetry, in that managers have superior information regarding the firm compared to shareholders. This information asymmetry leads to an incomplete contract and hence gives rise to managerial inefficiency (Harris and Raviv, 1979). Shareholders are not able to distinguish between managerial inefficiency and environmental factors for the low value of their company.

Morck et al. (1986b) argue that friendly bids are synergistic in nature while hostile bids are disciplinary. Therefore, previous studies examining the impact of disciplinary takeovers on the post-acquisition performance of acquirers tend to focus their attention on hostile takeovers which we review in section 3.4. The empirical studies which examine acquirers in hostile bids find mixed results for both the UK and the US. Franks et al. (1991) amongst others show that hostile acquirers experience lower abnormal returns at the time of the bid-announcement than non-hostile acquirers. In contrast to this Gregory (1997); Higson and Elliott (1998); Barnes (1998) amongst others find that hostile acquirers experience higher abnormal returns than non-hostile acquirers.

Franks and Mayer (1996) adopt a slightly different method from previous studies in examining the disciplinary nature of takeovers by investigating the pre-bid target performance. This study finds that in the five years prior to the bid-announcement targets in hostile takeovers experience abnormal losses of 0.14%. This is somewhat different from a control sample of firms which experience abnormal gains of 0.14%. In the case of targets in agreed bids the five year pre-bid abnormal returns are 5.53% compared to 4.53% for the control sample. For the period two years prior to the bid-announcement targets in agreed takeovers tend to experience very different abnormal returns to the control sample. In the case of targets in agreed takeovers the abnormal returns are 7.75% while for the control sample the abnormal returns are -7.84%. In the case of targets in hostile bids the abnormal returns are -6.09% while it is 2.26% for the control sample over the same period.

Franks and Mayer (1996) find targets in hostile bids continue to underperform the control sample in the year preceding the bid-announcement. In the case of targets in hostile bids the abnormal returns are -7.68% while for the control sample it is 7.9%. Franks and Mayer (1996) also find that targets in friendly takeovers tend to not only experience higher abnormal returns than the control sample but targets in hostile takeovers. Franks and Mayer (1996) do not examine the impact of pre-bid target performance on the post-acquisition wealth gains of the acquirer. However, if pre-bid target firm under-performance does have a positive impact on the post-acquisition shareholder wealth of the acquirer then we expect hypothesis 4 to be supported.

Hypothesis 4

Shareholders of acquirers who take over a target, which has under-performed the general stock market index, experience significant wealth gains due to the disciplinary nature of the acquisition.

6.3 WEALTH TRANSFER THEORY

Wealth transfer theory suggests that acquisitions do not result in any increase in net social benefit. Gains to one group of participants in an acquisition are the result of losses suffered by another group of participants. Wealth transfers could be either inter-shareholder in nature (i.e. transfers from bidder to target shareholders or vice-versa) or shareholders could gain at the expense of other third parties. External third parties who could be subsidising the gains to shareholders include customers through increased monopoly power, government through reduced taxes, and labour through lower wages or loss of jobs.

6.3.1 WEALTH TRANSFER FROM CUSTOMERS

Wealth transfers from customers can result when takeovers are undertaken in order to exploit increases in market power (i.e. market concentration). Abnormal profits from increased market power could arise from a number of sources. First, market concentration can reduce competition in the industry. In an industry with a high level of market concentration, firms will recognise the impact of their actions and policies upon one another. Recognition of the interdependence between their actions and reactions will lead to a situation of tacit collusion. As a result, prices in the industry will be higher than would be the case if competition was unfettered.

A firm with a large market share could aim to deter potential entrants from its markets. At the most basic level the firm could use predatory pricing to force out its competitors or to prevent new entrants coming into the market. A firm engaged in predatory pricing could cross-subsidise products. Profits made in one market could be used to subsidise a fight for market share in another market - the practice known as

cross-subsidisation. Such a strategy could form the rationale for a conglomerate acquisition.

Porter (1979) points out that the long run rate of return in an industry is a function of its underlying structure. An industry with an above average rate of return will be characterised by high barriers to entry, lack of substitute products, stable rivalry among competitors and customers with limited bargaining power. The ability of a firm to gain abnormal profits from increased market power will be dependent on the structure of the industry permitting such excess profits. The reasons for this are obvious because the consumer surplus is reduced and transferred to the producer in the form of producer surplus⁶.

The empirical evidence looking at the monopoly motive for mergers tends to be rather mixed. Eckbo (1983); Stillman (1983); Jensen (1984) and Eckbo and Weir (1985) find no evidence to support the hypothesis that the drive for monopoly profits is an important determinant for mergers. Stillman (1983) studies a sample of eleven horizontal mergers which are challenged by the anti-trust enforcement agencies. The study examines the share price performance of rival firms to those challenged by the Federal Trade Commission. It is assumed that if the challenged mergers are 'socially inefficient' then any news that improves the likelihood of a takeover (such as approval from the FTC) will affect the share price of rival firms. The results show that in nine of the eleven cases the rivals to the merging firms experience no abnormal returns on either days which increase or reduce the probability of a merger. In the final case the

⁶ Consumer surplus is the difference between what the consumer is willing to pay and what he actually pays. If the price is increased, the consumer surplus is naturally reduced although not all the difference is transferred to the producer, because at a higher price, a lower quantity will be purchased. This leads to the problem of dead weight loss, i.e. consumer surplus that has been lost due to an increase in price.

results show a mixed pattern of abnormal returns. A similar methodology is adopted by Eckbo (1983) but on a larger sample. Again, the results show that the performance of rival firms could not lead one to assume mergers tend to produce monopoly profits.

Scott (1982) finds that at high levels of market concentration, the exploitation of market power is a strong motive for takeovers. The study categorises the sample of firms by using two measures: contact and seller concentration ratio. The former refers to the probability of overlap between the pair of firms in different markets while the latter is the extent to which the four largest firms in the industry dominate the market (i.e. four firm concentration ratio). The results show that for firms with a high contact (i.e. overlapping activities) and high levels of market concentration, profits are expected to increase by 8.2%. For firms with low contact and low market concentration the increase in profit is expected to be 5.5%. For high contact and low market concentration the expected increase in profit is 4.2% while for high market concentration and low contact it was 4.2%. High concentration by itself is not sufficient to increase profits - only when it is combined with high market concentration is there a significant positive effect on profits. Similarly, high market concentration, in itself, is of little effect and needs a high level of contact to increase profits.

Scott's (1982) results are supported by Feinberg (1985) who investigated the hypothesis that multimarket contacts among firms have the potential to lead to collusion in one or more of these markets⁷. Using a sample of 466 US industrial firms in 229 categories in 1976, the study analysed the effect on sales at a company and industry level⁸. The results showed that with an increase in market concentration by the

⁷ This hypothesis was first proposed by Edwards (1955).

⁸ The precise definition of sales used was the 'sales at risk measure' which weights the number of

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firm, along with at least a 'moderate' level of overlapping markets, sales had a significantly positive effect on its price/cost margins. However, at the industry level there was little, if any, evidence to show that price/margins increased as a result of firms with overlapping markets and market concentration joining forces.

In the UK, the Monopolies Act of 1948 and the Fair Trading Act of 1973 limit the extent to which a firm can control the market in which it operates. On the announcement of a takeover bid the Office of Fair Trading (OFT) carries out a preliminary study to assess if there are any grounds for an investigation by the Monopolies and Mergers Commission (MMC)^{9,10}. It was felt that industrial concentration was a severe problem in the UK and in 1978 a government sponsored study was carried out. The results of this study found that over half the industrial concentration in British industry since the late 1950s has been due to mergers (Hannah and Kay, 1977).

Franks and Harris (1989) examined a sample of 75 UK mergers referred to the MMC between 1965 and 1986. On the month of the bid announcement, the average return for targets and bidders in MMC referrals was 15% and 0% respectively, both being significant at the 5% level. On the month of the referral the abnormal returns were -8% and -1% for targets and bidders respectively. Bids which were later accepted tended to have lower abnormal returns of -9% and 0% for targets and bidders respectively. While bids which were later rejected the abnormal returns were -8% and 0%

overlapping markets for a pair of companies by the sales that are at stake in each of these areas of business.

⁹ In fact, both announced bids and consummated mergers can be referred to the MMC although it is very rare for the latter.

¹⁰ The manner in which MMC referrals are made is discussed in detail by Cooke (1986:ch5) and Sudarsanam (1995:ch5).

respectively. However, in the month that the MMC report was made public the pattern changed with targets and bidders in accepted bids experiencing abnormal returns of 2% each. Targets and bidders in rejected bids, on the other hand, experienced abnormal returns of -9% and 1% respectively.

For the whole sample of referrals the abnormal returns in the month of the report was published were -3% and 1% for targets and bidders respectively. Only target firm returns are significant at the 5% level for both the month of referral and publication of the MMC report. These results suggest that MMC rejections do lead to a loss in shareholder value but it is wholly borne by the target firm implying that it is they who benefit from any increase in monopoly power. If takeovers do lead to a transfer in wealth from customers to the acquirer firm shareholders then we would expect hypothesis 5 to be supported.

Hypothesis 5

Shareholders of acquirers who transfer post-acquisition wealth from customers to the bidder firm will experience significant wealth gains.

6.3.2 WEALTH TRANSFER FROM THE GOVERNMENT

Mergers aimed at exploiting tax minimising opportunities will result in a transfer of wealth from the government to the acquirer firm shareholders. There are a number of inducements in tax legislation which can encourage companies to merge or otherwise expand by acquisition. The principle distortions in the tax system which encourage mergers include the bias against dividend income, the carry over of trading losses and

tax credits and the bias against earnings from foreign sources.

Prior to the 1988 Finance Act, dividend income attracted a higher marginal rate of tax than capital gains income. A shareholder in the highest income tax band would pay a marginal tax rate of 40% on any income received from the company as dividends. If the income could be converted into capital gains the appropriate marginal rate of income tax would then have to be paid by the shareholder. This distortion in the tax system encouraged companies to retain profits in the firm rather than pay out dividends. This can be a particularly acute problem in the case of a private company. The owners of a private company can accumulate profits in the company at moderate corporation tax rates. The company can then be sold at a value lower than the market value of its assets provided the price obtained (after capital gains tax) was greater than the after tax value of annual dividends and directors' fees.

In the case of quoted companies, a mature bidder firm with few investment opportunities can embark on an acquisition program using the retained profits which are now equivalent to low cost capital as no interest payments need to be paid¹¹. This can lead to bidders either overpaying for targets or investing in negative net present value acquisitions. A rational use of these excess cash resources would arise when the bidder acquires a growth firm requiring continued capital investment. The bidder supplies the necessary capital investment and can later sell the acquired firm to realise capital gains.

¹¹ Of course one still has the opportunity cost (i.e. the risk free rate) but this is likely to be lower than the rate the firm would have to pay to borrow an equivalent amount from a bank.

Group relief of trading losses allows the trading losses of one firm to be used to shelter the taxable profits of another if they become members of the same group resulting in a net gain at the expense of the government¹². In order to qualify for group relief of trading losses, two companies have to be members of the same group. The following must also apply:

- 1) The parent company owns 75% of the shares of the subsidiary company; and
- 2) The parent company is entitled to 75% of the profits available for distribution to the shareholders of the subsidiary; and
- 3) The parent company is entitled to 75% of the assets available for distribution on a winding up of the subsidiary.

Trading losses can only be surrendered to other companies in the group if they were incurred after joining the group. This implies that trading losses incurred by a target before joining the group can only be carried forward and used to shelter any future taxable profits arising from a turnaround in the target's profitability (Cooke 1986:ch11).

Jones and Taggart (1984) argue in favour of a life cycle model of firm ownership whereby young companies have high costs, such as operating costs or research and development. On the other hand, the mature companies have rather low costs compared to their turnover and have few taxable allowances. In this case the mature firm can purchase the young firm and claim taxable allowances. This form of tax is only

¹² For an extensive discussion of UK tax and accounting rules relating to takeovers see Cooke (1986:ch11 and 12), Salami (1994:ch3) and Sudarsanam (1995: ch10).

optimal where one party pays a higher effective rate of tax while the other pays a low rate of tax. If the reduction in the tax charge is a motivating factor behind takeovers then we expect to find support for hypothesis 6.

Hypothesis 6

Shareholders of acquirers who reduce the post-acquisition tax charge experience significant wealth gains due to a transfer of wealth from the government to the bidder firm.

6.3.3 WEALTH TRANSFER FROM LABOUR

In recent years there has been a considerable amount of attention on the transfer of wealth from employees to shareholders. A well known example of wealth transfer from employee to bidder firm shareholders is the case of Icahn and TWA¹³. Shleifer and Summers (1988) considered the TWA-Icahn merger and found that under Icahn there was an average annual transfer of wealth from the unionised labour to shareholders of US\$210 million. This transfer of wealth from employees to shareholders was achieved in a number of ways. First, Icahn signed a contract with the three unions representing the unionised workers which restricted any reduction in operations, pilot layoffs or aircraft sales. However, Icahn did not honour the contract and labour was reduced at the company headquarters, aircraft leases were not renewed and one airplane was sold, and labour costs were dropped through wage reductions. Pilots who had previously

¹³ Icahn did not actually buy the whole of TWA but only 40% of the equity but nevertheless he managed to transfer wealth from employees to shareholders.

been paid US\$90,000 (including benefits) took a 30% reduction leading to a saving of US\$100 million.

Icahn replaced experienced flight attendants earning US\$35,000 by inexperienced ones who were paid only US\$18,000 (those flight attendants who remained had to accept the lower wage) leading to a saving of US\$60 million. Third, machinists previously paid US\$38,000 had to accept a 15% reduction in salary leading to a saving of US\$50 million. Shleifer and Summers (1988) argued that one and a half times the bid premium can be explained by transfers from employees to bidder firm shareholders. The authors argued that these transfers, “were an explicit part of the justification for the acquisition”.

To some extent the transfer from employees to bidder firm shareholders can be considered to be a ‘breach of trust’. Shleifer and Summers (1988) refer to a breach of trust where, as a consequence of a merger, investments made by the employees of the target firm in order to achieve efficiency gains are not fully rewarded because the bidder firm refuses to acknowledge previous implicit contracts. This refusal by the bidder firm to acknowledge previous contracts allows it to renege on them and expropriate the rents from employees to shareholders. Therefore, target firm managers committed to upholding employee benefits or claims will not be willing to redistribute them to the bidder firm shareholders. As a result, these managers will resist a takeover leading to a possible hostile takeover. Shleifer and Summers (1988) argue that takeovers which transfers wealth from employees to shareholders have to be hostile.

The greatest potential of a transfer (hence breach of contract) from target firm employees to bidder firm shareholders is when the hostile takeover is a complete

surprise. If target firm employees suspect that a takeover is imminent then the implicit contracts become worthless as the managers who enter into them will be removed. The value of the implicit contracts is as good as the ability of the target firm management to resist a hostile takeover. Of course, target firm employees can remedy this situation by converting their implicit contracts to explicit ones. The latter limit the ability of the bidder firm to breach these contracts without financial penalties.

The TWA/Icahn episode is perhaps the most well-known example of a transfer of wealth from the employees to the shareholders, but not the only one. Brown and Medoff (1988) argue that a takeover does not necessarily imply future 'doom' for the employees, largely due to a better management. The authors use the Michigan Employment Security Commission data file for the period 1978 to 1984. The results show that three years after the takeover, wages in the firms involved were 5% lower than the expected value. For asset only acquisitions the wages rose by 5% more than the predicted level. Firms involved in amalgamations had 4% lower wages than expected. Somewhat different results are obtained when looking at the level of employment, with a 9% improvement for firms involved in a takeover. Asset-only acquisitions had 5% lower employment while amalgamations improved by 2%¹⁴.

In the Shleifer and Summers (1988) framework the mood of the takeover is very important in determining the transfer of wealth from employees to bidder firm shareholders. They argue that the results obtained by the Brown and Medoff (1988) study is reflective of small and friendly takeovers as opposed to their sample of hostile takeovers. They also raise the question of white knights which are not hostile

¹⁴ The authors accept that they use a very crude measure of employment i.e. number of people on the payroll. Also, the results for both employment and wage rates are very sensitive to the year of takeover.

otherwise they would not receive the recommendation of the target firm management. On the other hand, white knights pay more than the hostile bidder to gain control of the target yet they 'seem' to be constrained by the level of management improvement (i.e. breach of contract) they can carry out. Shleifer and Summers (1988) argue that it is most probable that white knights do carry out some form of breach of contract but cannot find any theory to support this claim. If a transfer of wealth from employees to the bidder firm is a motivating factor behind the takeover then we expect support for hypothesis 7.

Hypothesis 7

Shareholders of acquirers who reduce post-acquisition employee costs experience significant wealth gains due to a transfer of wealth from employees to the bidder firm.

6.4 MISVALUATION THEORY

The mis-valuation theory suggests that the bidder places a different value on the target from that by the market. One reason for the mismatch in valuation is that the bidder may have private information which allows it to access the 'true' full potential of the target firm. The bidder, therefore, places a higher value on the target firm's shares than currently prevails in the market. The mis-valuation theory also suggests that differences between the market value and the replacement cost of the target's assets could motivate an acquisition. A firm wishing to add to existing capacity or diversify into a new market might find it cheaper to acquire a target which has a Tobin's Q ratio less

than one rather than investing in new plant and machinery from scratch¹⁵. If the target has a Tobin's Q ratio of 0.7 and the bidder pays a premium over the market price of 30% in order to gain control of those assets, the cost price to the bidder of 0.7 times 1.3 which equals 0.91. This price to the bidder is still 9% below the cost of acquiring the same assets at their replacement cost.

Lang, Stulz and Walkling (1989) examined target and bidder returns in relation to Tobin's Q ratio. The authors argued that the Tobin's Q ratio is an increasing function of the quality of a firm's current and expected future projects under the control of the present management. They used a sample of 87 US mergers, including 27 hostile takeovers, completed between 1968 and 1986. The Tobin's Q ratio is calculated in the same manner as that by Lang and Litzenberger (1989). The univariate tests showed that the average Tobin's Q ratio for all targets to be 0.845 in the year prior to takeover. This result was broadly similar to that of Masbrouck (1985) and Morck, Shleifer and Vishny (1988a) both of whom found a Tobin's Q ratio in the region of 0.886 for the year prior to the takeover. More importantly, Lang et al.'s (1989) results showed that target firms experienced declining Tobin's Q ratios for the five year period prior to takeover.

Lang et al. (1989) found that the bidder firm abnormal returns were related to the Tobin's Q ratios of the bidder and target firms. Shareholders of high Tobin's Q ratio targets taken over by low Tobin's Q ratio bidders experienced abnormal returns which were 14% lower than shareholders of low Tobin's Q ratio targets taken over by a high

¹⁵ Tobin's Q ratio is defined as the ratio of the market value of a firm's total assets to the replacement cost of these assets. A Tobin's Q ratio of less than one represents a firm with minimal or negative growth opportunities while the opposite is true for a value greater than one. For the UK it is not possible to calculate the Tobin's Q Ratio and is proxied using the valuation ratio see equation 7.3.

Tobin's Q ratio bidder. An explanation for this may be that a well performing target offers few, if any, opportunities for value increasing improvements. The combined bidder and target abnormal returns, during the period -5 to +5 days, were 5% higher when an acquirer with a high Tobin's Q ratio acquired a target with a low Tobin's Q ratio compared to a target with a high Tobin's Q ratio. However, for the sample of hostile bids the greatest gain occurs when a high Tobin's Q ratio bidder acquires a similarly high Tobin's Q ratio target. This is inconsistent with the hypothesis that a combination of a high Tobin's Q ratio bidder and low Tobin's Q ratio target offer the best opportunity to carry out value enhancing changes. With this exception the results confirm the view that well managed bidders increase the value of poorly managed targets while well managed targets benefit less than poorly managed targets.

Servaes (1991) investigated the Tobin's Q ratio of target and bidder firms in relation to their abnormal returns at the time of announcement. Servaes (1991) used a sample of 704 targets and 384 bidders between the years 1972 and 1987. The bulk of the mergers considered were friendly (82%) with cash being the dominant method of payment (58%). Consistent with the literature, bidder CARs were -1.07%, while those for the target were 23.6%, at the time of the bid announcement until effective or delisting date. Using the Tobin's Q ratio for the year prior to the takeover, the study found that the combination of bidder and target Tobin's Q ratio were important in determining takeover gains. Servaes (1991) found that the greatest potential gain was for bidders with a high Tobin's Q ratio taking over targets with a low Tobin's Q ratio which is consistent with Lang et al. (1989). The least potential gain was when both bidders and targets had a high Tobin's Q ratio. Servaes (1991) argued that these results were not due to any spurious correlation between the Tobin's Q ratio and the characteristics of the takeover but reflected the potential opportunities for creating value enhancing changes.

More recently, Holl and Kyriazis (1996a) investigate the relationship between the valuation ratio and post-acquisition acquirer performance¹⁶. The authors find that the valuation ratio has a negative and statistically significant, at the 1% level, relationship with post-acquisition acquirer returns. These results lead Holl and Kyriazis (1997a) to conclude that bidders tend to acquire low valued target firms in order to reap wealth gains. If the takeover of undervalued targets has a positive impact on the post-acquisition acquirer performance then we expect hypothesis 8 to be supported.

Hypothesis 8

Shareholders of acquirers who take over under-valued firms experience significant wealth gains due to target firm undervaluation.

6.5 CONCLUSION

This chapter has discussed the efficiency, wealth transfer and mis-valuation theories for a bidder firm attempting to carry out a takeover. The efficiency theory is based around the idea of creating synergy from a merger. There are operational synergies such as economies of scale which arise due to the increase in output; financial synergies as in the case of lower cost of finance and managerial synergy from improved management. Wealth transfer theories argue that wealth can be transferred from customers, governments, employees and target firm shareholders to bidder firm shareholders. The mis-valuation theory argues that bidders place a very different value on the target than

¹⁶ Holl and Kyriazis (1997a) do not use Tobin's Q ratio but the valuation ratio due to the problem of calculating the former ratio for the UK. A definition of the Sudarsanam et al. (1996) type valuation ratio is given in Chapter 7.

target firm shareholders. Our discussion of the theories and empirical evidence relating to sources of value creation has allowed us to identify areas which require further research especially for the UK. From this we have been able to develop our hypotheses which are empirically tested in the next chapter.

CHAPTER SEVEN

SOURCES OF POST-ACQUISITION VALUE CREATION:

THE EMPIRICAL RESULTS

7 INTRODUCTION

One obvious reason why takeovers may take place is that the target firm is undervalued and the acquirer firm places a higher value on it. However, target firm undervaluation is not the only reason for takeovers and nor can it guarantee that acquirer firm shareholders will receive positive post-acquisition abnormal returns. In Chapter 5 we saw that almost half the number of acquirer firms have a positive long run performance while the other half experience negative abnormal returns. If this is the case then there have to be certain sources of post-acquisition value creation which drive up the abnormal returns of some acquirers and not others.

The literature reviewed in Chapter 6 showed that despite over three decades of research in the area of mergers and acquisitions no single theory can explain why they occur. It is not only the lack of a single coherent theory driving mergers that eludes us but also the factors which have the ability to increase acquirer firm shareholder wealth (Jensen and Ruback, 1983; Sudarsanam et al., 1996). Chapter 6 indicated various sources of value creation in the literature which are reported to have either a positive or negative effect on the acquirer firm share price. However, we do not know whether these factors are important in driving up the long term value of the acquirer firm. In particular, very few studies have investigated the long run performance of acquirers in relation to the sources of value creation.

The long run performance of acquirers can also be argued to be related to not only the sources of value creation but also to the mood of the bid. We have seen from the literature discussed in Chapter 2 that the mood of the takeover determines the division of gains accruing to bidders and targets. Targets in hostile bids receive greater wealth gains than those in friendly bids. At the same time, a bid with more than one bidder creates an auction whereby the acquirer has to pay more than the other bidders to purchase the target. This clearly increases the bid premium paid to target firm shareholders while reducing the shareholder wealth of the acquirer. In Chapter 5 we found that, in the long run, hostile acquirers tend to outperform friendly acquirers. Acquirers in a multiple bid received greater wealth gains than friendly acquirers but not as high as single hostile bidders.

Morck, Shleifer and Vishny (1988) argued that the difference between friendly and hostile acquirers can be explained by their respective motivations. Hostile takeovers are motivated by discipline while friendly takeovers are motivated by synergy. As described in section 2.1.1, a white knight bidder does not neatly fit into either of these two categories. On the one hand, it may not necessarily be motivated by synergy, because if this was the case it would not have waited until a hostile bidder had been identified. At the same time, as the white knight bidder has received the support of the target firm, its disciplinary powers are not as strong as that of a hostile bidder. In this respect it is difficult to ascertain the motivations of a white knight bidder.

In this chapter we empirically investigate the explanatory power of three different types of post-acquisition sources of value creation, namely synergy, wealth transfer and misvaluation, for our sample of UK acquirers consisting of friendly, hostile and white knight acquirers. To avoid any problems associated with omitted variables we also use a number of exogenous control variables which are discussed in Chapter 2. This chapter is divided into four sections, the first of which discusses the methodological issues relating to this chapter. The second section presents the definitions of the

sources of value creation and control variables. The third section reports results of our univariate tests. In the fourth section, we present our results from our estimation models and compare them to previous studies.

7.1 METHODOLOGY

We attempt to estimate the relationship between the post-acquisition acquirer returns and the sources of value creation within the context of the following estimation model¹:

$$AR = f(SYNERGY, DISCIPLINE, WEALTH, MISVAL, CONTROL) \quad (7.1)$$

where:

AR = abnormal returns based on the winsorised market, mean, size, market to book value and Fama and French Three Factor benchmark models during the period -40 to +750 days².

SYNERGY = synergistic sources of post-acquisition value creation.

DISCIPLINE = the disciplinary nature of the takeover.

WEALTH = wealth transfer sources of post-acquisition value creation.

MISVAL = target firm mis-valuation.

CONTROL = control variables which represent the dynamic of the bid process.

¹ We discuss the justification for our proxies in chapter 6.

² See Chapter 4 for a discussion of the different models used in this study to estimate the abnormal returns.

7.2 DEFINITION OF POST-ACQUISITION VALUE CREATION VARIABLES

In Chapter 6 we identified a number of post-acquisition sources of value creation which have the ability to affect the long term performance of acquirers. Below we define these variables.

7.2.1 INDUSTRIAL RELATEDNESS (RELATE)

We use the variable RELATE as a dummy term which is equal to zero if the bidder and target have the same three digit Standard Industrial Classification code (available from Datastream) and one if the merging companies are unrelated.

7.2.2 RELATIVE TOBIN'S Q RATIO (RELQ)

The Tobin's Q ratio is defined as:

$$\text{Tobin's } Q \text{ ratio} = \frac{\text{Market value of Total Assets}}{\text{Replacement Cost of Total Assets}} \quad (7.2)$$

In the UK, it is impossible to calculate the Tobin's Q ratio as shown in equation 7.2 because there is no data on replacement cost of assets in place. Instead, previous studies have tended to use a proxy for Tobin's Q such as the valuation ratio (VR) which is defined as follows:

$$VR = \frac{\text{Market value of Equity} + \text{Book Value of Total Debt}}{\text{Book value of Total Assets}} \quad (7.3)$$

The valuation ratio has been argued to be a good proxy for Tobin's Q ratio and there have been a number of studies in finance which have used it (see Smith and Watts, 1992; Gaver and Gaver, 1993; Sudarsanam et al., 1996). Smith and Watts (1992) have argued that one method of assessing a firm's growth prospects is to consider its 'assets in place'. A firm with a high proportion of its assets in place will have low growth opportunities and the book value is a good 'surrogate' for this. Similar arguments have been made by Collins and Kothari (1989) who claim that the difference between the market value and book value of assets makes it an ideal proxy for a firm's future investment opportunities.

We use the variable RELQ to measure the relative managerial efficiency of the bidder and target firms. RELQ is calculated as the logarithm of the valuation ratios of the bidder over that of the target in the following manner:

$$RELQ = \frac{\log VR(Bidder)}{\log VR(Target)} \quad (7.4)$$

where:

VRs of bidder and target are calculated as shown in equation 7.3.

7.2.3 ABSOLUTE GEARING RATIO (ABSGEAR)

We estimate the gearing ratio as the total liabilities of the firm divided by the book value of total assets based on the accounts of the last financial year before the bid announcement³.

This can be expressed as follows:

$$GearingRatio = \frac{TotalLiabilities}{TotalAssets} \quad (7.5)$$

³ After a merger the creditors of the merging firms now have the asset backing of both firms. The reduction in the probability of default will allow the merged firm to increase the level of debt in its capital structure.

We then calculate the absolute gearing ratio (ABSGEAR) as the absolute difference between the bidder and target gearing ratios i.e.:

$$ABSGEAR = \text{Absolute value of (Gearing ratio of bidder - Gearing ratio of target)} \quad (7.6)$$

Through ABSGEAR we attempt to proxy for the level of unused debt capacity as a source of financial synergy⁴.

7.2.4 RELATIVE SIZE (RELSIZE)

The relative size of the bidder to the target firm is calculated as:

$$RELSIZE = \text{Log} \left(\frac{\text{Bidder's Market Capitalisation}}{\text{Target's Market Capitalisation}} \right) \quad (7.7)$$

where:

the market capitalisation is the share price multiplied by the number of outstanding shares. Both variables are for the period three months prior to the bid announcement. We carry out a log transformation to minimise the problem of outliers.

7.2.5 TARGET FIRM PRE-BID SHARE PRICE PERFORMANCE (TARSH)

There are a number of ways in which firm performance can be measured such as sales during a certain period. However, these measures are limited in that they take a micro level view of the firm. The use of share prices avoids these problems and provides an

⁴ See section 6.1.2 for a discussion on financial synergy.

objective market based measure of the firm's performance. We define pre-bid target firm performance relative to the Financial Times All share as:

$$\text{TARSH}_{-15 \text{ to } -3 \text{ months}} = \text{Target}_{-15 \text{ to } -3 \text{ months}} - \text{Financial Times All Share Index}_{-15 \text{ to } -3 \text{ months}} \quad (7.8)$$

where:

the target firm return is calculated as the percentage change in the share price during the period 15 months to three months prior to the bid announcement. We measure the share price performance over a year in order to capture a long term change in performance.

the FT All Share Index is calculated as the percentage change in the index during the period 15 months to three months prior to the bid announcement.

7.2.6 WEALTH TRANSFER (PROMAR/ TAXRAT/ AVGSAL/ TARVAL)

We use the variable PROMAR to measure the change in post-acquisition profit margin of the bidder firm and it is defined as:

PROMAR is the change in the acquirer's average operating profit margin during the three year post-acquisition period compared to the weighted average of the bidder's and target's profit margin in the three year pre-acquisition period. (We do not include data for the year of the bid-announcement in either group.) The operating profit margin is simply the ratio of the operating profit over the total sales multiplied by one hundred. We denote an improvement in the profit margin during the post-acquisition period by a one and zero otherwise. The change in operating profit margin can be expressed as shown in equation 7.9.

$$AOPM - [(TOPM \times \frac{TS}{TS + BS}) + (BOPM \times \frac{BS}{TS + BS})] \quad (7.9)$$

where:

AOPM is the post-acquisition acquirer operating profit margin

TOPM and BOPM are the pre-acquisition target and bidder operating profit margins respectively.

TS and BS are the pre-acquisition target and bidder sales respectively.

In this study, we use the variable TAXRAT to measure the change in the post-acquisition tax charge for the bidder firm which we define as:

TAXRAT is the change in the acquirer's average tax ratio in the three year post-acquisition period compared to the weighted average of the bidder's and target's tax charge in the three year pre-acquisition period. The tax ratio is calculated as the total tax charge over the pre-tax profits. (We do not include data for the year of the bid-announcement in either group.) We denote an improvement in the tax rate (i.e. a fall in the tax charge) during the post-acquisition period by a one and zero otherwise. This can be expressed as shown in equation 7.10.

$$ATC - [(TTC \times \frac{TPTP}{TPTP + BPTP}) + (BTC \times \frac{BPTP}{TPTP + BPTP})] \quad (7.10)$$

where:

ATC is the post-acquisition acquirer tax charge

TTC and BTC are the target and bidder tax charge respectively.

TPTP and BPTP are the target and bidder pre-tax profit respectively.

We use the variable AVGSAL to measure the change in real average salaries of employees.

We define AVGSAL as:

AVGSAL is the change in the acquirer's real average salary in the three year post-acquisition period compared to the weighted average of the bidder's and target's real average salary in the three year pre-acquisition period. This is calculated as the total remuneration paid to employees (excluding board members) adjusted by the annual change in the retail price index divided by total number of employees including part time staff where available. (We do not include data for the year of the bid-announcement in either group.) We denote an improvement in the average salary per employee during the post-acquisition period by a one and zero otherwise. This is expressed as follows:

$$AAR - [(TTR \times \frac{TNE}{TNE + BNE}) + (BTR \times \frac{BNE}{TNE + BNE})] \quad (7.11)$$

where:

AAR is the acquirer's post-acquisition average salary adjusted by changes in the RPI

TTR and BTR are the target and bidder total remuneration adjusted by changes in the RPI.

TNE and BNE are the target and bidder total number of employees.

7.2.7 MISVALUATION

We attempt to measure target firm valuation using the valuation ratio as a proxy for the Tobin's Q ratio. We use a proxy due to the difficulty in calculating the Tobin's Q ratio for the UK. Our definition of the valuation ratio is shown in equation 7.3.

7.2.8 MOOD OF THE BID

In Chapter 3 we discuss the literature relating to the impact of the mood of the takeover bid. In section 3.2 we define the different acquirer types we use in this study. In this chapter we examine different acquirer types as in section 3.2, as well categorising them into four broad groups namely: friendly, hostile, single or multiple bid. In the case of friendly bids the bidder receives the recommendation of the target board management. In the case of single bids the acquirer faces no competition from a second (or third) bidder in order to acquire the target. We denote a friendly or single bid as one and a hostile or multiple bid as zero. We can summarise the four broad acquirer groups as follows:

- i Friendly bid - bidder receives the recommendation of the target board either with or without competition from other bidders.
- ii Hostile bid - bidder wins despite resistance by the target management either with or without competition from other bidders.
- iii Single bid - the only bidder which may or may not receive the recommendation of the target board.
- iv Multiple bid - bidder wins in competition with other hostile bidders or a white knight.

TABLE 7.1 DEFINITIONS OF POST-ACQUISITION SOURCES OF VALUE CREATION

This table summarises the post-acquisition sources of value creation which are empirically tested.

Variable	Description	Proxy For:
RELATE	Industrial Relatedness	Operational synergy and enhanced market power
RELQ	Relative valuation ratio of bidder to target firm three months prior to the bid-announcement.	Impact of superior managerial efficiency of bidder
ABSGEAR	Absolute difference in gearing ratios between bidder and target firms three months prior to the bid-announcement.	Financial synergy
RELSIZE	Log of the relative market value of the bidder and target firms three months prior to the bid-announcement.	Size of potential synergistic gains and difficulty of post-acquisition integration.
TARSH	One year relative performance of the target firm to the Financial Times All Share Index till three months prior to the bid announcement.	Disciplinary nature of the takeover
PROMAR	A change in the three year post-acquisition operating profit margin compared to the weighted average bidder and target operating profit during the three year pre-acquisition period.	Transfer of wealth from customers (i.e. increase in producer surplus)
TAXRAT	A change in the three year post-acquisition tax charge compared to the weighted average bidder and target tax charge during the three year pre-acquisition period	Transfer of wealth from government
AVGSAL	A change in the post-acquisition average real salary compared to the weighted average bidder and target real salary during the pre-acquisition period.	Transfer of wealth from employees.
TARVAL	Log of the target firm valuation ratio three months prior to the bid-announcement.	Level of target firm misvaluation
FRIENDLY	Friendly or hostile bid	Disciplinary nature of the takeover
SINGLE	Presence of a competing bidder	Target firm bargaining power against the bidder firm

7.3 DEFINITION OF CONTROL VARIABLES

The discussion in Chapter 2 suggests that there are several variables which have the power to affect the long run performance of acquirers, as well as capture the dynamics of the bid process. We include these variables so as to avoid any problems associated with omitted variables in our model. In this section we define our use of these variables.

7.3.1 METHOD OF PAYMENT (MOP)

In our review of the literature dealing with the method of payment, in section 2.4.2, we saw that where target firm shareholders are given a choice they have to decide which to accept.⁵ The decision as to which offer to accept essentially rests on the ability of the target firm shareholders to compare the value of one payment against another. For example, the advantage of cash is that its value is known and does not fluctuate like that of the bidder's equity since the post-acquisition value of the bidder's equity can go up as well as down. From the bidder's point of view the method of payment has the ability to affect announcement and post-acquisition acquirer performance with cash offers leading to relatively superior returns compared to equity offers (Servaes, 1991; Limmack and McGregor, 1992; Salami, 1994). Previous studies have also shown that the method of payment is reflective of the type of the bid where for the US equity offers have been found to be associated with mergers while cash offers with tenders (Travlos, 1987; Loughran and Vijh, 1997). This study attempts to divide the method of payment into three main categories:

- i) **Cash Offers:** all cash and cash or debt offers
- ii) **Equity Offers:** all equity offers
- iii) **Mixed** Cash or Equity Offers (equity with a cash alternative) and Cash and Equity Offers(equity plus cash offers).

⁵ For a discussion of the UK regulatory requirements regarding method of payment see Sudarsanam (1995:ch6)

7.3.2 BIDDER'S TOEHOLD (BIDTOE)

The pre-bid announcement shareholding (or toehold) in the target firm by the bidder can increase the latter's bargaining strength (see section 2.4.1 for a discussion of bidder's toehold). As a result, of this bidders with a toehold are expected to experience relatively higher returns while targets experience lower returns (Walking, 1985; Walking and Edminter, 1985; Franks and Harris, 1989). We use the variable BIDTOE to measure the extent of the bidder firm's interest in the target firm which is defined as:

BIDTOE is the proportion of target firm shares held by the bidder firm three months prior to the bid announcement.

7.3.3 FREE CASHFLOW (NPDA)

Finance literature has identified a number of ways of calculating the free cash flow (see section 2.4.3 for a discussion of free cashflow. Our definition of free cash flow, which is similar to that of Bowen et al.. (1981), is defined as:

$$NPDA = \frac{OP - MI - TAXES - DIV + DEP}{NA} \quad (7.12)$$

where:

OP is the operating profit

MI is the minority interest

DIV is the dividend

DEP is the depreciation

NA is the net assets

7.3.4 ECONOMIC CYCLE (ECOCYE)

Sudarsanam (1995:ch1) shows that mergers usually take place in waves, which at times coincide with a booming stock market and economy (see section 2.4.5 for a discussion of business cycles)⁶. Pepper (1998) shows that there are a number of ways to measure the economic cycle, such as: the GDP growth, leading or lagging indicators, coincidental indicator and unfilled vacancies⁷. Each of these indicators show the position of the economy in different time periods. For example, the leading coincident indicator attempts to forecast the future position of the economy while the lagging coincident indicator takes a retrospective view of the economy. In a similar way, the growth in GDP and unfilled vacancies suffer from being backward looking (i.e. report on past performance) due to the delay in reporting. This means that the best measure of economic activity is the composite coincident indicator which includes a number of macroeconomic factors and attaches a weighting based on their importance⁸. In this study we identify the peaks and troughs in the coincident indicator from the start of the economic cycle in 1980 to 1995 when our sample period ends. Takeovers completed between the start and end of an economic boom (as shown in Table 7.2) are denoted as 1 while those taking place between the start and end of a recessionary period are denoted as 0.

⁶ It may be the case for some companies that their pre-bid performance is reflected in the share price.

⁷ Unfilled vacancies are jobs advertised at employment offices which remain vacant at the time of the survey.

⁸ For a definition of the coincident indicator see Table 7.2

Table 7.2 Start and End Dates of UK Economic Cycles 1980 to 1995

Type of Economic Cycle	Start Date of Cycle	Coincidental Indicator	End Date of Cycle	Coincidental Indicator
Boom	1981 Q1	93.33	1984 Q2	102.43
Recession	1984 Q3	100.67	1985 Q4	92.73
Boom	1986 Q1	93.50	1990 Q1	105.90
Recession	1990 Q2	104.80	1992 Q2	91.47
Boom	1992 Q3	93.03	1995 Q2	104.73
Recession	1995 Q3	103.00	1995 Q4	101.63

The composite coincident indicator is calculated and published, every quarter, by the Office of National Statistics (ONS). The composition of the variables included in the coincident indicator are not constant over time and change periodically. From 1986 to 1992, the coincident indicator included GDP (income based estimate), manufacturing production, retail sales volume and proportion of companies which were operating below capacity according to the Confederation of British Industry Trends Survey. In 1992, the coincident indicator was changed to include GDP (factor cost estimate), industrial production, volume of retail sales, percentage change in stocks of materials and proportion of companies operating below capacity. The latter two items are obtained from the Confederation of British Industry Industrial Trends Survey.

Source: Pepper (1998)

Annual Abstract of Statistics

Table 7.3 Definition of Control Variables

This table summarises the various control variables which we include along with sources of value creation as explanatory variables for post-acquisition acquirer performance. Data for method of payment is obtained from Acquisitions Monthly for takeovers completed after 1985 and the Financial Times before then. Data for free cash flow (i.e. NPDNA) is calculated from data obtained from Datastream International and company annual accounts. The economic cycle is constructed using the composite coincident indicator produced by the Office of National Statistics and shown in Table 7.2.

Variable	Definition	Proxy For:
CASH	Cash offer	Capital gains tax
MIXED	Mixture of equity, cash, debt etc.	Capital gains tax and information asymmetry
EQUITY	Equity offer	Capital gains tax and information asymmetry
BIDTOE	Bidder's toehold three months prior to the bid announcement	Probability of bid success
NPDNA	Bidder's profit after tax, dividends and minority interests plus depreciation divided by net assets	Free cash flow
ECOCYE	Dummy variable indicating whether the takeover takes place in a recession or economic boom	Economic cycle

7.4 DESCRIPTIVE STATISTICS AND UNIVARIATE TESTS

Our aim here is to analyse the relationship between post-acquisition returns and sources of value creation, and also to become familiar with our sample data. The first step towards achieving this is to present descriptive statistics and carry out univariate tests in which we compare the statistical significance of the difference in the median values between the groups. We examine the data for all takeovers in our sample as well as for different acquirer groups. Table 7.4 shows the descriptive statistics for the sources of value creation and control variables for the whole sample of acquirers while Table 7.5 shows the same but for different acquirer types. Table 7.6 shows the difference in means test across acquirer types.

Synergistic Variables

Table 7.4 shows that the bulk of takeovers in our sample tend to be between firms in related industries. For the whole sample of acquisitions 68% were between firms in non-related industries (1 refers to non-related takeovers). The median acquirer took over a firm in a non-related sector. The proportion of related takeovers in our sample is slightly lower than that of Sudarsanam et al. (1996) and Holl and Kyriazis (1997a) who investigate an earlier time period of 1980 to 1990 and 1979 to 1989 respectively. Holl and Kyriazis (1997a) find 40% of takeovers in their sample to be in related areas while it is only 34% in the case of Sudarsanam et al. (1996). The mean relative valuation ratio for the whole sample of acquirers is 0.04 with a median value of 0.1 and a standard deviation of 1. A high standard deviation along with a median value greater than the mean implies that the data is skewed to the right. This is not surprising as we predict that takeovers may be motivated by the superior managerial efficiency of the bidder relative to the target. A higher bidder valuation ratio relative to the target would be consistent with our prediction. However, RELQ is much lower for our sample than that for Holl and Kyriazis (1997a) and Sudarsanam et al. (1996) who find average values of 1.7 and 0.3 respectively.

**Table 7.4 Descriptive Statistics for the Sources of Post-Acquisition Value Creation:
The Full Sample**

St.Dev refers to the standard deviation and No. of Obs refers to the number of observations. The explanatory and control variables are defined in tables 7.1 and 7.3. The acquirer types are defined in section 3.2 The number of observations is different for each variable because complete data was not available for all of them. The source and definitions of the data is provided in sections 7.3.1 to 7.3.7.

PANEL A: The Full Sample Excluding Method of payment				
Variable	MEAN	MEDIAN	St. Dev	No. of Obs
RELATE*	0.68	1.00	0.47	547
RELQ	0.04	0.10	1.00	322
ABSGEAR	0.05	0.02	0.78	339
RELSIZE	1.69	1.49	1.59	523
TARSH	6.56	0.00	48.56	545
BIDTOE (%)	6.86	0.00	14.22	541
NPDA	0.25	0.16	0.84	453
PROMAR	0.60	1.00	0.49	458
TAXRAT	0.40	0.00	0.49	470
AVGSAL	0.68	1.00	0.47	465
TARVAL	0.60	0.54	0.05	412
ECOCYE	0.76	1.00	0.43	547
PANEL B: METHOD of PAYMENT				
	Number		Percentage	
CASH	88		17.3	
EQUITY	102		20.0	
MIXED	318		62.6	

*1 refers to non-related takeovers.

In our discussion of financial synergy (see section 6.1.2) we argue that the absolute difference between the bidder and target gearing ratios (i.e. ABSGEAR) will lead to financial synergy due to the exploitation of unused debt capacity. For the whole group we find the mean value for ABSGEAR to be 0.05 while the median is 0.02 and the standard deviation is 0.78. This implies that for the mean (and median) acquirer there are opportunities to exploit financial synergies but they are very small. ABSGEAR for our sample is higher than that for Holl and Kyriazis (1997a) who find an average value of 0 for their sample of acquirers. On the other hand we find that our sample of acquirers have a lower potential to exploit financial synergy than that of Sudarsanam et al.. (1996) who find average values for ABSGEAR to be 0.11 for their sample of acquirers. The relative bidder and target (i.e. RELSIZE) is a measure of the potential synergistic gains and the ease with which post-acquisition integration can be carried out. For the whole sample RELSIZE is 1.69 and the median 1.49 which is almost identical to that of Sudarsanam et al.. (1996) and Holl and Kyriazis (1997a) who report a mean value of 1.72 and 1.6 respectively. Our study shows that, on average, takeover the bidder is 169% the size of the target.

Disciplinary Variables

In our discussion of disciplinary takeovers we predict that the target will underperform the general stockmarket index (see section 6.2). In Table 7.5 we show that the average pre-bid announcement target return against the market index is 6.56% while the median value is 0%. In other words the average target firm actually out-performs the general stockmarket index while the median firm does not under-perform relative to the market index. However, the standard deviation is very high implying that a considerable number of targets do underperform or underperform the market index.

Wealth Transfer Variables

In our discussion of the transfer of wealth from customers to acquirer firm shareholders we predicted that a takeover will increase the weighted operating profit margin (see section 6.3.1). Table 7.4 shows that in 60% of cases the post-acquisition acquirer operating profit margin (i.e. PROMAR) increases compared to the weighted average of the bidder and target firms pre-acquisition operating profit margin. Also, the median acquirer tends to increase its operating profit margin during the post-acquisition period. In section 6.3.2 we predicted that a takeover may also be carried out in order to transfer wealth from the government in the form lower tax payments. In table 7.4 we show that the tax charge (i.e. TAXRAT) increases in only, an average, of 40% of the cases in the post-acquisition period compared to the pre-acquisition period. The third wealth transfer we predict is from employees to acquirer shareholders which is brought about as a reduction in the acquirer's average real salary (i.e. AVGSAL) in the post-acquisition period compared to the weighted average of the bidder and target firm's real salary during the pre-acquisition period (see section 6.3.3). In table 7.4 we show that on average in 68% of cases the post-acquisition real salary is higher compared to the pre-acquisition period. We also find that the median firm in our sample tends to increase weighted bidder and target average real salary.

Misvaluation Variable

In our discussion of the mis-valuation motive for takeovers we predict that a target with a valuation ratio below 1 is undervalued. In Table 7.4 we show that for our sample of takeovers the mean target firm valuation ratio is 0.6. This implies that a bidder who pays a premium of 66% on the current market price can still purchase the target at the book value. Therefore, if a premium lower than 66% is paid for the target it will lead the bidder to acquire the former's assets below its book value. The median value for TARVAL is very similar to the mean value at 0.54 and the standard deviation is 0.05.

Control Variables

In Panel B of Table 7.4 we show that the most common method of method for acquirer in our sample is mixed which includes a combination of equity and cash (see section 7.4.1 for the definitions). 66.6% of acquirers in our sample used a mixed form of payment compared to 20% for equity and only 17.3% for cash. We find almost identical results for method of payment to those of Sudarsanam et al.. (1996) who report 67% of the acquirers in their sample to use a mixed form of payment while 17% use equity and 16% use cash. This is not surprising as mixed forms of method of payments are the most common in the UK (Sudarsanam 1995:11).

In section 2.4.1. we argue that a higher level of bidder's toehold in the target firm increases the probability of a successful takeover and reduced bid premium. For our sample of takeovers we find that the average bidder's toehold is 6.9% compared to 6% in the case of Sudarsanam et al.. (1996). However, the median firm in our sample does not have any pre-bid ownership interests in the target firm. In our discussion of the free cash flow, in section 2.4.3, we argued that surplus cash may be a factor motivating takeovers. In our study we find that the average acquirer firm has a free cashflow equivalent to 25% of its net assets. The median level of free cashflow is lower 0.16 with a standard deviation of 0.84. Such a high standard variation in relation to the mean suggests that some acquirers in our sample have considerable positive while other have negative free cashflow. Finally, we find that three quarters (i.e. 76%) of the takeovers in our sample are carried out during an economic boom. The median and standard deviation values for ECOCYE imply that that takeovers are largely carried out during an economic boom.

Synergistic Variables by Acquirer Type

In Table 7.5 we find that most of the different acquirer types tend to carry out takeovers between firms in related industries. Except for single acquirers all other acquirer types tend to have a mean value for RELATE in the region of 0.7 (1 and 0 imply non-related and related takeovers respectively). In all the cases the median value is 1. In the case of single hostile acquirers the mean value for RELATE is 0.6 and as Table 7.6 shows the difference in means is statistically significant only against friendly acquirers at the 1% level. In the case of the relative bidder and target valuation ratio (i.e. RELQ) we would expect disciplinary or hostile takeovers to have a higher value compared to other acquirer types. The reason for this is a higher value for RELQ implies superior bidder management efficient compared to the target firm. Table 7.5 shows that single and multiple hostile acquirers have a higher mean value for RELQ than friendly but not white knight acquirers.

In the case of friendly acquirers the mean value for RELQ is 0.01 while for single and multiple hostile acquirers it is 0.04 and 0.29 respectively. White knight and multiple hostile acquirers have very similar values for RELQ of 0.3 and 0.29 respectively. Table 7.6 shows that the relative bidder and target valuation ratio is significantly different between all acquirer types except for single hostile against friendly acquirers and white knights against multiple hostile acquirers.

In the case of ABSGEAR we report in Table 7.5 that it tends to be larger for friendly and white knight acquirers at 0.08 compared to single and multiple hostile acquirers at 0.03 and 0.01 respectively. However, Table 7.6 shows that ABSGEAR is not significantly different between acquirer types. Table 7.5 shows that the size differences between the bidder and target tend to be the greatest for friendly and white knight acquirers while single and multiple hostile acquirers have lowest values for RELSIZE. The average friendly and white knight acquirer is 180% and 197% the size of the target respectively. Single hostile

Table 7.5 Descriptive Statistics for the Sources of Post-Acquisition Value Creation by Acquirer Type

Avg refers to the mean, Med refers to the median value, SD refers to the standard deviation, No. refers to the number of observations. The explanatory and control variables are described and defined in Tables 7.1 and 7.3 respectively. A single friendly acquirer is defined as one where there is a sole bidder which receives the recommendation of the target management. A single hostile acquirer is one where there is only one bidder which wins despite resistance by the target management. A white knight acquirer is a friendly bidder which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. A multiple hostile acquirer is one where the acquirer is in competition with another hostile or a white knight for control of the target. The number of observations is different for each variable because complete data was not available for all of them. In the case of MOP the following codes 100,103 and 104 were used for cash, equity and mixed offers respectively. The source and definitions of the data is provided in sections 7.4.1 to 7.4.7.

Variable	Friendly			Single Hostile			White Knight			Multiple Hostile		
	Avg	Med	SD	No.	Avg	Med	SD	No	Avg	Med	SD	No
RELATE	0.69	1.00	0.02	425	0.60	1.00	0.06	75	0.70	1.00	0.11	20
RELQ	0.01	0.05	0.07	226	0.04	0.15	0.12	59	0.30	0.25	0.31	19
ABSGEAR	0.08	0.02	0.05	260	0.03	0.03	0.04	51	0.08	0.05	0.03	10
RELSIZE	1.80	1.61	0.08	404	1.29	1.18	0.13	74	1.97	2.07	0.55	20
TARSH	7.03	0.00	2.35	423	4.07	-13.0	5.96	75	4.19	0.00	1.00	20
BIDTOE	6.41	0.00	0.72	421	9.38	4.99	1.33	75	6.39	0.00	3.04	19
NPDA	0.20	0.16	0.03	342	0.49	0.17	0.24	63	0.20	0.16	0.11	24
PROMAR	0.59	1.00	0.03	344	0.70	1.00	0.06	64	0.50	0.50	0.12	26
TAXRAT	0.41	0.00	0.03	356	0.38	0.00	0.06	63	0.44	0.00	0.12	26
AVGSAL	0.70	0.00	0.03	351	0.63	1.00	0.06	64	0.54	1.00	0.13	26
TARVAL	0.64	0.57	0.06	262	0.46	0.45	0.11	63	0.49	0.59	0.77	20
ECOCYE	0.77	1.00	0.02	425	0.77	1.00	0.05	75	0.78	1.00	0.10	20
PANEL B: METHOD of PAYMENT												
	Friendly			Single Hostile			White Knight			Multiple Hostile		
	Number	Percentage		Number	Percentage		Number	Percentage		Number	Percentage	
CASH	65	16.8		13	22.8		3	13.0		3	17.6	
EQUITY	84	21.7		6	10.5		3	13.0		4	23.5	
MIXED	238	61.5		38	66.7		17	74.0		10	58.9	

acquirers are a little larger than the target at 129%. Multiple hostile acquirers tend to be 60% of the size of the target firm. Table 7.6 shows that the differences in means for RELSIZE are statistically significant at the 1% level between all acquirer types except for friendly against white knight acquirers.

Disciplinary Variable by Acquirer Type

A comparison between acquirer type, in Table 7.5, shows that pre-bid announcement target firm performance (i.e. TARSH) is higher for multiple hostile takeovers. The mean value is lowest for single hostile and white knight acquirers. A comparison of the median values shows that friendly and white knight acquirers takeover targets with no under or over-performance relative to the market index. Single hostile acquirers however tend to take over targets that under-perform the market index by 13%. This difference between acquirer types may imply that some targets taken over by single hostile do under-perform the market prior to the bid-announcement. The median TARSH value for multiple hostile acquirers is 1. Our results do not suggest that multiple hostile acquirers take over targets that have underperformed relative to the general market index. The difference in target pre-bid performance is borne out in Table 7.6 where we find that the difference in mean values between all acquirer types is statistically significant except for single hostile and white knight acquirers.

Wealth Transfer Variables by Acquirer Type

A comparison between different acquirer groups in Table 7.5 shows that hostile acquirers (both single and multiple) are more likely to increase post-acquisition operating profit margin (PROMAR) than acquirers who receive the recommendation of the target board (i.e. friendly and white knights). We find that 59% of friendly and 50% of white knight acquirers to increase post-acquisition operating profit margin while the figure is 70% and 69% for single and multiple hostile acquirers respectively. Table 7.6 shows that the

Table 7.6 Difference in Means Test for Explanatory and Control Variables by Acquirer Type

WK refers to white knight bidders, MH refers to multiple hostile bidders, SH refers to single hostile bidders, F refers to friendly bidders. The explanatory and control variables are defined in Tables 7.1 and 7.3 respectively. The acquirer types are defined in section 3.2. In the case of MOP the following codes 100,103 and 104 were used for cash, equity and mixed offers respectively. The source and definitions of the data is provided in sections 7.4.1 to 7.4.7. ^{a,b,c} refer to significance at 1%, 5% and 10% levels respectively.

Variable	F v SH	F v WK	F v MH	SH v WK	SH v MH	WK v MH
RELATE	3.09 ^a	-0.17	-0.13	0.00	-1.26	0.00
RELQ	-0.62	-3.62 ^a	-2.17 ^b	-2.88 ^a	-1.85 ^c	0.07
ABSGEAR	0.37	0.00	0.52	-0.18	0.07	0.12
RELSIZE	11.54 ^a	-1.59	9.73 ^a	-5.97 ^a	5.33 ^a	8.46 ^a
TARSH	10.15 ^a	5.19 ^a	-2.79 ^a	-0.20	-6.22 ^a	-5.30 ^a
CASH	-7.61 ^a	3.03 ^a	-0.57	6.92 ^a	3.34 ^a	-2.50 ^a
EQUITY	3.45 ^a	5.21 ^a	-5.13 ^a	-3.93 ^a	-20.34 ^a	-8.58 ^a
MIXED	-5.74 ^a	-8.67 ^a	1.59	-4.48 ^a	4.33 ^a	7.11 ^a
BIDTOE	-8.34	0.04	-1.89 ^c	5.82 ^a	2.74 ^a	-1.73 ^c
NPDA	-4.65 ^a	0.00	-1.61	4.08 ^a	1.96 ^b	-1.44
PROMAR	-3.45 ^a	1.38	-1.46	2.83 ^a	0.14	-1.99 ^b
TAXRAT	0.93	-0.47	1.46	-0.85	0.94	1.40
AVGSAL	0.70	1.06	0.45	0.59	0.00	-0.53
TARVAL	4.05 ^a	1.78 ^c	-0.62	-0.35	-1.96 ^b	-1.51
ECOCYE	0.00	-0.18	0.28	-0.17	-0.27	0.34

difference in means between single hostile acquires against white knight and friendly acquirers is statistically significant at the 1% level. In the case of multiple hostile acquirers we find significant results only against white knights at the 5% level.

We find all acquirer types to have similar mean and median values for TAXRAT. The mean values for TAXRAT are in the region of 0.4 while the median is 0. Table 7.6 shows that TAXRAT is not statistically significant across acquirer types. This is not unexpected as we have discussed in section 6.1.2 that post-acquisition tax reducing opportunities exist in the UK but they are limited. Table 7.5 shows that the mean value for AVGSAL is lower for friendly acquirers at 0.6. The other acquirer types have values in the region of 0.7 for AVGSAL. The median values show that in the post-acquisition period friendly acquirers tend not to increase AVGSAL while all the other acquirer types experience a rise. Table 7.6 shows that differences in means for AVGSAL across acquirer types are not statistically significant.

Misvaluation Variables by Acquirer Type

Table 7.5 shows that single hostile and white knight acquirers purchase targets with the lowest valuation ratio (i.e. TARVAL) of 0.46 and 0.49 respectively. Friendly acquirers tend to purchase targets with the highest valuation ratios of 0.64. This is borne out in Table 7.6 where the differences in means for friendly against single hostile and friendly against white knights are statistically significant at the 1% and 10% level respectively. We also find the difference in means between single and multiple hostile acquirers to be statistically significant at the 5% level.

Control Variables by Acquirer Type

Table 7.5 shows that the average (i.e. mean and median) firm in all acquirer types tend to pay using a mixed form of consideration for the target. In the case of bidder toehold in the target firm we can see from Table 7.5 that friendly and white knight acquirers tend to have lower levels. In the case of friendly and white knight acquirers the bidder's toehold is 6.41% and 6.39% respectively. However, for single and multiple hostile acquirers the bidder's toehold is 9.38% and 7.61% respectively. The median values show that all acquirer types except for single hostile bidders have zero bidder's toehold in the target firm. We find the difference in means for single hostile acquirers against white knights and multiple hostile acquirers to be statistically significant at the 1% level (see Table 7.6). We

also find differences in means for multiple hostile acquirers against friendly and white knights to be statistically significant at the 10% level.

Table 7.5 shows that single hostile acquirers tend to have larger levels of free cashflow than other acquirer types. In the case of single hostile acquirers the free cashflow is 0.49 while it is 0.2, 0.31 and 0.2 for friendly, multiple hostile and white knight acquirers respectively. However, the median values of free cashflow for the different acquirer types are very similar in the region of 0.17. Finally, Table 7.5 shows that takeovers are usually carried out during economic booms for all acquirer types. All acquirer types have median values of 1 and means in the region of 0.77. The similarity between acquirer types is borne out in Table 7.6 where we find differences in means across acquirer types to be statistically insignificant.

7.4.1 PEARSON CORRELATION TEST

Table 7.7 shows the results of our Pearson correlation tests which illustrates the level of relationship between any two variables in our regression. A correlation coefficient above 0.3 for any two variables assumes that they are related to each other and their joint use in a regression may lead to multicollinearity (Gujarati, 1995:10)⁹. In our case the relative valuation ratio (i.e. RELQ) and the target firm valuation ratio (i.e. TARVAL) have a correlation coefficient ratio of -0.65. This indicates a high negative correlation between the two variables which is not surprising as the relative bidder and target valuation ratio incorporates the variable TARVAL. To overcome the problem of multicollinearity we examine the impact of the variables defined in Tables 7.1 and 7.3 twice whereby in the first case we include RELQ but not TARVAL (which we refer to as equation 1). In the second instance we reverse this and include TARVAL and exclude RELQ (which we refer to as equation 2). All the other combinations of variables in our equations have a correlation coefficient which is lower than 0.3 and therefore are not likely to pose problems associated with multicollinearity.

⁹ There is no statistical rule which states that we have to use 0.3 as the cut-off point and it is somewhat arbitrary (Gujarati, 1995). We use 0.3 as the cut-off point because we feel that it implies a 'strong' linear relationship between the pair of variables.

Table 7.7 Pearson Correlation Coefficients Among the Explanatory and Control Variables

These variables are defined in tables 7.1 and 7.3. Values above 0.3 are highlighted.

	RELQ	ABSGEAR	RELSIZE	TARSH	HOST	MULT	CASH	MIXED	PROMAR	TAXRAT	AVGSAL	TARVAL	BIDTOE	NPDA	ECOCYE
RELQ	0.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABSGEAR		0.08	0.09	-0.00	-0.06	0.01	0.05	-0.04	0.06	-0.01	0.03	-0.03	0.05	-0.04	0.02
RELSIZE			0.16	-0.08	0.02	0.08	-0.04	-0.03	-0.18	-0.04	0.07	-0.65	-0.10	0.11	-0.07
TARSH			0.02	0.11	0.04	0.04	0.06	-0.05	-0.01	0.06	-0.02	-0.02	0.04	0.04	-0.01
HOST			-	-0.02	-0.16	-0.06	0.16	0.00	-0.00	-0.05	0.06	-0.02	-0.03	-0.02	-0.03
MULT				-	-0.01	-0.00	-0.04	0.03	0.12	0.01	-0.09	0.12	0.06	-0.00	0.16
CASH					-	0.19	0.02	-0.06	0.09	-0.03	-0.06	-0.06	0.07	0.11	-0.08
MIXED						-	-0.01	0.03	-0.02	-0.01	-0.07	-0.01	0.00	-0.00	0.01
PROMAR							-	-0.07	0.01	0.01	-0.06	0.01	0.13	-0.01	0.00
TAXRAT								-	0.05	-0.01	-0.00	-0.01	-0.02	0.01	-0.01
AVGSAL									-	0.03	0.02	0.09	0.01	0.04	0.14
TARVAL										-	-0.03	-0.01	0.07	0.07	-0.01
BIDTOE											-	-0.09	-0.02	-0.12	-0.02
NPDA												-	0.07	0.09	0.16
ECOCYE													-	-0.01	-0.02
														-	0.00

7.5 RESULTS

We have estimated the relationship between the three year BHARs (i.e. -40 to +750 days) using the market, mean, size, market to book value and the Fama and French Three Factor (FFTF) adjusted models against a range of dependent variables as shown in equation 7.1. In this section we report our results and compare them to previous studies. We summarise our findings in Table 7.8 and report the detailed results in appendix 7.1 to 7.10.

Operational Synergy

Proponents of operational synergy argue that once the target and bidder firms combine their activities total costs will fall. The fall in total costs may come about from removing duplication of activities and/or the exploitation of economies of scale. In hypothesis 1 we predicted that related takeovers would lead to greater wealth than unrelated ones. The reason for this is that related takeovers allow for greater ability to exploit economies of scale (see section 6.1.1). Table 7.8 shows that for both equations 1 and 2 acquirers in related takeovers experience a negative and statistically significant impact. Our results suggest that industry relatedness does not lead to operational synergy. In this respect our results are similar to those of Seth (1990) for the US and Sudarsanam et al. (1996) as well as Holl and Kyriazis (1997a) for the UK.

US studies such as Bhidé (1989) find that almost 20% of friendly acquirers achieve operational synergy. This is not the case for our study whereby we find that friendly acquirers like the whole sample experience a statistically significant and negative impact in related takeovers¹⁰. Bradley et al. (1988) argue that total synergistic gains are larger in multiple bidder acquisitions. We investigate two types of multiple bidder acquisitions namely white knights and multiple hostile acquirers. Our results in Table 7.8 show that this is not the case for the UK. In fact, we find no difference in operational synergy between the different acquirer groups. We find evidence which leads us to reject our first hypothesis of

¹⁰ Due to the small sample size we cannot derive strong conclusions regarding the different acquirer types nor can the tests of statistical significance be relied upon for complete accuracy. The problem of small sample size is especially acute for the white knight and multiple hostile groups.

Table 7.8 Impact of Sources of Value Creation on Three Year BHARs:**Summary Table**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equations 1 and 2 are defined in section 7.4.1. + and - refer to the most common sign across all five benchmark models which is statistically significant at or above the 10% level (see appendix 7.1 to 7.10). A missing sign refers to a statistically insignificant coefficient. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are obtained from Datastream International. (The construction of the size and market to book value portfolios is explained in section 4.15) The explanatory and control variables are defined in Tables 7.1 and 7.3. ** refers to variables excluded from the estimation model.

	Equation 1					Equation 2				
	All	F	SH	WK	MH	ALL	F	SH	WK	MH
Intercept	-	-	+	+	-	-	-	+		-/+
RELATE	-	-	-	-	-	-	-	-	-	-
RELQ				-	-					
ABSGEAR			-	-				-	-	-
RELSIZE	+					+		+	+	-
TARSH	+	+	+	+	+	+	+	+	+	+
HOST	+	**	**	**	**	+	**	**	**	**
MULT		**	**	**	**		**	**	**	**
CASH	+	+	+	-	-	+	+	+	-	-/+
MIXED		+					+	-		
PROMAR	+	+		+	+	+	+		+	+
TAXRAT			-		+			-		+
AVGSAL	+	+	+		+	+	+	+		+
TARVAL	**	**	**	**	**	-		-	-	-
BIDTOE	+		+	+	+	+	+	+		-
NPDA	+	-	+	-	+/-	+		+	-	
ECOCYE	-		-					-		
No. of Obs.	314	226	51	18	19	314	226	51	18	19

greater wealth gains in related takeovers. In fact, we find the opposite to be the case implying that acquirers who carry out related takeovers experience dis-economies of scale. Our first hypothesis that related takeovers lead to greater shareholder wealth gains than unrelated takeovers is also rejected for our different acquirer types. Our results suggest that conglomerate takeovers lead to greater shareholder wealth gains compared to related takeovers.

Financial Synergy

The absolute difference in the bidder and target firm gearing ratio is the measure of the difference in debt capacity (see section 6.1.2). Our second hypothesis predicts shareholders of acquirers will experience greater wealth gains when the merging companies have unused debt capacity due to financial synergy. The summary of our findings in Table 7.8 show that ABSGEAR is not statistically significant. However, in Appendix 7.1 to 7.10 we find that in two of the three cases ABSGEAR has the predicted sign (i.e. the market and FFTF models). Although, ABSGEAR has the predicted sign for two of our models the lack of statistical significance leads us to reject our second hypothesis. We conclude that there is no support for unused debt capacity as a value creator for acquirers. Sudarsanam et al.. (1996) also find a statistically insignificant and negative impact for ABSGEAR for their sample of acquirers. In the case of different acquirer types we find that all groups except for the friendly acquirers experience a statistically significant and negative impact for ABSGEAR. In the case of friendly acquirers appendix 7.1 to 7.10 shows that ABSGEAR is also negative but not statistically significant.

Managerial Synergy

Our third hypothesis argues that shareholders of acquirers with a high valuation ratio relative to the target (i.e. RELQ which is a measure of superior managerial efficiency of the bidder) will experience significant wealth gains. We find that RELQ is not statistically significant and is negative for three out of the five benchmark models. In the case of

different acquirer groups we find that acquirers in competition with another bidder actually experience a statistically significant negative impact. Sudarsanam et al. (1996) argue that the negative and statistically significant result for RELQ may be due to acquirers with highly rated pre-bid share price over-rating their ability and hence overpaying for the target. Our results tend to support this claim in the case of acquirers in competition with other bidders in order to gain control of the target. We feel that acquirers in competition with other bidders may actually be tainted by having to mount a counter offer for the target. Based on these results we find no evidence to support our third hypothesis that shareholders of acquirers with a high valuation ratio relative to the target experience greater wealth gains than acquirers with a low valuation ratio relative to the target firm. In the case of acquirers in competition with another bidder we actually find the opposite to be true.

Synergy in General

Previous studies find mixed results for the presence of synergy in takeovers (see section 6.1.1 to 6.1.3). Our results show that even if there is potential for synergy we do not seem to find evidence for it in the long run. Table 7.8 shows that none of the three types of synergies that we investigate in this chapter to have the predicted sign across all five benchmark models. Table 7.8 and appendix 7.1 to 7.10 show that for all the models RELSIZE is positive but only statistically significant in the case of the size adjusted model. The positive effect of RELSIZE implies that the smaller the target the greater the wealth effect for the bidder firm. The smallness of the target size probably allows the bidder to more easily integrate the target firm with its own operations thereby realising the merger benefits. In the case of different acquirer groups we find that RELSIZE is positive and statistically significant for single hostile acquirers and white knights. In the case of multiple hostile acquirers RELSIZE is negative and statistically significant. This is not surprising as Table 7.5 shows that all acquirer types in our sample take over targets with a lower market value than their own except for multiple hostile acquirers. Our results suggest that multiple hostile acquirers experience difficulty in integrating the relatively larger target firm leading to negative post-acquisition shareholder returns.

Discipline

Our fourth hypothesis states that shareholders of acquirers who carry out a disciplinary takeover experience greater wealth gains than acquirers who carry out a non-disciplinary takeover. Table 7.8 shows that for the overall sample TARSH is positive and statistically significant. In Table 7.4 we find that on average targets outperform the general market index in the run up to the acquisition and as Table 7.8 shows that this adds to the acquirer. In the case of different acquirer types we also find a positive and statistically significant relationship between pre-bid target share price performance and post-acquisition acquirer shareholder wealth. Our results are consistent with those of Franks and Mayer (1996) who find that targets outperform a matched sample of firms in the run up to the bid irrespective of acquirer type hence contribute to value creation in the acquirer firm. We find little evidence of poor target firm performance prior to the takeover suggesting that acquisitions are not driven by past failure. Our results suggest that a target firm resistance to a takeover is largely to do with the terms of the bid and not whether it should take place in the first instance.

Wealth Transfer from Customers to Acquirer Shareholders.

Our fifth hypothesis states that shareholders of acquirers who transfer wealth from customers to acquirer shareholders will experience significant wealth gains. It may be the case that acquirer firm shareholder wealth can increase independently of any transfer of wealth from customers. Acquirer firm shareholder wealth may increase due to improvements in efficiency through the exploitation of economies of scale. In section 6.1.2 we argue that economies of scale are more likely to occur in related takeovers rather than unrelated takeovers. Our results show that RELATE is statistically significant but negative implying that conglomerate takeovers lead to higher acquirer firm shareholder wealth gains than non-conglomerate takeovers. Our results also show that PROMAR has a positive and statistically significant impact on acquirer firm shareholder gains (see Table 7.8). This

implies that improvements in post-acquisition acquirer operating profit margins have not come about as a result of increases in economies of scale and are likely to be due to a transfer of wealth from customers to acquirer firm shareholders. We find similar results for all acquirer types except for single hostile acquirers. Appendix 7.1 to 7.10 show that PROMAR is largely positive for single hostile acquirers but not statistically significant. Based on these results we find evidence to support our fifth hypothesis that acquirers who transfer wealth from customers to acquirer firm shareholders experience significant wealth gains.

Wealth Transfer from the Government

Our sixth hypothesis states that shareholders of acquirers who reduce their post-acquisition tax charge will experience significant wealth gains. As we point out in section 6.3.2 that there is limited opportunity to reduce post-acquisition tax charge in the UK. Although, tax opportunities may be limited, bad tax planning can be very costly. We find the results for the overall sample to be statistically insignificant. Appendix 7.1 to 7.10 shows that in all except the mean adjusted model TAXRAT is positive. In the case of different acquirer groups we find that single hostile acquirers experience a negative and statistically insignificant impact from TAXRAT. This suggests that single hostile acquirers may not adequately plan for post-acquisition tax savings. Friendly and white knight acquirers tend to have a positive but statistically insignificant impact from TAXRAT (see Appendix 7.10 to 7.10). In the case of multiple hostile acquirers TAXRAT tends to be positive and statistically significant impact on post-acquisition performance. Our results suggest that multiple hostile acquirers carry out takeovers which allow them to reduce their post-acquisition tax charge. Based on these results we find no evidence to support our hypothesis that shareholders of acquirers who reduce post-acquisition tax charge experience significant wealth gains for the overall sample of acquirers. In the case of friendly and white knight acquirers we find weak if any evidence and reject our hypothesis for single hostile acquirers. We find evidence for tax saving opportunities only in the case of multiple hostile acquirers.

Transfer of Wealth from Labour

Our seventh hypothesis states that shareholders of acquirers who reduce average post-acquisition salaries will experience significant wealth gains. Table 7.8 shows that the overall sample of acquirers experience a positive and statistically significant impact from AVGSAL. To some extent this result reinforces our earlier finding that post-acquisition operating profit margin increases without the presence of economies of scale. In other words one source of post-acquisition value is the reduction in average salaries. In the case of the different acquirer types we find that all except white knight acquirers tend to reduce post-acquisition average salaries. Appendix 7.1 to 7.10 shows that in the case of white knights AVGSAL tends to have a negative sign but is statistically insignificant. This suggests that white knights may have to make some concessions to safeguard employment or salaries in order to obtain recommendation from the target firm. Our results find support for hypothesis seven that shareholders of acquirers who reduce average post-acquisition salaries experience significant wealth gains for the overall sample, friendly and hostile acquirers but not white knights.

Under-Valuation

Our final hypothesis states that shareholders of acquirers who takeover an undervalued target will experience significant wealth gains. Table 7.8 shows that for the overall sample of acquirers we find TARVAL to be negative and statistically significant¹¹. Our results show that the acquisition of undervalued targets generates positive returns for the whole sample and all acquirer types except for friendly sample. Holl and Kyriazis (1997a) also report negative and statistically significant results for target firm valuation ratio. We find evidence to support our hypothesis that shareholders of acquirers who take over undervalued targets to experience significant wealth gains for the whole sample and all acquirer types except for the friendly sample.

¹¹ The negative impact of TARVAL means undervalued targets generate more positive returns to acquirers.

Control Variables

We test various control variables which aim to capture the dynamics of the bid process. Table 7.8 shows that in the case of method of payment CASH has a positive and statistically significant impact on acquirer shareholder wealth. This also true for the different acquirer types except for acquirers in competition with another bidder. Our results show that for white knight and multiple hostile acquirers CASH tends to have a negative and statistically significant impact on acquirer shareholder wealth. A MIXED form of payment is positive and statistically significant only for friendly acquirers. For the overall sample, white knight and multiple hostile acquirers MIXED is positive but not statistically significant. (We use equity as the base case.)

We find that NPDA has a positive and statistically significant impact on acquirer shareholder wealth. In the case of different acquirer types we find that for single hostile acquirers NPDA has a positive and statistically significant impact while for white knights it is significant but negative. This implies that single hostile acquirers may use their free cash flow to carry out value enhancing acquisitions while the opposite is true for white knights. We find that BIDTOE is positive and statistically significant for the overall sample. In the case of the different acquirer types we find that it is also positive and statistically significant. This suggests that a pre-bid bidder stake in the target firm is value enhancing. This result is somewhat different from previous studies such as Holl and Kyriazis (1997a) and Sudarsanam et al.. (1996) which report a negative result for BIDTOE. Our results show that ECOCYE has a negative impact on acquirer performance for the whole sample and across different acquirer types but is only significant for single hostile acquirers and the overall sample. Finally, we find that a hostile takeover leads to a positive post-acquisition impact on acquirer wealth while in the case of MULT the results are both positive and negative depending on the benchmark model.

7.6 CONCLUSION

In this chapter we sought to analyse the impact of four different types of sources of post-acquisition value creation namely synergy, wealth transfer, target firm misvaluation and the disciplinary nature of the takeover using both univariate tests and multiple regression analysis. We have seen from the discussion in Chapter 6 that synergy is argued to be an important motivation for takeovers. In this chapter we investigated the post-acquisition impact of three different types of synergy namely, operational, financial and managerial, on acquirer performance. Contrary to our prediction we do not find support for related takeovers leading to superior wealth gains for shareholders of acquirer firms. Our results are consistent with those of Sudarsanam et al. (1996) and Holl and Kyriazis (1997a) which found a negative relationship between relatedness and acquirer wealth. Our results suggest a weak, if any, support for financial synergy and none for managerial synergy. Our results show that there is very little difference between acquirer types in the case of the three form of synergy.

This chapter has shown that target firm under-valuation has a negative but statistically significant impact on post-acquisition acquirer wealth. For the different acquirer types we find statistically significant and negative impact for all groups except the friendly acquirers. In the case of wealth transfer motivations for takeovers, this chapter has shown that an improvement in post-acquisition operating profit, has a positive impact on acquirer wealth. As we find a negative impact for related takeovers it implies that some of this improvement in operating profits may come about from customers. With the exception of white knights, we find evidence to show that acquirers tend to transfer wealth from employees to their own shareholders. However, we do not find evidence to support a transfer of wealth from governments to acquirer shareholders in the form of a reduction in taxation. This result is in accordance with the limited scope for tax saving opportunities, due to takeovers, in the UK.

Appendix 7.1 Impact of Sources of Value Creation on Three Year BHARs:

Market Adjusted Returns (Equation 1)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 1 is defined in section 7.4.1 a,b,c refer to 1%, 5% and 10% significance levels respectively. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are obtained from Datastream International. (The construction of the size and market to book value portfolios is explained in section 4.15.) The explanatory and control variables are defined in Tables 7.1 and 7.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.28 ^a	-0.32 ^b	-0.13	-0.04	-0.28
RELATE	-0.08	-0.03	-0.19	-0.12	0.09
RELQ	-0.01	0.05	0.01	0.01	-0.01
ABSGEAR	0.75	0.04	0.12	0.16	0.37
RELSIZE	0.02	-0.00	0.07	0.04	-0.13
TARSH	0.01	0.00	0.00	0.00	0.00
HOST	0.16 ^b				
MULT	-0.02				
CASH	0.14	0.21 ^c	0.34 ^b	-0.19 ^c	-0.36 ^a
MIXED	0.02	-0.09	-0.20	0.06	0.44
PROMAR	0.22 ^a	0.26 ^a	0.12	0.11	0.36 ^a
TAXRAT	0.03	0.07	-0.14	0.07	0.31
AVGSAL	0.14 ^a	0.14 ^b	0.36 ^a	-0.04	0.39 ^a
TARVAL					
BIDTOE	0.00	0.00	0.01	0.07	0.06
NPDA	0.00	-0.29 ^c	0.04 ^a	-0.07	0.30 ^a
ECOCYE	-0.09	-0.07	-0.04	-0.07	-0.06
Adj. R ²	0.10	0.11	0.12	0.10	0.09
F-Statistic	2.38 ^b	2.22 ^b	1.02	0.42	0.94
No. of Obs	314	226	51	18	19

Appendix 7.2 Impact of Sources of Value Creation on Three Year BHARs:

Market Adjusted Returns (Equation 2)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 2 is defined in section 7.4.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are obtained from Datastream International. (The construction of the size and market to book value portfolios is explained in section 4.15.) The explanatory and control variables are defined in Tables 7.1 and 7.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.20 ^c	-0.28 ^b	-0.08	-0.02	-0.35 ^a
RELATE	-0.09	-0.03	-0.20	-0.17	0.20
RELQ					
ABSGEAR	0.05	0.03	0.08	0.15	0.03
RELSIZE	0.11	0.00	0.07	0.03	-0.02
TARSH	0.00	0.00	0.00	0.00	0.01
HOST	0.15 ^b				
MULT	-0.03				
CASH	0.15 ^c	0.20 ^c	0.33 ^b	-0.24 ^b	0.10 ^b
MIXED	0.01	0.08	-0.21	0.06	-0.04
PROMAR	0.23 ^a	0.25 ^a	0.17	0.11	0.08
TAXRAT	0.01	0.07	-0.14	0.07	0.08
AVGSAL	0.11 ^b	0.13 ^b	0.30 ^c	-0.04	0.23 ^a
TARVAL	-0.09 ^b	-0.07	-0.10	0.09	-0.09 ^a
BIDTOE	0.00	0.00	0.01	0.01	0.05
NPDA	0.01	-0.19	0.04	-0.07	0.03
ECOCYE	-0.07	-0.06	0.01	-0.07	-0.04
Adj. R²	0.13	0.12	0.09	0.13	0.08
F-Statistic	2.80 ^a	2.28 ^b	0.76	0.42	0.13
No. of Obs.	314	226	51	18	19

Appendix 7.3 Impact of Sources of Value Creation on Three Year BHARs:

Mean Adjusted Returns (Equation 1)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 1 is defined in section 7.4.1 a,b,c refer to 1%, 5% and 10% significance levels respectively. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are obtained from Datastream International. (The construction of the size and market to book value portfolios is explained in section 4.15.) The explanatory and control variables are defined in Tables 7.1 and 7.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	0.15	-0.03	0.90 ^a	2.22 ^a	0.31
RELATE	-0.40 ^a	-0.29 ^c	-0.91 ^b	-1.27 ^b	-0.42
RELQ	0.04	0.04	0.24	-1.38 ^a	-0.43 ^b
ABSGEAR	-0.02	0.19	-0.83 ^a	-0.09 ^a	-0.43
RELSIZE	0.07	0.07	0.06	-0.26	-0.04
TARSH	0.00	0.00	0.01 ^c	0.22 ^a	0.03 ^a
HOST	-0.02				
MULT	0.22				
CASH	0.46 ^b	0.55 ^b	0.67 ^a	-0.20	-0.59 ^a
MIXED	-0.15	-0.17	-0.14	0.56	0.14
PROMAR	-0.15	-0.05	-0.12	-0.05	0.35
TAXRAT	-0.11	-0.02	-0.29	0.07	0.25
AVGSAL	0.27 ^b	0.28 ^a	0.55	-0.59	0.86
TARVAL					
BIDTOE	0.01 ^b	0.01	0.00	0.01	0.02
NPDA	0.13 ^a	0.02	0.12 ^a	-0.21	0.14
ECOCYE	-0.46 ^a	-0.43	-0.88 ^a	0.78	-0.64
Adj. R ²	0.11	0.13	0.14	0.14	0.14
F-Statistic	3.49 ^a	2.89 ^a	2.05 ^b	0.52	0.64
No. of Obs.	314	226	51	18	19

Appendix 7.4 Impact of Sources of Value Creation on Three Year BHARs:

Mean Adjusted Return (Equation 2)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 2 is defined in section 7.4.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are obtained from Datastream International. (The construction of the size and market to book value portfolios is explained in section 4.15.) The explanatory and control variables are defined in Tables 7.1 and 7.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	0.25	-0.05	0.08 ^a	0.72	0.58 ^a
RELATE	-0.41 ^a	-0.28 ^c	-0.82 ^a	0.45	-0.74 ^a
RELQ					
ABSGEAR	-0.05	0.18	-0.94 ^a	-0.65 ^a	0.39
RELSIZE	0.07	0.08	0.08	0.15	0.12
TARSH	0.00	0.00	0.01	0.00	-0.01
HOST	-0.03				
MULT	0.21				
CASH	0.46 ^b	0.54 ^b	0.92 ^a	0.51	-0.18
MIXED	-0.16	-0.17	-0.99	0.56	-0.37
PROMAR	-0.14	-0.57	-0.14	-0.50	0.52
TAXRAT	-0.12	-0.15	-0.32	0.07	0.17 ^a
AVGSAL	0.23 ^b	0.29 ^a	-0.10	0.59	0.31 ^a
TARVAL	-0.12	0.00	-0.32 ^a	-0.31 ^b	-0.45
BIDTOE	0.01 ^b	0.01 ^c	-0.01	0.01	0.05 ^c
NPDA	0.14 ^a	0.07	0.13 ^a	-0.21	0.21
ECOCYE	-0.43	-0.44	-0.79 ^a	0.78	0.13
Adj. R ²	0.11	0.13	0.14	0.15	0.14
F-Statistic	3.64 ^a	2.87 ^a	2.56 ^a	0.52	0.29
No. of Obs.	314	226	51	18	19

Appendix 7.5 Impact of Sources of Value Creation on Three Year BHARs:

Size Adjusted Returns (Equation 1)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 1 is defined in section 7.4.1 a,b,c refer to 1%, 5% and 10% significance levels respectively. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are obtained from Datastream International. (The construction of the size and market to book value portfolios is explained in section 4.15.) The explanatory and control variables are defined in Tables 7.1 and 7.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.25 ^a	-0.26 ^a	-0.10	-0.10	-0.14
RELATE	-0.07 ^b	-0.08 ^b	0.00	0.03	-0.04
RELQ	-0.01	0.00	-0.05	0.05	0.04
ABSGEAR	-0.04	-0.04	-0.12	-0.49 ^c	-0.03
RELSIZE	0.02 ^b	0.02	0.03	0.02	-0.06
TARSH	0.00 ^b	0.00 ^b	0.00	0.00	0.00
HOST	0.07				
MULT	0.03				
CASH	0.16 ^a	0.19 ^a	0.15	-0.09	0.08
MIXED	0.01	0.01	-0.22	-0.06	0.01
PROMAR	0.18 ^a	0.18 ^a	0.11	0.28 ^c	0.20 ^c
TAXRAT	0.01	0.02	-0.08	0.19	0.09
AVGSAL	0.03	0.05	-0.03	0.07	-0.03
TARVAL					
BIDTOE	0.00	0.00	0.01 ^a	-0.00	-0.00
NPDA	0.00	-0.03	0.02 ^a	-0.64 ^c	-0.40 ^b
ECOCYE	-0.07	-0.05	-0.15 ^c	-0.04	-0.06
Adj. R ²	0.10	0.09	0.03	0.08	0.07
F-Statistic	5.30 ^a	4.52 ^a	1.13	0.99	0.29
No. of Obs.	314	226	51	18	19

Appendix 7.6 Impact of Sources of Value Creation on Three Year BHARs:

Size Adjusted Returns (Equation 2)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 2 is defined in section 7.4.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are obtained from Datastream International. (The construction of the size and market to book value portfolios is explained in section 4.15.) The explanatory and control variables are defined in Tables 7.1 and 7.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.24 ^a	-0.25 ^a	-0.10	-0.11	-0.12
RELATE	-0.07 ^b	-0.08 ^b	-0.02	0.07	-0.08
RELQ					
ABSGEAR	-0.04	-0.04	-0.13	-0.29	-0.20
RELSIZE	0.02 ^b	0.02	0.02	0.06 ^a	0.06
TARSH	0.00 ^a	0.00 ^b	0.00 ^c	0.00 ^c	0.00 ^c
HOST	0.06				
MULT	0.03				
CASH	0.17 ^a	0.19 ^a	0.16	0.08	0.16
MIXED	0.01	0.02	-0.03	-0.06	-0.03
PROMAR	0.18 ^a	0.18 ^a	0.14	0.28 ^b	0.21 ^b
TAXRAT	0.01	0.01	-0.06	0.02	0.14
AVGSAL	0.02	0.05	-0.05	0.07	0.02
TARVAL	-0.04 ^c	-0.29	-0.04	-0.31 ^b	-0.18 ^c
BIDTOE	0.22 ^c	0.00	0.01 ^a	-0.00	-0.00
NPDA	0.00	-0.02	0.02 ^a	-0.64 ^c	-0.16
ECOCYE	-0.64 ^c	-0.05	-0.12	-0.04	-0.06
Adj. R²	0.11	0.10	0.03	0.13	0.14
F-Statistic	5.54 ^a	4.65 ^a	1.10	0.99	1.61
No. of Obs.	314	226	51	18	19

Appendix 7.7 Impact of Sources of Value Creation on Three Year BHARs:

Market to Book Value Adjusted Returns (Equation 1)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 1 is defined in section 7.4.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are obtained from Datastream International. (The construction of the size and market to book value portfolios is explained in section 4.15.) The explanatory and control variables are defined in Tables 7.1 and 7.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.34 ^a	-0.35 ^b	-0.14	-0.10	-0.66 ^b
RELATE	-0.06	0.00	-0.15	-0.19 ^c	-0.08 ^a
RELQ	0.00	0.00	-0.02	0.21	-0.18
ABSGEAR	0.05	-0.05	0.05	-0.11	-0.07
RELSIZE	0.02	-0.00	0.05	0.02	-0.09
TARSH	0.00	0.00	-0.00	0.00	-0.01
HOST	0.12 ^b				
MULT	-0.03				
CASH	0.14 ^c	0.23 ^c	0.31 ^a	-0.03	-0.25 ^a
MIXED	0.03	0.16 ^c	-0.21	0.11	0.23
PROMAR	0.18 ^a	0.26 ^a	0.14	0.15 ^b	0.09 ^c
TAXRAT	0.04	0.11	-0.17 ^c	0.13	0.08 ^a
AVGSAL	0.10 ^b	0.20 ^a	0.27 ^b	-0.06	-0.42 ^a
TARVAL					
BIDTOE	0.00	-0.00	0.01	0.01 ^a	0.05 ^a
NPDA	0.01	-0.12	0.04 ^a	-0.04	-0.26 ^b
ECOCYE	-0.59	-0.09	-0.04	-0.01	-0.19
Adj. R ²	0.09	0.06	0.06	0.10	0.14
F-Statistic	2.13 ^c	1.65 ^c	0.84	1.21	1.17
No. of Obs.	314	226	51	18	19

Appendix 7.8 Impact of Sources of Value Creation on Three Year BHARs:

Market to Book Value Returns (Equation 2)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 1 is defined in section 7.4.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are obtained from Datastream International. (The construction of the size and market to book value portfolios is explained in section 4.15.) The explanatory and control variables are defined in Tables 7.1 and 7.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.29 ^a	-0.33 ^b	-0.13	0.13	-0.45 ^a
RELATE	-0.07	-0.00	-0.18	-0.45 ^b	0.57 ^a
RELQ					
ABSGEAR	0.04	-0.57	0.02	-0.18	-0.45 ^a
RELSIZE	0.01	-0.00	0.05	-0.04	-0.08 ^b
TARSH	0.00	0.00	0.00	0.00	-0.00
HOST	0.11 ^c				
MULT	-0.04				
CASH	0.14 ^c	0.23 ^c	0.32 ^a	-0.29	-0.24 ^a
MIXED	0.02	0.16 ^c	-0.23 ^c	0.11	0.07
PROMAR	0.19 ^a	0.26 ^a	0.19	0.15	0.09
TAXRAT	0.03	0.11	-0.16 ^c	0.13	0.09
AVGSAL	0.08 ^c	0.20 ^b	0.24 ^c	-0.06	-0.36 ^a
TARVAL	-0.06	-0.02	-0.05	0.36	-0.02
BIDTOE	0.00	-0.00	0.01	0.01	0.04
NPDA	0.01	-0.11	0.04 ^a	-0.04	-0.06
ECOCYE	-0.04	-0.08	-0.00	-0.01	-0.02
Adj. R ²	0.10	0.06	0.06	0.07	0.07
F-Statistic	2.31 ^c	1.66 ^c	0.86	1.15	1.08
No. of Obs.	314	226	51	18	19

Appendix 7.9 Impact of Sources of Value Creation on Three Year BHARs:

Fama and French Three Factor Return (Equation 1)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 1 is defined in section 7.4.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are obtained from Datastream International. (The construction of the size and market to book value portfolios is explained in section 4.15.) The explanatory and control variables are defined in Tables 7.1 and 7.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	ALL	F	SH	WK	MH
Intercept	-0.22 ^c	-0.35 ^b	-0.18	-0.04	-0.49
RELATE	-0.07	0.00	-0.24	-0.06	0.08
RELQ	-0.00	0.00	0.05	0.21	-0.07
ABSGEAR	-0.03	-0.05	0.00	-0.26	-0.08
RELSIZE	0.02	-0.00	0.07	0.09	-0.13
TARSH	0.00	0.00	0.00	0.00	-0.01
HOST	0.05				
MULT	0.01				
CASH	0.16 ^c	0.23 ^c	0.40 ^a	-0.33	-0.55
MIXED	0.06	0.16 ^c	-0.27	0.11	0.11
PROMAR	0.23 ^a	0.26 ^a	0.22	0.15	-0.03
TAXRAT	0.08	0.12	-0.06	-0.10	0.19
AVGSAL	0.15 ^b	0.20 ^a	0.37 ^a	-0.20	-0.23
TARVAL					
BIDTOE	0.00	-0.00	0.01	0.00	0.09
NPDA	0.00	-0.12	0.03 ^a	0.29	-0.15
ECOCYE	-0.12 ^c	-0.09	-0.09	-0.13	-0.34
Adj. R ²	0.08	0.06	0.06	0.08	0.04
F-Statistic	1.58	1.65 ^c	0.83	0.24	0.68
No. of Obs.	314	226	51	18	19

Appendix 7.10 Impact of Sources of Value Creation on Three Year BHARs:

Fama and French Three Factor Returns (Equation 2)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 2 is defined in section 7.4.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The returns for acquirers, Financial Times All Share Index, and size and market to book value portfolios are obtained from Datastream International. (The construction of the size and market to book value portfolios is explained in section 4.15.) The explanatory and control variables are defined in Tables 7.1 and 7.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.17	-0.33 ^b	-0.15	0.14	-0.69
RELATE	-0.08	-0.00	-0.21	-0.21	0.28
RELQ					
ABSGEAR	-0.05	-0.06	-0.01	-0.32	-0.28
RELSIZE	0.01	-0.00	0.08 ^c	0.05	-0.04
TARSH	0.00	0.00	0.00	-0.00	-0.00
HOST	0.04				
MULT	-0.00				
CASH	0.16 ^c	0.23 ^c	0.36 ^b	-0.43	-0.31
MIXED	0.05	0.16 ^c	-0.26	0.11	0.07
PROMAR	0.24 ^a	0.26 ^a	0.20	0.15	0.07
TAXRAT	0.07	0.11	-0.07	-0.10	0.24
AVGSAL	0.13 ^b	0.20 ^b	0.35 ^b	-0.20	-0.25
TARVAL	-0.05	-0.02	-0.05	0.11	-0.05
BIDTOE	0.00	-0.00	0.01	0.00	0.07
NPDA	0.00	-0.11	0.03 ^a	0.29	-0.34
ECOCYE	-0.11	-0.08	-0.08	-0.13	-0.06
Adj. R ²	0.07	0.06	0.07	0.08	0.08
F-Statistic	1.59	1.66 ^c	0.83	0.24	0.50
No. of Obs.	314	226	51	18	19

CHAPTER EIGHT

AGENCY MONITORING MECHANISMS AND POST-ACQUISITION ACQUIRER PERFORMANCE:

THEORY, EMPIRICAL EVIDENCE AND HYPOTHESES

8 INTRODUCTION

The question of corporate accountability has been an area of popular discussion not only in academic circles but also in wider groups, such as recent newspapers and political debates. The central question regarding corporate governance is the extent to which stakeholders can affect the behaviour of management. There is no guarantee that managers will behave in the interest of all stakeholders. Jensen and Meckling (1976) argue, that due to the separation of ownership and control, the objectives of managers may differ from those of owners. If this is the case, Shleifer and Vishny (1997) ask the question, how can the owners or suppliers of finance ensure they receive a return on their investment? If there is a separation of objectives between managers and owners then there is no reason why managers may not carry out actions which maximise their utility. In other words, managers may be tempted to steal funds or divert it to activities which seek to further their own interests. There is some evidence of managerial fraud in the UK, such as the case of Barlow Clowes, Maxwell Communications, BCCI, Polly Peck International, to show that suppliers of finance (e.g. shareholders) are not always guaranteed back their investment.

Shleifer and Vishny (1997) argue that even though managerial mismanagement and fraud occur, most developed nations have, “at least solved the problem of corporate governance reasonably well”¹. However, this does not mean that it is perfect or cannot be improved upon. Other writers on the subject, such as Jensen (1989), state that Anglo-Saxon corporate governance structures are clearly flawed and need changing. Alternative structures that are considered to be superior to the Anglo-Saxon model are those of Germany and Japan (see Roe, 1993; and Charkham, 1995:ch7). Good corporate structures are considered to be those that effectively monitor the activities of top management and allow for ‘independent advice’ provided through the presence of non-executive directors on the board of directors (Bain and Band, 1996). Through close monitoring of managers, the corporate governance structure can ensure that the interests of shareholders are closely followed.

The corporate governance structure is not the only way in which the top managers or agents can be monitored to limit the possibility of them furthering their own objectives². Another important group of stakeholders who assess the activities of the firm is its creditors³. Creditors, especially those with collateral, have the power to influence the actions of the firm to a desired manner (Bolton and Scharstein, 1990). On the other hand, the problem of moral hazard may mean that once creditors lend the funds to the firm they actually have very little control over its use or the behaviour of

¹ Evidence of this is the large flow of capital to firms and the repayment of profits back to the providers of finance. In the absence of reasonably efficient corporate governance structures the holders of capital would be reluctant to supply their capital to managers for fear of not being able to recover it at a later date. Managers then will be likely to hold on to the capital or divert it to further their own gain.

² Managers can further their own objectives in a number of ways such as carrying out bad acquisitions etc. (see Sudarsanam, 1995:16).

³ As we show later in this chapter, secured loans are provided against the value of the underlying asset and the ability of the company to make the interest/capital payments. In the case of unsecured loans they are provided on the strength of the firm’s profit and loss accounts and balance sheet. In both cases the lender can impose certain covenants which alter managerial behaviour to ensure that the lender’s utility is maximised.

top management. Alternatively, top managers may wish to improve or extend their relationship with their creditors by carrying out 'bonding actions' which reduce the possibility of creditor control applied to the firm (Jensen and Meckling, 1976).

The separation of control and ownership has gained importance not only in the context of firm management but also in other areas. Since the Second World War the importance of investment and pension funds has grown to the extent that the bulk of private investment is carried out through them. Data from the Office of National Statistics (ONS) share register survey for 1998 showed that institutional investors owned 60% of UK shares. The largest institutional investors were pension funds who owned one third of UK shares. Insurance companies owned one fifth of UK shares. The remaining institutional shareholding were owned by unit and investment trusts and financial companies.

In most cases institutional investors are judged on the performance of their investments which means that they have an incentive to make sure that managers of the companies they invest in increase shareholder value and thereby improve the performance of the investment/pension fund⁴. The experience of institutional investors has been that underperforming managers will not be supported and some like the Mercantile and General (M&G) make this point clear in their policy statement which states, "we do not presume to tell the management how to run their business but, if a company's actions are likely to jeopardise the interests of shareholders, we find that constructive intervention can often be preferable to disposing of a holding". However, in the case of takeovers the recent case of the hostile bid for Forte by Granada shows that

⁴ Investment and Pension funds are regularly compared by various investment journals such as Money Management and professional organisations (e.g. Micropal) against each other to measure their ability to select efficient managerial teams in order to attract further/new business.

institutional investors tend not to support underperforming targets in their defence. Mercury Asset Management was an investor in Forte but chose to support the hostile bidder, i.e. Granada, because they felt that the target had underperformed the market (Financial Time 23/01/96 page19c).

Agency monitoring mechanism is relevant to the market for corporate control. The literature on takeovers, in Chapter 2, shows that there is conclusive evidence of target firm shareholders gaining from a takeover. In the case of bidder firms the results tend to be inconclusive, showing them to experience small positive, negative or zero gains (see Franks et al., 1991; Schwert, 1996; Loughran and Vijh, 1997; Limmack, 1991; Sudarsanam et al., 1996; Holl and Kyriazis, 1997a; Kennedy and Limmack, 1996; Gregory, 1997 and Higson and Elliott, 1998). Various reasons have been offered to explain the inconclusive results for bidder returns. In Chapter 5 we examined the impact of the mood of the bid on bidder returns and found that, in the long run, friendly bidders underperformed hostile bidders.

This chapter attempts to extend our analysis of the long run post-acquisition acquirer performance by presenting and discussing aspects of agency monitoring mechanisms which have been shown to affect firm performance. We also identify gaps in our knowledge relating to the relationship between agency monitoring mechanisms and post-acquisition performance which allows us to develop our hypothesis. In the next chapter we empirically test these agency monitoring variables for our sample of UK acquirers involved in takeovers completed between 1983 and 1995.

8.1 THEORETICAL FRAMEWORK

8.1.1 AGENCY CONFLICT

The traditional economic analysis of the firm assumes it to carry out actions which maximise profits subject to certain constraints such as technology (Koutsoyannis, 1985; Estrin and Laidler, 1995)⁵. However, the traditional economic view of the firm ignores the manner in which production is organised and is merely concerned with inputs and outputs while the transformation from one to the other is simply a 'black box'. The agency theory attempts to explain the intra-firm relationships between managers and the various stakeholders (such as owners, lenders, etc.). The agency theory arises because shareholders do not manage the day to day operations of the firm but delegate it to others who are referred to as agents. However, agents do not necessarily share the same goals as owners who may simply supply the funds while managers are left to manage the operations of the firm, in some cases without an equity stake (Jensen and Meckling, 1976; Fama and Jensen, 1983a,b)⁶.

One view of the agency conflict is that if managers are left alone they may act in their own best interest rather than that of the owners or principals (see Baumol, 1959; Marris, 1964; Williamson, 1964; Jensen, 1986a; Grossman and Hart, 1988). Proponents of the agency conflict argue that if managers are not monitored they are likely to invest owners' funds in low value projects to expand their own egos or empires or what Grossman and Hart (1988) refer to as, "private benefits of control". Also, managers are likely to hang onto badly performing assets when new managers

⁵ In practice, firms may have alternative goals such as sales or utility maximisation but by and large, the vast bulk of firms attempt to maximise their profits (Koutsoyannis, 1985).

⁶ Table 9.4 shows that the mean level of managerial ownership (including shares held by associated shareholders) for our sample of acquirers is 9% while for the median firm it was 1.76%.

can run them more efficiently. This may lead managers to reject takeover bids which offer a profitable opportunity for their shareholders for fear of losing their jobs or privileges. Finally, managers may tend to award themselves high salaries and other benefits such as bonuses.

Even though a contract may exist between agent and principal, it is no guarantee that the former will conform to the wishes of the latter. Jensen and Meckling (1976) argue that even though contracts may exist between agents and the principals the latter cannot fully control the activities of the former. The divergence between the objectives of agents and principals leads to certain costs, commonly referred to as the agency cost. Jensen and Meckling (1976) separate agency costs into three types, the first of which is the actual cost incurred in monitoring the agents to ensure that they follow the objectives of the principals.

The second type of agency cost is 'bonding expenditure' incurred in order to help assure principals that the agent will not carry out actions which reduce their wealth. The third type of cost that arises from the agency conflict is the 'residual loss' which is fall in the principal's wealth as a result of the actions of the agent which deviate from those that would have been carried out by the principal. The optimal level of agency monitoring is the point where costs incurred equal the benefits received. Any further expenditure on agency monitoring beyond this level will have a detrimental effect on the firm's wealth.

8.2 TYPES OF AGENCY MONITORING MECHANISMS

In a modern firm the shareholder (or owner) is only one stakeholder, along with managers, banks and bondholders⁷. Jensen and Meckling (1976) look at the role of debt holders and the contractual relationship which exists between them and the agents. With the increase in the number of stakeholders, the actions of the agent have conflicting benefits in that one group may gain at the expense of another. For example, if the agent invests borrowed funds in a risky project then the risk is borne by the debt holder. However, if the agent were to follow a policy of risk aversion then the shareholder suffers from an increased opportunity cost in what could have been profitable investments while the debt holders benefit from reduced risk.

The extent to which one group of stakeholders benefits at the expense of another largely depends on the level of monitoring carried out and the control mechanism imposed on managers. Agrawal and Knoeber (1996) investigated the relationship between firm performance and the extent to which various control mechanisms are used for a sample of 400 US companies. The firm's performance was measured by the Tobin's Q ratio and was regressed against seven agency control mechanisms. The results from this study showed that firm performance was not related to a single control mechanism and the use of one control mechanism was dependent on the use of others. To some extent, Agrawal and Knoeber (1996) supported the earlier findings by Jensen (1989) who argued that in a leveraged buyout (LBO) the high level of debt was not the only controlling mechanism. In fact, the concentrated ownership, governance structure and close involvement of creditors which were inherent in a LBO jointly imposed restrictions on the actions of managers and hence helped improve firm performance.

⁷ Our analysis excludes groups such as employees, customers, etc., who have an interest in the firm but have

In the absence of complete monitoring, debt holders can restrict the activities of managers, by imposing restrictions or covenants (Jennifer, 1990; Citron, 1992; Messod and Press, 1993; Sung et al.; 1994). Common examples of restrictions placed on managers by debt holders are the reduction of dividend payments, the limiting of future borrowings, the closing down of available lines of credit etc. However, managers can pre-empt debt holders from employing their restriction by supplying them with information so as to reduce the level of uncertainty. If debt holders are informed of the present situation and future direction of the company they may be less likely to impose restrictive terms on the managers. Alternatively, the debtor can employ independent auditors to assess the current state of the company and thereby reassure the creditors that their funds will be repaid. The costs associated with supplying both these types of information falls on the company, and Jensen and Meckling (1976) refer to them as debt bonding costs.

The concept of ownership and control is very important in understanding modern companies. For example, in the UK almost 60% of UK listed shares are owned by institutions such as pension funds (see Charkham, 1995: p282). These institutions carry out the task of investing funds on behalf of their clients. However, the clients themselves have very little say over which companies should be invested in⁸. Historically, these institutions have not been very active in promoting good management (Dimsdale, 1994). The increased role of institutions in capital markets has meant that if one institution sells the shares they will simply be bought by another institution. Dimsdale (1994) argues that most major UK companies are now owned by 25 to 30 institutions. Although there may be a few institutions owning (hence

very little control over the decisions it makes.

⁸ By 'clients' we refer to private individuals who supply funds to institutional investors such as pension funds. Of course, these 'clients' can select the range of funds i.e. small companies or European, but they cannot name individual companies for investment.

controlling) major UK companies, Dimsdale (1994) argues that there does not appear to be any strong collaboration between them to improve the management of the companies in which they invest. One reason for this could be that different institutions may not have the same objectives. For example, institutions holding speculative or short term stakes may not want to incur the costs of replacing the management.

8.2.1 CORPORATE GOVERNANCE AND AGENCY MONITORING MECHANISMS

Between 1945 and the mid 1990s the economic performance of Germany and Japan has exceeded that of the UK and USA, and in part, this has been argued to be a reflection of the manner in which Anglo-Saxon companies are managed or governed (Dimsdale, 1994: p14). 'The processes by which companies are run' was referred to as corporate governance by Tricker (1984). More recently, the Cadbury Report on the Financial Aspects of Corporate Governance (1992) referred to corporate governance as, "the system by which companies are directed and controlled". The slightly different emphasis between Tricker's (1984) and the Cadbury Report (1992) definition of corporate governance is largely due to the latter being concerned with the structure of the company having adequate checks and balances to ensure that power is not concentrated in the hands of a few top directors.

The Hampel Report (1998) which sought to review the implementation of the findings of the Cadbury Report (1992) argues that, "good governance is not just a matter of prescribing particular corporate structures and complying with hard and fast rules. There is a need for broad principles. All concerned should then apply these flexibly and with common sense to the varying circumstances of individual companies". In accordance with the earlier reports (i.e. the Cadbury Report and the Greenbury

Report) the Hampel Report places considerable emphasis on desirable corporate governance principles. There are four broad groups of principles which the Hampel Report lays considerable emphasis upon. These are the role of directors; the remuneration of top management; involvement of shareholders and accountability; and firm audit. In part the Hampel Report's recommendations were a response to the high salaries which top management of large companies were awarding themselves⁹. In part the Hampel committee's recommendations are an echo of popular feeling at the time. For example, Bain and Band (1996) argue that good corporate governance structure consists of five broad principles of which four are the same as those in the Hampel Report (1998). The recommendations put forward by Bain and Band (1996) are as follows:

- i) having an appropriate pay policy for top management
- ii) to monitor and restrict abuse of power by top management
- iii) to protect the company from fraud or bad practice
- iv) to limit the behaviour of selfish/greedy top management
- v) to protect the interests of shareholders.

⁹ The period prior to the preliminary and final reports produced by the Hampel committee were witnessed by 'fat cat' stories whereby top management were awarded high salaries. An example of these fat cat stories was the case of Cedric Brown the CEO of British Gas. Mr Brown's rather large pay award was a matter of discussion in the House of Commons.

8.2.2 ROLE OF THE BOARD OF DIRECTORS

According to the UK Company Act 1985 (section 282), all companies registered after 1929, are required to have at least two directors. The Act does not specify the ranking or class of directorship but merely that they should fulfil certain statutory commitments. For many registered companies the statutory commitments are limited to preparing and delivering annual accounts to the relevant groups (section 227 and 241)¹⁰. Although the Companies Act and Stock Exchange Rules compel directors to carry out specific tasks, neither of them detail how they should manage their companies. In fact, the law does not require directors of the company to be managers but simply that they ensure the business is properly managed. The lack of a clear legal role for directors has meant that there exists wide disparities between companies over how they are managed with a direct effect on their performance. Generally speaking, the board have a wide role, (see Bain and Band, 1996), which encompasses the following:

- i) to act as the representative of the shareholders and ensure clear attainable goals are set and achieved
- ii) to agree the strategy followed by top management
- iii) to appoint top management
- iv) to regularly review the activities of top management
- v) to set the values of the company and monitor them, e.g. operating climate.

¹⁰ Companies listed on the stock exchange have additional requirements which have to be fulfilled which are

The Cadbury, Greenbury and Hampel Committees have all made recommendations as to what the board of directors' remit should be. These rules are not voluntary for companies listed on the UK stock exchange who, in their annual report, must state to what extent they comply with the recommendations of these committees. The Hampel Report (1998) states that every listed company should have a board of directors whose main roles should be to lead and control the activities of the company. The efficient running of a board requires both a CEO and a chairman, and companies which combine these roles should explain why they have done so. The board of directors should also include a balance of executive and non-executive directors and any appointments have to be transparent. Finally, all members of the board of directors should be supplied with all the relevant information in order to allow them to make informed judgements.

8.2.3 CORPORATE GOVERNANCE AND TAKEOVER MOOD

The monitoring of top management is not a costless exercise and the larger the number of stakeholders the greater is the incentive to free ride. Even if one group of stakeholders were to monitor the top management the gains from their actions would be minimal. The total gains may be large but as they are not the only benefactor, the gains are shared out. There are two methods by which inefficient managers can be removed or replaced by more efficient ones. The first is simply to dismiss them as in the case of Pilkington Plc where the CEO was ousted by the board of directors for failing to improve the performance of the company (Financial Times 22/5/97). The second method of removing inefficient managers is through corporate acquisitions whereby the control of assets is transferred to more efficient managers (Franks and Mayer, 1996). However, the top management of the target firm will be unwilling to accept the bid and in this case the only way the bidder can gain control is through a

detailed in the Stock Exchange Listing Rules or Yellow Book.

hostile bid. If the bid is successful then acquisitions are a method in which bad managers are more likely to be punished as target firm top management turnover is greater in a hostile takeover (Franks and Mayer, 1996).

Hart (1995) and Grossman and Hart (1980) argue that hostile bids may not be as profitable as the bidder may think. One reason for this is that the hostile bidder has to appeal directly to the shareholder who has to be motivated to sell his holding to the hostile bidder. The lowest price that a target firm shareholder will accept is that which he can obtain from the market and therefore the hostile bidder has to offer a higher price (see section 2.4.1 for a discussion of the free rider problem). The empirical evidence, for both the UK and the USA, in the long run, does not entirely support this view. Our results from Chapter 5 show that single hostile acquirers tend to outperform all other acquirer types. Similar results have been found by Kennedy and Limmack (1996), Holl and Kyriazis (1997a), Gregory (1997) and Higson and Elliott (1998).

8.2.4 NON-EXECUTIVE DIRECTORS AND POST-ACQUISITION ACQUIRER PERFORMANCE

One important recommendation of the Cadbury Report (1992), and repeated by the Hampel Report (1998), is that publicly listed companies should have non-executive directors. The Cadbury Report (1992) states that there should be a minimum of three non-executive directors on the board. More importantly, each listed company should have independent directors on its board.¹¹ The Hampel Report (1998) is more general

¹¹ The report prepared by the Cadbury Committee is vague as regards the precise definition of independence. The report largely leaves the directors to judge each non-executive director's independence (Dimsdale, 1994:p268).

and simply states that, “the board should include a balance of executive directors and non-executive directors such that no individual or small group of individuals can dominate the board’s decision making process”. It is generally assumed that non-executive directors have less of a managerial entrenchment motive and will therefore be more objective in their actions. The objectivity of non-executive directors increases in a competitive labour market where alignment with top management, or support of strategies, detrimental to shareholders may reduce their own chances of being invited to join the boards of other companies (Kaplan and Reihus, 1990).

The monitoring aspect of non-executive directors has received considerable attention in recent years (see Mayers et al., 1997; Cotter et al., 1996 amongst others). The reason for this is that they perform the important task of evaluating the performance of executive directors. This role cannot be performed by executive directors because they are a part of top management. If the top management were to underperform then it is usually the role of the non-executive directors to replace the top management. The empirical evidence shows that non-executive directors perform an effective role in monitoring the behaviour of managers. Also, the presence of non-executive directors is associated with a greater probability of forced turnover of top management in poorly performing companies. Coughlan and Schmidt (1985) investigated the hypothesis that fear of dismissal is an effective monitoring mechanism of top management. Their study found the hypothesis to be supported and concluded that these mechanisms tend to align the incentives of top management with those of the shareholders.

The empirical evidence from Byrd and Hickman (1992) generally supports this view but finds a non-linear relationship. In other words an increase in the number of independent board members improves bidder returns up to a point after which the bidder returns fall. This may be in part due to the non-executive directors appointed

onto the board for political reasons (Agrawal and Knoeber, 1996)¹². Byrd and Hickman found that with more than 60% of independent directors, the board becomes ineffective at monitoring the activities of top management. This result challenges studies which call for a board to be made up entirely of non-executive directors (Baysinger and Butler, 1985).

In the context of takeovers, the presence of non-executive directors on the board of the bidder firm should mean that it does not overpay for the target. One reason why this may be true is that the board of directors are always made aware prior to a formal bid. In fact, Weiss (1991) argues that it is the role of the board to review the takeover proposals put forward by top management¹³. In particular, non-executive directors may have a comparative advantage in evaluating the benefits of any takeover proposal due to their outside experience (Bacon, 1985). As board members of other companies, non-executive directors gain experience and considerable information from their external duties. The benefits of their business acumen, along with their objectivity, should ensure that the takeover proposals will be carefully considered prior to being made to the target firm (Byrd and Hickman, 1992)¹⁴.

For the US, Hermalin and Weisbach (1991) find that the presence of non-executive directors does not increase the probability of takeovers and are more likely to be appointed onto the boards of underperforming companies. The presence of non-

¹² Political appointments of non-executive directors is not unique to the USA and examples of this exist in the UK, such as Nigel Lawson joining Barclays Bank Plc after leaving his post as the Chancellor of the Exchequer.

¹³ Byrd and Hickman (1992) argue that the board needs to pay special attention to takeovers otherwise they may receive lawsuits from unhappy shareholders, however in the UK, this is extremely rare.

¹⁴ See Sudarsanam (1995:10) for a discussion of the directors' responsibilities in the UK.

executive directors on the board, according to Shivdasani (1993), does not affect the mood of the bid. More recently, Cotter et al. (1997) examined the role of the target firm's non-executive directors during a takeover for a sample of US companies. This study found that with a high proportion of non-executive directors on the board of the target firm the bid premium is higher and the incidence of 'poison pills' and takeover resistance greater. If non-executive directors effectively monitor the acquisitive activities of the bidder firm then we expect hypothesis 1 to be supported¹⁵.

Hypothesis 1

Shareholders of acquirers with a larger number of non-executive directors on the board experience greater wealth gains than shareholders of acquirers with a smaller number of non-executive directors.

8.2.5 CEO DUALITY AND POST ACQUISITION ACQUIRER PERFORMANCE

The top two positions in a company are the chairman and chief executive officer (CEO)¹⁶. The role of chairman in a company has no legal basis and the Companies Act (1985) does not require there to be one present (Charkham, 1995:p226). This may be one reason why the role of the chairman varies greatly depending on the size, complexity and type of business. Further, the role of the chairman is affected by that of

¹⁵ In the context of takeovers the monitoring role of non executives has not been tested.

¹⁶ We use the titles of chairman and CEO to refer to the top two executive directors within a company. However, these titles vary from company to company and in some cases the role of the post of a CEO may be referred to as the managing director (MD). Similarly, the title of chairman is sometimes referred to as President.

the CEO. Generally, the chairman deals with the monitoring of managers, external relations, setting out the firm's strategy and chairing meetings. The CEO, on the other hand largely deals with the internal affairs of the company (Charkham, 1995:p266). In some cases the role of the chairman and CEO may be combined and performed by a single individual. Where a top manager performs both the role of CEO and chairman, this is commonly referred to as CEO duality. The Cadbury and Hampel Reports strongly suggest that companies should separate these two roles. The latter requires all listed companies to explain in their annual accounts why the roles of chairman and CEO are combined. One reason for the separation of CEO duality is that the two roles are incompatible. A CEO, by its very nature, is an agent of the shareholders (Fama and Jensen, 1983a,b). As an agent his primary role is to increase shareholder utility. The chairman, on the other hand, performs the role of monitoring and disciplining managers on behalf of the shareholders (Charkham, 1995:p266)¹⁷. Greenan (1984) points out that this incompatibility of roles means that the CEO cannot pass judgement on himself.

As shown in section 8.1.2, with a separation of ownership and control, an agency conflict arises. Even if the CEO owns part of the equity he may still have an incentive to forward his own objectives. In the case of CEO duality the CEO (who is also the chairman) has the power to determine the composition of the board and set its agenda. This effectively reduces the monitoring power of the board as it is likely to simply rubber stamp the decisions of the CEO leading to a lower performance (Jensen, 1993).

An alternative view of CEO duality is that it prevents a gridlock or a dispute between the CEO and chairman. The probability of a boardroom gridlock or disputes is increased with an independent chairman (see the case of Lonhro in the Financial Times,

¹⁷ The chairman, with the approval of the board, appoints the CEO and therefore assesses his performance. If the CEO has underperformed, the chairman can remove him and appoint a successor (see the case of Pilkington Plc, Financial Times 22/5/97).

25th March, 1997)¹⁸. The CEO duality gives the CEO greater flexibility to seek out profitable opportunities and maximises shareholder utility¹⁹. CEO duality provides the firm with a clear line of direction as leadership is merged within a single commanding force (Finkelstein and D'Aveni, 1994).

The relationship between CEO duality and firm performance does not conclusively support a negative relationship. In a comparison between the performance of firms with and without CEO duality, Rechner and Dalton (1989) could not find a significant difference. In contrast to this, Duggal and Cudd (1996) report that in a sample of 131 US bidders, 70% had CEO duality. When companies with CEO duality were compared with those without, the former group experienced CARs of -15.28% compared to 2.3% for the latter during the period -20 to +20 days. If CEO duality does lower the monitoring role of directors then we expect to find support for hypothesis 2:

Hypothesis 2

Shareholders of acquirers with non-CEO duality experience greater wealth gains than shareholders of acquirers with CEO duality.

¹⁸ Other instances where a boardroom gridlock may occur are with differing views on the company and future direction, personality differences, etc.

¹⁹ The greater flexibility allows the CEO to carry out actions without constant references to the board. This is

8.2.6 TOP MANAGEMENT EXPERIENCE AND POST-ACQUISITION ACQUIRER PERFORMANCE

In section 8.2.4, we saw that non-executive directors brought experience and independence to the board of directors. If the presence of non-executive directors on the board improves the performance of the company, the question then arises as to whether outside directorships of the top management also improve corporate performance. In other words, the experience gained by top management in other companies may help them run their company more profitably. Lorsch and MacLver (1989) found that, out of the Fortune 1000 companies, 63% of the CEOs had outside directorships. One view of CEOs holding outside directorships is that they accept them to fulfil their own objectives and not to promote the shareholder interests of their own company (Byrne, Symonds and Siler, 1991).

An alternative view of top management's outside experience reflects the financial health of the company in that only managers who improve the performance of their own company will be invited to join the boards of other companies. Kaplan and Reishus (1990) found that the likelihood of a CEO being offered outside directorships was related to the performance of his own company. Similar results are found by Gilson (1990) supporting Fama's (1980) argument that labour market forces in the market for non-executive directorships discipline the behaviour of top management (see also Fama and Jensen, 1983a,b). The simple reason for this is that no firm would want to appoint a chairman or CEO or chairman as a non-executive director who has either neglected or badly managed his own company.

especially important where quick decisions are required.

Top management experience has also been argued to act as a tool for creating good relations between companies. This type of top management experience is common where companies have cross ownership or joint projects. The cross-directorships of top management between companies has been found to improve inter-firm relationships (Schoorman, Bazerman and Atkin, 1981). More importantly, if 'CEO or chairman bonding' is vital to these relationships then the CEO is more likely to hold outside directorships. Booth and Deli (1996) report that outside directorships by CEOs were negatively related to the firm's growth opportunities. Smith and Watts (1992) argue that as CEOs who can manage growth opportunities are scarce, they have a higher value than managers who manage existing assets. This implies that managers who manage companies with growth opportunities take on fewer, time consuming, outside directorships.

If the above theories of top management experience are true, then one can assume that a firm, whose top management have extensive experience measured by outside directorships, will be well managed. One can also assume that the top management do not neglect their company but manage it profitably. As we saw above, outside directorships can also bring in experience learnt from other companies to the benefit of their own company. In the case of a takeover, no study to date has looked at the effect of top management experience and long run performance. If outside directorships held by the chairman and CEO does bring in experience beneficial to the company then we expect to find support for 3 and 4.

Hypothesis 3

Shareholders of acquirers with a more experienced chairman receive greater wealth gains than shareholders of acquirers with a less experienced chairman.

Hypothesis 4

Shareholders of acquirers with a more experienced CEO receive greater wealth gains than shareholders of acquirers with a less experienced CEO.

8.3 THE ROLE OF DEBT IN MONITORING AGENTS

The corporate governance structure of a company is only one monitoring device that regulates the behaviour of top management. Another very important source of discipline on top management is imposed by the financial structure of the company. Jensen and Meckling (1976) argue that in the post Modigliani and Miller (1958) framework debt is considered to be a tool of control to be used by creditors. Debt by its very nature is a contract, whereby the borrower receives funds now and promises to pay it back in the future. The borrower not only has to pay back the funds borrowed but also adhere to certain restrictions on its behaviour. Therefore, an increase in debt imposes restrictions on management and binds them towards certain types of behaviour (Grossman and Hart, 1982). Jensen (1986) argues that the fear of managers not being able to service their debt acts as a motivating force leading to a much more efficient organisation²⁰.

The common method of imposing restrictions on the management by debtholders is to include covenants in the debt agreement²¹. This means that if the borrower violates any

²⁰ Jensen (1986) accepts that debt will not always have a positive motivating effect on companies such as those with rapid and profitable growth but no free cash flow. These companies frequently demand new funds and each time they are required the bank will reassess their situation.

²¹ A covenant is a contract between a firm and its lenders which sets out the terms and conditions of the borrowing and the rights and obligations of each party.

terms of the covenant the lender has rights which may allow him to repossess some of the company's assets or force it into bankruptcy. In a survey study of 33 lenders, Citron (1992) found that the use of financial ratio covenants was common in the UK. More importantly, the study showed that lenders were willing to impose high costs on managers who breach these covenants²².

8.3.1 BANK LENDING AND AGENCY MONITORING

Mayer (1990) found that bank loans were by far the most popular form of debt in the UK, largely due to its cost advantage and the ease with which they could be arranged. However, bank lending can result in various problems for the bank such as information asymmetry, moral hazard and adverse selection. For an efficient financial market informational symmetries have to exist but this is not always possible in reality because borrowers have greater information regarding their project than lenders. To some extent it may pay a borrower to exaggerate the likely outcome of the project so as to increase the probability of loan (Leland and Pyle, 1977).

Also, once funds have been lent, the bank suffers from moral hazard i.e. the inability to control the actions of the borrower²³. Even worse, with information asymmetry the bank could suffer from adverse selection²⁴. Campbell (1979) and Leland and Pyle

²² The precise nature of the costs depends on the terms of the covenant but common forms include a penalty charge. However, if the company keep an open line of communication, (i.e. provides regular information regarding the financial state of the firm) with the lender, the likelihood of punishment for breach of covenant is lower.

²³ As discussed above, the bank may impose restrictions but these are not costless to administer or monitor.

²⁴ Adverse selection refers to the problem of asymmetric information that occurs, in the case of debt contract, because lenders cannot differentiate between high and low quality borrowers.

(1977) argue that this problem can be avoided if the borrower provides greater information to the bank. In this way the bank becomes a quasi insider and is able to make optimal decisions regarding future lending without the borrower suffering public disclosure of information to competitors. Myers and Majluf (1984) argue that adverse selection can be avoided if collateral is provided. This is because the lender needs only concern himself with the value of the collateral and not the value of the whole firm.

Not only can borrowers provide banks with private information but also the economies of scale that arise from the business of banking implies that banks have a comparative advantage in screening loans (Buckle and Thompson, 1996:ch2)²⁵. This view is supported by Boyd and Prescott (1986), Chan (1983), Chan et al. (1986), amongst others, who claim that the screening mechanism used by banks allows them to separate good loans from bad. Also, the monitoring of borrowers means that lenders can choose who to lend funds to in the future. By carrying out these activities banks then pass on important signals to the financial markets in valuing the company.

In an empirical study, Hull and Moellenberndt (1984) investigated the relationship between a firm retiring its bank and non-bank debt against its share price performance. The results of this study showed that retiring bank debt provided a greater negative signal to the market than retiring non-bank debt. In the case of retiring bank debt, the abnormal returns were three times lower than for retiring non-bank debt. Similar results have been reported by James (1987) where the announcement of new bank lending led to a greater increase in its share price than private placements or straight debt financing. Both studies show that bank debt provides the market with unique

²⁵ If banks were to make foolish loans they would not survive for long. The fact that banks exist mean that they have managed to screen loans effectively.

information about borrower quality. If bank lending is effective in monitoring the activities of firms then we expect hypothesis 5 to be supported.

Hypothesis 5

Shareholders of acquirers with a high level of bank debt experience greater wealth gains than shareholders of acquirers with a low level of bank debt.

8.3.2 SHORT TERM LENDING AND AGENCY MONITORING

Short term lending is normally for a period under one year and in the UK it largely consists of bank overdrafts. Short term debt has many of the advantages of bank borrowing, such as flexibility and the ease with which it can be arranged. However, there are also disadvantages associated with short term borrowing such as having to repay the loan even though the net present value of continuing with the project is positive. In other words, with a short term loan the bank has the ability to terminate the loan with a greater flexibility than with a long term loan. Also short term borrowing involves the borrower having to regularly re-negotiate the loan as in the case of unauthorised overdrafts. The frequent appeal for funds implies that the lender is able to exert considerable influence on the behaviour of the borrower. The frequent re-negotiations that take place between the borrower and lender imply that the latter is more likely to carry out a greater level of monitoring on the former. Both the credit renewal process and frequent monitoring have been found to increase the bargaining power of lenders (Gertner and Scharfstein, 1991; Rajan, 1992; Diamond, 1993; Ofek, 1993; Brown et al., 1994). If short-term lenders are effective at monitoring the firm then we expect hypothesis 6 to be supported.

Hypothesis 6

Shareholders of acquirers with a high level of short-term debt experience greater wealth gains than shareholders of acquirers with a low level of short-term debt

8.3.3 SECURED AND UNSECURED LENDING AND AGENCY MONITORING

A considerable number of lending agreements with banks are unsecured where the loan is made on the strength of the borrower (McWilliams and Sentence, 1994). This type of lending is commonly referred to as financial statement lending because the loan is based on the strength of the income statement and the balance sheet of the company. The lender looks at the cash flow generating capabilities of the company to assess if the firm is able to repay the loan. If the borrower defaults on the loan the bank does not have a specific claim on the assets of the firm. In contrast, a secured loan gives the lender a specific claim on a set of assets. In terms of monitoring, one would assume that unsecured loans are monitored more than secured loans because they are unprotected. To some extent this argument can be supported by Myers and Majluf (1984) who claim that with a secured loan the lender is simply concerned with the value of the collateral and not the whole firm.

Although a secured loan may not be monitored to the same extent as an unsecured loan, it can nevertheless alter managerial behaviour. Hart and Moore (1994) construct a model which shows that managerial fear of repossession of assets ensures that lenders are repaid. The extent of fear, or control, depends on what the lenders can seize once the borrower defaults. Of course, if the collateral is low in value, then the cost of default is also lower. In other words, there exists a positive relationship between the level of control by the lender on the borrower and the value of collateral. The relationship between control and value of collateral is not linear. If unsecured

lenders effectively monitor the activities of the firm we expect hypothesis 7 to be supported.

Hypothesis 7

Shareholders of acquirers with a high level of unsecured debt experience greater wealth gains than shareholders of acquirers with a low level of unsecured debt.

8.3.4 AGENCY COSTS AND BENEFITS ASSOCIATED WITH DEBT

There are a number of costs associated with debt, the first of which is that profitable projects may not be financed. The lack of finance may be due to the inability of the borrowers to raise sufficient collateral or the un-willingness of the lender to offer finance and debt covenants. The debt covenants may impose very strict restrictions on the behaviour of managers which they might not wish to accept (see Stulz, 1990; Diamond, 1991; Hart and Moore, 1994). Even if the funds are lent, lenders may have an enormous amount of control over the borrower, which may mean that the lender is forced to terminate profitable projects so that the funds may be repaid. In an attempt to avoid this, the borrower may be willing to incur bonding costs such as an independent assessment of the firm. Alternatively, managers may disclose private information to debtholders to reduce the costs of monitoring and make them into quasi-insiders (Leland and Pyle, 1977). This private information is not so readily available to shareholders. The information asymmetry and greater control of managers by debtholders may mean that there is a transfer of risk away from debtholders to shareholders.

One major benefit of debt is that it results in a reduction in agency costs. These arise because debt prevents managers from investing in projects with a negative net present value. This is especially important in the case of takeovers where the monitoring mechanisms imposed by debtholders will increase the probability that bidders do not overpay. A bidder who knowingly overpays for a target is very likely to receive disapproval from debtholders. Also, the fear of not being able to repay the debt and face repossession increases the probability that the bidder will not overpay for the target. From the point of view of the target firm, if the target managers themselves cannot make efficient use of their asset then debt will force them to sell it to managers who can. Also, once funds have been lent, the involvement of debtholders increases the probability of greater monitoring of managers.

8.4 THE ROLE OF OWNERSHIP STRUCTURE IN MONITORING AGENTS

Although managers may carry out the day to day operations of a company the shareholders have the final say in the actions of top management and therefore have an incentive to monitor their behaviour. The final control over managers may rest with shareholders but this does not mean that all shareholders have an equal incentive to monitor managers. Hart (1995) argues that small shareholders have little, if any, incentive to monitor managers or enter into proxy fights. However, even if there are large shareholders, monitoring of managers does not improve because not all investors have the same incentive to monitor managers. For example, some large shareholders may simply hold shares in the company for a short duration and may not wish to incur costs involved in monitoring managers while others may wish to free ride on the actions of other large shareholders. In this section we look at the role of ownership in monitoring bidders in takeovers.

8.4.1 MANAGERIAL SHAREHOLDING AND AGENCY MONITORING

We have seen from section 8.1 that the basic agency conflict arises due to a separation of ownership from control given to managers to run the day to day operations of the company which gives rise to a difference in the objectives of agents and owners. Managers are appointed to run the company and have the ability to pursue their own objectives (Jensen and Meckling, 1976). For example, managers may opt to select less risky projects as opposed to more profitable ones (Amihud and Lev, 1981). Managers may be induced to take on the objectives of the owners by having a financial interest in the company through the ownership of shares. This argument is supported by Demestz (1983) who claims that if the wealth of the manager is related to that of the shareholder, then mutually beneficial decisions will be carried out. Managerial ownership of the company acts as an incentive to align their interests with those of the shareholders. In other words, there exists a negative relationship between managerial ownership and self interest (Lewellen et al., 1985; You et al., 1986).

There have been various empirical studies that have examined the relationship between management ownership of shares and the market value of the company. If the managerial alignment hypothesis is correct then one would expect that managers will try to acquire companies that increase shareholder wealth. However, if the management entrenchment hypothesis is correct then managers may carry out takeovers which improve their position. Lewellen, Loaderer and Rosenfeld (1985) examined the effects of managerial compensation and shareholding on shareholder wealth as a result of mergers. The data covered 191 mergers during the period 1963 to 1981. The results showed that bidders with a negative CAR during the five days prior to the bid announcement to completion had a managerial shareholding of 7.4% while those with a positive CAR had a shareholding of 10.4%.

Lewellen et al. (1985) also carried out a simple Spearman's rank correlation between shareholding and abnormal returns and found a positive relationship. Dividing the sample into deciles revealed that the top 10% of bidders with the largest levels of managerial shareholding received abnormal returns of 2.6% while the remaining 90% of bidders experienced average returns of -3.5% for the period five days before the bid announcement to completion. The 10% of firms with the lowest percentage of shares held by managers experienced wealth losses of -4.8%. These results showed there to be a positive but not necessarily a linear relationship between abnormal returns and managerial shareholding.

Although, Lewellen, Loaderer and Rosenfeld (1985) found a positive relationship between managerial shareholding and abnormal returns around the announcement date, their methodology has been attacked by Mikkelsen and Ruback (1985). Mikkelsen and Ruback (1985) argued that the negative abnormal returns around the announcement date can be due to a whole range of factors and not just due to the agency problem between managers and shareholders. However, this does not mean that managerial shareholding has no impact on bidder performance but it is an omitted variable problem.

Morck, Shleifer and Vishny (1988a) investigated the relationship between managerial shareholding and bidder performance using Tobin's Q ratio as a proxy for corporate valuation. The results from this study showed a positive relationship between managerial ownership and the Tobin's Q ratio in the 0% to 5% board ownership range. However as managerial ownership increased from 5% to 25% there was a negative but less pronounced relationship while beyond the 25% shareholding it became positive. McConnel and Servaes (1990) also used a non linear regression in order to test the

relationship between the Tobin's Q and the proportion of shares held by managers. Using data from 1976 and 1986 the study found a strong evidence of a curvilinear relationship between the Tobin's Q and managerial shareholding.

Hubbard and Palia (1995) begin their analysis of the relationship between managerial shareholding and takeover gains with the premise that the control of a company has a positive utility for managers and hence its valuation²⁶. These benefits are only available to those in control and cannot be passed on to others. There are various types of benefits that managers can derive such as control over investment projects. Once a takeover takes place managers may lose these benefits. The authors investigate the effect of managerial ownership on takeovers gains by examining a sample of 334 US acquirers during the period 1983 to 1992. The study finds that abnormal returns increases when managerial ownership increases up to the 5% level and then decreases thereafter. For managerial ownership of between 5% and 25% there is a small negative effect on abnormal returns. Managerial shareholdings beyond 25% result in slightly negative abnormal returns but this relationship is not statistically significant.

If we are to believe that low levels of managerial ownership can have a positive impact on firm performance while very high levels can be detrimental then we expect hypothesis 8 to be supported.

Hypothesis 8

Shareholders of acquirers with a low level of managerial ownership, experience greater wealth gains than shareholders of acquirers with high levels of managerial ownership.

8.4.2 INSTITUTIONAL SHAREHOLDING AND AGENCY MONITORING

Since the Second World War there has been a marked shift towards institutional ownership of public companies (Buckle and Thompson, 1996:ch6). The growth of institutional shareholding has been largely due to the growth in pension plans and investment funds. Almost all investment and pension funds attempt to invest in companies or sectors which are seen to offer overall above market average growth. The reason for this is that institutional investors themselves are judged on their ability to select companies that will offer a rate of return which is higher than that available on the market. The success of institutional investors in being able to 'beat' the market is frequently used in their advertising material in order to attract further business, as well as hold to their existing clients (Buckle and Thompson, 1996:ch6). Therefore, these pension and investment funds tend to invest in equity due to its superior returns relative to other investments such as bonds. These investment funds tend to invest in companies that are considered to offer superior long term returns. According to Buckle and Thompson (1996:ch6), investment fund managers aim to minimise short term failure and hence increase long term success.

Investment and pension funds have two options available to them in the case of badly performing companies, namely to sell their shareholding in the company or to help improve its performance. With the former, the investment fund simply cuts its losses and exits its investment in the company. However, the large holdings that funds have in companies may mean that they may not be able to exit without depressing the share price. However, institutional investors can exert pressure on the management through its large shareholding. Some investment funds, such as the M&G, publicly declare that

²⁶ The same argument is made by Grossman and Hart (1988) and Harris and Raviv (1988).

this is their usual policy in dealing with underperforming companies (Charkham, 1995:p283). Institutional investors can also influence the firm's investment towards a preferred direction. Rechner (1986) found that institutional investors placed a greater value on capital investment in longer term projects. This is consistent with an appreciation in the share price with firm announcements of research and development expenditure (Bain and Band, 1996).

In the case of takeovers, Jarrel and Pousen (1987) found that targets with relatively lower institutional shareholding were more likely to adopt the most value reducing form of anti-takeover charter amendment²⁷. In terms of institutional support for anti-takeover amendments Brickley et al. (1988) found that institutional investors who do not have business dealings with corporate management are more likely to vote against them. Agrawal and Mandelker (1990) examined 372 firms proposing anti-takeover charter amendments between 1979 and 1985. The study found a positive and statistically significant relationship (at the 5% level) between institutional shareholding and shareholder wealth at the time of the bid announcement. This is consistent with the active monitoring hypothesis i.e. institutional shareholders have an incentive to monitor managers as argued by Demsetz (1983).

On the other hand Pound (1988) argues that large investors are not active monitors of managers but tend to be rather passive. Instead, of actively monitoring the performance of managers institutional investors are more likely to vote with them or avoid the confrontation by selling their shareholding. Alternatively, institutional investors may have other business dealings with the company which may lead to a

²⁷ Monitoring of managers can be illustrated using anti-takeover charter amendments because they need shareholder approval.

conflict of interest thereby detracting them from effectively monitoring the managers. If large or institutional investors do perform an effective monitoring role then we expect hypothesis 9 to be supported.

Hypothesis 9

Shareholders of acquirers with a high level of block shareholders (both associated and non-associated) experience greater wealth gains than shareholders of acquirers with a low level of block share ownership.

8.5 CONCLUSION

In this chapter we have seen that the actions of managers may be influenced by internal and external agency monitoring mechanisms. We have presented and discussed the literature dealing with three different types of agency monitors, namely the corporate governance structure, lenders and the ownership structure. Under UK legislation the role of the board of directors is not stated and therefore there exists a wide disparity between companies. However, three committees (i.e. Cadbury, Greenbury and Hampel) have examined the aspect of corporate governance. Their recommendations are now compulsory for firms listed on the UK stock exchange. The most recent of the committees examining corporate governance (i.e. the Hampel Report, 1998) considers four broad areas, namely the structure of the board of directors, remuneration of top management, role of shareholders and company audits. To our knowledge no study has examined the relationship between an acquirer's post-acquisition performance and its corporate governance structure.

Another agency monitoring mechanism which we examine in this study are lenders who seek to reduce the risk of losing their funds while maintaining their reputation as 'good lenders'. The bulk of borrowing in the UK is from banks largely due to its flexible nature and the ease to which it can be arranged. At the same time banks have a comparative advantage in screening loans (Buckle and Thompson, 1996:ch2). We have seen from the discussion in this chapter that a large proportion of bank borrowing is in the form of overdrafts and very short term. The short term nature of this debt implies that the lender has considerable influence on the behaviour of managers. Also, frequent requests for funds implies that the lender will carry out a greater monitoring role. Myers and Majluf (1984) argue that lenders who have their loans backed up by collateral, which is equal or greater in value to the loan, need not monitor the company. In the event of the firm failing, the secured lenders can simply take ownership of the collateral.

The third group of agency monitoring mechanisms which we examine in this chapter also discussed in Chapter 3 are the owners. We have seen from our discussion that managerial ownership has a non-linear relationship with firm performance. At low levels of managerial ownership, firm performance increases while at very high levels managers become entrenched and firm performance declines. In the case of institutional investors the empirical evidence is not conclusive and previous studies find that they carry out a passive monitoring role. On the other hand, there is also support to show that they are efficient monitors of managers. In the next chapter we empirically test the relationship between agency monitoring mechanisms and post-acquisition acquirer performance.

CHAPTER NINE

AGENCY MONITORING MECHANISMS AND POST-ACQUISITION ACQUIRER PERFORMANCE:

THE EMPIRICAL RESULTS

9 INTRODUCTION

In the previous chapter we saw that there was a separation between the ownership of a firm and control. In other words, the day to day activities of managing the company are left to managers or agents who may not have the same objectives as the owners of the firm (Jensen and Meckling, 1976). This leads to the problem of monitoring the agents so that they behave in a manner that increases the utility of the shareholders. In the previous chapter we discussed three types of agency monitoring mechanisms; namely the corporate governance, debt and ownership structures which have been shown to affect the behaviour of managers (Weisbach, 1988; Rosenstein and Wyatt, 1990; Agrawal and Knoeber, 1996; Cotter et al., 1996; Mayers et al., 1997; Lai and Sudarsanam, 1997 amongst others).

In this chapter we attempt to extend our earlier analysis to investigate the impact of a range of agency monitoring mechanisms, discussed in the previous chapter, on long run post-acquisition acquirer performance, for our sample of UK acquirers consisting

of friendly, hostile and white knights¹. This chapter is divided into four sections. The first section discusses methodological issues specific to this chapter. The second section presents the definitions of the agency monitoring mechanisms and control variables. In the third section, we carry out descriptive statistics and univariate tests. In the fourth section we present and discuss our results on the impact of agency monitoring mechanisms.

9.1 METHODOLOGY

We examine the impact of agency monitoring mechanisms on post-acquisition acquirer performance along with some control variables which aim to capture the effect of the bid process. We estimate the following OLS regression in order to detect the influence of the agency monitoring mechanisms on post-acquisition acquirer performance:

$$BHAR = f(\text{GOVERNANCE, LENDERS, OWNERSHIP, CONTROL}) \quad (9.1)$$

where: BHAR refers to abnormal returns based on the winsorised market, mean, size, market to book value and Fama and French Three Factor adjusted models for the period -40 to +750 days².

GOVERNANCE refers to corporate governance variables.

LENDERS refers to the various holders of corporate debt.

OWNERSHIP refers to the owners of the firm's capital.

CONTROL refers to control variables which represent the dynamics of the bid

¹ To the best of our knowledge there is no UK published study that has investigated the relationship between long run post-acquisition acquirer performance and agency monitoring mechanisms.

We provide descriptive statistics and conduct univariate tests of differences between acquirer types. We also test for multicollinearity between our variables using the Pearson Correlation Coefficient (see Table 9.6), and any two variables with a value greater than 0.3 are investigated separately.

9.2 DEFINITION OF EXPLANATORY AND CONTROL VARIABLES

There are a number of stakeholders in a firm, such as the owners, employees, customers etc. This study looks at three of these; namely the board of directors, debt holders and shareholders. In each case the agency monitoring features are sub-divided into component factors. In the case of borrowings by the firm we look at bank, secured and unsecured debt. For corporate governance we examine the number of non-executive directors, top management experience and CEO duality. Finally, in the case of shareholders, we examine managerial ownership and large shareholdings. We define these variables below:

9.2.1 CORPORATE GOVERNANCE VARIABLES

We divide the corporate governance mechanisms into three types, namely outside monitoring (i.e. the number of non-executive directors on the board of directors), concentration of power (i.e. whether the roles of chairman and CEO are performed by a single person) and top management outside experience. In each case data are collected for the accounting year preceding the bid announcement. Unfortunately, there is no UK database on corporate governance structures and this meant that data

² See Chapter 4 for a discussion of the different models used in this study to estimate the abnormal returns.

on corporate governance structure had to be manually collected. We collected corporate governance data from the Hemmington Scott Corporate Register and Company Guides, The Stock Exchange Year Book, annual company reports and the Directory of Directors³. All of these sources identified non-executive directors and listed the names along with the positions for the executive directors.

First, we examine what the Cadbury Committee (1992) refer to as the level of 'independent judgement' that is brought to bear on firm performance. We use the number of non-executive directors as a proxy for 'independent judgment' which we define as:

NONEXEC: the number of non-executive directors on the board in the accounting year prior to the bid announcement.

The second corporate governance aspect we examine in this study is whether the roles of the CEO and chairman were played by a single person. (Some companies in our sample have a managing director (MD) and President instead of a CEO and chairman respectively.) We define CEO duality as:

DUALITY: whether the roles of CEO (MD) and chairman (president) are played by a single person. If a single person carried out the roles of a CEO (or MD) and chairman (or President) we denote this as 1 or 0 otherwise.

³ We also use these sources to cross check our data.

In this study, we examine the number of outside directorships, held by the CEO and chairman, as a proxy for top management outside experience which we define as:

CEOEXP: refers to the number of outside directorships held by the CEO (MD).

CHMEXP: refers to the number of outside directorships held by the chairman(president).

9.2.2 LENDER VARIABLES

In this study, we segregate debt into four different types; namely, bank-based, short run, unsecured and total⁴. We obtain data from Datastream International and annual company accounts for bank, short run and unsecured debt and equity and reserves. All values are taken for the accounting year preceding the bid announcement.

We use the ratio of bank-based lending to equity and reserves of the company, which we define as:

BANKLEV = bank borrowings repayable within one year and after one year divided by equity and reserves of the company.

We differentiate between short and long run borrowing due to the flexibility with which the former can be terminated. Short run borrowing gives the lender greater flexibility as the loan can be terminated with ease even when the net present value of the underlying project

⁴ The four types of lending we investigate in this study are not mutually exclusive and there is a high level of correlation between them.

is positive. We define short run borrowing as:

SRLEV = refers to bank overdrafts, loans and other short-term borrowings payable within one year divided by the equity and reserves of the firm of the company.

Borrowings are not always secured against an asset and may be made based on the strength of the profit and loss account and balance sheet. In this study, we define unsecured loans as:

UNSECLEV = all loans repayable in one year and longer subtracted by total secured loans. We then divide the result by the equity and reserves of the company.

The fourth type of lending we investigate in this study is total loans which includes not only bank-based, and unsecured lending but also other types of loans that the firm may have taken out such as debentures.

BIDLEV = all loans payable which include bank loans, unsecured loans, as well as debentures, convertible loans, promissory notes, leasing and hire purchase all divided by the equity and reserves of the company.

9.2.3 OWNERSHIP VARIABLES

We collected managerial and blockholder shareholding data from Hemmington Scott Corporate Register and Company Guides, annual company reports and Stock Exchange microfiche for the year preceding the bid-announcement. We use the variable **MANOWN** to measure the pre-bid announcement managerial shareholding in the bidder firm which is defined as:

MANOWN = the proportion of bidder firm shares, held by members of the board of directors, three months prior to the date of the bid-announcement, as reported in the Extel Financial news summaries or obtained from company annual reports.

We postulate a non-linear relationship between managerial shareholding (i.e. MANOWN) and the post-acquisition bidder firm performance. Therefore, we use a piecewise linear regression model to capture this non-linearity. The piecewise regression model is a technique that allows for multiple changes in the gradient of the regression describing the relationship between two variables (see Morck, Shleifer and Vishny, 1988). The variable MANOWN is modified as follows:

$$\begin{aligned}
 \text{MANOWN}_{0 \text{ to } 10\%} &= \begin{aligned} &\text{Actual MANOWN if less than 10\%} \\ &10\% \text{ if MANOWN is greater than or equal to 10\%} \end{aligned} \\
 \text{MANOWN}_{11 \text{ to } 25\%} &= \begin{aligned} &0\% \text{ if MANOWN is less than 10\%} \\ &\text{MANOWN minus 10\% if greater than 10\% and less than 25\%} \\ &15\% \text{ if MANOWN is greater than 25\%} \end{aligned} \\
 \text{MANOWN}_{\text{over } 0.25} &= \begin{aligned} &0\% \text{ if MANOWN is less than 25\%} \\ &\text{MANOWN minus 25\% if greater than 25\%} \end{aligned}
 \end{aligned}$$

We use the variable INSOWN to measure the pre-bid announcement institutional shareholding which is defined as:

INSOWN: is the proportion of bidder firm shares held by institutions and large blockholders, three months prior to bid announcement, as reported in the Extel Financial News Summaries. We use institutional shareholding above and including 5% for takeovers carried out before 31st May 1990 and 3% for those completed after this date.

9.2.4 CONTROL VARIABLES

We test our agency monitoring variables along with other variables which aim to capture the dynamics of the bid process. We employ the following control variables: the method of payment (discussed in section 2.4.2), bidder's toehold (discussed in section 2.4.1), free cashflow (discussed in section 2.4.3), the economic cycle (discussed in section 2.4.5) and the mood of the takeover (see Chapter 3). We have seen from section 3.2 that acquirers can be divided into four groups namely friendly, white knight, single and multiple hostile. (We examine the relationship between acquirer type and the impact of agency monitoring mechanisms by testing equation 9.1 for each group separately.) These four acquirer types can be categorised into two broad groups i.e. friendly or hostile (we refer to this variable as HOST) and single or multiple bidders (which we refer to as MULT).

Table 9.1: Definition of Corporate Governance Explanatory Variables

Data on managerial experience is obtained from Directory of Directors and company annual accounts. CEO duality and the proportion of non executive directors data is obtained from the Stock Exchange Year Book. Corporate debt data is obtained from company annual accounts, Datastream International and FT Extel Company Reports. Ownership data is obtained from the Hemmington Scott Corporate Registers and Company Guides as well as company annual accounts. (These publications only report block shareholdings above 5% until 31st May 1990 and then above 3% from then onwards).

Variable	Definition	Proxy For:
NONEC	Number of non-executive directors on the board of directors in the accounting year preceding the bid-announcement.	Independent judgement and monitoring of executive directors.
DUALITY	Whether the roles of CEO (or MD) and Chairman (or President) are carried out by the same person in the accounting year preceding the bid announcement. If a single person carried out the roles of a CEO (or MD) and chairman (or President) we denote this as 1 or 0 otherwise.	Independence between CEO and chairman; control of power.
CHMEXP	The number of outside directorships held by the Chairman (or President) in the accounting year preceding the bid announcement.	Chairman's outside experience; quality of the chairman.
CEOEXP	The number of outside directorships held by the CEO (or MD) in the accounting year preceding the bid announcement.	CEO's outside experience; quality of the CEO.

Table 9.2 Definitions of Debt and Ownership Explanatory Variables

Corporate debt data are obtained from company annual accounts, Datastream International and FT Extel Company Reports. Ownership data are obtained from the Hemmington Scott Corporate Registers and Company Guides, company annual accounts and Stock Exchange microfiche. (These publications only report block shareholdings above 5% until 31st May 1990 and then above 3% from then onwards). Debt data is taken for the accounting year preceding the bid announcement while ownership data is taken three months before the bid-announcement.

Variable	Definition	Proxy For:
BIDLEV	Total Loan Capital / Equity and Reserves.	Lender monitoring.
SRLEV	Short Term Loans / Equity and Reserves.	Monitoring by short term lenders.
BANKLEV	Bank Loans / Equity and Reserves.	Monitoring by banks.
UNSECLEV	Unsecured Loans / Equity and Reserves.	Monitoring by unsecured lenders.
MANOWN	Proportion of shares held by members of the board of directors.	Management alignment/entrenchment.
INSOWN	Proportion of shares held by institutions and large blockholders.	Shareholder monitoring and control of managers.
BIDTOE	Bidder's toehold three months prior to the bid announcement.	Probability of bid success.

Table 9.3 **Definitions of Control Variables**

This table summarises the various control variables which we include along with sources of value creation as explanatory variables for post-acquisition acquirer performance. Data for method of payment is obtained from *Acquisitions Monthly* for takeovers completed after 1987 and the *Financial Times* before then. Data for free cash flow (i.e. NPDNA) is calculated from data obtained from Datastream International and company annual accounts. The economic cycle is constructed using the composite coincident indicator produced by the Office of National Statistics and shown in Table 7.2. Acquirer types are discussed in section 3.2.

Variable	Definition	Proxy For:
CASH	Cash offer	Capital gains tax
MIXED	Mixture of equity, cash, debt etc.	Capital gains tax and information asymmetry.
EQUITY	Equity offer	Capital gains tax and information asymmetry
NPDNA	Bidder's profit after tax, dividends and minority interests plus depreciation divided by net assets	Free cash flow
ECOCYE	Dummy variable indicating whether the takeover takes place in a recession or economic boom	Economic cycle
FRIENDLY	Friendly or hostile bid	Disciplinary nature of the takeover
SINGLE	Presence of a competing bidder	Target firm bargaining power against the bidder firm

9.3 DESCRIPTIVE STATISTICS AND UNIVARIATE TESTS

As an initial step towards our analysis of the relationship between post-acquisition acquirer returns and agency monitoring, as well as to become familiar with our sample data, we present descriptive statistics and carry out univariate tests of differences in median values between acquirer types. We examine the sample data for all takeovers, as well as for different acquirer groups. Table 9.4 shows the descriptive statistics for the agency monitoring mechanisms and control variables for the whole sample of acquirers while Table 9.5 shows the same but for different acquirer types. (We present and discuss the descriptive statistics for control variables in section 7.4.) Table 9.6 shows the test of difference in means between the different acquirer groups. We also show the Pearson correlation coefficients between the explanatory and control variables in Table 9.7.

Whole Sample Variables

Table 9.4 shows that the average firm has 3.38 non-executive directors on its board of directors with a standard deviation of 2.28 and a median value of 3. This is very similar to the survey by PRO NED (1990) which finds 82% of the top UK 100 companies in the 'Times 1,000' list to have three or more non-executives on the board of directors. More recently, PRO NED (1996), finds that the average number of non-executives on the board of publicly listed companies has increased to 3.6. We find that the average value for CEO duality is 0.34. The low level of duality in our sample is borne out in the median value of 0 with a standard deviation of 0.48. Again, our results are very similar to those of PRO NED (1990) which finds that 26% of the top 100 UK companies combine the roles of CEO and chairman. Since, PRO NED's (1990) study there has been a marked reduction in the number of companies with CEO duality. The PRO NED (1996) study finds that only 12% of companies have CEO duality and this falls to 6% for the very large firms (i.e. with a turnover over £2 billion). We find that chairmen

tend to have greater outside experience than CEOs. The average chairman has 6.2 outside directors with a median value of 4 and a standard deviation of 7.25. CEOs on the other hand have a mean and median values of 5.34 and 2 respectively.

Table 9.4 Descriptive Statistics for Agency Monitoring Mechanisms

St.Dev refers to the standard deviation and No. of Obs refers to the number of observations. The explanatory and control variables are defined in table 7.3. The explanatory variables are described and defined in Tables 9.1 to 9.3.

Variable	MEAN	MEDIAN	St. Dev	No. of Obs
NONEXEC	3.38	3.00	2.28	461
DUALITY	0.34	0.00	0.48	540
CHMEXP	6.20	4.00	7.25	538
CEOEXP	5.34	2.00	6.75	360
BIDLEV	0.36	0.26	0.57	428
SRLEV	0.21	0.15	0.21	428
BANKLEV	0.32	0.28	0.75	399
UNSECLEV	0.16	0.13	0.18	431
MANOWN (%)	8.97	1.76	14.42	488
BIDTOE (%)	6.86	0.00	14.22	541
INSOWN	7.08	6.59	13.40	490

The average acquirer firm in our sample has total loans repayable of one third of the value of its equity and reserves. The median value is marginally lower at 0.26 with a standard deviation of 0.57 implying a high level of dispersion. The average acquirer in our sample has short term leverage which is equivalent to 21% of its equity and reserves with a median value that is marginally lower at 15%. Table 9.4 shows that the average acquirer in our sample has unsecured leverage to the value of 16% of its equity and reserves. In the case of the ownership structure of the firm we find that the average firm has managerial ownership of 9% and a median value of 1.8%.

Corporate Governance Variables by Acquirer Type

A comparison of the proportion of non-executives on the board of companies between acquirer types shows friendly and single hostile acquirers have an almost identical average number of non-executive directors at 3.34 and 3.35 respectively (see Table 9.5). It appears that bidders involved in an auction (i.e. competing with another bidder for the same target) have an above average number of non-executive directors on their board. Multiple hostile acquirers have an average of 3.6 non-executives on their board of directors while for white knights it is 4. For all four types of acquirers the median value is almost identical to the mean and the standard deviation is approximately 2. Table 9.6 shows that the test of difference in means finds there to be a statistically significant difference between the number of non-executive directors on the board of white knights against single hostile acquirers and white knight against friendly acquirers at the 5% level. If the presence of non-executives does bring about independent and perhaps superior management decisions then we expect white knight acquirers to experience higher post-acquisition performance compared to other acquirer types.

Table 9.5 shows that hostile acquirers (both single and multiple) are more likely to have CEO duality than either friendly or white knight acquirers. The mean value for friendly acquirers is 0.32 while for white knights it is marginally lower at 0.31. Single hostile acquirers have a mean value of 0.41 while for multiple hostile acquirers it is 0.45. However, none of the differences in means are statistically significant (see Table 9.6). Inter-group comparisons from Table 9.5 show that chairmen of friendly and white knight acquirers to have more outside directorships than hostile acquirers. The average number of directorships for friendly acquirers is 6.29 while for white knights it is 6.92.

Table 9.5 Descriptive Statistics for Agency Monitoring Mechanisms

Avg refers to the mean, Med refers to the median value, SD refers to the standard deviation, No. refers to the number of observations. The explanatory variables are described and defined in Tables 9.1 and 9.2. A single friendly acquirer is defined as one where there is a sole bidder which receives the recommendation of the target management. A single hostile acquirer is one where there is only one bidder which wins despite resistance by the target management. A white knight acquirer is a friendly bidder which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. A multiple hostile acquirer is one where the acquirer is in competition with another hostile or a white knight for control of the target. The acquirer types are defined in section 3.2. The number of observations is different for each variable because complete data was not available for all of them.

Variable	Friendly				Single Hostile				White Knight				Multiple Hostile			
	Avg	Med	SD	No.	Avg	Med	SD	No	Avg	Med	SD	No	Avg	Med	SD	No
NONEXEC	3.34	3.00	2.26	359	3.35	3.00	2.05	65	4.09	4.00	2.39	22	3.60	3.00	1.92	15
DUALITY	0.32	0.00	0.47	419	0.41	0.00	0.50	75	0.31	0.00	0.47	26	0.45	0.00	0.51	20
CHMEXP	6.29	4.00	7.44	417	5.89	4.00	5.75	75	6.92	4.00	9.37	26	4.60	2.00	4.97	20
CEOEXP	5.11	2.00	6.75	283	5.29	2.00	5.84	45	7.00	4.00	8.01	18	8.00	5.50	7.68	14
BIDLEV	0.33	0.24	0.55	332	0.48	0.33	0.67	61	0.35	0.31	0.33	23	0.61	0.34	0.74	12

Variable	Friendly				Single Hostile				White Knight				Multiple Hostile			
	Avg	Med	SD	No.	Avg	Med	SD	No	Avg	Med	SD	No	Avg	Med	SD	No
SRLEV	0.20	0.14	0.60	327	0.27	0.18	0.28	60	0.29	0.23	0.23	20	0.36	0.24	0.36	21
BANKLEV	0.28	0.25	0.80	302	0.46	0.37	0.61	56	0.45	0.37	0.35	20	0.56	0.41	0.39	21
UNSECLEV	0.19	0.10	0.86	321	0.18	0.20	0.74	64	0.12	0.26	0.39	24	0.31	0.24	1.96	22
MANOWN	9.78	2.15	14.98	366	5.05	1.53	11.53	72	7.41	2.14	13.77	22	9.07	1.71	12.67	28
BIDTOE	6.41	0.00	0.72	421	9.38	4.99	1.33	75	6.39	0.00	2.55	26	7.61	0.00	3.04	19
INSOWN	7.20	3.45	13.22	368	5.74	4.64	12.97	72	4.79	2.25	9.54	22	12.80	5.32	9.46	28

Table 9.6 Test of Difference in Means for the Variables Explaining Post-Acquisition Performance by Acquirer Type

WK refers to white knight bidders, MH refers to multiple hostile bidders, SH refers to single hostile bidders, F refers to friendly bidders. The explanatory variables are defined in Tables 9.1 and 9.2. The acquirer types are defined in section 3.2. ^{a,b,c} refer to significance at 1%, 5% and 10% levels respectively.

Variable	F v SH	F v WK	F v MH	SH v WK	SH v MH	WK v MH
NONEXEC	-0.05	-2.21 ^b	-0.71	-1.98 ^b	-0.63	1.01
DUALITY	-1.02	0.07	-0.80	0.64	-0.22	-0.67
CHMEXP	1.30	-1.02	3.27 ^a	-1.56	2.26 ^b	2.97
CEOEXP	-0.46	-2.76 ^a	-3.82 ^a	-2.26 ^b	-3.29 ^a	-1.00
BIDLEV	-1.33	-0.16	-1.11	0.82	-0.48	-0.94
SRLEV	-0.87	-0.78	-1.16	-0.16	-0.61	-0.41
BANKLEV	-1.55	-1.20	-1.92 ^b	0.06	-0.58	-0.58
UNSECLEV	0.08	0.51	-0.72	0.36	-0.68	-0.93
MANOWN	10.56 ^a	2.90 ^a	1.01	-2.66 ^a	-5.13 ^a	-1.60
BIDTOE	-21.30 ^a	0.06	-2.98 ^a	8.79 ^a	4.20 ^a	-2.40 ^a
INSOWN	3.12 ^a	3.52 ^a	-9.16 ^a	1.21	-9.81 ^a	-9.12 ^a

However for single and multiple hostile acquirers it is 5.89 and 4.60 respectively implying that chairmen of hostile acquirers may either have greater growth opportunities or be of a lower quality (see section 8.2.6) than friendly and white knight white knight acquirers. However, we find that only the difference in means between friendly and multiple hostile acquirers to be statistically significant at the 1% level. Chairmen of single hostile acquirers tend to have more outside experience than those of multiple hostile acquirers. Table 9.6 also shows the differences in means between the chairman's outside experience for single hostile acquirers against multiple hostile acquirers to be

statistically significant at the 5% level.

In the case of CEO outside experience we find from Table 9.5 that acquirers involved in an auction have higher levels than either single bidders, both friendly and hostile. In the case of friendly acquirers the average CEO has 5.11 outside directorships while for single hostile acquirers it is slightly higher at 5.29. For white knights the average CEO has 7 outside directorships while for multiple hostile acquirers it is 8. Not only is the mean value higher for multiple bidders but so is the median value. Table 9.6 shows that the test of difference in means to be statistically significant at the 1% level between friendly and multiple hostile acquirers.

Lender Variables by Acquirer Type

A comparison of leverage between acquirer groups shows that the mean values tend to be lower for agreed takeovers (i.e. friendly and white knights) compared to contested bids (i.e. single and multiple hostile). Friendly and white knight acquirers have mean leverage values of 0.33 and 0.35 respectively. For single hostile acquirers the mean leverage value is 0.48 while for multiple hostile acquirers it is 0.61. In other words, the average multiple hostile acquirer has a leverage value which is almost twice that of a friendly acquirer. It may be the case that friendly acquirers may have lower monitoring by lenders. However, Table 9.6 shows that none of the differences in means are statistically significant.

We find that short term leverage tends to be largely similar across different acquirer groups. In the case of friendly acquirers we find average short term leverage to be 0.28 while it is 0.27, 0.29 and 0.36 for single hostile, white knights and multiple hostile acquirers respectively. The similarity in mean values across acquirer types is borne out in Table 9.6

where we find none of the values to be statistically significant. However, the median values tend to be somewhat different between acquirer types. In the case of friendly and single hostile acquirers the median values are 0.14 and 0.18 respectively compared to 0.23 and 0.24 for white knight and multiple hostile acquirers respectively.

Bank based borrowing forms a large proportion of UK borrowing and this is borne out in Table 9.5. We find that friendly acquirers have the lowest average levels of bank borrowing at 0.28 compared to 0.56 for multiple hostile acquirers who have the largest levels. We also find that the difference in means between friendly and multiple hostile acquirers is statistically significant at the 5% level (see table 9.6). A large part of bank based borrowing tends to be in the form of overdrafts which tend to be unsecured. Therefore, it is not surprising that we find a similar pattern across different acquirer types for both unsecured leverage and bank borrowing. As in the case of bank borrowing we find that with unsecured leverage friendly acquirers have the lowest levels while multiple hostile acquirers have the highest levels. We do not find differences in means across acquirer types to be statistically significant for unsecured leverage (see Table 9.6).

Ownership Variables by Acquirer Type

Inter group comparisons show that friendly acquirers have the highest levels of managerial ownership at 9.78% while single hostile acquirers have the lowest levels at 5.1%. The test of differences in means (see Table 9.6) for friendly acquirers against single hostile and white knight acquirers is statistically significant at the 1% level. Similarly, differences in means for single hostile acquirers against multiple hostile and white knight acquirers are significant at the 1% level. In the case institutional ownership we find that multiple hostile acquirers have the highest levels at 12.8% while single hostile acquires have the lowest levels. Institutional ownership is significantly different between single and multiple hostile

acquirers and multiple hostile acquirers versus white knights at the 1% level. Also the difference in means for friendly acquirers is significantly different against all other acquirer types at the 1% level. Friendly and white knight acquirers have a bidder's toehold marginally lower than the average at 6.41 and 6.39% respectively. Hostile acquirers tend to have a higher bidder's toehold than agreed bids at 9.38% and 7.61 for single and multiple hostile acquirers respectively. We find differences in means between all acquirer types to be significant at the 1% with the exception of single hostile and white knight acquirers.

9.3.1 PEARSON CORRELATION TEST

Table 9.7 reports the Pearson correlation test for the explanatory and control variables. Out of the 105 pairwise correlations between 15 explanatory and control variables only six exceed a value of 0.3⁵. Of these five correlations, four of them are between our debt variables which is not surprising as they are not mutually exclusive. The four highest correlations are equal or above 0.8 which are unsecured leverage (UNSECLEV) against total loans repayable (BIDLEV); UNSECLEV against short term leverage (SRLEV); bank based borrowing (BANKLEV) against SRLEV and BANKLEV against UNSECLEV at 0.80, 0.81, 0.87 and 0.85 respectively. The correlation between BIDLEV and bank based borrowing is 0.7 while between BIDLEV and short term borrowing is 0.59. This is not surprising as the bulk of firm borrowing in the UK is unsecured, consisting of overdrafts and short term loans.

⁵ We feel that any correlation above 0.3 implies a strong linear relationship between the pair of variables. Gujarati (1995) argues that there is not set value above which variables can be considered to be correlated. We use a low value of 0.3 to separately test the pair of variables in order to avoid any problems associated with multicollinearity.

We carry out four variations of equation 9.1 whereby the first includes only a general measure of leverage i.e. $BIDLEV$ and excludes the other measures which are $SRLEV$, $BANKLEV$ and $UNSECLEV$ (i.e. equation 1). The second equation includes only $SRLEV$ and excludes $BIDLEV$, $BANKLEV$ and $UNSECLEV$ (i.e. equation 2). In the third equation we include only $BANKLEV$ and exclude $BIDLEV$, $SRLEV$ and $UNSECLEV$ (i.e. equation 3). Finally, we include $UNSECLEV$ and exclude $BIDLEV$, $SRLEV$ and $UNSECLEV$ (i.e. equation 4). The four equations can be summarised as follows:

Equation 1:

$$BHAR = f(GOVERNANCE, BIDLEV, OWNERSHIP, CONTROL) \quad (9.2)$$

Equation 2:

$$BHAR = f(GOVERNANCE, SRLEV, OWNERSHIP, CONTROL) \quad (9.3)$$

Equation 3:

$$BHAR = f(GOVERNANCE, BANKLEV, OWNERSHIP, CONTROL) \quad (9.3)$$

Equation 4:

$$BHAR = f(GOVERNANCE, UNSECLEV, OWNERSHIP, CONTROL) \quad (9.4)$$

By carrying out these four variations to equation 9.1, for each of our five abnormal return models, we ensure the robustness of our results and avoid the problems associated with multicollinearity.

Table 9.7 Pearson Correlation Coefficients Among the Explanatory and Control Variables

The variables are defined in Tables 9.1 and 9.2. Values above 0.3 are highlighted.

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17
NONEXEC	-	-0.07	0.05	-0.05	0.10	0.11	0.02	0.13	-0.28	-0.07	-0.02	0.04	0.19	-0.08	0.04	-0.05	0.06
DUALITY		-	0.01	0.03	0.06	-0.02	0.01	0.04	0.01	0.06	0.11	0.03	-0.04	-0.05	0.04	-0.02	0.01
CHMEXP			-	0.28	0.04	0.01	0.01	0.02	-0.08	0.01	0.07	-0.00	0.07	-0.04	-0.05	0.04	0.07
CEOEXP				-	-0.01	-0.04	-0.06	-0.05	-0.07	-0.05	0.03	0.03	0.06	-0.02	-0.08	-0.02	0.02
BIDLEV					-	0.59	0.71	0.80	-0.05	-0.02	0.11	0.04	0.11	-0.01	0.10	-0.02	0.08
SRLEV						-	0.87	0.81	-0.01	0.10	0.06	0.05	0.09	0.01	0.05	-0.07	0.09
BANKLEV							-	0.85	0.01	0.12	0.09	0.06	0.03	-0.03	0.02	-0.02	0.11
UNSECLEV								-	-0.12	0.04	0.13	0.11	0.11	-0.02	0.05	-0.04	0.06
MANOWN									-	-0.06	-0.09	-0.01	-0.08	-0.04	0.09	0.09	0.07
INSOWN										-	0.00	0.04	-0.07	0.01	-0.13	-0.04	-0.00
HOST											-	-0.10	0.02	-0.06	0.11	-0.08	0.07

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17
SINGLE												-	-0.01	0.03	-0.00	0.00	0.00
CASH													-	-0.07	-0.01	-0.01	0.13
MIXED														-	0.01	0.00	-0.02
NPDA															-	0.00	-0.01
ECOCYE																-	-0.02
BIDTOE																	-

9.4 RESULTS

We have estimated the relationship between the three year BHARs (i.e. -40 to +750 days) using the market, mean, size, market to book value and the Fama and French Three Factor (FFTF) adjusted models against agency monitoring mechanisms as shown in equation 9.1. In this section we largely discuss the summary of our findings which are shown in Tables 9.8 and 9.9. (In appendices 9.1 to 9.20 we report the model coefficients for our estimation models.) We first report and discuss the results for the whole sample of acquirers then for each acquirer type.

9.4.1 THE WHOLE SAMPLE

Non-Executive Directors

Our first hypothesis states that acquirers with a larger number of non-executive directors will experience significant wealth gains (see section 8.2.4). The results for the whole sample of acquirers shows there to be a positive and statistically significant relationship between the number of non-executive directors and post-acquisition performance. This result tends to support studies such as Weiss (1991) which argue that the role of the non-executive directors is to review takeover proposals. With a greater proportion of non-executive directors the review process will be extensive and there will greater room for independent opinion. Although, we find positive and statistically significant results appendices 9.1 to 9.20 shows that the coefficient values are very small and close to zero. In other words we find that non-executive directors to have only a marginal impact on acquirer performance.

**Table 9.8 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Summary Tables for Equations 1 and 2**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equations 1 and 2 are defined in section 9.3.1. + and - refer to the most common sign across all five benchmark models which is statistically significant at or above the 10% level. (see appendix 9.1 to 9.20). Missing signs refer to statistically insignificant coefficients. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. ** refers to variables excluded from the estimation model.

	Equation 1					Equation 2				
	ALL	F	SH	WK	MH	ALL	F	SH	WK	MH
Intercept	-	-		-		-	-		+	
NONEXEC	+	+		-	-	+	+		-	-
DUALITY	+	+	+	-	-	+/-	+/-	+	-	-
CHMEXP	-	+/-		-	+	+/-	+/-		+	+
CEOEXP	+/-	+	+			+/-	+	+		
BIDLEV	-	-		+	-	**	**	**	**	**
SRLEV	**	**	**	**	**	-	-		+	+
MANOWN₁	+	+	+		+/-	+	+	+	+/-	-
MANOWN₂			+		+	-	-	+	+/-	-
MANOWN₃				-	-	+			-	-
INSOWN	-	-	-	-	-	-	-	-	-	-
BIDTOE	+	+	+	+	+	+	+	+	+	+
HOST	+	**	**	**	**	+	**	**	**	**
MULT		**	**	**	**		**	**	**	**
CASH	+	+	+	+	-	+	+	+	-	-
MIXED					+				+	+
NPDA	+	-	+	+	-	+	-	+	+	-
ECOCYE	-	-	-	-	+	-	-	-	+	+
No. of Obs.	314	226	51	18	19	314	226	51	18	19

**Table 9.9 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Summary Tables for Equations 3 and 4**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equations 3 and 4 are defined in section 9.3.1. + and - refer to the most common sign across all five benchmark models which is statistically significant at or above the 10% level. (see appendix 9.1 to 9.20). Missing signs refer to statistically insignificant coefficients. The explanatory and control variables are defined in Tables 9.1, 9.2 and 7.3. ** refers to variables excluded from the estimation model.

	Equation 3					Equation 4				
	All	F	SH	WK	MH	ALL	F	SH	WK	MH
Intercept	-	-		-		-				
NONEXEC	+	+		-	+	+	+		-	-
DUALITY	+/-	+/-	+	-	-	+/-	+	+	-	+/-
CHMEXP	-	+/-	-	+	+	-	-	-	+	+
CEOEXP	+	+/-	+			+/-	+	+		+
BANKLEV	-	-	-	+/-	+	**	**	**	**	**
UNSECLEV	**	**	**	**	**				-	-
MANOWN₁	+	+	+	+/-	-	+	+	+	+/-	+/-
MANOWN₂	-	-	+	+/-	+/-	-	-	+	+	
MANOWN₃	+	+		-	-		-		+/-	
INSOWN	-	-	-	-	-	-	-	-	-	-
BIDTOE	+	+	+	+	+	+	+	+	+	+
HOST	+	**	**	**	**	+	**	**	**	**
MULT		**	**	**	**		**	**	**	**
CASH	+	+	+			+	+	+	-	-
MIXED		+		+	+				+	+
NPDA	+	+	+			+	-	+		-
ECOCYE	-	-	-	+	+	-	-	-	+	+
No. of Obs.	314	226	51	18	19	314	226	51	18	19

CEO Duality

Our second hypothesis (see section 8.2.5) predicts that CEO duality will have a negative impact on post-acquisition acquirer performance because the roles of chairman and CEO are conflicting in nature. Section 8.2.5 argues that the role of the CEO is to increase the wealth of shareholders while the chairman monitors and disciplines managers (Fama and Jensen, 1983a,b). Our summary findings show that we find both statistically significant positive and negative impact of CEO duality on acquirer performance. As in the case of non-executive directors we find that the coefficient values (see appendices 9.1 to 9.20) to be very small and close to zero. This implies that although CEO duality may have some beneficial properties such as avoiding boardroom gridlock the gains to acquirers in the long run are marginal at best. At the same time the negative effects of CEO duality such as concentration of power may also have a very small and best marginal impact on long run acquirer performance. Our results can neither support or reject our hypothesis that CEO duality will have a negative impact on acquirer performance.

Chairman and CEO Outside Experience

Our third and fourth hypotheses state that a greater level of outside directorships by the chairman and CEO respectively will have a positive impact on acquirer firm shareholder wealth (see section 8.2.6). Our results show that outside experience by the chairman has a negative and statistically significant impact on acquirer firm performance (see Tables 9.8 and 9.9). Our results suggest that chairmen who have outside directorships may neglect their own firm. In the case of CEO outside directorships we find a positive and statistically significant impact on acquirer performance. In both cases appendices 9.1 to 9.20 shows that the coefficient values are small and close to zero. This implies that the impact of chairman and CEO outside experience is marginal at best. Overall we find evidence to reject the hypothesis of a positive relationship between acquirer performance a chairman's outside experience. In

the case of the CEO we find evidence to support our hypothesis of a positive relationship between outside experience and acquirer performance.

Leverage

We predict that shareholders of acquirers with a high level of leverage will experience greater wealth gains than shareholders with a low level of leverage due to increased external monitoring (see section 8.3). We find that for the whole sample of acquirers leverage has a statistically significant and negative impact on acquirer performance. Therefore we reject our hypothesis of a positive relationship between acquirer performance and leverage. For the most part the coefficient values for leverage are small (see appendices 9.1 to 9.20). Our results suggest two possible explanations for the negative impact. In the first case lenders may have very little control over the funds once they have been lent (i.e. moral hazard). Alternatively, lenders do not have an incentive to actively monitor borrowers.

Bank Leverage

Our fifth hypothesis states that shareholders of acquirers with a greater proportion of bank debt will experience greater wealth gains than shareholders of acquirers with a lower proportion of bank debt (see section 8.3.1). Table 9.9 show that bank debt has a statistically significant but negative impact on acquirer performance. As in the case of other debt variables the coefficient values are small and close to zero. Our results show that access to bank borrowing has at best a marginal impact on acquirer performance.

Short Run Leverage

Our sixth hypothesis states that shareholders of acquirers with a high level of short term debt will experience greater wealth gains than shareholders of acquirers with a

low level due to greater monitoring by short term lenders (see section 8.3.2). We find short run leverage has a negative and statistically significant impact on acquirer performance for the whole sample. Appendices 9.1 to 9.20 show that the coefficient values are small and close to zero. As much of short term leverage is from banks in the form of overdrafts it is not surprising we find similar results. We find results which do not support our hypothesis of a positive relationship between acquirer performance and short term leverage.

Unsecured Leverage

Our seventh hypothesis states that shareholders of acquirers with a greater proportion of unsecured debt will experience greater wealth gains than shareholders of acquirers with a lower proportion due to increased lender monitoring (see section 8.3.3). Table 9.9 shows that we find statistically insignificant results for the whole sample, friendly and single hostile acquirers. However, appendices 9.1 to 9.20 show that the coefficients are largely negative and close to zero. Based on these results we find no evidence to support our seventh hypothesis.

Managerial Shareholding

Our eighth hypothesis states that shareholders of acquirers with a high proportion of managerial shareholding will experience greater wealth gains (see section 8.4.1.). Our results for the whole sample of acquirers shows that in the case of managerial shareholding we find rather mixed results. For shareholdings below 10% we find largely positive and statistically significant impact on acquirer performance. Generally speaking we tend to find negative and statistically significant impact on acquirer performance for managerial shareholdings between 10% and 25%. For managerial shareholdings above 25% we find a positive impact on acquirer performance. Our results tend to support a non-linear relationship between managerial shareholding and

acquirer performance.

Institutional Shareholding

Our final hypothesis states that shareholders of acquirers with a higher proportion of institutional shareholdings will experience greater wealth gains due to increased monitoring (see section 8.4.2). Our results show that institutional shareholding has a negative impact on acquirer performance. Based on these results we find evidence which rejects our hypothesis.

9.4.2 RESULTS FOR EACH ACQUIRER TYPE

Non-Executive Directors

In the case of different acquirer types we find that the results for single hostile acquirers to be statistically insignificant⁶. However, appendices 9.1 to 9.20 show the coefficients to be both positive and negative but the values are very close to zero. Friendly acquirers on the other hand tend to have a positive and statistically significant relationship between post-acquisition performance and the number of non-executive directors. However, the same cannot be said for white knight and multiple hostile acquirers both of whom have larger numbers of non-executive directors on their board (see Table 9.5). Tables 9.8 and 9.9 show that white knight and multiple hostile acquirers experience a negative impact due to non-executive directors. Our results show that our hypothesis can be supported for friendly acquirers. Although, we find support for our hypothesis, in the case of friendly acquirers, the impact of non-executive directors on acquirer performance is negligible. We reject our hypothesis for

⁶ Due to the small size we cannot make any conclusions regarding the different acquirer types nor can the tests of statistical significance be relied upon for complete. The problem of small sample size is especially acute for white knight and multiple hostile groups.

white knight, single and multiple hostile acquirers.

CEO Duality

Tables 9.8 and 9.9 show that CEO duality tends to have a statistically significant and positive impact on acquirer performance for friendly and single hostile acquirers. However, for acquirers in competition with another bidder (i.e. white knights and multiple hostile acquirers) CEO duality has a negative impact. This result suggests a lack of CEO monitoring in the case of acquirers who have the highest probability of suffering from the winner's curse (see chapter 2). Appendices 9.1 to 9.20 show that the coefficient values for friendly acquirers tend to be very small and close to zero. For white knights and multiple hostile acquirers the coefficient values tend to be quite large. Based on these results we cannot find evidence to support our second hypothesis for friendly and single hostile acquirers. However, for white knight and multiple hostile groups we find that CEO duality has a large and statistically negative impact on acquirer shareholder wealth.

Chairman and CEO Outside Experience

In the case of different acquirer types we find that outside experience by the chairman and CEO tend to have a statistically significant negative and positive impact respectively for friendly and single hostile acquirer. In the case of acquirers competing with another bidder (i.e. white knights and multiple hostile acquirers) outside experience by the chairman has a positive and statistically significant impact on acquirer performance. We also find white knight and multiple hostile acquirers tend to experience a negative but statistically insignificant impact due to CEO outside experience. Based on our results we reject our hypothesis which argues in favour of increased outside experience by the chairman for friendly and single hostile acquirers. In the case of white knight and multiple hostile acquirers we find evidence to support

our hypothesis which argues in favour of CEO outside experience for friendly and single hostile acquirers. In the case of white knight and multiple hostile acquirers we reject our fourth hypothesis.

Leverage

We find that leverage does not have a statistically significant impact on the long run performance of single hostile acquirers. However the same is not true for friendly and multiple hostile acquirers where we find a negative relationship between leverage and long run performance. In the case white knight acquirers we find a positive relationship between leverage and acquirer performance. From Table 9.5 we can see that the differing impact of leverage on acquirer performance is not necessarily related to the level of leverage. Although, we find multiple hostile acquirers to have leverage that is twice that of other acquirer types we can see from Table 9.6 that the differences in means are not statistically significant across the different acquirer groups. It may be the case that different acquirer types use different forms of leverage and this may affect their performance. Our results lead us to support our hypothesis of a positive relationship between leverage and acquirer performance for white knights. In the case of friendly, single and multiple hostile acquirers we reject our hypothesis of a positive relationship between leverage and acquirer performance.

Short Run Leverage

As in the case of overall leverage (i.e. BIDLEV) we do not find a statistically significant relationship between short term leverage (i.e. SRLEV) and long run post-acquisition acquirer performance across all acquirer types. Our results from Table 9.8 show that short term leverage tends to have a positive impact for acquirers involved in a competition with another bidder in order to acquire the target. For friendly acquirers we find short term leverage to have a negative and statistically significant impact on

long run post-acquisition acquirer performance. One explanation for the differing impact of short term leverage on post-acquisition acquirer performance could be the different levels of short term leverage. Table 9.5 shows that friendly acquirers tend to have the lowest levels of short term leverage and lenders may not wish to monitor them to the same extent as larger borrowers such as white knight and multiple hostile acquirers. Our results lead us to support our hypothesis of a positive relationship between short term leverage and post-acquisition acquirer performance for white knight and multiple hostile acquirers but not for friendly and single hostile acquirers.

Bank Leverage

We find bank leverage to have a positive and statistically significant impact on long run post-acquisition performance for multiple hostile acquirers. In the case of friendly and single hostile acquirers we find bank leverage to have a negative and statistically significant impact on long run post-acquisition acquirer performance. Table 9.5 shows that multiple hostile acquirers tend to have higher levels of bank leverage and this may affect the level of monitoring carried out by bank based lenders. Our results lead us to support our hypothesis of a positive relationship between bank leverage and acquirer performance for multiple hostile acquirers and reject it for friendly and single hostile acquirers. In the case of white knight acquirers we find a mixed result depending on the benchmark model used.

Unsecured Lending

Table 9.9 shows that unsecured leverage does not have a statistically significant impact on the long run post-acquisition performance of either friendly or single hostile acquirers. However, in the case of white knight and multiple hostile acquirers we find a negative relationship between unsecured leverage and acquirer performance. It may be the case that unsecured lenders have very little control over their borrower's actions

and this is borne out in the case of white knight and multiple hostile acquirers. We find evidence to reject our hypothesis of a positive relationship between unsecured leverage and post-acquisition acquirer performance.

Managerial Shareholding

For managerial shareholdings of below 10% we generally find a positive impact on post-acquisition acquirer performance across all acquirer types except white knights. In the case of white knights we find both a positive and negative impact depending on the benchmark model used. For managerial shareholdings of between 10% and 25% we find a consistently positive relationship for single hostile acquirers. Results for other acquirer types tend to be sensitive to the benchmark model used. In the case of managerial shareholdings above 25% we find a negative impact for white knight and multiple hostile acquirers. Based on our results we find evidence to reject our hypothesis of a positive relationship between managerial shareholding and acquirer performance.

Institutional Shareholding

We find that institutional investors have a negative and statistically significant impact on acquirer performance across all acquirer types. In other words, a high level of institutional shareholding has a negative impact. It may be the case that institutional investors do not actively monitor the companies in which they invest their clients' funds. The PRO NED (1996) survey reports that only a minority of companies (i.e. 16%) in their sample are influenced by institutional shareholders when appointing a new chairman. Even fewer companies (i.e. 13%) felt that institutional investors will affect their choice in appointing the next chairman. Our results lead us to reject the hypothesis of a positive relationship between institutional investors and acquirer performance.

9.5 CONCLUSION

In this chapter we attempted to investigate the relationship between various agency monitoring mechanisms and the post-acquisition acquirer performance. We sought to test for the influence of three different groups of agency monitoring mechanisms namely the corporate governance structure, lenders and shareholders. We have carried out descriptive statistics, univariate tests of differences in median values, and estimation of the impact of agency monitoring mechanisms on acquirer performance. Our descriptive statistics show that multiple hostile acquirers to have the highest levels of debt but relatively low levels of corporate governance related agency monitoring mechanisms. White knights tended to have chairman and CEO with the highest levels of outside experience relative to other acquirer types. Friendly acquirers were found to have the highest average levels of managerial shareholding compared to other acquirer types. In terms of debt friendly acquirers had the lowest average levels which tended to be significantly different from other acquirer types.

The results from our estimation model show that in general corporate governance monitoring mechanisms have a positive but small impact on acquirer performance. We find that in the case of different acquirer types there is a clear distinction between single and multiple bidders. Acquirers in competition with another bidder tend to have the opposite results to the whole sample as well as friendly and single bidders. Our study finds that non-executive directors increase firm monitoring for friendly and single hostile acquirers but not for white knight and multiple hostile acquirers. CEO duality has a positive impact for friendly and single hostile acquirers and the opposite for white knight and multiple hostile acquirers. In the case of CEO and chairman's outside experience we find a positive and negative impact respectively for friendly and single hostile acquirers while its the opposite for white knight and multiple hostile acquirers.

In the case of monitoring by lenders we find it is only relevant for white knight and multiple hostile acquirers. One explanation for this may be the higher levels of debt for these groups. We find that managerial shareholding to have a positive impact for holdings below 10% and negative thereafter for all acquirer types. Finally, we find that institutional shareholding has a negative impact on acquirer performance for all acquirer types. Our results lead us to believe that agency monitoring mechanisms have at best a weak impact on acquirer performance.

Appendix 9.1 Impact of Agency Monitoring Mechanisms on Three Year BHARs:

Market Adjusted Returns (Equation 1)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 1 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.0679	-0.0319	0.2344	-0.2676 ^a	0.1161
NONEXEC	0.0000	0.0001	0.0001	-0.0003 ^a	-0.0001
DUALITY	0.0006 ^a	0.0006 ^a	0.6979 ^a	0.3731	0.0002
CHMEXP	-0.0005 ^a	-0.0004 ^a	-0.0033	0.0075	-0.0037
CEOEXP	0.0002 ^a	0.0002 ^a	0.0007 ^a	0.0015	0.0022
BIDLEV	-0.0001	-0.0001	-0.4981	0.4316 ^a	-0.1691 ^b
MANOWN ₁	-0.0000	-0.0001	0.0171 ^a	0.0036	-0.0478 ^a
MANOWN ₂	0.0083	0.0117	0.0141	0.0187	0.0315 ^c
MANOWN ₃	-0.0016	-0.0030	-0.0012	-0.0142 ^a	-0.0060
INSOWN	0.0000	0.0001	-0.0166 ^a	-0.0078 ^a	-0.0057
BIDTOE	0.0032	0.0022	0.0109 ^a	0.0106 ^a	0.0129 ^b
HOST	0.0225 ^a				
MULT	-0.0642				
CASH	0.0135	0.2317 ^b	0.1762	-0.3138 ^a	-0.2304
MIXED	0.0218	0.0622	-0.0359	0.1321 ^c	0.0679
NPDA	-0.0107	-0.3392	0.0468 ^c	-0.1617	-0.4054 ^b
ECOCYE	-0.0263	-0.0061	0.0081	0.1111	0.0599
Adj. R ²	0.05	0.04	0.07	0.08	0.03
F-Statistic	1.56	1.38	1.20	1.32	1.14
No. of Obs	314	226	51	18	19

Appendix 9.2 Impact of Agency Monitoring Mechanisms on Three Year BHARs: Market Adjusted Returns (Equation 2)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 2 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.0583	-0.0405	0.0728	-0.0081	0.0401
NONEXEC	0.0000	0.0001	0.0000	-0.0003 ^a	-0.0004 ^a
DUALITY	0.0006 ^a	0.0006 ^a	0.5724 ^a	0.4021	-0.0557
CHMEXP	-0.0005 ^a	-0.0004 ^a	-0.0071	0.0028	0.0039
CEOEXP	0.0002 ^a	0.0002 ^a	0.0006 ^a	0.0006	0.0002
SRLEV	-0.0000	-0.0002	-0.0001	0.0001 ^a	0.0003 ^a
MANOWN ₁	-0.0000	-0.0001	0.0178 ^a	-0.0320 ^b	-0.0399 ^b
MANOWN ₂	0.0082	0.0111	0.0223 ^c	0.0313 ^b	0.0329 ^c
MANOWN ₃	-0.0017	-0.0030	-0.0009	-0.0133 ^b	-0.0156 ^b
INSOWN	0.0000	0.0001	-0.0173 ^a	-0.0078	-0.0057 ^c
BIDTOE	0.0032	0.0022	0.0123 ^a	0.0106 ^b	0.0129 ^b
HOST	0.0216 ^a				
MULT	-0.0785				
CASH	0.0139	0.2258 ^b	0.1795	-0.3138 ^c	-0.2304 ^b
MIXED	0.0215	0.0617	-0.0608	0.1321	0.0679
ECOCYE	-0.0256	0.0036	0.0200	0.1111	0.0599
NPDA	-0.0102	-0.3271 ^a	0.0452	-0.1617	-0.4054 ^a
Adj. R ²	0.05	0.05	0.04	0.03	0.03
F-Statistic	1.53	1.42	0.95	1.04	1.14
No. of Obs	314	226	51	18	19

Appendix 9.3 Impact of Agency Monitoring Mechanisms on Three Year BHARs: Market Adjusted Returns (Equation 3)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 3 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.0979	-0.0795	0.0288	-0.0082	0.0400
NONEXEC	0.0000	0.0001	0.0000	-0.0003 ^a	-0.0004 ^a
DUALITY	0.0006 ^a	0.0006 ^a	0.5533 ^a	0.4009	-0.0571
CHMEXP	-0.0005 ^a	0.0005 ^a	-0.0091	0.0028	0.0039
CEOEXP	0.0002 ^a	0.0002 ^b	0.0006 ^a	0.0006	0.0002
BANKLEV	-0.0002 ^c	-0.0002	-0.0003 ^a	0.0001 ^b	0.0003 ^a
MANOWN ₁	-0.0001	-0.0001	0.0175 ^a	-0.0320 ^b	-0.0399 ^b
MANOWN ₂	0.0074	0.0099	0.0263 ^b	0.0313 ^b	0.0329 ^c
MANOWN ₃	-0.0013	-0.0024	-0.0034	-0.0133 ^b	-0.0156 ^b
INSOWN	0.0000	0.0001	-0.0172 ^a	-0.0078	-0.0057 ^c
BIDTOE	0.0030	0.0018	0.0111 ^a	0.0106 ^b	-0.1286 ^b
HOST	0.0200 ^a				
MULT	-0.0859				
CASH	0.0162 ^c	0.2501 ^b	0.1824	-0.3138	-0.2304 ^b
MIXED	0.0330	0.0740	-0.0677	0.1321	0.0679
NPDA	-0.0095	-0.3225 ^a	0.0398	-0.1617	-0.4054 ^a
ECOCYE	-0.0158	0.0168	0.0343	0.1111	0.0599
Adj. R ²	0.07	0.06	0.08	0.03	0.03
F-Statistic	1.86 ^c	1.59	1.22	1.04	1.14
No. of Obs.	314	226	51	18	19

Appendix 9.4 Impact of Agency Monitoring Mechanisms on Three Year BHARs: Market Adjusted Returns (Equation 4)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 4 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.0740	-0.0435	0.0976	-0.0094	0.1219
NONEXEC	0.0000	0.0001	-0.0000	-0.0002	-0.0002 ^c
DUALITY	0.0006 ^a	0.0006 ^a	0.5844 ^a	0.0409	0.6889 ^c
CHMEXP	-0.0005 ^a	-0.0004 ^a	-0.0059	-0.0014	-0.0176
CEOEXP	0.0002 ^a	0.0001 ^a	0.0006 ^a	0.0022	0.0079 ^c
UNSECLEV	-0.0001	-0.0001	-0.0411	0.0017	-0.0002 ^a
MANOWN ₁	-0.0000	-0.0001	0.0178 ^a	-0.0306 ^b	-0.0465 ^a
MANOWN ₂	0.0074	0.0108	0.0211 ^c	0.0279 ^c	0.0208
MANOWN ₃	-0.0014	-0.0028	-0.0009	-0.0088	-0.0046
INSOWN	0.0000	0.0001	-0.0173 ^a	-0.0078 ^a	-0.0468
BIDTOE	0.0033	0.0023	0.0117 ^a	0.0106 ^a	0.0129 ^b
HOST	0.0226 ^a				
MULT	-0.0674				
CASH	0.0140 ^c	0.2389 ^b	0.1791	-0.3138 ^a	-0.2304 ^b
MIXED	0.0221	0.0610	-0.0613	0.1321 ^b	0.0679
NPDA	-0.0100	-0.3298 ^b	0.0472	0.1617	-0.4054 ^b
ECOCYE	-0.0194	0.0021	0.0238	0.1111	0.0599
Adj. R ²	0.05	0.04	0.03	0.11	0.03
F-Statistic	1.59	1.39	0.95	0.85	1.14
No. of Obs.	314	226	51	18	19

**Appendix 9.5 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Mean Adjusted Returns (Equation 1)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 1 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	0.2498	0.1994	0.4765	-0.9100	-0.5601
NONESEC	-0.0000	0.0003 ^b	-0.0003	-0.0025 ^a	-0.0025 ^a
DUALITY	-0.0019 ^a	-0.0019 ^a	0.4507	-0.5517	-0.4163
CHMEXP	0.0003 ^c	0.0005 ^b	0.0133	0.1572 ^c	0.1068 ^c
CEOEXP	0.0001	-0.0000	0.0008 ^b	-0.0349	-0.0197
BIDLEV	-0.0005	-0.0005 ^c	-0.9321	0.0384	-0.2795
MANOWN₁	0.0009 ^a	0.0007 ^a	0.0158	0.1674	0.1286 ^b
MANOWN₂	-0.0275 ^a	-0.0211 ^c	-0.0457	-0.0689	-0.0785
MANOWN₃	0.0053	0.0054	0.0124	-0.0842 ^a	-0.0747 ^a
INSOWN	-0.0011 ^b	-0.0010 ^c	-0.0143	0.0475	0.0469
BIDTOE	0.0113 ^b	0.0129 ^b	0.0130	0.0450	0.0369
HOST	-0.0744				
MULT	0.2100				
CASH	0.0372 ^c	0.5615 ^a	0.7093	0.3509	-0.5092
MIXED	-0.1930	-0.1854	0.1036	-0.7518	-0.7090
NPDA	0.1193 ^a	-0.0322	0.2291 ^a	-0.2262	0.1249
ECOCYE	-0.5287 ^a	-0.5152 ^a	-0.8448 ^c	-0.0079	0.0031
Adj. R²	0.13	0.14	0.04	0.02	0.14
F-Statistic	3.16 ^a	3.42 ^a	1.11	1.38	0.54
No. of Obs.	314	226	51	18	19

Appendix 9.6 Impact of Agency Monitoring Mechanisms on Three Year BHARs: Mean Adjusted Returns (Equation 2)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 2 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.2667 ^c	0.1566	0.1831	-0.8877 ^b	-0.2485
NONEXEC	0.0001	0.0003 ^b	-0.0005	-0.0008 ^a	-0.0014 ^b
DUALITY	-0.0019 ^a	-0.0019 ^a	0.2463	0.9019	0.5334
CHMEXP	0.0003 ^b	0.0005 ^b	0.0095	0.1037 ^b	0.0302
CEOEXP	0.0001	-0.0001	0.0006	-0.0144	0.0105
SRLEV	-0.0010 ^b	-0.0011 ^c	0.0002	-0.0018 ^a	-0.0011 ^c
MANOWN ₁	0.0009 ^a	0.0007 ^a	0.0176	0.1814 ^a	0.1000
MANOWN ₂	-0.0273 ^a	-0.0239 ^b	-0.0357	-0.1117 ^a	-0.1338 ^b
MANOWN ₃	0.0058 ^c	0.0058	0.0136	-0.0284 ^c	-0.0293
INSOWN	-0.0011 ^b	-0.0010 ^c	-0.0161	0.0475	0.0469
BIDTOE	0.0129 ^b	0.0128 ^b	0.1286	0.0450	0.0366
HOST	-0.0197				
MULT	0.0105				
CASH	0.0376 ^b	0.5348 ^a	0.7481	-0.3509	-0.5092
MIXED	-0.2112	-0.1871	0.0585	-0.7518	-0.7090
NPDA	0.1260 ^a	0.0320	0.2280 ^a	-0.2262	0.1249
ECOCYE	-0.5398 ^a	-0.4600 ^a	-0.7698 ^c	-0.0079	0.0031
Adj. R ²	0.12	0.13	0.04	0.03	0.14
F-Statistic	4.02 ^a	3.78 ^a	0.95	0.44	0.54
No. of Obs.	314	226	51	18	19

Appendix 9.7 Impact of Agency Monitoring Mechanisms on Three Year BHARs: Mean Adjusted Returns (Equation 3)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 3 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	0.1286	0.0883	0.0957	-0.8870 ^b	-0.2482
NONEXEC	-0.0000	0.0003 ^c	-0.0004	-0.0008 ^a	-0.0014 ^b
DUALITY	-0.0018 ^a	-0.0018 ^a	0.1823	-0.8924	0.5374
CHMEXP	0.0002	0.0004 ^c	0.0027	0.1036 ^b	0.0303
CEOEXP	0.0001	-0.0000	0.0004	-0.0144	0.0105
BANKLEV	-0.0007 ^a	-0.0005 ^c	-0.0005	-0.0018 ^a	-0.0011 ^c
MANOWN ₁	0.0008 ^a	0.0006 ^a	0.0166	0.1812 ^a	0.0999
MANOWN ₂	-0.0311 ^a	-0.0259 ^b	-0.0234	-0.1116 ^a	-0.1338 ^b
MANOWN ₃	0.0064 ^c	0.0069 ^c	0.0085	-0.0284 ^c	-0.0293
INSOWN	-0.0010 ^c	-0.0009 ^c	-0.0155	0.0475	0.0469
BIDTOE	0.0101 ^c	0.0113	0.0133	0.0450	0.0369
HOST	-0.0180				
MULT	0.1200				
CASH	0.0477 ^a	0.6359 ^a	0.7213	-0.3509	-0.5092
MIXED	-0.1486	-0.1483	0.0447	-0.7518	-0.7090
NPDA	0.1239 ^a	0.0028	0.2165 ^a	-0.2262	0.1249
ECOCYE	-0.4865 ^a	-0.4463 ^a	-0.7961 ^c	-0.0079	0.0031
Adj. R ²	0.13	0.14	0.04	0.04	0.02
F-Statistic	4.34 ^a	3.75 ^a	1.10	0.44	0.54
No. of Obs.	314	226	51	18	19

Appendix 9.8 Impact of Agency Monitoring Mechanisms on Three Year BHARs: Mean Adjusted Returns (Equation 4)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 4 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	0.2575	0.1759	0.4487	-0.8268	-0.5789
NONEXEC	-0.0000	0.0004 ^b	-0.0004	-0.0025 ^a	-0.0025 ^a
DUALITY	-0.0018 ^a	-0.0019 ^b	0.2989	-0.7350	-0.1193
CHMEXP	0.0003	0.0004 ^b	0.0136	0.1535 ^c	0.1182 ^b
CEOEXP	0.0001	-0.0000	0.0006 ^c	-0.0341	-0.0213
UNSECLEV	-0.0002	-0.0003	-0.4844	-0.0872	0.0010 ^b
MANOWN ₁	0.0009 ^a	0.0007 ^a	0.0162	0.1635 ^b	0.1265 ^c
MANOWN ₂	-0.0291 ^a	-0.0241 ^b	-0.0344	-0.0703	-0.0847
MANOWN ₃	0.0054	0.0060	0.0118	-0.0825 ^a	-0.0737 ^a
INSOWN	-0.0010 ^b	-0.0009 ^c	-0.0147	-0.0475	0.5329
BIDTOE	0.0108 ^b	0.0128 ^b	0.0133	0.0450	0.0469
HOST	-0.0885				
MULT	0.1845				
CASH	0.0395 ^a	0.6055 ^a	0.6483	-0.3509	-0.5092
MIXED	-0.1901	-0.1860	0.0479	-0.7518	-0.7090
NPDA	0.1210 ^b	-0.0090	0.2456 ^b	-0.2262	0.1250
ECOCYE	-0.5123 ^a	-0.4820 ^a	-0.8804 ^b	-0.0079	0.0031
Adj. R ²	0.15	0.15	0.03	0.04	0.04
F-Statistic	3.00 ^a	3.29	1.07	0.44	0.54
No. of Obs.	314	226	51	18	19

**Appendix 9.9 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Size Adjusted Returns (Equation 1)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 1 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.1811 ^a	-0.2071 ^a	-0.0218	-0.0399	-0.0320
NONEXEC	0.0112 ^c	0.0121	0.0032	0.0077	0.0008
DUALITY	-0.0487	-0.0265	-0.0668	-0.1817 ^b	-0.2646 ^b
CHMEXP	0.0015	0.0023	-0.0064	0.0033	0.0056 ^b
CEOEXP	-0.0006	-0.0018	0.0018	0.0002	-0.0024
BIDLEV	0.0163	0.0370	-0.0365	0.0296	-0.0856
MANOWN ₁	-0.0091	-0.0082	-0.0125	-0.0214	-0.0007
MANOWN ₂	0.0079	0.0059	0.0292 ^c	0.0041	0.0010
MANOWN ₃	-0.0003	-0.0001	-0.0047	0.0041	0.0017
INSOWN	-0.0005	-0.0004	-0.0021	-0.0056	-0.0003
BIDTOE	0.0018	0.0013	0.0114 ^a	-0.0015	-0.0025
HOST	0.0863 ^c				
MULT	0.0054				
CASH	0.0153 ^a	0.1623 ^a	0.1576 ^c	-0.0991	0.1429
MIXED	0.0307	0.0387	-0.0339	0.0701	0.0141
NPDA	-0.0011	-0.0319	0.0182 ^b	-0.4393	-0.3192
ECOCYE	-0.0439	-0.0282	-0.0517	0.0619	-0.0559
Adj. R ²	0.03	0.03	0.06	0.14	0.05
F-Statistic	2.03 ^b	1.68 ^c	1.36	0.38	0.54
No. of Obs.	314	226	51	18	19

**Appendix 9.10 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Size Adjusted Returns (Equation 2)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 2 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.1798 ^a	-0.2024 ^a	-0.0273	-0.0532	-0.0560
NONEXEC	0.0114 ^c	-0.0127 ^c	0.0021	0.0094	-0.0038
DUALITY	-0.0476	-0.0223	-0.0660	-0.2076 ^c	-0.2586 ^b
CHMEXP	0.0015	0.0023	-0.0063	0.0057	0.0054 ^b
CEOEXP	-0.0006	-0.0016	0.0020	-0.0017	-0.0036
SRLEV	0.0137	0.0075	-0.0316	0.2128	0.1088
MANOWN₁	-0.0091	-0.0087	-0.0116	-0.0272 ^c	-0.0040
MANOWN₂	0.0079	0.0061	0.0287 ^c	0.0036	0.0036
MANOWN₃	-0.0003	-0.0001	-0.0045	0.0043	0.0016
INSOWN	-0.0006	-0.0004	-0.0019	-0.0056	-0.0003
BIDTOE	0.0018	0.0013	0.0112 ^a	-0.0015	-0.0025
HOST	0.0873 ^c				
MULT	0.0054				
CASH	0.0154 ^a	0.1676 ^a	0.1676 ^c	-0.0991	0.1429
MIXED	0.0305	0.0388	-0.0294	0.0701	0.0141
NPDA	-0.0006	-0.0251	0.0200 ^c	-0.4393	-0.3192
ECOCYE	-0.0431	-0.0298	-0.0650	0.0619	-0.0559
Adj. R²	0.03	0.03	0.06	0.14	0.06
F-Statistic	2.02 ^b	1.62	1.34	0.38	0.54
No. of Obs.	314	226	51	18	19

**Appendix 9.11 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Size Adjusted Returns (Equation 3)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 3 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.1759 ^a	-0.2000 ^a	-0.0084	-0.0421	-0.0441
NONEXEC	0.0115 ^c	0.0129 ^c	0.0009	0.0065	-0.0021
DUALITY	-0.0481	-0.0221	-0.0613	-0.1942 ^b	-0.2633 ^b
CHMEXP	0.0015	0.0023	-0.0066 ^c	0.0050	0.0055 ^b
CEOEXP	-0.0006	-0.0017	0.0021	-0.0008	-0.0024
BANKLEV	-0.0119	-0.0095	-0.0860	0.0771	-0.0189
MANOWN ₁	-0.0095	-0.0091	-0.0129	-0.0257	-0.0017
MANOWN ₂	0.0082	0.0064	0.0294 ^c	0.0062	0.0020
MANOWN ₃	-0.0003	-0.0001	-0.0048	0.0038	0.0018
INSOWN	-0.0005	-0.0003	-0.0021	-0.0056	-0.0003
BIDTOE	0.0019	0.0013	0.0119 ^a	-0.0015	-0.0025
HOST	0.0889 ^b				
MULT	0.0068				
CASH	0.0155 ^a	0.1693 ^a	0.1492 ^c	-0.0991	0.1429
MIXED	0.0307	0.0391	-0.0334	0.0701	0.0141
NPDA	0.0002	-0.0235	0.0183 ^c	-0.4393	-0.3192
ECOCYE	-0.0000	-0.0306	-0.0465	0.0619	-0.0559
Adj. R ²	0.03	0.03	0.07	0.14	0.06
F-Statistic	2.02 ^b	1.63	1.44	0.38	0.54
No. of Obs.	314	226	51	18	19

Appendix 9.12 Impact of Agency Monitoring Mechanisms on Three Year BHARs: Size Adjusted Returns (Equation 4)

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 4 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.1786 ^a	-0.2040 ^a	-0.0319	-0.0425	-0.0337
NONEXEC	0.0115 ^c	0.0126 ^c	0.0021	-0.0001	-0.0016
DUALITY	-0.0481	-0.0232	-0.0665	-0.1867 ^b	-0.2528 ^b
CHMEXP	0.0015	0.0023	-0.0064 ^c	-0.0053	0.0055 ^b
CEOEXP	-0.0006	-0.0016	0.0020	-0.0011	-0.0024
UNSECLEV	0.0019	0.0090	0.0008	0.0968	-0.0515 ^b
MANOWN₁	-0.0093	-0.0085	-0.0115	-0.0271	0.0018
MANOWN₂	0.0081	0.0061	0.0285 ^c	0.0086	0.0010
MANOWN₃	-0.0003	-0.0001	-0.0045	0.0035	0.0013
INSOWN	-0.0005	-0.0004	-0.0019	-0.0056	-0.0003
BIDTOE	0.0018	0.0013	0.0110	-0.0015	-0.0025
HOST	0.0875 ^c				
MULT	0.0054				
CASH	0.0155 ^a	0.1662 ^a	0.1722 ^c	-0.0991	0.1429
MIXED	0.0308	0.0389	-0.0314	0.0701	0.0141
NPDA	-0.0003	-0.0251	0.0190	-0.4393	-0.3192
ECOCYE	-0.0440	-0.0294	-0.0631	0.0619	-0.0559
Adj. R²	0.03	0.03	0.06	0.14	0.06
F-Statistic	2.01 ^b	1.63	1.34	0.38	0.54
No. of Obs.	314	226	51	18	19

**Appendix 9.13 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Market to Book Value Adjusted Returns (Equation 1)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 1 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.1442 ^b	-0.0305	0.1194	-0.4684 ^a	-0.0027
NONEXEC	0.0001	0.0001	0.0001	-0.0003 ^a	-0.0001
DUALITY	0.0008 ^a	0.0006 ^a	0.6789 ^a	-0.2992	-0.1768
CHMEXP	-0.0007 ^a	-0.0004 ^a	-0.0029	0.0250	0.0076
CEOEXP	0.0001 ^a	0.0001	0.0007 ^a	-0.0102	-0.0080
BIDLEV	-0.0001	-0.0002 ^c	-0.4078	0.4364	-0.2711 ^b
MANOWN₁	-0.0000	-0.0003	0.0145 ^b	0.0312	-0.0304
MANOWN₂	0.0027	0.0094	0.0004	0.0324	0.0459
MANOWN₃	-0.0005	-0.0025	0.0019	-0.0272 ^a	-0.0171 ^b
INSOWN	-0.0006	-0.0001	-0.0144 ^b	-0.0171 ^a	-0.0148 ^b
BIDTOE	0.0031	-0.0013	0.0091 ^a	0.0108 ^c	0.0126 ^b
HOST	0.0174 ^a				
MULT	-0.0566				
CASH	0.0132 ^c	0.2190 ^c	0.1265	-0.1512	-0.0740
MIXED	0.0272	0.1403	-0.0778	0.5049 ^b	0.4387 ^b
NPDA	-0.0038	-0.1878 ^c	0.0252	-0.3583	-0.5076 ^a
ECOCYE	-0.0097	-0.0185	0.0505	0.4128	0.3574 ^b
Adj. R²	0.05	0.04	0.05	0.04	0.03
F-Statistic	1.61	0.91	1.15	2.10 ^b	1.12
No. of Obs.	314	226	51	18	19

**Appendix 9.14 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Market to Book Value Adjusted Returns (Equation 2)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 2 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.1386 ^c	-0.0331	-0.0148	-0.2060	-0.1101
NONEXEC	0.0001	0.0001	0.0000	-0.0004 ^b	-0.0005 ^b
DUALITY	0.0008 ^a	0.0006 ^a	0.5693 ^a	-0.0517	-0.3650
CHMEXP	-0.0007 ^a	-0.0004 ^a	-0.0067	0.0222	0.0170
CEOEXP	0.0001 ^a	0.0001	0.0006 ^a	-0.0119	-0.0102
SRLEV	-0.0001	-0.0003	-0.0001	0.0002 ^b	0.0004 ^b
MANOWN₁	-0.0000	-0.0003	0.0149 ^a	-0.0054	-0.0192
MANOWN₂	0.0026	0.0087	0.0083	0.0468 ^c	0.0463
MANOWN₃	-0.0006	-0.0026	0.0020	-0.0283 ^a	-0.0304
INSOWN	-0.0001	-0.0000	-0.0149 ^a	-0.0171 ^a	-0.0148 ^c
BIDTOE	0.0031	-0.0016	0.0108 ^a	0.0108 ^c	0.0126 ^b
HOST	0.0164 ^a				
MULT	-0.0714				
CASH	0.0135 ^c	0.2214 ^c	0.1218	-0.1512	-0.0740
MIXED	0.0267	0.1417	-0.0986	0.5049 ^b	0.4387 ^c
NPDA	-0.0033	-0.1764	0.0236	-0.3583	-0.5076 ^a
ECOCYE	-0.0093	-0.0027	0.0485	0.4128 ^b	0.3574 ^c
Adj. R²	0.05	0.03	0.03	0.03	0.03
F-Statistic	1.59	0.87	0.96	2.10 ^b	1.13
No. of Obs.	314	226	51	18	19

**Appendix 9.15 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Market To Book Value Adjusted Returns (Equation 3)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 3 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.1735 ^b	-0.0661	-0.0510	-0.2061	-0.1102
NONEXEC	0.0001	0.0001	0.0001	-0.0004 ^b	-0.0005 ^b
DUALITY	0.0001 ^a	0.0007 ^a	0.5594 ^a	-0.0536	-0.3671
CHMEXP	-0.0007 ^a	-0.0005 ^a	-0.0077	0.0222	0.0170
CEOEXP	0.0001 ^a	0.0001	0.0005 ^a	-0.01194	-0.0102
BIDLEV	-0.0002 ^b	-0.0002	-0.0002 ^a	0.0002 ^b	0.0004 ^b
MANOWN₁	-0.0000	-0.0003	0.0148 ^a	-0.0054	-0.0191
MANOWN₂	0.0019	0.0077	0.0107	0.0468 ^c	0.0462
MANOWN₃	-0.0003	-0.0020	-0.0001	-0.0283 ^a	-0.0304 ^b
INSOWN	-0.0000	-0.0000	-0.0149 ^a	-0.0171 ^b	-0.0148 ^b
BIDTOE	0.0029	-0.0021	0.0092 ^a	0.0108	0.1256 ^b
HOST	0.0151 ^a				
MULT	-0.0760				
CASH	0.0155 ^b	0.2500 ^b	0.1314	-0.1511	-0.0740
MIXED	0.0372	0.1544 ^c	-0.1042	0.5049 ^c	0.4387 ^b
NPDA	-0.0028	-0.1774 ^c	0.0192	-0.3583	-0.5076 ^a
ECOCYE	-0.0004	0.0072	0.0722	0.4128 ^c	0.3574 ^b
Adj. R²	0.08	0.07	0.07	0.04	0.03
F-Statistic	1.90 ^c	0.93	1.20	0.96	1.12
No. of Obs.	314	226	51	18	19

**Appendix 9.16 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Market To Book Value Adjusted Returns (Equation 4)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 4 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.1494 ^b	-0.0342	0.0015	-0.0508	0.0028
NONEXEC	0.0001	0.0001	0.0000	-0.0001	-0.0002
DUALITY	0.0008 ^a	0.0006 ^a	0.5844 ^a	-0.6547	-0.5604
CHMEXP	-0.0007 ^a	-0.0004 ^a	-0.0052	0.0086	-0.0099
CEOEXP	0.0001 ^a	0.0001	0.0006 ^a	-0.0076	-0.0003
UNSECLEV	-0.0001	-0.0001	-0.0230	-0.2255	-0.0002 ^a
MANOWN ₁	-0.0000	-0.0003	0.0151 ^a	-0.0055	-0.0290
MANOWN ₂	0.0020	0.0084	0.0062	0.0357	0.0303
MANOWN ₃	-0.0004	-0.0024	0.0022	-0.0186	-0.0149
INSOWN	-0.0001	-0.0000	-0.0150 ^a	-0.0171 ^c	-0.0148 ^b
BIDTOE	0.0031	-0.0015	0.0097	0.0108 ^c	0.0126 ^b
HOST	0.0174 ^a				
MULT	-0.0601				
CASH	0.0137 ^c	0.2391 ^c	0.1306	-0.1511	-0.0740
MIXED	0.0276	0.1411	-0.0984	0.5049 ^c	0.4387 ^b
NPDA	-0.0033	-0.1822	0.0251	-0.3583	-0.5076 ^a
ECOCYE	-0.0045	-0.0058	0.0651	0.4128 ^c	0.3574 ^b
Adj. R ²	0.05	0.03	0.03	0.05	0.03
F-Statistic	1.61	0.82	0.93	0.96	1.12
No. of Obs.	314	226	51	18	19

**Appendix 9.17 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Fama and French Three Factor Model Adjusted Returns (Equation 1)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 1 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	0.0235	-0.0305	0.2606	-0.0430	0.0626
NONEXEC	0.0000	0.0001	-0.0000	-0.0003 ^b	-0.0003 ^b
DUALITY	0.0006 ^a	0.0006 ^a	0.6461 ^a	-0.2886	0.4403
CHMEXP	-0.0005 ^a	-0.0004 ^a	-0.0026	0.02202	0.0143
CEOEXP	0.0001 ^c	0.0001	0.0007 ^a	-0.0031	-0.0012
BIDLEV	-0.0002 ^b	-0.0002 ^c	-0.4218	-0.1512	-0.2901 ^c
MANOWN ₁	-0.0001	-0.0003	0.0200 ^a	-0.0014	-0.0146
MANOWN ₂	0.0070	0.0094	-0.0030	0.0365	0.0376
MANOWN ₃	-0.0018	-0.0025	0.0019	-0.0301 ^b	-0.0276 ^a
INSOWN	0.0001	-0.0001	-0.0195 ^a	-0.0164	-0.0141
BIDTOE	0.0011	-0.0013	0.0117 ^a	0.0098	0.0115
HOST	0.0115				
MULT	-0.0301				
CASH	0.0122	0.2190 ^c	0.1570	-0.3181	-0.2411 ^c
MIXED	0.0541	0.1403	-0.1243	0.4344	0.3660
NPDA	-0.0220	-0.1878 ^c	0.0413	-0.3947	-0.5187 ^b
ECOCYE	-0.0548	-0.0185	-0.0148	0.2621	0.2042
Adj. R ²	0.08	0.07	0.04	0.04	0.13
F-Statistic	0.80	0.91	1.10	0.52	0.73
No. of Obs.	314	226	51	18	19

**Appendix 9.18 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Fama and French Three Factor Model Adjusted Returns (Equation 2)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 2 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	0.0396	-0.0331	0.1237	-0.1338	-0.0288
NONEXEC	0.0000	0.0001	-0.0001	-0.0005 ^a	-0.0006 ^a
DUALITY	0.0006 ^a	0.0006 ^a	0.5396 ^a	-0.8808	-0.9867
CHMEXP	-0.0005 ^a	-0.0004 ^a	-0.0058	0.0312	0.0195
CEOEXP	0.0001 ^c	0.0001	0.0006 ^a	-0.0057	-0.0017
SRLEV	-0.0001	-0.0003	-0.0001	0.0002	0.0003
MANOWN ₁	-0.0002	-0.0003	0.0206 ^a	0.0087	-0.0048
MANOWN ₂	0.0069	0.0087	0.0040	0.0383	0.0348
MANOWN ₃	-0.0019	-0.0025	0.0022	-0.0383 ^b	-0.0386 ^b
INSOWN	-0.0001	-0.0000	-0.0202 ^a	-0.0164	-0.0141
BIDTOE	0.0009	-0.0016	0.0129 ^a	0.0098	0.0115
HOST	0.0927				
MULT	-0.0623				
CASH	0.0131	0.2214 ^c	0.1595	-0.3181	-0.2411 ^c
MIXED	0.0538	0.1417	-0.1454	0.4344	0.3660
NPDA	-0.0210	-0.1764 ^c	0.0400	-0.3947	-0.5187 ^b
ECOCYE	-0.0528	-0.0027	-0.0050	0.2621	0.2042
Adj. R ²	0.03	0.03	0.02	0.03	0.13
F-Statistic	0.69	0.86	0.94	0.51	0.73
No. of Obs.	314	226	51	18	19

**Appendix 9.19 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Fama and French Three Factor Model Adjusted Returns (Equation 3)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 3 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	-0.0052	-0.0661	0.0687	-0.1339	-0.2883
NONEXEC	0.0000	0.0001	-0.0000	-0.0005 ^a	-0.6484 ^a
DUALITY	0.0006 ^a	0.0007 ^a	0.5140 ^a	-0.8801	-0.9855
CHMEXP	-0.0005 ^a	-0.0005 ^a	-0.0085	0.0312	0.0195
CEOEXP	0.0001	0.0001	0.0005 ^a	-0.0057	-0.0017
BANKLEV	-0.0002 ^b	-0.0002	-0.0003 ^a	0.0002	0.0003
MANOWN ₁	-0.0002	-0.0003	0.0202 ^a	0.0087	-0.0048
MANOWN ₂	0.0059	0.0077	0.0093	0.0383	0.0348
MANOWN ₃	-0.0015	-0.0020	-0.0010	-0.0383	-0.0385 ^b
INSOWN	-0.0001	-0.0000	-0.0200 ^a	-0.0164	-0.0141
BIDTOE	0.0006	-0.0021	0.0116 ^a	0.0098	0.0115
HOST	0.0781				
MULT	-0.0633				
CASH	0.0158 ^c	0.2500 ^a	0.1609	-0.3181	-0.2411 ^c
MIXED	0.0681	0.1544 ^c	-0.1540	0.4344	0.3660
NPDA	-0.0204	-0.1774 ^c	0.0331	-0.3947	-0.5187
ECOCYE	-0.0407	0.0072	0.0089	0.2621	0.2042
Adj. R ²	0.04	0.07	0.08	0.03	0.13
F-Statistic	0.95	0.93	1.36	0.51	0.73
No. of Obs	314	226	51	18	19

**Appendix 9.20 Impact of Agency Monitoring Mechanisms on Three Year BHARs:
Fama and French Three Factor Model Adjusted Returns (Equation 4)**

The three year period is defined as days -40 to +750. All refers to the entire sample of acquirers. F refers to a single friendly acquirer which is a sole bidder and receives the recommendation of the target firm management. SH refers to a single hostile bidder which is a bidder who wins despite resistance by the target management. WK refers to a friendly acquirer which enters the contest for the target after a hostile bidder has made its intention known and wins the contest. MH refers to a multiple hostile acquirer which is in competition with another hostile or white knight for control of the target. Equation 4 is defined in section 9.3.1. a,b,c refer to 1%, 5% and 10% significance levels respectively. The explanatory and control variables are defined in Tables 9.1, 9.2 and 9.3. Least squares estimates of the parameters of the equation incorporate White's adjustment for heteroskedasticity.

	All	F	SH	WK	MH
Intercept	0.0252	-0.0342	0.1466	0.2857	0.0642
NONEXEC	0.0000	0.0001	-0.0001	0.0000	-0.0003 ^a
DUALITY	0.0006 ^a	0.0006 ^a	0.5505 ^a	0.7518	0.0612
CHMEXP	-0.0005 ^a	-0.0004 ^a	-0.0047	0.0053	0.0007
CEOEXP	0.0001 ^c	0.0001	0.0006 ^a	0.0018	0.0054
UNSECLEV	-0.0001	-0.0001	-0.0382	-0.6092 ^c	0.0000
MANOWN ₁	-0.0002	-0.0003	0.0205 ^a	0.0050	-0.0137
MANOWN ₂	0.0061	0.0084	0.0030	0.0173	0.0227
MANOWN ₃	-0.0017	-0.0024	0.0022	-0.0234 ^b	-0.0255 ^b
INSOWN	-0.0001	-0.0000	-0.0201 ^a	-0.0164	-0.0141
BIDTOE	0.0009	-0.0015	0.0123 ^a	0.0098	0.0085
HOST	0.0108				
MULT	-0.0425				
CASH	0.0133	0.2391 ^c	0.1589	-0.3181	-0.2411
MIXED	0.0556	0.1411	-0.1459	0.4344	0.3660
NPDA	-0.0211	-0.1822	0.0418	-0.3947	-0.5187
ECOCYE	-0.0458	-0.0058	-0.0021	0.2621	0.2042
Adj. R ²	0.03	0.03	0.02	0.03	0.13
F-Statistic	0.70	0.83	0.94	0.51	0.73
No. of Obs.	314	226	51	18	19

CHAPTER TEN

CONCLUSION

10. INTRODUCTION

As stated in Chapter 1, the broad objective of this study is to examine the post-acquisition performance of different acquirer types. We attempt to explain such performance by analysing the acquirers' relationship with various sources of value creation and agency monitoring mechanisms, which have been cited in the literature dealing with takeovers. In the light of these objectives we formulate (see section 1.3) three research questions:

- i) What is the relative long run performance of different acquirer types during the post-acquisition period?
- ii) What are the sources of long run post-acquisition value creation for each acquirer type?
- iii) How effective are agency monitors in determining the long run post-acquisition performance of acquirers?

In attempting to answer the above questions we also examine a number of subsidiary issues that arise in the context of the relative post-acquisition performance of different acquirer types defined in terms of their financial profile. The subsidiary issues are:

- i) Whether the acquirer firm size affects the long term post-acquisition acquirer performance?
- ii) Whether the acquirer's profile as a glamour or value stock, measured by the book to market value, affects the long term post-acquisition performance?
- iii) Whether the acquirer's profile as a glamour or value stock, measured by the price to earnings ratio, affects the long term post-acquisition performance?

We begin this chapter by summarising the results we obtain with respect to each of our three objectives and subsidiary issues mentioned above. We then discuss the implications of our results and issues for future research.

10.1 IMPACT OF MANAGERIAL RESISTANCE

In Chapter 2 we discuss the literature relating to target and bidder firm performance at the time of the bid-announcement and during the post-acquisition period for acquirers. Previous studies for both the UK and the USA show that target firm shareholders experience positive and statistically significant wealth gains at the time of bid-announcement. For bidders, the results are inconclusive with previous studies reporting both small positive and negative abnormal returns at the time of the bid-announcement. We also see in Chapter 2 that previous studies using event study methodology attempt to identify certain factors which may affect the distribution of takeover gains between the bidder and target firm shareholders. However, Chapter 3 argues that these factors do not fully explain the shareholder wealth experiences for bidder firms. One important determinant of the distribution of wealth gains at the time of the bid-announcement is the mood of the takeover leading to different acquire types.

In Chapter 5 we empirically examine pre- and post-acquisition shareholder wealth effects for a sample of 547 UK acquirers during the period 1983 to 1995. Our results show that except for the Fama and French Three Factor Model (FFTF) all acquirers experience negative post-acquisition buy and hold abnormal returns (BHARs) in the region of 2% to 3%. This result is consistent with recent evidence. An examination of different acquirer types shows that single hostile acquirers outperform all other types in each of the three long run event windows (i.e. -40 to +250, -40 to +500 and -40 to +750 days). Shareholders of multiple hostile acquirers also experience higher returns than friendly acquirers but the difference between them is not statistically significant.

The literature reviewed in Chapter 3 suggests that acquirers in competition with another bidder overpay in order to acquire the target firm. Although, we could not exclude the possibility of bidder's overpayment due to hubris and the existence of the agency problem in bidding firm we nevertheless find support for the winner's curse argument. Our results show single bidders to experience greater wealth gains than multiple bidders. The difference between single and multiple bidders is far greater in the short run (i.e. during the bid-announcement period) than in the long run (i.e. -40 to +750 days).

We show in Chapter 3 that a white knight differs from a hostile bidder in that it receives the support of the target firm. However, it differs from a friendly bidder because it appears on the scene after a hostile bidder has been identified. In this respect the motivations of a white knight are not as clear as those of a friendly or hostile bidder (see sections 3.5.1 and 3.5.2). Our results show that shareholders of white knight acquirers receive higher abnormal returns than other acquirer types at the time of the bid-announcement. In each of the three long run event windows we find that

shareholders of white knight acquirers experience higher wealth gains than shareholders of friendly or multiple hostile acquirers but not as high as those of single hostile acquirers.

10.2 SOURCES OF POST-ACQUISITION VALUE-CREATION

The results from Chapter 5 show that on average takeovers are bad investments for acquirer firms. Having said this we find that on average almost half the acquirers experience positive long run post-acquisition performance. This leads us to identify certain sources of post-acquisition value creation which might drive up the abnormal returns of some acquirers and not others. In Chapter 6 we discuss the theoretical and empirical literature relating to various sources of post-acquisition value creation having either a positive or negative effect on acquirer firm performance. In Chapter 7 we empirically investigate the explanatory power of three different types of post-acquisition sources of value creation, namely synergy, wealth transfer and misvaluation, for our sample of 314 UK acquirers consisting of friendly, hostile and white knight acquirers.

Our results show that industry relatedness does not lead to positive post-acquisition value creation, for the whole sample of acquirers, as we predicted. In this respect our results are similar to other recent UK studies which examine a similar period to that of ours (see section 7.5). The negative post-acquisition effect of industry relatedness is also true for all the different acquirer types. In the case of financial synergy we find no evidence for unused debt capacity as source of post-acquisition value creation. Third, we examine the post-acquisition impact of managerial synergy and find it to be negative for three out of the five benchmark models. In the case of different acquirer groups we find that acquirers in competition with another bidder actually experience a

statistically significant but negative effect on their post-acquisition performance. Our overall results for synergy show that even if there is potential for synergy there is no evidence for it in the long run post-acquisition period.

Chapter 6 predicts that disciplinary takeovers have a positive impact on the post-acquisition performance of acquirers. Our results show that on average targets outperform the general market index in the run up to the acquisition and this adds value to the acquirer. In the case of different acquirer types we also find a positive and statistically significant relationship between pre-bid target share price performance and post-acquisition acquirer shareholder wealth. We find little if any evidence of poor target firm performance prior to the takeover suggesting that acquisitions are not driven by past managerial failure. Our results suggest that a target firm resistance to a takeover is largely to do with the terms of the bid and not whether it should take place in the first instance.

Our results show that an improvement in the post-acquisition operating profit margin has a positive and statistically significant impact on acquirer performance. This is also true for all acquirer groups except single hostile bidders. We also find that improvements in operating profit margins do not come about as a result of economies of scale as we find no support for industry relatedness. We point out in section 6.3.2 that there is limited opportunity to reduce post-acquisition tax charge in the UK. This explains why our results for tax as a source of post-acquisition value creation are statistically insignificant. Our results also show that single hostile acquirers have a negative tax impact on post-acquisition acquirer performance implying that they may not adequately plan for tax savings.

Our results show that wealth may be transferred from employees to acquirer firm shareholders. We find that post-acquisition reduction in average real employee salaries

has a positive impact on post-acquisition acquirer performance. We also find the same to be true for different acquirer types except for white knights. Our results suggest that white knights may have to make certain concessions to safeguard employment or salaries in order to obtain recommendation from the target firm. Finally, we find that acquirers who purchase undervalued targets experience a positive impact on post-acquisition performance. This is also true for different acquirer types.

10.3 AGENCY MONITORING MECHANISMS AND POST-ACQUISITION PERFORMANCE

If agents are efficiently and effectively monitored then they are more likely to carry out value enhancing acquisitions. In Chapter 8 we discuss the literature dealing with three different types of agency monitors, namely the corporate governance structure, lenders and the ownership structure. In Chapter 9 we examine the impact of agency monitoring mechanisms on a sample of 314 UK acquirers consisting of friendly, hostile and white knight acquirers.

Our results show that there is a positive and statistically significant relationship between the number of non-executive directors on the board and post-acquisition acquirer performance. In the case of different acquirer types we find that friendly acquirers experience a positive impact on post-acquisition acquirer performance due to the presence of non-executive directors while white knights and multiple hostile acquirers experience a negative impact. In Chapter 6 we predict that CEO duality to have a negative impact on the post-acquisition performance of acquirers. Our results show that this is not necessarily the case and CEO duality may have, at best, marginally beneficial properties by avoiding board gridlock etc. Our results show that outside experience by the chairman has a negative impact on post-acquisition acquirer

performance. It could be the case that chairman who spend time on the boards of other companies may be neglecting their own company. On the other hand for CEOs outside experience has a positive impact on acquirer post-acquisition performance. Our results suggest that CEOs use outside directorships to the benefit of their own company.

Our results show that leverage has a negative impact on the post-acquisition performance of acquirers. We find largely similar results for different types of leverage (e.g. short run, bank based and unsecured) as well as for different acquirer types. In the case of managerial ownership our results show it to have a non-linear relationship with post-acquisition acquirer performance. For managerial shareholding below 10% we find a positive and statistically significant impact on post-acquisition acquirer performance. We find managerial shareholdings between 10% and 25% to have a negative and statistically significant impact on post-acquisition acquirer performance. For managerial shareholdings above 25% we find a greater number of negative and statistically significant results than positive ones. Finally, our results show that institutional shareholdings has a negative impact on post-acquisition acquirer performance. Our results suggest that institutional investors do not actively monitor the companies in which they invest and allow the directors to carry out wealth reducing actions.

10.4 RELATIVE PERFORMANCE OF HIGH BOOK TO MARKET VALUE, PE RATIO, AND MARKET CAPITALISATION ACQUIRERS

In section 4.14.1 we argue that the size effect is of considerable importance when analysing wealth effects by acquirer type especially in the long run. Our results show that in the first year (i.e. -40 to +250 days) larger acquirers experience higher BHARs than small sized acquirers. However, the differences between the groups is small and in the region of 2% to 3%. However, in the second year (i.e. -40 to +250 days) the

difference in BHARs between small and large acquirers increases. The three year (i.e. -40 to +250 days) show large acquirers to substantially outperform smaller acquirers.

We also partition our sample of 547 UK acquirers by their respective market to book value. Our results show that in the first year after the takeover acquirers with a low market to book value experience higher BHARs than acquirers with a high market to book value. The difference in returns between low and high market to book value acquirers is in region of 1% to 4.5%. In the second year the difference in returns between low and high market to book value acquirers continues to increase with the former performing the latter. In the third year low market to book value acquirers continue to outperform high market to book value acquirers but the differences between the two groups fell slightly. Our results are consistent with the idea that value acquirers outperform glamour acquirers.

Finally, we partition our sample of 547 UK acquirers based on their respective price to earnings (PE) in order to compare the post-acquisition performance value and glamour acquirers. We find that in the first year after a takeover acquirers with a low PE ratio experience higher returns than acquirers with a high PE ratio. In the second year the sample of acquirers with a low PE ratio experience higher returns than the sample of acquirers with a high PE ratio. As in the case of market capitalisation and market to book value the difference in returns between the low and high PE ratio companies increase. In the third year the sample of low PE ratio acquirers continue to outperform the sample of high PE ratio acquirers. However, the difference in returns between the high and low PE ratio acquirers fell slightly. The difference in the relative performance between high and low PE acquirers adds further support to the argument that value acquirers outperform glamour acquirers.

10.5 IMPLICATIONS OF OUR RESEARCH

Our discussion in Chapter 2 shows that overall (i.e. for bidders and targets combined) merger activity is value enhancing and hence companies should engage in it. However, for acquirer firms the average wealth experiences are negative. Our results show that not all acquirers “get it wrong” and almost half of them experience positive long run returns. One factor that affects acquirer post-acquisition performance is the mood of the bid leading to different acquirer types. We find that single hostile bids may be desirable as they tend to experience higher returns in the long run compared to other acquirer types. It may be the case that hostile bids due to their disciplinary nature (see Morck et al., 1988) are more likely to correct managerial failure and increase managerial efficiency. We find that the late entrance of a white knight acquirer does not adversely affect its post-acquisition performance. Our results also show that bidders in competition with another bidder suffer from the winner’s curse. Finally, we find that white knights experience higher long run returns than friendly or multiple hostile acquirers but not as high as single hostile acquirers.

In 1992 the UK government initiated a committee to examine the efficiency with which firms are directed and controlled (i.e. The Cadbury Committee). Since then two further committees have extended and analysed the activities as well the remuneration of directors namely the Greenbury and Hampel Committees. The main proposal of these committees is that all publicly listed companies should have non-executive directors on their board. Our results show that the presence of non-executive directors has a positive impact on the post-acquisition performance. The Cadbury Report also called for a separation between the roles of the CEO and chairman. We find that this does not lead to any significant gain and there may be a strong argument to combine the roles of CEO and chairman in order to avoid boardroom gridlocks etc.

We find results which do not favour chairman with outside directorships. The Cadbury, Greenbury or Hampel Reports do not mention outside directorships which we show to have a detriment impact in the case of the chairman. One reason for this could be that a chairman with a large number of outside directorships is more likely to neglect his own company. In the case of a CEO we find our results to favour a higher level of outside directorships. Therefore, a control on the number of outside directorships, at for the chairman, will increase the time that the top management spend dealing with their own company's affairs.

Our results imply that the monitoring role of institutions and large shareholders can be enhanced and encouraged. For our sample of 314 UK acquirers we find that institutional shareholdings have a negative impact on post-acquisition acquirer performance. It may be the case that institutional shareholders have a "cosy" relationship with the managers of the companies in which they invest. It may also be the case that institutional shareholders will be more likely to sell their shareholdings than carry out the expensive and time consuming activity of monitoring the managers of the companies in which they invest.

Our results imply that lenders are not actively monitoring the firms to whom they lend funds. This may suggest that lenders are happy to loan funds to borrowers when times are good. When borrowers are faced with hardship it may be the case that lenders tend to "pull the rug underneath the feet of their borrowers". In other words if lenders feel that their funds are at risk of not being paid back then they are fast to call their loans even if the firm may be financially solvent. We feel that lenders should take a greater monitoring role in the firms to whom they lend funds. We feel that the late entrance of lenders (i.e. when the firm is in distress) has a negative effect. A more preferred solution would be the adoption of the German model where representatives from lending institutions are present on the board of directors. This will provide lenders with

a level of information regarding the financial health of their borrower and allow them to vet potential takeovers before they are carried out.

The lack of support for operational, financial or managerial synergy in our study implies that managers should be very careful in calculating potential gains from a takeovers. Also, managers should only carry out acquisitions if they have a clear strategy. Our results show that an acquirer has a 50% probability of overpaying and any price paid to the target firm should not be greater than its expected post-acquisition value. There are certain types of targets that acquirers should attempt to seek. These are targets where the post-acquisition average real salary of the combined firm can be reduced and the operating profit margin increased. The takeover of undervalued targets has a positive impact on post-acquisition acquirer performance. Similarly, tax saving opportunities in the UK are limited. Nevertheless efficient tax planning is important.

10.6 ISSUES FOR FUTURE RESEARCH

Our results show that single hostile acquirers tend to experience higher returns than all other types of acquirers. If hostility is the only factor that leads to higher returns then we would also expect multiple hostile acquirers to experience high returns compared to other acquirer types. As we show in this study that this is not the case and multiple hostile acquirers experience lower long run returns than most other acquirer types. In other words multiple hostile acquirers may not be as disciplinary as single hostile acquirers. A natural extension of this research would be to examine the post-acquisition disciplinary action carried out by different acquirer types such as the level of top management dismissal.

We find that an improvement in operating profit margin and a reduction in average salaries has a positive impact on the post-acquisition acquirer performance. However, in this study we do not investigate whether average real salaries are falling due to lower number of employees or a reduction in real salaries. In the case operating profit margins we find that it is not likely to take place due to economies of scale. One possible explanation may be that firms carry out post-acquisition restructuring such as selling loss making subsidiaries. However, from our study we cannot confirm or reject this and future research may wish to investigate the level of post-acquisition restructuring carried out by different acquirer types.

The Hampel Report states that 'levels of remuneration should be sufficient to attract and retain the directors needed to run the company successfully. The component parts of remuneration should be structured so as to link rewards to corporate and individual performance'. If this is the case then one would expect a direct relationship between directors' remuneration and acquirer performance. An interesting extension of our study could examine whether highly paid directors (who in theory should be better directors) actually carry out acquisitions which lead to higher shareholder wealth gains than acquirers with low paid directors.

The Hampel Report also states that voting by institutional shareholders is voluntary. In other words institutional investors are in no way required to either attend the company's meetings or actively participate in the decision making process by voting. The Hampel Report argues that although abstention remains an option institutional shareholders should make considered use of their votes. An extension of this research could examine why institutional investors abstain from voting. In doing so one could examine the relationship between the acquirer and the institutional investors.

Finally, our examination of the ownership structure of the acquirer focused on managerial and institutional ownership. An interesting distinction can be made between managerial ownership and that through an employee share ownership programme (open to all employees). Employees are a group of stakeholders who we do not consider in this study. However their presence on the board of directors may increase agency monitoring. Also, employees even if they are shareholders have very different concerns to shareholders, lenders or top management.

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