THE BEHAVIOUR OF ANNOUNCEMENT PERIOD RETURNS OF BIDDERS

AND TARGETS INVOLVED IN TAKEOVERS AND MERGERS IN THE U.K.

FOR THE PERIOD 1985 TO JULY 1988

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By

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DEDICATION

This thesis is dedicated to my wife and children, whose patience and support has helped me complete the work successfully.

ACKNOWLEDGEMENT

ABSTRACT

This study examines the behaviour of announcement period returns of bidders and targets involved in takeovers and mergers in the U.K. during the period 1985 to July 1988. In particular it examined the following aspects:

(1) The validity of the 'information hypothesis' as suggested by Myers and Majluf (1984) on bidder returns in cash and share offers.

(2) Comparison of announcement period returns to target shareholders in cash offers and those in share offers, in view of the presence of capital gains tax liability for shareholders in cash offers and the possibility that the bidders compensate them for this liability.

(3) The effect of the takeover announcement on the returns to bidders and targets respectively.

(4) The effect of takeover announcements on the wealth of shareholders in the combined firm.

(5) The possibility that shareholders in high leveraged bidding firms earn higher returns than those in the low leveraged bidding firms.

(6) The effect of merger announcement on the returns to bidders and targets respectively.

(7) The effect of merger announcement on the wealth of shareholders in the combined firm.

A sample of 90 bidders and targets in hostile bids and 21 bidders and targets in mergers which satisfied the sampling requirements were collected for the period January 1985 to July 1988. The market model was used to generate expected returns. The daily abnormal returns and cumulative abnormal returns for the two-day announcement period were used to measure the wealth effect of takeover and merger announcement.

For takeovers, the findings of this study show that shareholders of share bidders earned significant negative abnormal returns for the two-day announcement period, whereas shareholders of cash bidders did not suffer losses, in support of the 'information hypothesis' suggested by Myers and Majluf (1984).

The two-day announcement cumulative abnormal returns of all bidders in the takeover sample are significantly negative, in support of the notion that takeovers are negative net present value investments for bidder shareholders.

However, the combined gains of bidders and targets are significantly positive implying that takeovers do create wealth for the shareholders of the combined firm.

Shareholders of target firms in takeovers earned significant positive abnormal returns for the two-day announcement period irrespective of the form of payment (cash, shares, and combination) offered. However, there was no significant difference in the two-day announcement period returns of cash and share targets, in support of the notion that target shareholders in cash offers are not compensated for their capital gains tax liability.

There is no evidence of shareholders in high leveraged bidding firms earning higher returns than those in the low leveraged bidding firms.

For the sample of mergers, the two-day announcement period returns were positive for the targets, consistent with the findings of the earlier studies on merger targets in the U.K. and the US. The returns to bidders for the same period were not significantly different from zero. The combined gains at the two-day announcement period were significantly positive implying that the announcement of mergers does have a positive wealth effect on the share price of the combined firm. This contrasts with the findings of earlier studies which suggest that the combined gains in U.K. mergers are not significantly different from zero (Firth (1979)).

This research was based on the assumption that the capital market is at least semi-strong efficient. Since the analysis covered only eleven days surrounding the official announcement, it is not possible to infer that the findings of this study support this assumption. However, the significant positive combined gains of bidders and targets in both takeovers and mergers at the two-day announcement period imply that the securities market is strong form inefficient.

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Chapter 1

An Introduction to Takeovers in the UK

1.1: Introduction

Acquisitions of listed firms in the United Kingdom (U.K.) dates back to at least 1835 when the National Provincial Bank (now merged with National Westminster) acquired the North Devon Bank (Tabb (1981)) but it was not until the late 1950's that takeovers of quoted firms in the U.K. increased dramatically. This increase is perhaps directly associated with the passing of the Companies Act 1948, which removed the main obstacle faced by bidders until then. It allowed the bidders to remove unwilling target Board of Directors through ordinary resolution of simple majority once it acquired the target, and also allowed them to approach the target shareholders directly, by- passing the target's management. This laid the foundation of hostile takeovers in the U.K. Before 1948, the usual methods of acquisition were proxy contests and mergers, carried out through pressure exerted by a third party (usually creditors) on the target to accept the bid.

1.2: Factors contributing towards the increase in takeovers in the U.K. since the late 1960's

The increase of hostile takeovers as a means of acquisition in the U.K. since the late 1960's was fuelled by a combination of factors such as: the rising stock markets, government policies, passing of legislations, lack of willing merger partners (Roberts (1987)), and the role of institutional investors and merchant banks in the City (Fallon and Srodes (1988)).

1.2.1: Rising stock markets

A substantial part of the consideration in takeovers is made up of shares, convertible loan stocks and cash. Shares are more readily accepted as a means of payments in takeovers when the stock market is rising.

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Convertible loan stocks are valued not on their interest rate alone but also on their right to be converted into shares. Cash is often raised through right issues, that is companies issue further shares for cash to their existing shareholders on a pro-rata basis at a discount to the market price. This is difficult to accomplish if the stock market is weak.

A rising stock market also implies greater demand for shares and therefore increased liquidity. Bidders would find it easier to issue new shares for financing takeovers.

The greater the demand for shares also implies that when bidders issue shares or debt instruments to raise money, they can finance their acquisitions at a lower cost of capital.

Rising stock markets are also indicative of an expansionary economy during which firms are concerned with expanding their productive capacity to cope with the potential increase in demand for their products. One way to speedily accomplish this is through acquisition of another firm to gain access to its underutilised production facilities (Sharma and Mathur (1989)).

1.2.2: Government policies

Rationalisation policy of the Labour government in the early 1970's played a vital role in initiating takeovers. During this period U.K. firms experienced the impact of international competition in their major industries such as textiles, steel, shipbuilding and the manufacturing industries in general. It was a general belief that to compete effectively firms must be large enough to be cost-effective and must be competitive in technology, which required a large investment in Research and Development, possible only to large firms. This led to takeovers and mergers among the small and medium size firms facilitated by the government agency (now defunct) Industrial Reconstruction Corporation (IRC).

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1.2.3: Changes and passing of legislations

A series of legislation was passed from the 1960's to the early 1980's which directly or indirectly initiated takeovers, such as the abolition of the resale price maintenance in the mid 1960's, the introduction of corporation tax in April 1965, and the phasing out of the investment allowance in March 1984.

(a) The abolition of 'Resale Price maintenance' legislation.

The abolition of the 'Resale Price maintenance' in the mid 1960's, that is the right of manufacturers to dictate minimum prices at which their branded goods could be sold, eliminated the assured profit margins of retailers, and accelerated the growth of supermarkets selling greater volumes to compensate for thinner margins. This led to a series of takeovers and mergers in the food retail and manufacturing sectors.

The change in the household tradition also contributed towards takeovers in the food sector (Business Week, 24 September 1984). Very few households today are still traditional with husband working and wife looking after the house. The dual career approach now predominates and such couples are willing to pay more for pre-prepared meals.

Furthermore, consciousness about health and fitness has increased the demand for specialised high cost natural products which earn high profit margins and the relatively low growth rate and low share prices of firms in the food sector motivated bidders to acquire firms that had the capacity to serve the change in consumer demand.

(b) The introduction of corporation tax 1965

The introduction of corporation tax in April 1965 encouraged firms to reinvest their profits. Corporation tax was imposed on all profits at a relatively high rate, and whatever dividends paid were further subject to income tax. The effect was that firms had to generate a considerable amount of profits to maintain the net level of dividends they were paying to their shareholders.

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The amount of profits increase required could not be generated through internal growth, and firms resorted to takeovers and mergers to increase their pre-tax profits by more than the increase in share capital on which dividends had to be paid.

(c) The phasing out of investment allowance

The phasing out of investment allowances in March 1984, contributed to the latest wave of acquisitions. Before this legislation, firms could write off against their profits the entire cost of plant and equipment bought during the year.

This encouraged firms to be more capital intensive, which led to rising unemployment.

This new legislation modified the speed with which the investment allowance could be written off against profits, and thus reduced the tax subsidy on direct investment and to a certain extent encouraged growth by acquisition.

1.2.4: Role of institutional investors and merchant banks

The financial backing of merchant banks and the growth in the level of institutional equity holdings in firms has made it easier for bidders because if the target is not performing up to expectations, the institutional shareholders will prefer to sell their stake to a bidder with a more highly regarded management, very often taking the bidder's own shares as consideration rather than cash. At present institutional shareholders such as Unit Trusts, Investment Trusts, Pension Funds and Insurance firms hold 70 % of the equity of listed companies in the U.K. (Stock Exchange Quarterly, 1988). The role of financial intermediaries such as merchant banks in the City also played an important part in initiating takeovers.

In an effort to be competitive, they started to provide not only the cash needed to pursue an offer but also what came to be known as 'support operations', that is buying shares in the open market for their clients, buying assets in the targets for their clients on their own accounts and providing the legal, financial, tactical and economic intelligence expertise.

This is further fuelled by the success-geared commission schemes, which reduce the cost of the takeover for the unsuccessful bidder (Gray and McDermott (1989)). In fact, as never before, in the 1980's a corporate finance department of merchant banks (department responsible for the takeover activities) has become a highly profitable and prestigious business.   For example, in 1985 Morgan Grenfell acted as financial adviser in 32 takeovers worth between them £3 billion, and in 1986 it handled bids worth £14 billion more than the total value of all bids made in the U.K. in any previous year. In 1988 it handled 108 takeovers and mergers worth £13.6 billion which is 61 % of the total value of mergers and takeovers in 1988 (Sunday Times, 29th October 1989). Bids of this scale could not have been possible without the support of the merchant banks.

1.2.5: Lack of willing merger partners

Bidders' inability to find a willing merger partner in their effort to expand into their core business so as to attain a fair share of domestic and international market, is another possible reason for firms initiating takeovers.

1.3: Means of acquisition in the U.K.

The acquisition of target firms in the U.K. can be consummated through private acquisition agreement, takeover bid, mergers by agreement and mergers by scheme of arrangement (Begg (1986)).

1.3.1: Private acquisition agreement

In a private acquisition agreement, a detailed acquisition agreement is negotiated between the vendor who can be an individual negotiating on behalf of a tightly-knit family business or the management of a business firm and the purchaser, usually specifying the amount of shares to be acquired, the form and timing of payments and other relevant details such as warranties and indemnities on potential hidden liabilities.

1.3.2 Takeover bid

A publicly listed firm usually has a widespread ownership in which case it is not possible to negotiate a detailed acquisition agreement with the shareholders, and the shares of the target are acquired through a written offer. The bidder, through its financial intermediaries, prepares the offer document which details the bidder's intention and presents selective but pertinent information about the offer to entice the target shareholders to sell their shares.

The target shareholders are given a limited period within which to accept the offer which they will signify by signing and returning forms of acceptance and transfer to the purchaser.

In a takeover bid of a listed firm, the bidder will not be able to obtain the protection that he could have sought under the detailed acquisition agreement, unless the offer is welcomed by the target board, in which case the bidder will have access to the target firm's documents and records other than those publicly available. In a hostile takeover bid the bidder assumes a substantial amount of risk of hidden liabilities despite the considerable public information available at the disposal of the bidder and the fact that listed firms are subject to tighter constraints on their business operations.

1.3.3 Merger by agreement

A merger by agreement is consummated when two firms of comparable size neither of which is in a dominant position, agree to amalgamate and form a new holding firm. The shareholders of the two existing firms then exchange their shares for the shares issued by the holding firm. The two existing firms which now become subsidiaries of the new holding firm, may then be wound up and their assets distributed to the new firm.

A merger of this nature is only possible where there is a limited number of shareholders involved, most of whom are in agreement with what is proposed, and where no third parties (i.e. creditors) are likely to be prejudiced by the merger. However in many instances, while the boards of the two firms are in full agreement of a merger, the shareholders are too numerous and widespread to permit an amalgamation, in which case a merger by scheme of arrangement is initiated.

1.3.4: Merger by scheme of arrangement

A merger by scheme of arrangement overcomes the problems of numerous and widely distributed shareholdings and the difficulty of securing consent from all shareholders. It requires the agreement of the boards of the firms involved which enables them to acquire by order of the court, all the capital of the firms concerned, provided the scheme is approved by a simple majority of the shareholders representing only three fourths in value of the shareholders present and voting at a meeting convened under the court's direction. When the proposal to merge is approved by the requisite majority at the shareholders' meeting, a petition is presented to the court for an order sanctioning the agreement.

Provided the court is satisfied that the scheme is fair and reasonable in the sense that statutory requirements have been complied with and the creditors of the firms involved are not prejudiced, it will make the necessary order which becomes binding on all shareholders when the copy of the order is filed with the Registrar of Companies. The shareholders of the firms involved are then sent either cash warrants or share certificates depending on the form of consideration agreed upon.

1.4: Hostile takeovers

In the U.K. the term 'takeover bid' is used for takeovers in contrast to the US term 'tender offer'. In the U.K. the term 'tender offer' is usually used in relation to the rules governing the Substantial Acquisition of Shares (SAR's) by potential bidders. SAR's provides a mechanism known as 'tender offer' which is in effect a seven day partial offer up to 29.9 % of the target shares, in an effort to build up a substantial stake to be followed by a full offer.

Takeovers can be in a form of agreed takeovers, in which the target's board recommends the bidder's offer to its shareholders, or hostile takeovers, in which the target's board advises its shareholders to reject the offer.

The increase in popularity of hostile takeovers in the U.K. in the 1980's is possibly due to the lack of willing merger partners and the active role played by merchant banks in initiating takeovers.

1.5: Control versus financial motive in takeovers

In the U.K., a firm can purchase the shares of another firm with the intent to achieve entity control when its purchases exceeds 29.9% of the target's outstanding shares. Entity control means the right to manage the resources of the target firm which includes the right to hire, fire and set the compensation level of top management (Fama (1980)).

The shares purchased by one firm in another firm can also be viewed as a financial investment, which will provide a way for the purchaser to change the timing and/or risk of the net cash flows of its firm, for which purpose the purchaser can acquire a maximum of 29.9% of the target's shares. However, for purchases exceeding 29.9% of the target's shares, the Takeover Code requires the purchaser to make a formal offer to the target shareholders to acquire control of the target's resources.

The relevance of this classification is important because it differentiates between a financial (i.e. no change in the targets current production/investments is required) motive and a control motive (i.e. which implies an implementation of a different production or investment strategy for the target). The fact that most takeovers specify a minimum number of shares that must be accepted by target's shareholders before the offer will be considered unconditional, is consistent with control motive of bidders engaged in takeovers.

In the U.K. it is considered by the Takeover Panel and generally accepted that the holder of 30 % or more of the voting rights of a public firm can in practice secure the passing of an ordinary resolution and can therefore control the composition of the board of the firm. In practice, it is most unusual for a takeover offer in the U.K. to end in anything other than the achievement of total control of the target or in failure. In this respect, takeovers in the U.K. are different from those in the US or in Australia where it is common for takeovers to be made with the objective of obtaining only a majority of the voting rights.

Consistent with the control motive, takeovers are employed by bidding firms to effect a more profitable allocation of the combined resources of the two firms. However, control motive does not distinguish between cases in which a takeover is an attempt to improve the current operations of the target firm per se and those in which the objective is to realise the synergies available through a combination of the resources in both firms.

1.6: **Possible reasons for acquisitions**

There can be many combinations of reasons for bidders to initiate takeovers such as synergies, management inefficiency, size maximisation, expropriation of wealth, increasing market share, to secure the source of supply of raw materials and the outlets for finish products, to acquire research and development facilities, management expertise, distributional facilities and even establish brand names.

1.6.1: **Synergy**

Synergy is frequently cited as a justification for initiating takeovers (Bradley (1980), Bradley, Desai and Kim (1982), Asquith, Brunner and Mullins (1983)). Both firms in the takeover are assumed to have special resources, which when combined produces synergistic effects not achievable separately. The synergy hypothesis is based on the premise that the bidding firm is after the possession of a special resource that would enable a value increasing combination with the target firm.

This special resource could provide a growth opportunity for the bidding firm as a result of an exogenous change in consumer demand or shift in conditions of the supply due to some technological advance or generate financial gains through the use of underutilised tax shields, avoidance of bankruptcy costs and increase leverage (Benston (1980)). These resources could also further enhance the profitability of an investment programme that had been initiated long before the announcement of the offer. It is assumed that the bidder is first to recognise the existence of the special resource and has sufficient resources to exploit the available opportunity. Once the offer is announced, the market participants would be made aware of the bidder's intention, the expected outcome of which will be reflected in the bidder and target's shares.

1.6.2: Management inefficiency

Inefficiency of the target management team is also a commonly cited reason for initiating takeovers (Manne (1965), Malatesta (1983)). This inefficiency is presumed to be reflected in the target's share price, that is the share price is lower than the potential value of the assets. The bidder assumes that there is a high positive correlation between corporate managerial efficiency and the share price of the firm.

The lower the share price relative to the value of the assets with more efficient management, the more attractive the acquisition becomes to those who believe that they can manage the firm more efficiently.

However, low share prices do not necessarily mean that the management team is inefficient, since there are factors beyond the control of the management that can depress share prices. For example, government regulations, supply and demand conditions in the industry, political, social and economic changes in the domestic and international environment, all could adversely affect share prices (Rappaport (1986)).

1.6.3: Size maximisation

Maximisation of management utility is another possible reason for bidders to pursue targets (Mueller (1969), Mikkelson and Ruback (1985) Murphy (1985)). If management's financial and non- financial compensation is positively related to the size of their firm, it can be expected that, after achieving a certain profit level, the management may transgress their fiduciary duty of maximising the shareholders wealth, by pursuing investments that increase the size rather than cash flows of the firm. Maximising size is also viewed as a defence tactic against takeovers as large firms are expensive and difficult to takeover (Ball (1987)).

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However, size is no longer a security against takeovers because there are various packages of financial arrangements available from merchant banks to enable smaller firms to acquire larger firms. Recent examples include the Elders IXL bid for Allied Lyons and also the Guinness bid for Distillers (Gray and McDermott (1989)).

1.6.4: Expropriation of target's wealth

Another possible reason for inter-firm takeovers is the opportunity to expropriate the target's wealth (Grossman and Hart (1980)). If the inter-firm takeover is for less than 100 per cent of the target's shares, this could imply that there is incentive for the bidder management to channel the target's wealth to the bidder firm's shareholders. Theoretically, this can be achieved in two ways: first, through applying pressure on target management (subsequent to the offer becoming unconditional) to supply factors of production at a price less than the marginal costs and buy products from the bidder at a price above the marginal cost.

Second, the transfer of wealth could be achieved by selling off the target's assets, also known as 'asset-stripping'. Asset-stripping was rife in the U.K. takeover arena from 1967 to 1975 when investors like Jim Slater, used to spot firms that were going through hard times, move in on them, cash their assets and use the profit to bankroll the next target (Fallon and Srodes (1988)).

However at present the U.K. acquisition market is closely regulated by the agencies such as the Department of Trade and Industry (DTI), Panel of Takeovers and Mergers, Mergers and Monopolies Commission (MMC), the Office of Fair Trading (OFT), The Stock Exchange and the European Commission by virtue of the Articles 85 and 86 of the Treaty of Rome. This makes it difficult for the bidder to expropriate the target's wealth and if the market suspects that the bidder has such an intention it will force the bidder to pay ex-ante for any expected expropriations.

1.6.5: **Response to changing business environment**

To survive, firms have to cope up with the changing business environment through strategic planning approach (Weston and Copeland (1988)). Rapid changes in the business environment often calls for rapid adjustments in the firm's strategic planning process both at the business unit level and the corporate level. This adjustments concern decisions such as: increasing market share or preventing a competitor from increasing its market share or establishing a presence of existing product range in a potential new market; to strengthen or secure the sources of supply and outlets for goods or services; to widen the existing range of products or services and diversifying out of products and services which are declining.

To acquire resources in which the firm is perceived to be weak such as research and development facilities, management expertise, production and distributional facilities or even established brand names; and to take advantage of specific tax and financial incentives (Rapapport (1986)). These required changes could be met speedily by acquiring established firms and if the market for corporate control is competitive, buying such needs may imply that the value of such investment may be small. However, if such needs are bought with the intention to use them as a base for further investment in the future, it could benefit the shareholders in the long run.

1.7: **Common regulated and unregulated features of takeovers in the U.K.**

Hostile takeovers are opposed by the target management and without the support of the target management the bidder can be successful but the chances of failure are high. No two offers are alike and each bidder has its own unique way of planning and executing an offer (Cohen (1968)). Irrespective of the way takeover offers are planned and executed there are certain regulated and unregulated features which are common to most takeovers.

The principal regulatory body for all takeovers in the U.K. is the Panel of Takeovers and Mergers which implements the Takeover Code on firms involved in takeovers and mergers. The Panel works together with other agencies such as DTI and OFT. One common regulated feature for all firms involved in takeover or merger is the requirement on the time period within which the acquisition should be executed. For example, the Takeover Code requires a takeover offer to be open for at least 60 days from the date of the announcement till the date the offer becomes 'unconditional' as to acceptances.

It is normal practice, however, for the offer to be kept open for at least 14 days after being declared unconditional, allowing latecomers (especially small shareholders) to accept the offer. The bid itself must be kept open for at least 21 days after the posting of the offer document. Thereafter the bid can be extended or improved as much as the bidder likes, provided that the bidder has not definitely ruled out such a move and no changes are allowed after the 46th day. This allows shareholders 14 days to consider any new offer before the curtain comes down on the 60th day.

The firms involved in takeovers are obliged to follow the requirements of the regulatory agencies otherwise they are subjected to disciplinary actions such as withdrawal of all services provided by the market.

However, there are also features common to most firms involved in takeovers which are not regulated in any way but which are adapted by the firms themselves to facilitate their acquisition, such as, gradual purchase of shares in the target, engaging the services of merchant banks, announcing the offer at a time when the target is experiencing some form of difficulty, and the use of unethical tactics by bidders in some large takeovers.

1.7.1: **Gradual purchase of shares**

Most bidders gradually purchase their target's shares in the market long before the official announcement. Target shares are purchased in the open market through investment bankers and brokers.

Gradual purchase is preferred because heavy buying in a short period of time drives up the share price and subjects the purchaser to scrutiny by the Stock Exchange and the Security and Investment Board. However once the bidders stake reaches 5 % the Stock Exchange requires the purchaser to declare its intention to prevent the purchaser using a 'greenmail' tactic on the target firm. A 'greenmail' tactic is a common feature of takeovers in the US in which the purchaser builds up a substantial stake in the target firm signalling to the target that an offer is on the way and then persuading the target to repurchase the stake at a premium with the promise that the purchaser will not pursue the purchase.

In the U.K., bidders prefer to hold a stake in the target before initiating a full offer for two possible reasons: first, it enables them to get the list of the shareholders in the target which allows them to communicate with the large shareholders (i.e. institutional investors) directly and persuade them to sell their stake. Second, if substantial amounts of shares are bought earlier than 12 months before the official announcement, it is possible for the bidder to purchase the target at a lower cost.

After an offer has been made, large shareholders are approached by the bidder and the target management separately, as the Takeover Code forbids calling a meeting of several institutions. The bidder usually reinforces the message in its offer document and clarifies anything which the investors may have found doubtful or difficult to understand. The rules of the Code do not allow the bidder to impart more material information than is in the formal document.

The target management in their effort to counter the bid will approach the major investors and present their point of view on the offer and will usually try to convince them not to sell their stake to the bidder.

1.7.2: Engaging the services of merchant banks

The corporate finance department of merchant banks specialise in takeovers and mergers and at present are the most prestigious and profitable department of most merchant banks in the U.K. (Sunday Times, 29th October 1989). Merchant banks not only provide the necessary financial backing required in acquisitions but also a variety of other services such as administrative, legal, tactical and economic intelligence expertise.

Most bidders engage the services of the merchant bank in making acquisitions as they lack some or all of the expertise required to pursue the target effectively and also with the availability of success-geared commission schemes it is cheaper for firms to buy these services rather than build them in-house (Gray and McDermott (1989)).

1.7.3: Timing of announcements

Takeover announcements are usually made at a time that is considered to be most conducive to gaining success, for example when the target firm is carrying out a restructuring which results in a temporary decline in profits or when the target announces a decline or delay in its dividends.

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1.7.4: Unethical tactics

In some major takeovers of the 1980's such as Guinness versus Bell 1985, Guinness versus Distillers 1986 (Fallon and Scrodes (1988)) and Dixons versus Woolworth 1986 (The Observer Business, 15 Febuary 1987, and The Financial Times, 2 Febuary 1988), there have been attempts to employ tactics which are unethical by any standards by desperate bidders, such as character assassinations of target board of directors by making public statements about their private lives, tapping telephones of the board of directors, and even engaging in physical violence to scare off unyielding members of the board.

1.8: Forms of payment in acquisitions in the U.K.

The form of payment in a takeover or a merger may be cash, shares, loan stock (convertible or otherwise) or some combination of these. For firms not listed on the Stock Exchange, it is difficult to issue shares or loan stocks to finance an acquisition as shares without ready market will not normally be an attractive proposition for the target firm. One advantage of firms listed on the Unlisted Securities Market (USM) or fully listed on the Stock Exchange is their ability to use shares as a means of payment in acquisitions.

The choice of the form of payment by bidders will depend on the bidder's share price, their stake in the target, their prospective gearing structure, their resource and tax position and the tax position of the target, expected target management's resistance and the degree of competition for the target (Begg (1986)). The final choice of payment or the package of payment should not only be cost effective to the bidder but also sufficiently attractive to the target shareholders to secure the required level of acceptance.

1.8.1: **Share exchange**

Acquisition of targets through exchange of shares tends to be popular in bull markets, and cash tends to be used in bear markets (Myers and Majluf (1984)) and the long bull market in the U.K. has pushed up the value of many companies' shares, making them attractive bid currency (Macaulay and Smith (1988)).

However, in share offers even if the bidder's shares are highly rated it does not mean that the target shareholders will prefer shares as the means of payment because the bidders' shares are subjected to fluctuations and accordingly the value placed on the target firm's shares by the bidder's offer will fluctuate on a day to day basis. A consideration payable in cash, however establishes a fixed value on the target firm.

Furthermore, large institutional shareholders do not appreciate their shareholdings being diluted by a substantial new issue of shares to the target firm. There are also circumstances when the bidder wishes to take advantage of a high share price to make share offers to the target shareholders and the latter insists on cash, in which case the bidder can make arrangement for 'vendor placing' (Rose (1987)).

A vendor placing takes place when the bidder issues new shares but arranges for its brokers to place them with their institutional investors at a discount to the market price in order to raise the cash required to pay the target shareholders. The bidder shareholders may suffer double losses in vendor placing: first, they forfeit the opportunity for the capital gains (because the shares are issued at a discount to the market price) and second, they suffer an erosion of the firm's wealth which rightly belongs to them.

However, section 89 of the Companies Act 1985 now mitigates the losses suffered by bidder shareholders by giving them the right to subscribe for the new shares pro-rata to their existing shareholdings in case of equity issues for cash, which does not apply when shares are issued as consideration for acquisition.

1.8.2: **Loan stocks**

Corporate loan stocks and debentures are also used as as a means of payment in acquisitions. This means was popular in the 1960's but due to increasing interest rates and inflation over the years they have declined in use (Begg (1986)). For bidders, the use of loan stock has an advantage of maintaining or even increasing earning per share if the returns from the acquisition more than compensate the cost of debt. The interest payments on convertible loan stock are lower to reflect the conversion privilege. The cost of servicing interest payments on debts is fixed and tax deductible, whereas dividend payments on shares are made out of taxed income. Besides receiving regular interest payments, the holders of convertible loan stocks can convert the stocks to bidder's shares at some future date or dates at a fixed price or sometimes in the form of subscription rights. If the bidder's equity value increases, the market value of the loan stocks also increases to reflect the increase in value obtainable on conversion or subscription. Loan stocks also afford the holders who face substantial capital gains tax liability the opportunity to defer the tax.

Loan stocks issued by listed firms are usually secured by a trust deed entered into between the firm and a trustee appointed to represent the interest of the shareholders. The trust deed is usually a bank trust corporation or another financial institution.

1.8.3: **Cash**

Cash is a popular form of payment in acquisition. Even when shares or debt securities are issued for acquisitions, a cash alternative is frequently offered to target shareholders, which is an opportunity to sell to the underwriters the securities issued. Cash payments avoid the complexities of the shares and loan stock issues, and are usually financed by bank loans. The terms on which the bidder is able to borrow the necessary cash resources to make the acquisitions are an important consideration in the choice of cash as the form of payment.

However under certain circumstances the bidder has no choice but to offer cash to its target shareholders. For example, Rule 9 of the Takeover Code requires a purchaser who has bought (individually or in concert with other parties) for cash 15 % or more a class of a firm's shares during an offer period and within the preceding 12 months, must make a cash offer or an offer accompanied by a cash alternative to that class of shareholders at not less than the highest price paid for those shares within that period.

The same rule applies to a purchaser who already owns 30 to 50 % of the target shares and acquires in any period of 12 months additional shares carrying more than 2 % of voting rights.

Similarly if the bidder and his associates have acquired a total of more than 15 % of the target shares in the preceding 12 months, Rule 11 of the Takeover Code requires that the offer for the rest of the shares be made in cash or with a cash alternative at the highest price paid during that period. The cash alternative provision allows the bidder to finance the acquisition by shares but allows the target shareholders to sell the bidder's shares at a predetermined price to the bidder's underwriters.

1.8.4 Combination offer

There are also circumstances where it is sensible for the bidder to offer a combination of shares and cash. The bidder may happen to have large reserves of cash and a depressed share price rating which is inadequate to justify a purchase made only by shares. There may be a limit on the extent to which it is prudent to issue more shares which will dilute the equity interests of the existing bidder shareholders, or there may be a limit to the bidder's borrowing capacity to make an exclusive cash or loan stock offer.

Irrespective of the reason for the bidder's choice of consideration, once the decision is made it has important implications for the bidder's share price. There is a theory in corporate finance (Myers and Majluf (1984)) which suggests that due to the asymmetries of information in the market, the form of payments offered by bidders to their targets in a takeover signals the estimated value of the bidder's shares at the announcement of the offer. Cash offers are perceived as a signal of undervaluation and share offers as a signal of overvaluation of bidder's shares.

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Chapter 2

Statutory and Non-Statutory Requirements of Takeovers in the U.K.

2.1: Introduction

This study focuses on firms involved in takeovers in the U.K. All acquisitions in the U.K. are to comply with the statutory and non-statutory requirements of takeovers. This chapter explains briefly these requirements as a background to the study.

The corporate law in the United Kingdom does not prescribe the way takeovers and mergers should be effected. There are however, regulations which guide the takeover and merger activities of private and public firms.

A private firm can negotiate an agreement with its target's owners, purchase new shares by private agreement or even acquire the assets of the target firm. All these transactions will be registered at the Companies House. An acquisition of a listed firm by purchase of shares on the Stock Exchange is subject to compliance with both the statutory requirements prescribed by the Companies Act 1985 and the non-statutory requirements of the Takeover Code.

When one publicly listed firm intends to take control of another listed firm's resources, the following Act's apply (Macaulay and Smith (1988), Cook (1988)):

2.1.1: Fair Trading Act 1973

This act empowers the Secretary of State for Trade and Industry to appoint a Director General of Fair Trading, whose duty is to keep a constant review on the business activities related to goods and services, such that under no circumstances should such activities adversely affect the economic interests of consumers.

In reviewing takeovers and mergers, the Director General first consults the Panel of Takeovers and Mergers and then advises the Secretary of State as to whether a merger or a takeover should be investigated by the Monopolies and Mergers Commission (MMC). From then on, it is the prerogative of the Secretary of State to refer the bid to MMC.

There is no requirement for firms to notify the Office of Fair Trading (OFT) of their intention to make a bid. In practice, the office collects information on bids not only from financial press but also from merchant banks, whose corporate officers working for their clients visit the OFT and selectively present facts in trying to lobby a recommendation to proceed with the bid. In hostile bids the target firms will lobby to get the bid recommended for reference to the MMC.

2.1.2: The criteria for reference and the responsibilities of the MMC

The present minimum criteria for examining a bid for reference are:

(i) the target firm has assets of more than £30 million, or

(ii) the bidder and target together have 25 per cent or more of any identifiable U.K. market.

The first criterion is easily determined by reference to audited accounts of the target firm. The market share test is more difficult to determine because it involves the provision of statistics indicating the value and volume of the U.K. market for each category of goods and services produced by the firms to be merged, and also the share of that market estimated to be enjoyed by each of them.

All bids meeting the criterion for reference are examined by the Mergers Secretariat of the OFT to establish whether there are any public interest considerations. For those bids that are perceived not to be against public interest, the Director General will recommend to the Secretary of State for Trade and Industry to clear such bids.

In difficult cases, the Director General will meet with the Takeovers and Mergers Panel for details and discuss the issues as prepared by the Mergers Secretariat pertaining to public interest considerations, and a decision is then made after two to three weeks.

The business of establishing conclusively whether or not a merger or takeover operates against public interest is not a matter for the Director General but the task of the MMC. However, once the MMC concludes that a merger or takeover is against the public interest, the Director General is then responsible for advising the Secretary of State on the action to be taken. The Director General's recommendation can be overruled by the Secretary of State. Conversely, the Secretary of State can decide to refer a bid to the MMC against the advice of the Director General. If he does decide to refer the bid, that decision itself usually spells the demise of the bid, because any offer will automatically lapse as the investigation involves a great deal of management effort and expense and the delay usually necessitates a renegotiation of terms.

The Trade and Industry Secretary can reject a verdict from the MMC that the proposed takeover would be against the public interest and let it go ahead. However, he has no power of veto when the MMC rules that the bid would not be against the public interest.

In essence, the government through the Fair Trading Act 1973 has an effective right of veto over certain U.K. acquisitions which are substantial in terms of size or market share, but the implementation of the act is not a government concern.

The Monopolies and Mergers Commission consists of at least one lawyer and representatives from various public interest groups such as trade unions, consumer organisations, academic institutions, industrialists and environmentalists. Except for the chairman they are all part-time, although there is a full-time back up staff. The members of the commission are required to consider the matters referred to them and to decide whether or not they operate against the public interest.

The MMC makes a decision after 6 to 9 months. In the U.K., the merger and takeover policy is essentially favourable and the MMC works on the presumption that bids are beneficial, and to be approved, unless there is evidence to the contrary (Fallon and Srodes (1988)).

From the MMC's point of view, competition in the market is the most important measure in considering and deciding the public interest effects of bids. Section 84 (1) of the Fair Trading Act 1973 interprets 'public interest' as follows:

(i) Maintaining and promoting effective competition between persons supplying goods and services in the U.K.

(ii) Promoting interests of consumers, purchases and other users of goods and services in the U.K. in respect of the prices charged for them and in respect of their quality and the variety of goods and services supplied.

(iii) Promoting through competition, the reduction of costs and the development and use of new techniques and new products, and of facilitating the entry of new competitors into existing markets.

(iv) Maintaining and promoting the balanced distribution of industry and employment in the U.K.

(v) Maintaining and promoting competitive activity in markets outside the U.K. on the part of producers of goods and suppliers of goods and services in the U.K.

Any bid which is perceived to reduce competition is regarded as against public interest. Competition is considered essential to the development of healthy markets and economy (Peston (1986)). It ensures that consumer's preferences are efficiently met by industry and trade, that firms respond to changes in demand and in technology and that prices do not persist at levels above those necessary to attract and reward investment. The promotion and maintenance of competition in the domestic market is desirable for the interests of both producers and consumers.

In practice, there are reservations about the real beneficiaries of the competitive policy (Peston (1987)). If there are any benefits from competition, how are these benefits distributed among producers and consumers?

The consumer interest is more rationally measured in terms of the benefits they receive from a competitive policy rather than the detriments against them from an anti-competitive policy.

The 25 percent market share criteria is also ambiguous, because a competitive policy will naturally increase the firms market share. What happens when two or more firms acquire a 25 percent market share through competition rather than acquisition?

The OFT and MMC are obliged to interpret the government policies for industries and must subconsciously adjust to changing priorities on matters such as full employment in various regions against the need to rationalise the old declining industries, the desire to promote small and independent business units as against the need to permit concentration of power and economies of scale on a level which will allow U.K. industries to compete effectively in export markets.

MMC's interpretation of large market power associated with large market share is also ambiguous because large market share does not necessarily mean increased market power, if new firms can enter the market quickly and cheaply.

If the new entrants' operating costs are not significantly higher than the existing firms and their set up cost is not large relative to the total costs, then firms with large market shares cannot be assumed to have the market power to act in an anti-competitive manner. It is essential to consider the factor of potential competition and the propensity of the current firms to limit new entry in ascertaining the market power of the firms in the bid.

Competition, although an important criterion, is by no means the only criterion the MMC bases its decisions upon (Roberts (1987)). For example, concern about research and development in the pharmaceutical industry was a major factor in vetting the rival bids by Beecham and Boots for Glaxo in 1972.

In 1985, the concern about reduction in the research and development of sophisticated electronic equipment, the MMC decided against the GEC's bid for Plessey.

On the basis that foreign ownership of a major local bank was undesirable, the MMC decided against the Hong Kong and Shanghai Banking Corporation's bid for the Royal Bank of Scotland.

To prevent further attempts of foreign investors taking ownership in important industries such as banking, oil, newspapers, insurance, coal and steel and Unit Trusts, these industries are given the 'regulated industries' status.

These industries are regulated because they are either critical to the economy or otherwise politically sensitive and are subject to specific government control and required to be specifically licensed.

For gearing reasons, the bid by the Australian brewery group Elders IXL for Allied Lyons was referred to the MMC. About £1.6 billion of the £1.8 billion offered was being borrowed from a consortium of American banks (Gray and McDermott (1989)).

Such borrowings can effectively only be raised on the strength of the target firm's balance sheet, which means that the combined firm is saddled with a disproportionate quantity of debt, which unless cash flows are strong can only be discharged by substantial disposal of assets.

2.1.3: Competition Act 1980

This act prevents anti-competitive practices which complement the functions and powers of the Director-General as provided by the Fair Trading Act 1973. The main difference being that the Fair Trading Act applies to all firms in a complete market sector supplying the goods and services, whereas the Competition Act relates to individual firms which restrict, distort or prevent competition.

2.2: Regulation of the securities market

The securities market is self-regulated by the Council of the Stock Exchange, which is controlled by the SIB introduced by the Financial Services Act 1986. The Council is the competent authority for directives dealing with admissions, listing particulars and financial reporting of listed firms. Control affecting mergers and takeovers are imposed by the Stock Exchange and the Panel of Takeovers and Mergers.

The Stock Exchange imposes self-regulatory controls on its members, which are written in its annually revised book called 'Admission of Securities and Listing' (also known as the "Yellow Book") which has a statutory backing on some requirements such as, the terms of admission, publication of 'listing particulars' in relation to new issues and the publications of interim reports, whereas the remainder of the requirements are based on the Stock Exchange's own self-regulatory authority. The regulations apply to bidders and targets that are listed on the main Stock Exchange and the Unlisted Securities Market (USM).

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2.3 City Code on takeovers and mergers and the Takeover Panel

In the U.K. the foundation for hostile takeovers was laid in the Companies Act 1948 (Tabb (1981)), but it was not until 1959 that Britain experienced its first contested takeover bid, when Sir Charles Clore made a £27 million bid for the brewer Watneys (Roberts (1987)). At the time the Takeover Code did not exist, and the Licensed Dealers Rules (now amended and known as 1983 Licensed Dealers Conduct of Business Rules) were the only set of rules available relating to offers by shares and to the detailed content of the offer documents. However, these rules proved to be an insufficient instrument of control and following a number of scandals and abuses, the Governor of the Bank of England with the co-operation of merchant banks, investment trusts, insurance firms and the London Stock Exchange (also known as the City Working Party), published the 'Notes on Amalgamations of British Businesses', which were the first general guidelines to firms involved in bids (Financial Times, 5 November 1989).

Among the important issues discussed were that the target's board was entitled to have evidence of the real identity of the bidders and also that they had the resources to meet full acceptance. It was also required that the offer should be made through the target's board and the latter was to advise its shareholders on the offer.

These early guidelines were revised in 1963, when directors and managers of firms involved in bids began to practice insider dealings, at the expense of their shareholders. In August 1967, these guidelines were again revised to include certain practices of large firms involved in bids, which were considered as unfair conduct towards their shareholders.

For example, in the GEC's bid for AEI, the latter sold its lighting interests to Thorn without consulting its shareholders. This 'scorched- earth' policy was a deliberate attempt by AEI to make the GEC's bid unattractive.

In its attempt to takeover Murex, British Oxygen Company (BOC) declared its bid for Murex unconditional, but only later revealed that it had not gained 50 percent of the controlling rights to declare the bid unconditional. The effect was to make many Murex shareholders believe their firm had been taken over and surrender their shares. Courtaulds made a 15s a share offer for a textiles firm, Wilkinson and Riddell. Then it paid a higher price for the few shares it needed to secure control in open market purchase.

Similar practices which were unfair for some shareholders were becoming popular among firms involved in bids, as there were no regulations nor guidelines which restricted such acts.

The Governor of the Bank of England, in his unofficial role for overseeing the business activities in the City, with the help of the committee representing various parties interested in the conduct of takeover bids, consulted, revised and deliberated the 1963 guidelines. In March 1968, the 38 rules and 10 guidelines of the present Takeover Code were officially announced, which is basically a conduct of behaviour governing the way takeovers and mergers are conducted.

2.3.1: The City Code on takeovers and mergers

The provisions of the code can be divided into three main categories. First, there are 10 principles or guidelines of conduct which are a summary of the rules of good commercial behaviour to be applied in the context of takeovers and mergers. Second, there are 38 specific rules some of which are basically examples of how the principles are to be applied and others are procedures designed to govern specific types of transactions.

Third, the rules are supplemented by 'notes' which serve as a guide to the manner in which the rules are likely to be interpreted by the Panel of Takeovers and Mergers in the light of their experience and present economic conditions.

The Code operates principally to ensure fair and equal treatment of all shareholders of firms involved in takeovers and mergers and represents the collective opinion of those professionally involved in the areas of takeovers, as to good business standards and as to how fairness to shareholders can be achieved. This collective interest is well represented on the Panel of Takeovers and Mergers which was created to rule on the interpretation of the Code.

2.3.2: Panel of takeovers and mergers

The Takeovers and Mergers panel consists of a Chairman, a Deputy Chairman and a non- representative member appointed by the Governor of the Bank of England, and representatives from government departments and other public authorities with special knowledge of a particular area of investment business. The Panel has no statutory prerogative, but a self-regulating agency which uses its collective power to persuade others to comply with its principles and rules. Those who do not conduct themselves according to the requirements of the Code are penalised in the form of withdrawal of facilities of the securities market in the U.K.

The Panel works on a daily basis through its executives who are responsible for the general administration of the Code, which includes investigations and monitoring of relevant dealings in line with the requirements of the Code.

The Panel co-operates with other regulatory authorities such as the Office of Fair Trading, the Stock Exchange, SIB, SRO's and the Bank of England. Co-operation is in the form of mutual exchange of information and reporting of breaches of the code to the appropriate authority.

In general, the panel implements the Takeover Code on three principles:

(a) Equality of treatment for all shareholders. The bidder or the target must not discriminate in favour of a few who might have voting control. Discrimination can be in many forms, but the most common is in the form of lack of information or even inaccurate information made available to shareholders and unequal terms offered to different shareholders.

(b) The spirit of the Code is more important than its precise wording. This means that the spirit of the code and the General Principles will apply in areas or circumstances not explicitly covered by any of its 38 Rules.

(c) Practical guidance. The executives of the Panel are responsible for the interpretation and explanation of the Code. By examining closely the documents made available for advice, the executives seek to prevent transgression rather that prosecute the intentional or unintentional offenders after the event.

Before 1983 the code was applied only to takeovers of listed and unlisted public firms. However, as a result of the 1980 Companies Act which reclassified public (plc's) and private limited companies, a number of former public companies re-registered as private companies. Furthermore, the 1980 Act also no longer restricted the number of shareholders in private companies, which meant that many private companies had a wide range of shareholders and any acquisition of their shares would invariably need to be effected by means of a public offer.

Accordingly, as from 1st June 1983 the code was revised to apply not only to public companies (listed or unlisted) but also to any private company which had some kind of public involvement in the 10 years prior to the acquisition.

Public involvement among other interpretations, involves the company trading its shares on the Unlisted Securities Market (USM) or even listed on the USM during the preceding 10 years, or whose share dealings had been advertised in newspapers regularly for at least 6 months during the preceding 10 years and companies which have filed a prospectus for an issue of equity shares at the Companies Registry during the preceding 10 years.

2.4: Summary of the more important rules of the Takeover Code

(1) The offer should be put first to the board of the target firm or its advisers. In practice the observance of this rule has not much importance, because the bidding firm's chairman can inform his counterpart in the target firm at a very short notice before the announcement of the offer.

(2) After the first announcement of an offer, details of the announcement are to be circulated by the target's board to its shareholders. The bidders offer is required to be open for at least the first 21 days after posting the offer document. The offer may not be withdrawn without the Panel's permission.

(3) Directors of bidder and target firms must always act in the best interest of their shareholders. If they are bidding for minority shareholders in a firm they already control, the bidders must arrange for those outside shareholders to be given independent expert advice. The target must give the same information to all bona-fide bidders, be they welcome or not. The targets are not allowed to buy or sell shares or assets in order to frustrate the bid. All documents which the target and bidder send to their shareholders must first be filed with the Takeover Panel executive for approval and any profit forecasts must be endorsed by auditors.

(4) Once the announcement has been made, the offer document should be posted within 28 days of the announcement. Information in the offer document should be prepared in compliance with the Companies Act 1948 (revised as Companies Act 1985).

The offer should remain open for at least 21 days after the posting of the offer document and a further 14 days after the posting of the revised offer. The last day on which the bidder can make any changes to its offer is the 46th day after the announcement of its offer, and for the target it is the 39th day after the announcement. No offer can be declared unconditional after the 60th day without the consent of the Panel.

Except in special circumstances, a takeover bid should not last more than 3 months and an unsuccessful bidder or any one acting in concert with him may not bid for the target again for at least one year, as it is considered harmful to the business for management time and energy to be persistently absorbed in a war of attrition. Once the offer is declared unconditional, it must remain open for at least a further 14 days.

(5) A bidder buying in the market at a price higher than he is generally offering must raise his entire bid to the highest price he paid and extend it to all shareholders who have already accepted, excluding those who sold in the market.

This applies to other types of securities or loan stocks issued for the purpose of takeover. The bidder who has bought 15 per cent of its target's shares for cash during or within 12 months of the bid, must in its terms match in cash the highest price it had paid.

(6) The effective control of a firm might be achieved through a 30 per cent holding, and once this level is reached, the firm must make an offer for the remaining shares. However, the bidder's shareholders must approve the implementation of the full offer.

(7) The bidder or the target firm cannot create a false market for either their own or the other party's shares in the market.

(8) Any person privy to price-sensitive information may not deal in the shares. It is a criminal offence under the Companies Securities (Insider Dealing) Act 1985 to misuse confidential information about a firm to make an unfair profit in share dealings.

The ability of the Panel to regulate takeover activities in the U.K. has its shortcomings (Roberts (1987)). First, it relies on disclosures of information by bidders and targets, which is in fact the domain of the Companies Act and not the Takeover Code. The decision that the panel makes is only as good as the information supplied by the firms involved in the bid. How far the firms involved in the bid disclose all the relevant information or even when they disclose, how far this information is accurate are subject to question (for example the Guinness takeover of Distillers in 1986).

The Panel's rules are essentially voluntary and are founded on mutual interest and trust, and the fact that they are not enforceable by law has caused serious difficulties in dealing with those determined to flout the rules.

Second, the Code is exclusively concerned with the rights of shareholders and says nothing about the firm's obligation towards its employees, especially the middle-management upon whom post- merger performance must eventually depend (Stallworthy and Kharbanda (1988)).

However, the EEC's new requirements to improve employee rights are now incorporated in the U.K. domestic law. These protect employees on a transfer of business which employs them, as well as requiring employers to consult with the unions before closures and redundancies are implemented.

One area in which the Code explicitly acknowledges some responsibility for the broader public interest is the rules on time limit within which the bid must be completed (60 days and in exceptional cases 90 days), which restricts the wastage of management time and energy for the benefit of the shareholders.

2.5: Rules governing the Substantial Acquisition of shares (SAR's)

In April 1982 the Council for Securities Industry (CSI) introduced the 'rules governing acquisition of shares' or commonly known as SAR's in its effort to curb 'dawn raids' by foreign investors on British firms. Since April 1985 the CSI has been replaced by the Securities and Investment Board (SIB). The SAR's are administered and enforced by the Takeover Panel without any legal backing although the SAR's are not part of the Takeover Code, which means that SAR's are not applicable to firms which are not listed on the main exchange or the Unlisted Securities Market.

The SAR's were introduced in response to an alarming series of 'dawn raids' on shares of U.K. public firms in 1979 and 1980, in which the bidders would send their brokers into the market as soon as it opened to acquire up to 30 % of the target firm's shares at a premium over the market price. No prior notice of these raids was given and the buying spree was usually completed within minutes of the market opening.

An example of such a raid which appears to have prompted the CSI (now SIB) was the raid on Consolidated Goldfields by De Beers in the summer of 1980, in which De Beers accumulated over 13 % of the targets shares through a variety of nominee holdings and bought a further 12 % in the market in a matter of minutes by offering an 18 % premium over the market price (Macaulay and Smith (1988)).

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The SIB's main criticism of this and other similar raids was the speed at which the raids were carried out, excluding small shareholders from the higher price which was taken up by institutional investors enjoying privileged position.

The effect of the SAR's is to restrict the speed with which one firm can increase its shareholdings of another firm to an aggregate of between 15 % and 30 % of the voting rights. However, raids for 15 % and below remain unrestricted (although a stake of 5 % or more has to be reported to the Stock Exchange) and for a stake of 30 % or more Rules 5 and 9 of the Takeover Code takes over.

Rule 1 of the SAR's prohibits anyone from acquiring 10 % or more of the voting rights of a listed or USM firm within any period of 7 days if that results in a holding between 15 to 30 %.

Rule 3 of the SAR's requires an accelerated disclosure of the acquisitions of shares or rights over shares relating to such holdings. Specifically, it requires a person who acquires shares or rights over shares which give him 15 % of the voting rights of a firm, or has increased his holding of shares or rights over shares by a whole percentage point over 15 % to notify the target firm and the Stock Exchange on the dealing day following the acquisition. If there are two or more persons acting in concert, their acquisitions will be aggregated and treated as one for the purpose of the SAR's.

There are however three exceptions to the restrictions on dealing imposed by SAR's. The first, is where acquisition is from a single shareholder provided it is the only acquisition within any period of 7 days. A purchaser within this exception is nevertheless required to meet the notification requirement under Rule 3 of the SAR's mentioned earlier. The second, is where the acquisition is made by a 'tender-offer' taking the purchaser's aggregate holding to less than 30 % of the voting rights.

The third, is where the acquisition immediately precedes and is conditional upon an announcement of an intention to make a general offer for the firm which is publicly recommended by its board, in which case the Rules of the Takeover Code will apply.

2.6: Tender offers under SAR'S

Tender offers were first introduced by the CSI in 1980 as part of a scheme to crack down on 'dawn- raids'. The objective was to ensure a fair treatment to all target shareholders specifically the small investors who were invariably excluded when these raids were executed. In a tender offer the purchaser or his agent advertises his firm offer to make a substantial purchase of shares and gives 7 days prior notice of his proposal through national newspapers to the target firm shareholders and the Stock Exchange.

Rule 5 of the Takeover Code requires that the notice includes details of the maximum number of shares the purchaser will bid and the maximum price offered for the shares.

If the offer is over subscribed, acceptances are usually scaled down on a pro-rata basis and the lowest 'striking price' is established at which the purchaser's requirements can be met. The purchaser then pays the 'striking price' to all offers accepted at or below that price. Sometimes tender offers are made in anticipation of a full bid at a later date and conscious of this possibility, major shareholders normally are reluctant to sell at an early stage of the proceedings (for example , the C.H Beazer's bid for SGB Group in October 1985 and Glen International's bid for Pyke Holdings in December 1985). Recognising this danger, the purchasers usually offer a 'top-up' option which is a guarantee that the purchaser will top-up its offer if it makes a full bid for the shares at a higher price within the next 12 months.

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Chapter 3

Rationale for target management's resistance towards unsolicited takeover attempts and defence tactics employed by target firms in major takeovers in U.K.

3.1: Introduction

The market for corporate control in the U.K. has become more hostile for bidders in recent years as shown by an increasing tendency for target firms to defend themselves against unsolicited takeover attempts. For example, in 1988 20 % of the firms subjected to takeover were involved in contested offers, which is higher than any previously recorded (Private Investor, Summer 1989). In takeovers, contested or recommended, it is the fiduciary duty of the target's Board of Directors (BOD) and management to act in the best interests of their shareholders. However, in unsolicited takeovers, the target management may have a mixed reaction towards either supporting or resisting the offer, as part of the management may be in favour, part opposing and part undecided.

Those in favour of recommending the offer may be inclined to do so for a variety of reasons, such as, they are ready for retirement and want to cash- in their stake; they have received side payments from the bidder management, for example, security of future employment, promotion or even bonuses if the bidder succeeds; they want to cash-in their 'golden-parachute'. They are convinced that their firm can no longer stand alone or because they feel the offer price is too good to refuse.

Those inclined to oppose the offer may have their justifications, such as: they fear to lose their position, compensation or job security; the target's actual or potential value is not adequately reflected in the offer price; the bidder may not be offering a tax efficient deal for the accepting shareholders; the target management may be confident that the takeover is an 'asset- stripping' exercise by the bidder; undesirability of foreign ownership in the firm, especially if it is in a regulated industry (Cohen (1968)).

Target management facing an unsolicited takeover offer can oppose the offer either in good or bad faith. An opposition in good faith is in the best interests of their shareholders, and opposition in bad faith is in their self-interest. In practice its difficult to identify whether management's resistance is in good or bad faith. Empirical evidence on this subject is scarce and the findings from few sources available is inconclusive.

3.1.1: Previous research

Eddey and Casey's (1989) study on whether the directors recommendations in response to takeover bids are in their own interest, concluded that directors of target firms act in a manner consistent with shareholders interests, even though personal wealth effects are greatest for directors who recommend acceptance to their shareholders.

Walking and Lang (1984) and Pastena and Ruland (1986) provides evidence that target board of directors place their own interest ahead of shareholders interest when faced with a takeover bid. Walking and Lang's study concluded that there is substantial evidence that a decision to contest a takeover bid is conditioned on personal wealth changes of directors and management of the firm.

Pastena and Ruland's examined the merger/bankruptcy alternative and concluded that self interest of target managers seems to be at least partly responsible for the merger/bankruptcy decision.

3.2: Views on target management's resistance

There are many views on the target management's resistance towards unsolicited takeover attempts. Fama and Laffer (1971), Hirshleifer (1971), and Roll (1986) argue that resistance ultimately elicits a higher price but is socially wasteful because the gains by the target shareholders are exactly offset by the bidders payment or the loss incurred to the bidder shareholders. In essence, they argue that resistance only results in expenditures that influence the distribution of gains but do not generate better performance.

Easterbrook and Fischel (1981) argue that resistance by target management towards unsolicited offers results in an increase in the price paid to target shareholders but will generally discourage bidders for other targets. Following the law of demand, the lower the demand, the lower the price of these other targets. The lack of incentive to bid by bidders affects the utility of outside monitoring and subsequently increases the agency costs and thus reduces the share prices of the other targets.

These arguments are, however, unreasonable on two assumptions. First, it is assumed that takeovers do not create wealth, which is naive as no rational bidder would pursue a target unless he expects some potential gains either in the short- term or long-term. Second, it is assumed that managers of target firms have not only a fiduciary duty of maximising the wealth of their shareholders but also of other firms' shareholders and society at large.

Bebchuk (1982) and Gilson (1981) suggest that target management should not totally resist unsolicited takeover attempts. Unlike Easterbrook and Fischel (1981), who propose total passiveness on the part of target management, Bebchuk and Gilson suggest a qualified passiveness. This is achieved by urging the target management to provide information to potential bidders in an effort to facilitate competition, which is presumed to be beneficial to target shareholders. They postulate that facilitating competition serves as a check on a self-serving target management. In the absence of competition, the target management may choose to favour a bidder, not a firm that values the target assets most highly, but rather a firm that is most likely to retain the management or offer them some form of side payments. Shareholders are quite vulnerable to such abuses because it is difficult to prove in the courts of law that the target management's judgement has been in their own interest.

3.3: Evidence on target returns in contested offers

Resistance by the target is a key factor in determining the outcome of the bid (McDougall (1974), Hoffmeister and Dyle (1981) and Hubbard (1987)) and Asquith (1983) showed that those targets that were successfully acquired had positive abnormal returns, while those that were not acquired had negative returns at the outcome date. However, empirical evidence on the effect of target management's resistance on shareholder returns is inconclusive.

Kummer and Hoffmeister (1978) examined the abnormal returns associated with takeovers that are opposed and unopposed by target management. The average abnormal returns to target shareholders of successful targets in which managers did not oppose the offer was a significant 15.45 per cent, whereas the returns to shareholders of successful targets in which managers did oppose was a significant 19.8 per cent.

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Bradley, Desai and Kim (1983) also reported similar results for their sample of successful targets.

Dodd (1980), however, provides evidence that managerial opposition harms shareholders. He divides his sample into two groups, one group composed of takeovers terminated by target management, and the other group terminated by bidders or a third party. He reports that the average abnormal target return on the two-day announcement period is a significant negative 5.57 per cent for cancellations by the target and a significant negative 9.75 per cent for cancellations by the bidder. He interprets these results as consistent with the target managers not acting in the best interests of their shareholders. He argues that if target management were acting in the best interest of their shareholders by resisting the offer, for example, in expectation of a higher value offer, the abnormal returns on announcement of the cancellation should be positive rather than negative.

Sheleifer and Vishny's (1986) study suggests that managerial resistance directly decreases the value of target firms because resistance conveys information to the market about weakness in the target firm.

3.4: Rationale for resistance

Empirical evidence on target returns in successful takeovers from the United States (Jensen and Ruback (1983), Travlos (1987)) and the United Kingdom (Franks, Harris and Mayers (1988)) shows that shareholders of target firms in successful takeovers always gain. Based on this evidence, if the target managers are acting in the best interest of their shareholders, why do they then oppose unsolicited takeovers?

In the event of an unsolicited takeover attempt, the target management would evaluate the terms of the offer and examine the possibility of a more profitable alternative. Since target managers are familiar with the operation of their firm, they are assumed to have the comparative advantage in discerning the true intentions of the bidding firm. Consequently, the information produced and disseminated by the target management in the post announcement period may indicate that the terms of the outstanding offer do not fully reflect the alternative value of the target shares. They may also indicate that other bidders or they themselves could reallocate the target resources to a higher value use. In this respect, it is a rational reaction on part of target management to oppose the offer.

There is a possibility for the target management to misrepresent the value of the outstanding offer. However, Fama and Jensen (1983) pointed out that if target managers have equivalent employment opportunities elsewhere, then there would be no incentive for them to misrepresent the value of the outstanding offer. They argue that if management compensation is a lagged function of managerial performance, then it would be in the long-run interests of the target managers to see the target resources are transferred to the firm that paid the target shareholders the highest offer price.

It is also possible that unsolicited takeover attempts are not limited to cases of bidding firm trying to effect a value increasing investment in its own firm. It may be the case that the bidder intends to effect a value increasing change in the operations of the target firm itself, which will contribute towards the wealth of the combined firm (for example in horizontal takeovers where the bidder is well informed on its business and the industry).

If this is the case, then the target managers, having been made aware of the bidders' intentions through the announcement of the offer, may be in a better position to exploit the available opportunity themselves. In this case, the target managers would best serve their shareholder's interest by opposing the offer. And to the extent that there are costs associated with takeovers, the post execution price of the target shares is expected to be higher if the unsolicited offer is rejected and incumbent managers adapt a higher value operating strategy themselves.

In essence, the target management's decision to support or oppose a given offer depends upon the impact of the decision on the market value of the firm's shares. Target managers' resistance towards unsolicited offers seems to be consistent with the objective of extracting the highest possible price from the bidder, but what remains inconclusive is the motive behind the target management's resistance, is it the effect on their personal wealth or the wealth of their shareholders?

3.5: Measures employed by target management to resist unsolicited offers

In the past the tactics used to frustate a bid in the U.K. have often consisted of the issue of additional shares by the target to shareholders of another friendly firm which is not interested in controlling the target's resources (Tabb (1981)). This practice is now prohibited by Rule 21 of the City Code, except when shareholders' approval is obtained, and this makes it difficult for the target managers to protect themselves in this way. Rule 21 also prohibits the target board from granting options, conversion rights or subscription rights in respect to its shares, nor can the board buy or sell or dispose of assets equal to 10 % or more of the value of the firm's gross assets, nor can it enter into contracts other than in the ordinary course of business.

The target's Board of Directors are also required to comply with Rule 22 and Rule 37.3, when subjected to a takeover attempt. Rule 22 requires the target board to promptly register the transfer of its shares so that the purchaser can freely exercise its voting rights, and Rule 37.3 prohibits the board from buying its own shares.

The common defence measures employed by target firms subjected to unsolicited takeover attempts are as follows:

3.5.1: Advertisements and personal contacts

Target managements usually keep an updated list of names, addresses and phone numbers of all their current shareholders, and in the event of a takeover attempt, they are able to convey their view on the takeover to the major shareholders directly and quickly.

In the U.K., institutional investors such as the investment trusts, unit trusts, pension funds and insurance firms are the major shareholders of firms listed on the London Stock Exchange (LSE), in total they hold about 70 % of the equity of listed firms (Stock Exchange Quarterly, 1988). Institutional investors invest in firms with the hope of maximising gains, and it is in their shareholders best interest to sell off the target's shares to the highest bidder, if the target is not performing up to expectations.

It is a practice of target managers facing takeovers to convey their view on the takeover to their major shareholders, especially when it is not in favour of the bid.

In some major takeovers, there had been attempts by targets to pursue aggressive publicity campaigns through news releases and press conferences, basically criticising the contents of the offer, and exposing the private lives of the bidder's Board of Directors.

For example, if expenditure on advertisement is any measure of the importance of publicity campaigns, in the Guinness 10 weeks contest for Distillers in 1986, Guinness spent £1.9 million on advertising expenditures alone, and Argyll group in their attempt for Distillers spent £820,000 arguing their cases through the newspapers (Fallon and Srodes (1988)). It was during this takeover battle (in March 1986) that the Takeover Panel introduced amended rules to control the type of advertising which can be used in bids. All advertisements which do not qualify as product or corporate image advertising or notices required by the Stock Exchange were banned (Takeover Code (1988)).

3.5.2: Measures to affect common stock prices of target firms.

Target firms facing unsolicited takeovers have developed and employed various measures which can have a positive effect on their share prices, such as declaring higher dividends, offering scrip issues, and repurchasing their own shares in the market to support the price, which makes it difficult and expensive for the bidders to secure control. Raising dividends is assumed to instil confidence in the shareholders about the future of the firm. For example, when Hanson Trust bid for London Bricks in 1984, the target not only revalued its assets and made a high profit forecast but also doubled its dividend payout. Although it lost out in the end, it nevertheless made the bidder pay expensively (Fallon and Srodes, (1988)).

Scrip issues have very often been associated with dividend increase. Scrip issues (or stock splits) by the target firm are also interpreted as extra dividends and may result in an increase in share prices (Fama, Fisher, Jensen and Roll (1969)). For example, if the bidder offers the target shareholders £70 per share (whose market value is £50) at a premium of 40%, and the incumbent management proposes a 10 to 1 issue, after the issue, the pre-issue price is equivalent to £5 per share and the bid price of £7 per share does not look as attractive anymore.

Theoretically, scrip issues should not increase the value of the share, but in practice the market usually shows greater interest in lower priced shares than in higher priced shares (Rose, (1987)), and this may result in demand for the lower priced shares and the 10 issues may command a higher market price than the former whole.

Repurchases of own shares in a takeover are, until recently, illegal in the U.K., unless with the shareholders consent (Companies Act 1985, Takeover Code (1988)). However, observing the major takeovers in the 1980's (for example, Elders IXL versus Allied Lyons, Hanson Trust versus United Biscuits for Imperial Group, Guinness versus Argyll for distillers, GEC versus Plassey, Dixons versus Woolworth, BTR versus Pilkington and Nestle versus Jacobs Suchard for Rowntree) shows that dividends and scrip issues are not as popular as repurchases of own shares in the market. For example, in 1986 Morgan Grenfel, acting for United Biscuits in the latter's attempt to make a reverse takeover of Imperial Holdings, (in which Hanson Trust was the rival bidder), and acting for Guinness in the latter's attempt to act as White-Knight for Distillers (in which Argyll group was the rival bidder), spent £360 million buying shares in Imperial and another £70 million buying shares in Distillers.

These purchases were not directly on behalf of the clients but on its own account, which were later found to be indemnified by the clients against any losses on the purchases (Gray and McDermott (1989)).

3.5.3: Charter amendments

Amendments to the Charter of firms, sometimes known as shark-repellent or by-law amendments, are also employed against unsolicited takeovers. Amendments may be in the form of super-majority approval of shareholders or directors before any action is taken to support or oppose an offer. For example, in 1983, a major shareholder of the House of Frasers and executive chairman of the Lonrho Industries (Mr Tiny

Rowland), attempted to demerge Harrods (the crown jewel of the House of Fraser), from the House of Frasers with the intent to buy.

He failed as the Board of Directors of the House of Fraser had an amendment to their charter requiring 75 percent majority before such a move can be executed. Mr Rowland and his supporters on the Board had only 53 percent of the votes in favour of a resolution to demerge Harrods and was outmanoeuvred (Fallon and Srodes(1988)).

Amendments may also be in the form of abolition of cumulative voting rights to make it difficult for the opposition to obtain representation on the board. This is particularly true if the target firm practice a system of staggered election of directors, thereby increasing the time it will take to gain control of the Board. Provisions affecting removal of directors is another variant of the shark-repellent strategy.

An extreme form of shark-repellent strategy is a 'poison-pill'. It can be invoked in four forms (Roberts (1987)): first, the target management can make a large issue of convertible shares, thereby increasing the prospects of diluting the earning per share if the bidder succeeds. A dilution in earnings per share figure can have denting effects on the share price of the bidder firm. Second, target management can increase debt and distribute it as dividends. Third, a more practical version of poison pill was exhibited by Distillers. When the Argyll group bid for Distillers in 1986, Distillers invited Guinness to bid for it as a White-Knight. Guinness agreed to this invitation on the condition that if the Argyll groups won the battle, Distillers would pay for all the costs incurred by Guinness in the takeover attempt. This was a poison pill to Argyll group, because if they won, they would burden not only their own costs of bidding but also that of Distiller's, which would effectively be the costs incurred by Guinness.

The fourth version of the poison-pill is the 'crown-jewel lock-up' strategy. For example, in 1985, when Hanson Trust plc made a bid for an American company SCM, SCM were hostile towards the bid and made an agreement with their bankers, Merrill Lynch partners, that in case Hanson gains control of SCM, Merrill Lynch could buy away the most attractive bits of SCM (the pigment business for $350 million and Durkee famous foods for $80 million). The attractive bits of SCM had a total market value of at least $625 million. In this way, SCM executives secured themselves some cash to continue their own war for control, while making SCM less attractive to Hanson.

3.5.4: Pacman strategy

This involves the target firm trying to counter takeover by purchasing the shares of the bidding firm. In U.K., this strategy has been used by bidders and targets in recommended offers to circumvent the requirement of the Merger and Monopolies Commission (MMC) (Gray and McDermott (1989)). For example, when Imperial Industries bid for United Biscuits, this bid was referred to the MMC on competition grounds because Imperial and United Biscuits between them had 41 percent of the £360 million a year snack market in the U.K., which exceeded the 25 percent maximum threshold imposed by MMC.

On the other hand, when Hanson Trusts bid for Imperial, it was not referred to the MMC because there was no overlap between their businesses.

The Imperial group preferred United Biscuits to Hanson Trust, and came up with a plan such that United Biscuits would now bid for Imperial, and with the help of their bankers disposed part of the Imperial assets related to the snack market, (ie Golden Wonder to Dalgety) leaving the snack market share to be unchanged. This plea-bargaining tactic worked and they were given permission by the MMC to proceed with the bid.

However, in the end Hanson Trust won Imperial by purchasing heavily its shares in the market which allowed its offer to surpass the £2.5 billion offer by United Biscuits.

3.5.5: Golden parachutes

This defence strategy is widely practised in the American takeover arena (Knoeber (1986), Lambart and Larcker (1985)). It is a termination compensation package for the top executives in case of a takeover of their firm. This technique intends to make it expensive for the bidders. For example, when Hanson Trust plc bid for SCM, the SCM BOD authorised 'golden-parachute' triple-pay cheques for 23 of its top executives in the event that Hanson bought 20 per cent of its shares and subsequently forced any of them out within two years (Fallon and srodes (1988)).

3.5.6: Character assassination of bidder's executives

In 1986, when Argyll group bid for Distillers, Distillers not only invited Guinness as a White- Knight, but also started probing into the private life of Mr James Guilliver, the chief executive of the Argyll group. It was later found out that, in the 'Who's Who' entry, filled out by the individual himself, Guilliver listed his education as 'Glasgow and Harvard'. It turned out that it should have read 'Glasgow and Georgia Institute of Technology'. When the story broke out in the Sunday Times, the institutional investors switched their allegiance and decided to support the Guinness bid. The institutional investors had the impression that if he could mislead about small things, there was a fundamental lack of trustworthiness (Stallworthy and Kharbanda (1988)).

3.5.7: Management buy out (MBO)

This strategy is executed when the target sells off an important division or subsidiary to its incumbent management, which makes the target worth less for the bidder. MBO is also an antidote for large holding companies whose management is overstretched (Grundy (1986), Wright, Robbie and Thompson (1989)). The first MBO in the U.K. was carried out in June 1985, when the management of Halden plc, a quoted engineering firm, beat off a £37 million contested offer from Trafalgar House with a £56 million MBO bid (Acquisitions Monthly, June 1985).

3.5.8 Mutual pacts

These are secret arrangements with friendly firms to acquire the target shares in the open market. In U.K., the friendly firms are usually the financial intermediaries, who not only provide the financial arrangements but also other services such as purchase of shares and assets of the target. These friendly firms are also known as grey-knights (Stallworthy and Kharbanda (1988)). Besides grey-knights, there are also white-knights, who are invited by the target to directly compete with the hostile bidder. For example, in the case of Eagle Star and BAT Industries, where Eagle Star was seeking to prevent its acquisition by Allianz. Similarly, Guinness was seen as a White Knight by Distillers faced with a bid from Argyll.

3.5.9: Appeal to shareholders' loyalty

The target may appeal to its shareholders' loyalty, as for example, in the case of Lloyds Bank's offer for Standard Charted, where the offer failed narrowily leaving Lloyds with purchases and acceptances totalling 42 %.

It was insufficient to declare its offer unconditional as to acceptances (the Takeover code requires 50 % acceptances before the offer can be declared unconditional) largely because of substantial market purchases by major shareholders loyal to Standard Charted. This tactic is a rare commodity in a listed firm and does not always work in favour of the target (Roberts (1987)).

3.6: Popular defence measures of the 1980's

In U.K., General Principle 7 of the Takeover Code restricts the target's board to manoeuvre against an unwelcome bid. In view of this constraint, the three popular defence measures employed by target firms facing hostile bids are (Stallworthy and Kharbanda (1989)):

3.6.1: Acquisitions of other firms

The targets when subjected to hostile bids, begin their own acquisitions to make themselves larger and expensive for the bidder. For example, when Elders IXL bid for Allied-Lyons for £1.8 billion, Allied-Lyons made a £1.25 billion bid for the Canadian group, Hiram-Walker.

The same tactic was applied by Plessey, when it tried to acquire an American firm, DSC Communications whilst the GEC's bid for Plessey was referred to the MMC.

3.6.2: Invitation to white-knights

The target may seek a White Knight, when it decides that market sentiment is such that it is bound to be taken over. This tactic can result in a series of increased bids and counter bids by rival bidders which normally benefits the target shareholders

3.6.3: Reference of the bid to the MMC

The target may lobby the Office of Fair Trading to refer the bid to the Mergers and Monopolies Commission, which is often accompanied by intensive political lobbying.

The reference to the MMC effectively kills the bid, because it takes on average 6 to 9 months and a lot of management time before a verdict is given. This long lapse of time allows the target to prepare its defence effectively. Alternatively, the target may approach the EEC commission on the basis that the bid might adversely affect competition within the EEC or might constitute an abuse of a dominant position under Articles 85 and 86 of the Treaty of Rome.

3.7: **Offensive tactics by bidders**

To match the ingenious defensive tactics by target firms, devised and employed by merchant banks on their behalf, the same merchant banks usually devise offensive strategies for the bidders. Besides the more common tactics like lobbying the institutional investors, advertisements, open market purchases of shares, there are a few new tactics borrowed from the American experience (Fallon and Srodes (1988)):

3.7.1: **Warehousing**

It refers to the mutual agreement by bidders with their merchant banks with respect to buying the target's or bidder's shares. This seems to be a fairly standard informal practice among city merchant banks, which works on the premise that 'you buy shares of the target in the interest of my acquisition plan, I will do the same in relation to your next target firm'.

For example, in the Guinness bid for Distillers, Morgan Grenfell asked a favour from a smaller bank (Henry Ansbacher) on behalf of its client (Guinness) to buy Guinness shares to support the share price with an agreement that it will do the same for Henry Ansbacher for their next client. Henry Ansbacher then purchased £7.5 million worth of Guinness Shares (Fallon and Srodes (1988)).

3.7.2: **Bear market operations**

In a classic bear market operation, shares are sold short and the seller hopes to buy back at a lower price at delivery time. The difference between the selling price and the buying price is the seller's profit. In the midst of the takeover battle for Distillers, the Argyll group and their supporters planned to sell off Guinness shares in the market, which will force the share price down, and make it even more expensive to bid for Distillers. It was this fear that motivated the former Guinness Chief Executive (Mr Ernest Saunders) to mount the support operation, that is purchasing their own shares in the market, at whatever cost.

This study was conducted on a sample of hostile takeovers and a sample of mergers. Chapters one to three provide a brief summary of the environment in which acquisitions are planned and implemented in the U.K. Although they have no direct relationship to research study, they are intended to explain the corporate acquisition arena in the U.K., so that comparison with the United States can be made in context.

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Chapter 4

Objective of Study

4.1: **Introduction**

Compared to the US, there is little published evidence in the UK on the behaviour of announcement period returns of firms involved in takeovers. The earlier studies by Newbould (1970), Utton (1974), Singh (1971), Franks, Broyles and Hecth (1977), Barnes (1974), Firth (1980) and Dodd and Quek (1985) centred on firms involved in mergers rather than takeovers. The lack of published evidence on takeovers could be due to the lack of a database on such activities and/or the lack of demand for empirical studies on the subject as regulators in the UK do not depend on empirical evidence to guide regulatory policy formation (English, 1987).

This study intends to contribute to the literature on the behaviour of announcement period returns of bidders and targets involved in takeovers and mergers in the UK during the period 1985 to 1988. Specifically the following aspects of takeovers and mergers will be studied:

4.1.1: **Takeovers**

(1) To test the validity of the 'information hypothesis' as suggested by Myers and Majluf (1984) on bidder returns in cash and share offers.

(2) To ascertain whether target shareholders in cash offers earn higher abnormal returns than those in share offers, in view of the presence of capital gains tax liability for shareholders in cash offers and the possibility that the bidders compensate them for the liability.

(3) To ascertain the effect of the takeover announcement on returns to bidders and targets respectively.

(4) To ascertain whether takeover announcements do create wealth for the shareholders of the combined firm.

(5) To ascertain the presence of the 'co-insurance' effect in terms of higher returns to bidder shareholders with high level of financial leverage than those with low level of financial leverage at the announcement of the offer.

4.1.2: Mergers

(1) To ascertain the effect of a merger announcement on the returns to bidders and targets respectively.

(2) To ascertain whether a merger announcement creates wealth for the shareholders of the combined firm.

4.2: Information Hypothesis

In complete markets with symmetric information and in the absence of taxes, shareholders should be indifferent to the means of payment used in takeovers. The share price response should reflect any changes in the fundamental values induced by the takeover. However, the presence of a non-neutral tax system and the specific features of the capital market encourage the use of particular type of payments in takeovers (Franks, Harris and Mayers (1988)).

In the US, Myers and Majluf (1984) suggested that due to asymmetries of information in the market, the forms of payment offered by bidders in takeovers provide a signal to investors of the estimated value of bidder's shares. They postulate that a bidder is better informed about the true value of its shares (which the market is not aware) and hence will offer equity to the target shareholders when its shares are overvalued.

The fact that the bidder has a choice of alternative forms of payment such as cash or a combination package signals further that in a share offer the bidder's shares are overvalued and it is seeking to exploit the situation to take control of the target's resources. The bidder will offer cash to target shareholders if its shares are undervalued rather than to share the potential increase in value with target shareholders.

The information hypothesis suggested by Myers and Majluf is silent on the issue of combination offers. It is possible that the bidder will offer a combination of shares and cash if it is uncertain about the true value of its shares and intends to mitigate this uncertainity by offering an equity participation to target shareholders. Consequently, the net effect of the combination offer on the bidder's share price will depend on the weight of the cash and share portion in the offer. If the share portion is greater than the cash portion, a negative effect on the bidder's share price will be expected. On the other hand if the cash portion is greater than the share portion it will have a positive effect on the bidder's share price at the announcement of the offer. If the combination offer consists of an equal portion of shares and cash, the positive effect of the cash portion may offset the negative effect of the share portion and the net effect of the combination offer on the bidder's share price would not be significantly different from zero.

The bidder's incentive to use a particular form of financing is assumed to be based on the fact that the quality of the bidder's shares becomes evident only after the bid is announced and the revaluations will subsequently take place.

Hansen (1987) suggested that if the target is better informed about its own value and its estimated value is revealed only after the offer announcement, equity offers will be prefered to cash when the equity is believed to be undervalued. Target firms prefer to retain an equity participation in the combined firm in order to capture the potential gains fom the combined resources.

If information effects are present, the bidding firm's share price change at the announcement of the offer will reflect both the gains from the takeover and the information effects. It is not possible to separate the effect of the form of payment per se on the bidder's share price because the form of payment is an essential part of the offer and is always announced with the offer.

It is therefore assumed that the effect of the bid itself is equal for cash, share and combination offers, and by segregating the sample with respect to the form of payments and comparing the differences in the announcement period returns will ascertain the effect of the form of payments on the bidder share price. Assuming other things being equal, the returns to bidding firms in cash offers will be higher than in share offers at the announcement of the offer. Information hypothesis also predicts that the pre announcement share price of cash bidders is low relative to the post announcement share price.

Specifically the following hypothesis will be tested:

H_0 : The returns to bidder shareholders in cash offers are higher than those in share offers at the two-day announcement period.

H_1 : The returns to bidder shareholders in cash offers are equal to or lower than those in share offers at the two-day announcement period.

Fishman (1986) suggested that cash offers are associated with large bid premiums provided by the bidder. Bidders are assumed to incur fixed costs for collecting information to value the prospective target. Based on this estimated value, bidders make high value bids, partly to deter other firms from paying for information and initiating competing bids. Cash offers should therefore be associated with high premiums for the target firm, low level of competition and positive abnormal returns for bidders after the bid announcement.

This study seeks to ascertain the validity of Fishman's suggestions on bidder returns in cash offers, specifically with respect to the positive abnormal returns to bidders in the post announcement period.

4.3: Announcement period returns to target firm shareholders in cash and share offers, and the possibility of bidders compensating target shareholders in cash offers for their capital gains tax liability

In the UK, cash and share offers have different tax implications for target shareholders. Cash offers generate immediate capital gains tax liability for the accepting shareholders, whereas in share offers the capital gains tax liability of accepting shareholders are deffered until the shares are sold.

The bidder's decision to use cash or shares as the means of payment for their acquisition may also have different tax implications. For example, if the bidder offers cash as the means of payment for its acquisition, the Statement of Standard of Accounting Practices Number 14 (SSAP14) would require the bidder to use the 'acquisition accounting method' for the takeover. In the acquisition accounting method, SSAP14 requires that the target firm's assets and liabilities are included in the consolidated accounts at fair values (which is the market value of the assets at the effective date of the takeover). Consequently, this will increase the writing-down allowances (depreciation charges), decrease the amount of taxable income and increase the amount of cashflows.

On the other hand, in share offers the bidder is required to apply the merger accounting method and SSAP14 does not make it necessary for the bidder to adjust the values of the assets and liabilities acquired from the target to their fair values in its own books or on consolidation. The only adjustments appropriate are those to achieve uniformity of accounting policies in the bidder and target firms.

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Studies in the US by Wangley, Lane and Yang (1983), Huang and Walking (1987) and provide evidence that all target shareholders in takeovers earn significant positive abnormal returns at the two-day announcement period irrespective of the forms of payment offered to them. Also, due to immediate capital gains liability for target shareholders in cash offers, the bidding firms pay a higher acquisition price in cash offers to offset the liability of accepting target shareholders.

Unlike the US, the capital gains tax in UK is designed to encourage both large and small investors to invest in shares through the various Business Expansion Schemes and investment schemes offered by institutional investors such as Unit Trusts, Pension Funds, Investments Trusts and Insurance firms.

Investors in the UK are allowed to deduct certain expenses from the gains on sale of shares such as buying and selling expenses, losses on sale of other shares during the same period, and allowance for inflation. After deducting all these expenses, if the gains exceed £5000 (1989/90) they are taxed at their top slice of income tax.

Individual investors in the Personal Equity Plans schemes are exempted from capital gains tax provided they they do not withdraw their investments for the first one or two years, and they are also allowed to buy and sell shares to establish losses or gains to mitigate the capital gains tax liability (Hommers and Burrows, 1988).

Furthermore, institutional investors in the UK such as the Unit Trusts and the Investment Trusts are exempted from capital gains tax and this is significant because 70 % of the equity of publicly listed firms in the UK are held by institutional investors (Stock Exchange Quarterly, 1988). Therefore unlike in the US, there is a possibility that target shareholders in cash offers in UK are not compensated for the capital gains tax liability.

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In the UK, only Frank, Harris and Mayer's (1988) study provides some evidence of announcement period returns to target shareholders in cash and share offers in takeovers. Their findings show that targets in cash offers earn higher monthly returns than in share offers at the announcement month. They concluded that since their sample include firms involved in takeovers before 1965, whereas capital gains tax was only introduced in 1965, their findings of higher announcement month returns to target firms in cash offers cannot be completely explained by the capital gains tax liability factor.

In light of the evidence from US that target shareholders in takeovers always earn positive daily abnormal returns at the announcement of the offer (Jensen and Ruback (1983), Wansley, Lane and Yang (1983)), the following hypothesis will be tested on target shareholders in the UK:

H_0 : **Target shareholders subjected to cash, share and combination offers earn positive abnormal returns at the two-day announcement period.**

H_1 : **Target shareholders subjected to cash, share and combination offers earn zero or negative abnormal returns at the two-day announcement period.**

With respect to the possibility that target shareholders in cash offers in the UK are not compensated for the capital gains tax liability, the following hypotheses will be tested on target firms in cash and share offers:

H_0 : **Target shareholders subjected to cash offers earn equal or lower returns than those in share offers at the two-day announcement period.**

H_1 : **Target shareholders subjected to cash offers earn higher returns than those in share offers at the two-day announcement period.**

4.4: Returns to bidders and targets in takeovers and mergers

4.4.1: Takeovers

Published evidence on returns to bidders and targets in takeovers in the UK is scarce. The earlier studies by Newbould (1970), Singh (1971), Utton (1974), Franks, Broyles and Hecth (1977), Firth (1980), Barnes (1978, 1984, 1985) and Dodd and Quek (1985) were related to mergers rather than takeovers.

Newbould (1970) used a questionnaire approach to study a sample of merging firms and concluded that the contribution of mergers to improve performance and profitability is unimpressive.

Singh (1971) studied a sample of mergers using a 'before and after' comparison of profitability and concluded that there was in a majority of the cases a decline in the relative profitability of bidder firm as late as two years after the merger.

Utton (1974) used a technique of comparing performance of groups of firms distinguished by the relative importance of internal and external components of their expansion over a given time period.

He compared the profit performance of merger intensive firms both in relation to industry performance and in relation to the performance of a randomly selected group of internal growth firms. He concluded that merger intensive firms performed poorly compared to the group of internal growth firms.

Franks, Broyles and Hecth (1977) used the residual analysis approach to study firms merging in the brewing and distilling sector and concluded that the announcement month gains and the combined gains to bidders and targets were significantly positive, implying that mergers did create wealth for the shareholders in the combined firm.

Firth (1980) used the residual analysis approach to study the returns to firms merging in the industrial sector in general, and concluded that in the announcement month, the abnormal returns to bidders were negative and to targets were positive and the combined gains were not significantly different from zero.

Barnes (1978) used the residual analysis to investigate the behaviour of share prices of acquiring firms at and around the time of merger. Using a sample of mergers between June 1974 to Febuary 1976, he concluded that there was a slight increase in prices over the period leading up to the merger and a slight decrease immediately following, although these were not statistically significant.

In a follow-up study, using the same sample but extended period of analysis, Barnes (1984) found that there were slight share price gains initially followed by a substantial decrease as the time elapsed.

Barnes (1985) studied a sample of mergers in the UK Building Societies using Management Expenses Ratio and Total Assets Ratio and concluded that mergers between small societies and between small and medium size societies do not materialise any benefits either in terms of increased operating efficiency or enhanced organisational effectiveness.

Dodd and Quek (1985) used the residual analysis approach to study the returns behaviour of a sample of acquiring firms in the industrial sector, in the period 1974 to 1976. They concluded that, for the overall sample, the announcement month returns were negative but not significantly different from zero. The acquiring firms experienced an increase in their share price relative to the market for the first 25 months after the announcement, after which the share price declined.

These studies were done on a sample of merger rather than takeover firms possibly due to the availibility of data on merging firms and/or the popularity of mergers as a means of acquisition during that period.

In current markets, takeovers are as popular as mergers, but little published evidence is available possibly due to lack of research on firms involved in takeovers. This study intends to ascertain the behaviour of announcement period returns of firms involved in hostile takeovers for the period 1985 to 1988.

Evidence from the US on bidder returns in takeovers shows mixed results. For example, Asquith's (1983) study showed that the two-day announcement abnormal returns for bidders are positive but not significantly different from zero. Dodd's (1980), and Asquith and Kim's (1982) studies showed that bidders in takeovers earn significant negative returns at the two-day announcement period, whereas Bradley (1980) and Bradley, Desai and Kim's (1983) studies showed that bidders in takeovers earn significant positive abnormal returns at the two-day announcement period.

Generally, most findings on daily and monthly returns to bidders in takeovers in the US tend to be either negative or insignificantly positive and the returns to target firms are consistently positive (Jensen and Ruback (1983), Rappaport (1987)).

At the announcement of the bid, the bidder is expected to offer a price above the current market price of the target firm but below the bidder's estimated value for the target. If the bidder has a high chance of acquiring the target firm at a price below the estimated value for the target, part of the potential gains from the takeover identified by the bidder should accrue to the bidder's shareholders. Consequently, the bidder's shareholders should earn positive abnormal returns at the announcement of the offer.

To ascertain the behaviour of announcement period returns of bidders and targets in takeovers in the UK, the following hypotheses will be tested:

(Bidder Returns)

H_0 : **Bidder shareholders earn positive abnormal returns at the two-day announcement period.**

H_1 : **Bidder shareholders earn zero or negative abnormal returns at the two-day announcement period.**

(Target Returns)

H_0 : **Target shareholders earn positive abnormal returns at the two-day announcement period.**

H_1 : **Target shareholders earn zero or negative abnormal returns at the two-day announcement period.**

4.4.2: Mergers

This study also intends to ascertain the behaviour of announcement period returns of bidder and target firms in mergers in the UK for the period 1985 to 1988. The earlier studies on mergers were on either a sample of an industrial group (for example, Dodd and Quek's study (1985)), or a sample of firms on the stock market in general (for example, Firth's studies (1979,1980)) or from a small but widely drawn sample (for example, Barnes studies (1978, 1984)). The merging firms sampled for this study are from the industrial, financial, and services sectors, which decreases the possibility of a specific industry effect on returns to bidders and targets.

This study intends to revisit the subject of the earlier studies on the returns to bidders and targets in mergers, in the context of more recent evidence. This is in view of the considerable economic and regulatory changes that has taken place in the market since the the earlier studies were conducted and the possible effect of these changes on returns to bidder and targets in mergers. Specifically the following hypotheses will be tested:

(Bidder Returns)

H_0 : **Bidders in mergers earn zero or negative abnormal returns at the two-day announcement period.**

H_1 : **Bidders in mergers earn positive abnormal returns at the two-day announcement period.**

(Target Returns)

H_0 : **Targets in mergers earn positive abnormal returns at the two-day announcement period.**

H_1 : **Targets in mergers earn zero or negative abnormal returns at the two-day announcement period.**

(Combined Returns)

H_0 : **The combined returns of bidders and targets in mergers are zero or negative at the two-day announcement period.**

H_1 : **The combined returns of bidders and targets in mergers are positive at the two-day announcement period.**

4.5: Do takeovers create wealth for the shareholders of the combined firm?

Bidders who initiate takeovers with the intention of creating wealth usually expect to exploit some form of synergy from the resources of the combined firm. Synergy may manifest itself in many forms such as an increase in market power, better distributional and marketing facilities, better techonology and research and development facilities, management expertise, economies of scale in production and sales, or any other form which will contribute towards an increase in wealth. In residual analysis, it is difficult to point out the paticular type of synergy present but the presence of synergy is detected if the combined returns of bidders and targets are significantly positive.

To ascertain the presence of the market's expectation of synergy in takeovers in the UK, the following hypothesis is tested:

H_0 : **The combined returns of bidders and targets are positive at the two-day announcement period.**

H_1 : **The combined returns of bidders and targets are zero or negative at the two-day announcement period.**

4.6: Size maximisation hypothesis

In recent years, takeovers are more frequent between firms in unrelated or loosely related industries (Acquisitions Monthly, December 1988). This behaviour on the part of active bidders could be due to a response towards the goverment's tough anti-competitive policy. When one firm takes over another in the same industry, other firms in the industry may feel threatened and resort to defensive measures such as increasing their own size through takeovers, even of firms in unrelated industry.

The increase in size makes it difficult and expensive for potential bidders and resets some form of equilibrium in terms of relative firm size in the industry.

The acquired targets are usually left to operate as an autonomous division managed by the same team that controlled it before the takeover (Stallworthy and Kharbanda, 1988). Acquired targets are left to manage their own businesses due to either the bidder's lack of expertise in the target firm's business and/or the difference in bidder's management style (i.e strategic planners or financial control) which is a potential area of conflict in the post-acquisition period.

Strategic planners (for example, ICI, Plassey and Courtaulds) usually have a small number of core businesses and their subsidiaries help to implement global plans to their mutual competitive advantage. As the company becomes diverse, the strategic planners at the headquarters concentrate on helping their subsidiaries formulate their own detailed plans.

In financially controlled companies (for example, BTR, GEC, Hanson Trust and Tarmac), the managers at the headquarters judge their subsidiaries by numbers representing the financial targets they have prescribed. There is a tight control on finances and the headquarters staff is small but consists predominantly of accountants, and the acquired target managers enjoy a great deal of autonomy in the daily runing of the business.

Robin Marris (1964), Mueller (1969) and Murphy (1985) suggested that bidders initiate takeovers to increase size rather than profits because size provides both pecuniary and non-pecuniary benefits to the bidder managers. If most bidders pursue takeovers for growth purposes rather to maximise shareholders wealth, the combined gains to such bidders and targets would be either zero or negative. Positive and significant combined gains would not be consistent with Marris, Mueller and Murphy's suggestions.

4.7: The presence of co-insurance effect

Lewellen (1971) and Franks, Broyles and Carleton (1985) suggested that when a bidder takes over a target whose cashflows are not perfectly correlated with its own, there would be a reduction in the default risk of the combined firm's debt and a concomitant increase in the market value of the debt. Assuming that the takeover is a zero net present value investment (the combined returns to bidders and targets are not significantly different from zero), the increase in the market value of debt would be offset by a corresponding decrease in the value of equity.

This phenomenon is termed the 'co-insurance effect' and can also take the form of wealth transfer from debtholders to the shareholders if the bidder management invests in risky projects with new debt.

To ascertain the total co-insurance effect of wealth transfer between shareholders and debtholders requires a sample of bidders involved in takeovers which, on average, are zero net present value investments, which is beyond the scope of this study.

However, it is possible that when a highly leveraged bidder takes over a low leveraged target there is an increase in the market value of debt due to decrease in the risk of default of the combined firm and thereby increase the borrowing capacity of the combined firm. The increase in the borrowing capacity and the tax-deductable interest payments increase the shareholders' wealth.

For this purpose, the bidders in takeovers in this study are divided into categories of 'low', 'medium' and 'high' financial leverage, measured in terms of the ratio of total debt to total capital employed.

Since the range of the ratio for the sample was between zero to 29 %, it was arbitrarily decided that bidders with a ratio of zero to 9.99 % will be considered as low leveraged bidders, those in the range of 10 % to 19.99 % as medium leveraged and those with higher than 19.99 % as highly leveraged. The financial leverage is measured by the ratio of total loan capital to total capital employed as per latest balance sheet before the announcement of the offer. This measure is used because it was easily available.

Specifically, the following hypothesis will be tested:

H_0 : Bidders in the 'high' leverage group earn higher returns than those in the 'low' leverage group at the two-day announcement period.

H_1 : Bidders in the 'high' leverage group earn equal or lower returns than those in the 'low' leverage group at the two-day announcement period.

4.8: Difference between this study and that of Franks, Harris and Mayer's (1988) study on bidder and target returns in the UK

Although Franks, Harris and Mayer's (1988) comparative study of firms involved in takeovers in the UK and US provided some evidence with respect to the effect of the forms of payment on bidder and target returns in the UK, this study differs from Franks et.al study in two respects.

First, it uses daily rather than monthly returns. The use of daily returns permits the

use of specific day of the month on which the takeover was announced and better

enables the research design to control for the effects of other events on bidder and

target returns at the announcement of the offer. Brown and Warner (1985) report that

the use of daily returns increases the power (as measured in terms of minimising

type-one and type-two errors and increasing the probability of correctly rejecting the

null hypothesis) of the market model used to generate the expected returns.

Second, this study intends to revisit the subject of announcement period returns of

bidders and targets in takeovers in the context of more recent evidence, by using a

sample of firms in takeovers from 1985 to 1988. There have been considerable

economic and regulatory changes since 1985, and there is a possibility that these

changes effect the returns to bidders and targets in takeovers. Frank's et. al study

used a sample from January 1955 to June 1985.

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Chapter 5

Evidence from prior studies

5.1: Form of payments in takeovers and their effect on bidder and target announcement period returns

5.1.1: Bidder returns

An analysis of the effects of different forms of payment on bidder returns in takeovers has been suggested by Myers and Majluf (1984). They argue that if bidding firms have acquired some positive information about their value, which is not publicly available, they will prefer to finance an acquisition by cash to avoid sharing the potential gains with the target shareholders. Conversely, if the bidder management believe that their firm is overvalued they would prefer the target shareholders to retain an equity holding and hence will offer a share exchange.

When shares are offered by the bidder, the ultimate gains to the shareholders of the target firm will depend on the value of the shares offered, which is determined by the expected success or failure of the acquisition attempt and if successful, the expected outcome in the post takeover period. It is assumed that the bidder signals information about its equity value through the form of payment it offers to the target shareholders at the announcement of the offer.

By offering a cash offer the bidder signals that its equity is undervalued, which will increase the demand for the bidder's shares and consequently increase the share price. A share offer signals that the equity is overvalued and the bidder is seeking to exploit the situation by offering the target's shareholders an equity participation. In share offers, investors will sell their shares if they believe that the shares are overvalued and this will result in a selling pressure on bidders share.

Fishman (1986) suggested that if a target possesses positive information about its value which is not publicly available, it will only accept a share offer if it perceives the bidder's shares to be undervalued so that it can benefit from the expected gains after the takeover.

The suggestions by Myers and Majluf (1984) and Fishman (1986) are also known as the 'information effect', which assumes information asymmetry between the bidder's management and the market. The bidder management is assumed to possess valuable information about their own firm which is not available to the market until the announcement of the offer.

In the US, Travlos (1987) provided evidence that there was a significant difference between abnormal returns of bidders offering shares and those offering cash. His findings confirmed the presence of the information effect. He reported that the two-day announcement cumulative abnormal returns of share financing bidding firms is significantly negative (CAR= -1.47%, Z=-5.07) and for bidders offering cash is not significantly different from zero (CAR=0.24%, Z=1.11).

Jensen and Ruback (1983) summarised the evidence of takeover activity in the US and reported that the returns to bidding firms' shareholders in successful takeovers were positive, whereas those of successful mergers were zero. None of the empirical work discussed investigated differences due to the exchange medium. However, the presence of the information effect is implied in the findings as most takeovers in the US are financed by cash and mergers by exchange of shares.

Smith (1986) and Asquith, Brunner and Mullins (1987) show that in takeovers financed with new equity issues, the returns to bidder firms are significantly lower than in offers financed by cash.

In the U.K., the only published evidence of the effect of the form of payments on bidder returns in takeovers is reported by Franks, Harris and Mayers (1988). Their study showed that neither cash nor equity considerations displayed significant abnormal returns to bidders' shareholders in the announcement month. It is possible that either information leakage before the announcement and/or the confounding effects of monthly returns could have obscured the effect of the form of payments on bidder returns in their study.

However, the effect of the form of payments on bidder returns in mergers have been reported by Barnes (1978) and Dodd and Quek (1985). Barne's (1978) research on the effect of merger news on the share price of 39 publicly listed bidders in the industrial sector between 1974 to 1976 showed that in the announcement month the average residual of bidding firms offering share exchange was a negative 2.6 percent, whereas for bidders offering cash the average residual was a positive 1.6 percent, which is consistent with the information hypothesis.

Dodd and Quek (1985) studied a sample of 70 publicly listed U.K. industrial firms for the period 1974 to 1976. They found that in the announcement month, the average residual of bidders offering shares was a positive 0.78 percent, and for those bidders offering cash was a negative 1.93 percent. Their findings are not consistent with the information hypothesis.

Firth (1976) has suggested that during the period 1974 to 1976, firms generally faced tight liquidity and in these circumstances any firm offering cash for acquisition purposes was interpreted as bad news. Firms offering cash for their targets in tight liquidity situations are assumed to finance their acquisitions through borrowings at a high cost, which will reduce the expected returns on the investment. However, if Firth's suggestion is true, it does not explain Barne's (1978) findings on bidder returns in industrial sector during the same period, 1974 to 1976.

5.1.2: Target returns

Wansley, Lane and Yang (1983), Huang and Walking (1987), and Gordon and Yagil (1981) showed that in the US target firms' shareholders subjected to cash offers earned higher returns than those subjected to share offers. They explained that the target shareholders subjected to cash offers were compensated for the capital gains tax liability. Cash offers generate capital gains tax liability for accepting shareholders, whereas in share offers the tax liability is deferred until the shares are sold.

Franks, Harris and Mayer's (1988) study in the U.K., showed that the target shareholders subjected to cash offers earned significantly higher monthly abnormal returns than target shareholders subjected to share offers. They suggested that the difference cannot be completely explained by capital gains tax liability factor, because their sample include firms involved in acquisitions before 1965. The capital gains tax was introduced in the U.K. in April 1965.

Furthermore, the capital gains tax factor for target shareholders in cash offers in the U.K. may not be as important as in the US because the capital gains tax system in the U.K. is designed to encourage small and large investors to invest in shares. For example, an investor is only subjected to the capital gains tax when its gains from the sale of shares exceeds the £5000 (1988/89) threshold. This threshold is calculated after deduction of expenses such as buying and selling expenses, inflation allowance and losses from the sale of shares during the same period. Institutional investors such as Unit Trusts and Investment Trusts are exempted from the capital gains tax and for investors in the Business Expansion Schemes any shares which are issued after 18th of March 1986 are exempted from the capital gains tax on their first disposal [Hommer and Burrows (1988)].

5.1.3: **Possible reasons for the bidder's choice of the form of payment**

In US, Jensen (1986) suggested that bidder management may prefer to use the residual cashflows (i.e. cashflows in excess of the amount required to finance attractive investment opportunities other than acquisitions) to takeover other firms rather giving out as dividends. Dividends are subjected to tax whereas reinvestments in a form of acquisition increase the firms market value, especially when substituted for internal investments that are less profitable.

In the U.K., Section 151 of the Companies Act 1985 prohibits a firm to repurchases its own shares, except under special circumstances and with the consent of the shareholders (Companies Act 1985). Therefore, cash offers could be a disguised form of repurchase which represents an outflow of cash from bidder that no longer anticipates profitable internal investments. Using the takeover route also allows the bidder management to settle any uncertainty in the market about the firm's future expected growth.

Carleton, Guilkey, Harris and Stewart (1983), suggested that the difference in accounting treatment of takeovers in the US influence the choice of the method of financing acquisitions. This may also be true in the U.K. as bidders are subjected to the requirement of Statement of Standard of Accounting Practice number 14 (SSAP14) to use either acquisition or merger accounting method in takeovers. The final choice of the form of payment will depend on the type of acquisition initiated (merger or takeover).

Merger accounting method is allowed only for share offers (especially mergers) because of the requirement that target shareholders retain an ownership position in the bidding firm. In the merger accounting method, the book values of assets, liabilities and equities of the bidder and target firms are not added together at fair values (which are the market values at the effective date of the merger), and thus does not allow for a higher written-down allowance (depreciation charges). One advantage of merger accounting is that all the pre-acquisition profits of the merging firms for the period in which the merger takes place is combined without any adjustment for part of the period prior to the date of the merger. The pre-acquisition profits of the target are subsequently paid as dividends to the bidder and forms part of the bidder's distributable profits which may be paid out to shareholders as dividends. Acquisition accounting method is allowed for cash offers. Using this method, any excess of purchase price over the market value of the target is reported as goodwill and amortised from the net earnings after tax. This has the possibility of diluting the earning per share figure. It may, however, increase cashflows as SSAP14 allows the bidder to add the target's assets and liabilities to its balance sheet at the market value on the effective date of the takeover, thereby increasing the written-down allowances and consequently the cashflows (Cook (1988), Begg (1986)). A bidder management whose performance and compensation is based on earnings figure may prefer the merger accounting method and therefore offer share exchange. If management performance is based on the market value (i.e. cashflows) then acquisition accounting method may be preferred.

Bidding firms management who expect strong resistance from the target management may prefer to offer cash because cash offers are less complex, easier to administer and speedily executed than share offers, which increases the chances of success (Hayes and Taussig (1967)).

5.2: Difference in announcement period returns of bidders and targets in takeovers and mergers

5.2.1: Bidder returns

Studies on corporate takeovers in the US provide conclusive evidence of significant positive returns to target firm shareholders in takeovers and mergers but are inconclusive with respect to bidder firm returns at the announcement of the acquisition. Studies on takeovers by Dodd and Ruback (1977), Bradley (1980), Bradley, Desai and Kim (1983), Travlos (1987) and Jarrel and Poulsen (1989) showed that bidders earn significant positive abnormal returns at the announcement of the offer. Studies on mergers by Dodd (1980), Firth (1980), Eger (1983) showed significant negative returns, whereas Asquith (1983), Eckbo (1983), Dennis and McConnell (1986), Amihud, Dodd and Weinstein (1986) showed insignificant positive returns for merger bidders at the announcement of the merger.

Mergers are consummated when bidder management negotiates a deal with the target management to take control of the target's resources. A takeover is executed when the bidder management intends to take control of the target's resources by approaching the target shareholders directly and persuading them to sell their shares at a premium to the prevailing market price. The bidder management do not negotiate with the target management, but are required by the Takeover Code to inform the latter of its intention which is usually done at a short notice before the official announcement.

The inconsistency in bidder returns in mergers and takeovers at the announcement of the acquisition is conjectured by Carleton, Guilkey, Harris and Stewart (1983) to be due to the difference in the form of payments. Travlos's (1987) study showed a significant difference in the announcement period returns of bidders in mergers and takeovers employing different forms of payment, consistent with Carleton, Guilkey, Harris and Stewart's conjecture.

The difference in returns to bidders in mergers and takeovers at the announcement, however, could be due to a combination of two effects. First, the effect of the method of payments and second, the effect of the type of acquisition (merger or takeover) employed.

There is a technical difference between a merger, which is a negotiated deal, and a takeover which is a surprise attack on the target management through a direct appeal to the target shareholders to sell their shares. The information conveyed to the market by the bidder using a takeover would be that it has a comparative advantage over the potential gains from the takeover.

In takeovers the bidder is presumed to possess some valuable information about the possibility of exploiting the potential gains which the target management is either unaware or lacks the capability of exploiting themselves.

The information conveyed to the market by a bidder proposing a merger would be that the potential gains from the combination are unique to the particular pair of bidder and target firm, than to either one individually. Both the target and the bidder management realise that individually they are not able to generate an equally profitable investment or production strategy in such a short period of time.

Merger implies that neither the target nor the bidder has a comparative advantage over the potential gains from the combination.

5.2.2: Target returns

Bradley and Kim (1985) have suggested that the choice between merger and takeover is motivated by the cost of acquiring a firm, which is directly linked to the premium paid to the target shareholders or the premium required by the target management for their shareholders. Mergers allow the bidders to pay the premium directly to the target management, otherwise control related increments in takeover premium is paid to all accepting target shareholders.

This implies that target shareholders will earn lower premiums in mergers.

Jensen and Ruback (1983) suggests that target shareholders in takeovers earn higher returns than those in mergers. They reported an average return of 29.9% for target shareholders in successful takeovers and 15.93% for targets shareholders in successful mergers over one month before the announcement.

Huang and Walkling (1987) in their study on target abnormal returns associated with acquisition announcements, found that after controlling for the payment method and the degree of resistance, the difference in abnormal returns between targets in takeovers and mergers is insignificant.

5.3: Combined returns to bidders and targets in takeovers and mergers

An attempt by a bidding firm to gain control of the target's resources and implement a higher valued strategy is assumed to create wealth through synergistic effects. Synergy is realised when an increase in the aggregate market value of the two firms is more than a simple sum of market value of each firm (Weston and Copeland (1988)). The increase in aggregate wealth of the combined firm can be a product of improved management and production techniques, economies of scale, financial and tax advantages or even increased marketability of the bidding firm's shares.

In empirical research, it is not possible to identify which particular source of synergy is present in a takeover or merger but the presence of synergy is detected if the combined returns of bidders and targets at the announcement of the offer is significantly positive.

In the U.K., there is no published evidence of combined returns of firms in takeovers at the announcement of the offer, but findings on combined returns to bidders and targets in mergers has been reported by Firth (1980) and Franks, Broyles and Hecht (1977). Firth (1980) found that the combined gains of bidders and targets in the announcement month was virtually zero. Franks, Broyles and Hecht (1977) found that combined gains of bidders and targets at the announcement of the merger were positive, implying the presence of synergy for firms merging within the brewing and distilling sector.

In US, studies on takeovers by Dodd and Ruback (1977), Bradley (1980), Bradley, Desai and Kim (1983), Schipper and Thomson (1983) found large and significant positive abnormal returns for target shareholders and small but significant positive abnormal returns to bidding firms' shareholders, implying that the combined gains are positive. Mandelker's study (1974) concluded that bidding firms earned normal returns whereas abnormal returns from mergers accrue to target shareholders, implying positive combined gains.

However, when the combined gains to target and bidding firms' shareholders are not positive, it implies that there is merely a transfer of existing rights of ownership from target to the bidder. Roll (1986) in his analysis of successful takeovers in US suggested that gains by targets are a simple wealth transfer from bids that are more their worth. Dodd (1980) found significant negative returns for bidders and positive returns to target firm's shareholders at the announcement of the bid and concluded that gains arising from the acquisition to the target shareholders were at the expense of the bidding firm's shareholders.

5.4: The presence of co-insurance effect

One possible reason for bidders to pursue takeovers is to exploit the potential financial synergies (Weston and Copeland (1988)). Financial synergies may manifest themselves in the form of reduction in the cost of capital, which could be due to economies of scale in flotation and transaction costs and the presence of co-insurance effect, use of unused debt capacity and the use of operating loss carryovers.

Lewellen (1971) suggested that a combination of two firms whose cashflows are less than perfectly correlated, would reduce the risk of default of the combined firm's debt and increase the market value of the debt. The increase in the market value coupled with the tax deductability of interest payments provide an economic incentive for shareholders to pursue takeovers of other firms. If the combined gains from the combination is not significantly different from zero (i.e. the net present value of the acquisition is zero), which implies that the total value of the combined firm has not changed, the increase in the value of debt would result in a concomitant decrease in the value of the equity. Lewellen has termed this phenomenon as the co-insurance effect in a form of wealth transfer from the shareholders to debtholders.

The co-insurance effect can also take the form of wealth transfer from debtholders to shareholders if the shareholders venture into risky projects with new debt capital. Jensen and Meckling (1976) argue that there is an incentive for shareholders of leveraged firms to expropriate the bondholders wealth by undertaking investments which increase the firm's riskiness. The increase in risk will increase the variability of the firm's cashflows and shareholders will earn higher returns at the expense of bondholders. The bondholder loses because of the increase in default risk of existing bonds. The net effect represents a wealth transfer from bondholders to shareholders.

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Higgins and Schall (1975) and Galai and Masulis (1976) took up Lewellen's suggestion and tested it on a sample of firms involved in takeovers whose combined returns were not significantly different from zero. They showed that there was an increase in the market value of the combined firm's outstanding debt and a concomitant decrease in the market value of the combined firm's equity. This implied a wealth transfer from shareholders to bondholders and a fall in share prices. However, empirical studies by Kim and McConnel (1977), Asquith and Kim (1982) and Eger(1983) in US found that neither the bidding nor the target firms' bondholders experience significant abnormal gains (or losses) around the announcement of the merger.

It is possible that when a highly leveraged bidder takes over a low leveraged target there is an increase in the market value of the debt due to the decrease in the risk of default of the combined firm and thereby increase the borrowing capacity of the combined firm. The increase in the borrowing capacity and the tax-deductable interest payments increase the shareholders' wealth.

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Chapter 6

Assumptions underlying this study

6.1 The assumptions

This study is based upon the following assumptions:

(a) Investors are rational wealth maximising price takers. It is assumed that investors' decisions are based on a wealth maximising objective (maximum returns per unit of risk), and that the price of securities are not determined by any single investor.

(b) Transaction costs exist in the market, and vary inversely with the size of the transaction (Pym and Kochan (1988)). Since the majority of the firms sampled in this study were large firms, it is expected that their transaction costs are relatively low and it is assumed that any variation in transaction costs between the firms is minimal and would not significantly influence the findings. However, the market is assumed to be perfect in the sense that transaction costs are zero.

(c) There exists only one type of share, that is the ordinary share. A large portion of shares of any listed public firm is made up of ordinary shares. The purpose of this study is to ascertain the wealth effects of the various hypotheses tested, which can best be measured through the changes in the prices of ordinary shares.

(d) Shareholders of any one firm represent a homogeneous group in all relevant dimensions. Investors are assumed to evaluate the firm's performance with a common yardstick, for example, the expected returns on their investment in the firm. Any new information received by investors is evaluated with respect to the yardstick and, on average, they are expected to respond similarly to the information.

(e) Corporate managers pursue operating strategies that maximise the wealth of their shareholders.

(f) The capital market in which the firms trade their shares is semi-strong efficient.

The purpose of these assumptions is to enable the research findings to be interpreted in light of the hypotheses tested. However, assumptions (e) and (f) are vital to this study, which if not met, invalidate the study. The importance of assumptions (e) and (f) are discussed below.

6.2: Rationale for corporate managers to pursue 'maximisation of shareholders wealth' objective

Economics of the late 19th and early 20th centuries were based on the premise that entrepreneurs sought to maximise profits (Berle (1962), Manne (1962)), which in modern financial literature is equivalent to maximising the value of the firm, where value represents the discounted value of the future stream of earnings.
The profit maximisation motive of these entrepreneurs was based on the identity of ownership and control by the entrepreneur.
In most modern businesses, however, ownership is vested in the hands of the shareholders and control is vested in the hands of professional managers (Berle (1968)). To the extent that these managers have a negligible interest in the firm, it is open to question as to what motivates them to make corporate decisions in congruence with the shareholders' interest. For example, there is evidence that managers' personal goals of security, power, prestige, advancement and personal income take precedence over corporate profits (Kaysen (1960), Gordon (1961), Marris (1964) and Murphy (1985)).

In theory, shareholders elect corporate directors, who have the right to appoint or dismiss corporate managers. Since the operations of the business are in the hands of the corporate managers rather than directors (who are policy makers), the former may pursue a course of action which relate to their perceived interests or their perceptions of corporate self-interest rather than those of the shareholders. Management would be tempted to take this view, if they perceive shareholders as short-term investors rather than long-term owners of the firm (Rappaport (1978)).

Managers may pursue second to best investments given the constraints of the business, legal and regulatory framework they have to work with. They may take considerable discretion in providing themselves with perquisites such as large expense accounts, plush offices, and higher salaries at the expense of the shareholders. Managers may also make large contributions to charities (Manne,(1962)), or even spend large sums of money on improving the conditions of work (Berle, (1962)), which could have been invested to generate more earnings.

Diamond and Varrecchia (1982) suggest that, assuming the full consequences of the managerial actions are not measurable at the end of the contract period, and are also costly to recontract, managers may pursue investments which increase their expected utility, rather than that of their shareholders. This is achieved by investing in less risky investments relative to more risky investments with higher returns, or consuming more perquisites than that agreed upon, or even just being incompetent. Studies by Kamarchen (1968), Monsen and Dawn (1965), Radice (1971), Boudreaux (1973) and Amihud and Lev (1981) suggest that management-controlled firms are associated with lower systematic risk than owner-controlled firms. To a large degree, the explanation for their findings was consistent with the presumed desire of managers of management-controlled firms to exhibit lower risk measures.

Marris (1964), Mueller (1969) and Murphy (1985) have suggested that managers tend to be more interested in maximising corporate growth rather than shareholders' wealth. Beyond achieving a certain satisfactory level of profits managers pursue a size maximisation strategy, which is positively related to financial (i.e. salaries, stock options, bonuses) and non-financial (i.e. prestige and authority) perquisites they enjoy. Size is also viewed as a defence against takeover as it is more difficult and expensive for the bidder to acquire the control over the target's resources and hence provides more avenue for the target managers to pursue their own goals (Ball (1987)).

Shareholders perceive these actions by managers as a deviation from the objective of maximising their wealth.

Managers should pursue the objective of maximising their shareholders wealth because in the long-term no matter how powerful or independent they are, any divergence from the stated objective would certainly work against their favour.

Managers are referees who harmoniously balance the interests of various corporate constituents such as employees, creditors, suppliers, customers and shareholders. The very existence of the firm and the managers depends on the managerial ability to balance the financial relationship between the firm and each of its constituent. For example, customers need high quality products and services at competitive prices, employees need competitive wages, creditors and suppliers require money due to them to be settled on time, and shareholders require cash dividends and appreciation in the share price. If the firm fails to satisfy these claims, it will cease to exist in the long run.

To fulfil its obligations, the firm requires cash which can best be generated through its business activities or through loans and share issues. Generating cash through business activities means to pursue investments that maximise the net cash flows, which implies maximising the shareholders' wealth. Even when the managers do generate enough cash to fulfil their obligations to the various constituents through business activities, it is always open to question as to whether they could have generated more cash, or did they pursue the most optimal investments subject to the constraints, if they did not then they are still diverging from the objective of maximising shareholders wealth.

In the final analysis, the long term survival of the firm will depend upon its corporate managers to pursue investments that maximise the net cash flows and consequently maximise the market value of their firm's outstanding shares.

6.3: Market efficiency

This research assumes that the capital market is at least semi-strong efficient, which means that all publicly available information relating to a share will be rapidly and fairly reflected in the share price. This implies that only those investors who have access to inside information can consistently earn excess returns over a simple buy and hold strategy. Empirical studies on market efficiency of the U.K. capital market by Firth (1972, 1976, 1977, 1979, 1980), Franks, Broyles and Hecht (1977), Brealey (1970) and Morris (1975) suggest that it is semi-strong form efficient.

This assumption is important because if the share price performance is not up to expectations, which could be due to either poor financial performance or even unsuitable management, it will lead to a takeover and give an opportunity for new management to employ a higher value operating strategy on the available assets (Brealey (1979)).

Correct pricing of shares, especially at the time of takeovers and mergers is essential because mispricing can lead to misjudgement of the target's value by bidders and may create financial problems in the post-acquisition period. Furthermore, if the share prices are irrationally priced, the shares will be subjected to serious fluctuations around the time of acquisition, caused by increase speculative activity and this may reduce investor confidence in the firm. Lack of investor confidence will contribute towards the selling pressure on the shares and will make it difficult to raise capital on the market.

The assumption of an efficient market also enables shareholders to delegate the management of their firm to professional managers. As long as shareholders can adjust the time and risk pattern of their cashflows by buying and selling their shares at fair prices on the market, the professional manager need not burden himself with individual tastes but to concentrate on maximising the value of the firm through profitable investments.

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Chapter 7

The Sample

7.1: Introduction

The sample of bidder and target firms for this study were drawn from the published reports of announcement and completion of takeovers and mergers of U.K. public firms listed on the London Stock Exchange in the **Acquisitions Monthly** magazine. For counter reference of the date of announcement, completion, and other details, the Financial Times newspapers, Business Research Index, Fair and Trade Publications and the Stock Exchange Year Book were consulted. The announcement date was the date of the first offer for the target whereas the completion date was the date on which the offer became unconditional.

Only successful takeovers and mergers during the period January 1985 to July 1988 were sampled. The final sample of 90 bidder and 90 target firms in hostile takeovers satisfied the following criteria:

(1) All firms in the takeover sample were not preceded by merger attempts by the bidder.

(2) The shares of bidders and targets were in trade for at least eleven days surrounding the announcement.

(3) For each firm in the sample daily share prices were available for at least 58 trading days before day -5 and 58 trading days after day +5.

(4) The firms did not experience any other major corporate event such as death or appointment of chief executive or members of the board of directors, announcements of financial reports and/or investment programs during the eleven days surrounding the announcement of the offer.

The 21 bidder and 21 target firms in the merger sample were also subject to requirements (2), (3) and (4).

The final sample of bidder and target firms in hostile takeovers were classified according to the form of payments offered by bidders to their targets at the announcement of the offer. The mergers were all consummated through exchange of shares. This classification is summarised in Table 7.1 below:

Table 7.1

Sample classified according to the form of payment

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	Takeover			Mergers	Total
	Cash	Shares	Combination	Shares	
Bidders	30	30	30	21	111
Targets	30	30	30	21	111

7.2: Sample of firms from different lines of businesses

The total sample of firms in this study are from eighteen different lines of business (Table 7.2). Thirty percent (30 %) of the firms are from the industrial sector, nine percent (9 %) each from the engineering and building and construction sector, six percent (6 %) from the financial sector and rest from various other business sectors. This minimises the chances of 'sector effect' on the findings.

7.3: Relative size of bidders and targets

7.3.1: Takeovers

Tables 7.3 and 7.4 show the size of bidders and targets measured by their market value at the announcement of the offer. These tables show that bidders in takeovers are much larger than their targets in terms of total market value at the announcement of the offer. Sixty-seven percent (67 %) of the targets are in the category of 0 to £50 m whereas only twenty-one percent (21 %) of the bidders are in this category. About thirty- one percent (31 %) of the bidders are in the category of £500 m whereas only six percent (6 %) of the targets are in the same category.

7.3.2: Mergers

For the merger sample, majority of the bidders and targets are about the same size. Fifty-two percent (52 %) of the bidders are in the 0 to £50 m category and seventy-two percent (72 %) of the merger targets are in the same category. Nineteen percent (19 %) of the bidders are in the £50 to £100 m pounds category and fourteen percent (14 %) of the targets are in the same category.

7.4: Percentage of target's equity held by bidders at the announcement of the offer

7.4.1: Takeovers

In terms of the percentage of equity held by bidders in the targets before announcing the takeover offer, Table 7.5 shows that fifty-two percent (52%) of the bidders had no equity holdings in the target and thirty-seven percent (37%) had equity in the target ranging from 1 to 29.9 percent, and only thirteen percent (13%) of the bidders had equity exceeding 30 %. The percentage of equity held by bidders in their targets is fairly distributed.

This therefore minimises the chance of influencing the expected success of the offer and consequently the bidder returns at announcement. The distribution of equity held by bidders also reflects the surprise nature of most offers in the sample.

7.4.2: **Mergers**

As for the merger sample Table 7.6 shows that seventy-five percent (75%) of the bidders had equity holdings in the target ranging from 20 to 29.9 percent and ten percent (10%) had equity holdings ranging from 5 to 10 percent, and there was no bidder in the sample that did not have any equity at all at the announcement. The large percentage of equity held by most bidders in their targets (Table 7.6) and the equal firm sizes of the majority of bidders and targets in mergers (Table 7.4) might explain the formers offer to merge rather than takeover.

7.5: **Distribution of announcement day**

Table 7.7 shows the distribution of the announcement day over the various day of the week for all bidders in takeovers and mergers. Twenty five percent (25%) of the bidders in takeovers had their announcement on Mondays, twenty one percent (21%) on Thursdays and twenty three percent (23%) on Fridays. Since twenty-five percent (25%) of the bidders in takeovers announced their offer on Monday, it is possible that the bidders' average abnormal returns at announcement are partially influenced by the 'day of the week' effect.

Table 7.2

Bidders and targets classified according to their line of businesses

Line of business	Takeovers						Mergers		Total
	Bidders			Targets			Bid.	Tar.	
	C	S	C&S	C	S	C&S	(S)	(S)	
Banking&Finance	3	2	-	3	3	2	1	-	14
Animal feed& Dairy Products	1	-	-	1	-	-	-	-	2
Engineering	3	3	3	1	2	2	2	3	19
Food mfg.& Distribution	3	1	-	4	1	1	1	1	12
Timber&Timber Products	1	2	1	1	-	-	1	1	7
Building Const.& Materials	4	-	5	3	-	4	2	1	19
Chemicals& Chemical Products	1	1	1	2	1	1	-	1	8
Textiles&textiles Products	1	2	2	1	1	1	3	3	14
Jewellery Product & Retailing	2	-	1	1	-	1	-	-	5
Retailing	1	2	2	3	2	2	1	1	14
Oil,Gas&Coal	1	1	-	1	1	-	1	1	6

Electronic Products	2	-	-	1	1	1	3	2	10
Publishing & Printing	-	-	2	-	-	1	-	-	3
Brewery, Wine & Spirits	-	-	1	-	-	1	-	-	2
Services Industry	-	1	1	-	2	1	2	2	9
Property Development	-	-	-	-	-	-	2	2	4
Industrial Holdings	7	15	10	8	14	11	1	1	67
Car Components Mfg.& Dist.	-	-	1	-	2	1	1	2	7
Total	30	30	30	30	30	30	21	21	222

Notes:

Form of payments: Cash = C

Shares = S

Combination of cash and shares = C&S

Bid. = Bidders

Tar. = Targets

Source: Acquisitions Monthly Magazine, January 1985 to July 1988

Table 7.3

Total market value of bidders at the announcement of the offer

Range of market values (£ m)	Takeovers			Total	%	Merger	%
	C	S	C&S			S	
0 - 50	6	8	5	19	21	11	52
50 - 100	2	7	6	15	17	4	19
100 - 200	3	3	7	13	14	3	14
200 - 300	2	4	3	9	10	1	5
300 - 400	3	-	2	5	6	1	5
400 - 500	1	-	-	1	1	-	-
> 500	13	8	7	28	31	1	5

Notes:

C = Cash   S = Shares C&S = Combination of and cash

Source: Acquisitions Monthly Magazine, January 1985 to July 1988

Table 7.4

Total market value of targets at the announcement of the offer

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	Takeovers			Total	%	Mergers	%
Range of market values (£ m)	C	S	C&S			S	
0 - 50	22	22	16	60	67	15	72
50 - 100	3	3	3	9	10	3	14
100 - 200	2	3	5	10	11	3	14
200 - 300	-	1	2	3	3	-	-
300 - 400	1	-	-	1	1	-	-
400 - 500	1	-	1	2	2	-	-
> 500	1	1	3	5	6	-	-

Notes:

C=Cash S=Shares C&S=Combination of cash and shares

Source: Acquisitions Monthly Magazine, January 1985 to July 1988

Table 7.5

Percentage of equity held by bidders in the targets at the announcement of the takeover offer, classified by the form of payments

% of equity held	Cash	Shares	Combination	Total	%
0	14	20	13	47	52
1 - 10	4	2	3	9	10
10 - 20	2	3	6	11	12
20 - 29.9	2	5	6	13	15
> 30	8	-	2	10	11
	30	30	30	90	100

Source: Acquisitions Monthly Magazine, January 1985 to July 1988

Table 7.6

Percentage of equity held by bidders in targets at the announcement of merger

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% of equity held	Total	%
0	-	-
1 - 5	1	5
5 - 10	2	10
10 - 20	1	5
20 - 29.9	16	75
> 30	1	5
	21	100

Source: Acquisitions Monthly Magazine, January 1985 to July 1988

Table 7.7

Distribution of the announcement of takeovers and mergers by bidders on various days of the week

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Number of announcements

Day of the week	Takeovers	%	Mergers	%
Monday	23	25	5	24
Tuesday	13	14	3	14
Wednesday	15	17	4	19
Thursday	19	21	4	19
Friday	20	23	5	24
	90	100	21	100

Source: Acquisitions Monthly Magazine, January 1985 to July 1988

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Chapter 8

Methodology

8.1: **Return generating models**

In any event study it is necessary to specify a model generating expected returns, before abnormal returns can be calculated. Share price performance can only be considered abnormal relative to a particular benchmark and it is necessary to specify a model generating normal equilibrium returns (i.e. expected returns) before abnormal returns can be measured. The abnormal returns for a given share price at any time period is the difference between its actual ex-post returns and those expected under the assumed equilibrium return generating process. The abnormal returns in this study are calculated by taking the difference between the actual returns and the expected returns, the latter is estimated by the market model:

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it} \quad (1)$$

$$e_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) \quad (2)$$

where,

R_{it} = actual return on stock i on day t

e_{it} = the abnormal return for stock i on day t

R_{mt} = the market return on day t proxied by the all share index

α_i, β_i = firm specific constants.

R_{it}, R_{mt}, e_{it} are random variables

There are many models available to generate expected returns with different degrees of sophistication and assumptions. Some of these which are discussed briefly below are: mean-adjusted returns model, market-adjusted returns model, market model, capital asset pricing model (CAPM), Black's zero beta asset model, tax-adjusted CAPM, arbitrage pricing theory model and multivariate regression model (MVRM) (Brown and Warner (1980), Beaver (1972), (1981), Landsman and Magliolo (1988), Dyckman, Philbrick and Stephan (1984)):

8.1.1: **Mean-adjusted returns model**

This model assumes that the expected returns for a stock is equal to a constant, estimated by averaging a series of past returns. The α in equation (1) is set to be an average return over the estimation period and β is set to zero. This model does not take into account market-wide factors and risks. It is possible to obtain false results indicating excess performance using market and capital asset pricing model (CAPM) models if the ex-post market portfolio is not efficient. The mean adjusted returns model is useful because it does not depend on any measure of market portfolio and thus serves as an independent check on the results obtained by other models. However, Brown and Warner (1980) found that the power of the t- test in detecting excess returns using the mean adjusted model is very low.

8.1.2: **Market-adjusted returns model or the index model**

This model assumes that the expected returns for a stock i at time t is equal to the market return for that period. Expected returns are assumed to be constant across securities but not across time. The α in equation (1) is set to zero, and β is set equal to one. This model ignores the firm specific risks.

8.1.3: Market model

This model can be expressed algebraically in the following way:

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it}$$

The above equation states that the return on stock i during time period t (R_{it}) depends upon the return on the market index during the same period (R_{mt}). It assumes that individual security returns are related to each other only through a common relationship with some basic underlying factor, known as market index. Each security's relationship with the market index is linear. The intercept (α_i) can be interpreted as the average return on the ith security when the market index is zero. The term $\beta_i R_{mt}$ is the portion of the returns to security i that is due to market wide factors.

The e_{it} is a random error term which measures that part of the return to the firm which is not due to the movement in the market and is assumed to satisfy the following assumptions of linear regression: the random error has a mean value of zero ($E(e_i) = 0$), and is assumed to be uncorrelated with the market returns (COV (e_i R_m) = 0), the error term of other securities (COV(e_i, e_j)= 0)) and error terms of the same security over time (COV(e_{it}, e_{it}) = 0).

The β_i, the slope of the regression line, (also known as the characteristic line), measures the security's systematic or market risk, which indicates the manner in which the security's returns change systematically with the changes in market returns. The β is defined as the ratio of the covariance of security returns and the market returns (COV_{im}) to the variance of the market returns (σ^2_m).

This model abstracts the effect of market wide events from the security returns and focuses on the portion of the return that reflects events peculiar to the firm.

The ability to control for the effect of market wide events on the security returns has several advantages (Brown and Warner (1985)):

(a) a substantial portion of variation in security returns is due to variations in the movement of the market. King's (1966) study on monthly returns from 1960 through 1962 found that, on average, approximately 52 per cent of the variation in an individual security returns could be explained by its commencement with the market factor. In this research, approximately 55 percent of the variation in individual security returns was explained by the market factor. The ability to isolate the individual component of the security returns increases the probability of detecting the information effect of the event under study. Otherwise, the effect of market movements on the share price will obscure the effect of the particular event of interest under study.

(b) The use of market model permits to pool data from different time periods, resulting in an increase in the number of observations. Large number of observations tend to increase the power of the statistical tests in terms of correctly rejecting the null hypothesis.

(c) The residual term in the model is expressed in terms of ex-post rather than ex-ante returns, which makes it responsive to empirical testing.

In empirical research, the market model is used in a simple linear regression form with one independent variable (R_{mt}) and one dependent variable (R_{it}). The parameters of the model (α_i, β_i) are estimated using the Ordinary Least Square (OLS) method, that is by regressing the security returns with the market returns.

8.1.4: Capital asset pricing model(CAPM)

This model assumes that the measures of individual security risk is its beta and that there is a linear relationship between risk and return (Markowitz (1952), Sharpe (1964), Lintner (1965), (1968), and Mossin (1966)). The CAPM comes in two forms, that is the Capital Market Line and the Security Market Line (Black, Jensen and Scholes (1972), Fuller and Farrell (1987)).

The Capital Market Line (CML) provides the framework for determining the relationship between expected return and risk for efficient portfolios of securities. The CML shows that for a portfolio, the expected rate of return in excess of the risk-free rate is proportional to the standard deviation of the portfolio, which is expressed as follows:

$$E(r_p) - r_f = \left[\frac{E(r_m) - r_f}{\sigma_m} \right] \sigma_p$$

where, $\left[\dfrac{E(r_m) - r_f}{\sigma_m} \right]$ is the reward per unit of risk

where $E(r_p)$ is the expected returns of the combination portfolio, $E(r_m)$ is the expected returns on the market portfolio, r_f is the returns on the risk-free asset, σ_m is the standard deviation (measure of risk) of the market portfolio and σ_p is the standard deviation of the combination portfolio.

A derivative of CAPM is the Security Market Line (SML), which provides the framework for determining the relationship between expected return and risk for individual securities, as well as portfolios (which can be efficient or inefficient).

Under the SML, the measure of risk used for an individual security is that component of the total risk (σ) which cannot be diversified away (or the systematic risk), measured by the security's beta and applies to all assets and portfolios whether efficient or inefficient. In a portfolio context, it is the additional risk that the individual security adds to the risk of the market portfolio, which is relevant. The beta is expressed as the covariance of the security's returns with the returns on the market portfolio standardised by the variance of the market portfolio.

The expected return of a security i is expressed as follows:

$$E(r_i) - r_f = \left[\frac{E(r_m) - r_f}{\sigma_m}\right]\left[\frac{COV_{im}}{\sigma_m}\right]$$

The expected return of a security can be rewritten in a much familiar form as follows:

$E(r_i) = r_f + \beta_i (E(r_m) - r_f)$

Despite its appeal as a yardstick to measure returns on assets with different levels of risk, CAPM has shortcomings with respect to the assumptions on which it was developed (Roll (1971), (1978)), for example:

(i) It is convenient to take the returns on short- term treasury bills as a proxy for returns on risk- free asset, however in an inflationary environment, there will be uncertainty of the real returns. Short-term treasury bills are free of credit risk and interest rate risk, but are subjected to purchasing power risk, which is intensified with a high rate of inflation.

(ii) Investors' ability to borrow and lend freely at the risk free rate is not a valid representation of the real market place. Financial intermediaries usually charge a higher rate on their loans than the rate at which they borrow to incorporate a profit margin and premium to compensate for the credit risks of the borrower. Investors thus pay a higher rate on borrowed funds than they would receive for lending funds.

(iii) CAPM assumes no taxes. Taxes are an integral part of any economy today. Taxation becomes even a more important element in the pricing of securities, if there is a significant difference between capital gains tax and taxes on dividends. If the capital gains tax are lower than taxes on dividends, we can expect investors with different tax status to hold different portfolios of risky assets even when the expectations about pre-tax returns for those portfolios were the same, and hence the equilibrium prices for assets will differ from a circumstance where taxes do not matter.

(iv) In CAPM, the market portfolio is assumed to be efficient. Roll (1977) demonstrates that the choice of incorrect portfolio or index to proxy for the market portfolio can lead to misestimates of the systematic risk of individual securities and portfolios, and result in an inappropriate estimate of the SML. Roll argues that this misestimation error cannot be corrected by the use of powerful statistical tools. The error can only be avoided by properly identifying ex-ante efficient market portfolio, which is a very difficult task as it requires the ability to capture investor expectations concerning all capital assets.

8.1.5: Black's zero-beta asset CAPM.

Realising the violations of the risk-free asset assumption of CAPM, Black (1972), amended CAPM to accommodate this violation by substituting a zero- beta asset or portfolio for the risk free asset. This zero-beta asset or portfolio is designed such that it has no correlation with the market.

The zero-beta version of CAPM has a similar structure to the original CAPM except for the zero- beta factor substituting the risk-free rate, which can be expressed as follows:

$$E(r_i) = E (r_z) + \beta_i [E(r_m) - E(r_z)]$$

8.1.6: Tax-adjusted version of CAPM.

Brenan (1970), realising the shortcoming of the no- tax assumption of CAPM, developed a tax-adjusted CAPM, by assuming dividend yields are certain and the existence of differential tax treatment on capital gains and dividends. The tax-adjusted form of CAPM is given as follows:

$$E(r_i) = r_f (1 - T) + \beta_i [E(r_m) - r_f - T(D_m - r_f)] + TD_i$$

$$\text{where } T = \frac{T_d - T_g}{1 - T_g}$$

Where

T_d = average tax on dividends

T_g = average tax on capital gains

D_m = Dividend yield on market portfolio

D_i = Dividend yield on ith stock.

If there is no differences in tax rates on dividends and capital gains, the tax-adjustment parameter equals to zero (T= 0), and the model reduces to the basic form of the CAPM.

8.1.7: Arbitrage pricing theory model (APT)

Ross (1976) developed a model of equilibrium in securities market known as Arbitrage Pricing Theory (APT), which does not critically depend on market portfolio. As in CAPM, APT assumes that

(i) investors have homogeneous beliefs,

(ii) investors are risk averse utility maximisers

(iii) markets are perfect so that factors like transactions costs are not relevant.

And in contrasts to CAPM, APT does not assume:

(i) a single-period investment horizon

(ii) there are no taxes

(iii) investors can freely borrow and lend at risk free rate

(iv) investors select portfolios on the basis of the mean and variance of return.

However, APT assumes that security returns are generated according to what is known as a factor model. This model takes the view that there are underlying factors (which could be economic variables such as inflation or financial variables such as dividend yield) that give rise to returns on stocks. The final form of the risk-return relationship derived from the APT can be expressed in the following form:

$$E(r_i) = r_z + b_i \, [E(r_i) - r_z \,] + ..$$

Since APT does not assume an ability to borrow and lend freely at risk-free rate, the r_z can either be a risk-free return or zero-beta return as derived by Black (1972). The term $[E(r_i) - r_z]$ (where i = 1, 2, 3....n,) represents the risk premium that is associated with the factor, and often represented by the symbol τ. The b_i coefficient (where i = 1, 2 ,3....n,) measures the responsiveness of the share's expected returns to change in the factor.

If we are assuming that there is only one factor determining security returns, the basic APT return equation becomes similar to SML. Thus,

$$E(r_i) = r_z + b_i \, \tau$$

The main obstacle in using APT is determining what are the underlying factors that are significant in asset pricing, as this model per se does not provide any perspective in either identifying nor indicating the number of these factors that are significant in asset pricing.

8.1.8: **Multivariate regression model (MVRM)**

MVRM or Systems Method has an intuitive appeal because it incorporates information about the interrelationships between groups of securities experiencing the same event. Binder (1985) and Schipper and Thomson (1985) provide rigorous arguments in support of this method.

MVRM is basically appending zero-one dummy variables to market model equations. The coefficients multiplying the event dummy variables measure the event's impact on share returns. MVRM was developed to overcome some of the statistical problems associated with the market model, particularly the assumption that the market model residuals are independent and identically distributed. There are apparently three problems with this assumption. First, the abnormal returns are likely to differ across firms. Second, there is evidence that the residual variance differs across firms [Fama (1976, pp.129-39)]. Third, the residuals will not be independent if the event occurs during the same calendar time period for some firms, and these firms are in the same or related industries.

The MVRM methodology begins by parameterizing the abnormal returns Y_{ia} in the individual returns equations using dummy variables Dat.

$$R_{it} = \alpha_i + \beta_i R_{mt} + \sum_{a=1}^{A} Y_{ia} D_{at} + \mu_{it}$$

If there are A announcements about the event, each Dat equals one during the period of the ath announcement and zero otherwise.

This approach allows individual returns to differ across firms, and the disturbances within each equation are assumed to be independent and identically distributed, but the variances differ across equations.

MVRM also assumes that across firms, the contemporaneous covariances of the disturbances [$E(e_{it}, e_{jt})$] are non zero, whereas the non-contemporaneous covariances [$E(e_{it} e_{j't-k})$] are all zero. The main advantage of this approach is in hypothesis testing since heteroscedasticity across equations and contemporaneous dependence of the disturbances are explicitly incorporated into the hypothesis tests. However, MVRM is developed on the assumed structure of variance-covariance matrix of the disturbances, which requires the observations in each equation to be from the same calendar time period, this makes MVRM to be best suited to test joint hypotheses, which is important in a single event context, affecting all firms and where there is a good reason to believe that the event benefits some firms and hurts others (i.e. regulatory changes). MVRM has problems concerning the choice of test statistic, because several tests statistics used are shown to bias against the null hypotheses even when large numbers of observations are used (Binder (1985)).

8.2: The choice of model

The market model is chosen to generate expected returns on shares in this research for the following reasons:

(a) There is empirical evidence to support the view that it performs well under a variety of conditions relative to more sophisticated or even simpler models.

Brown and Weinstein (1985) compared the performance of the statistical factor model (APT) and the market model in the context of event studies and concluded that for a variety of estimation procedures and experimental designs, the statistical factor model provides only limited additional value relative to the use of a simple market model.

Dyckman, Philbrick and Stephens (1984) did a simultation study on the Means Adjusted Returns Model, Market Adjusted Returns Model and the Market Model using daily stock returns. They concluded that the abilities of all the three models to detect correctly the presence of abnormal performance are similar, although there is a slight preference for the market model, the difference being statistically significant.

Brown and Warner (1980) examined the performance of the Mean Adjusted Returns Model, the Market Adjusted Returns Model and the Market and Risk Adjusted Models (CAPM, Blacks (1972) version of the CAPM and the Market Model) which are used in event studies to measure security price performance. They concluded that the market model performs well under a wide variety of conditions, and in some situations even simpler methods which do not explicitly adjust for market wide factors or for risk perform no worse than the market model.

The MVRM, which is supposed to overcome the problems associated with the assumption of the market model residuals, is also not suitable for this research for two reasons. First, this study is not a single-event study but a type-of-event study. Second, there is evidence which shows that MVRM provides no significant benefits over the market model. Malatesta (1986) extended the MVRM approach to noncontemporaneous events and used the General least Squares (GLS) framework, which reflects the cross-sectional dependence between abnormal returns of different securities. Using simulation techniques comparable to those of Brown and Warner (1985) to assess the frequency distribution of the estimator and power of the test statistic of GLS approach, the market model and the Ordinary Least Square (OLS) approach. He concluded that there is no evidence that GLS approach provides any benefit in identifying abnormal returns.

McDonald (1987) extended Malatesta's study by using securities experiencing actual events, using daily and monthly returns and iterative techniques comparable to OLS and GLS methods. He concluded that there are no measurable gains in using any of the systems methods for event study applications, confirming Malatesta's conclusions.

(b) Events such as takeovers and mergers generally tend to be concentrated in the bull market periods (Roberts (1987)). For example, it is easier and cheaper for bidders to effect an acquisition through exchange of shares in a bull market. Even if the bidder offers cash, this cash can be easily raised through rights issue, which is difficult to succeed in a bear market situation.

Klein and Rosenfeld (1987) provide evidence that the Mean-Adjusted Model and Raw-Returns Model (which assume that constant security return is zero) are misspecified when the event occurs during either bull or bear markets. Both these models seem to generate biased abnormal returns (i.e. upward (positive) bias in a bull market and downward (negative) bias in a bear market). Their results for these models are statistically significant over selected pre-event and post-event periods.

In contrast, they showed that market-adjusted and single-index models (i.e. market model is a special case of the single index model) show far less evidence of such bias over the same periods.

(c) Market model has been extensively used in evaluating share price performance in a large number of research studies. For example, Fama, Fisher, Jensen and Roll (1969) used the market model to test the information of stocks splits on stock prices, Scholes (1972) used on determining the effect of secondary distributions. Ball and Brown (1968) used the market model to measure the impact of the release of accounting information. Franks, Boyles and Hecth (1977) examined the profitability of mergers in the breweries and distillers sector in the U.K. using the market model.

Firth (1979) used the market model to test the profitability of mergers in the U.K., and Limmack (1989) used it to observe the distributions of returns to shareholders of U.K. companies in merger during 1977 to 1986. Asquith and Kim (1982) used the market model to measure the impact of merger bids on participating firms security holders. Travlos (1987) examined the effects of takeover bids and methods of payments on stock returns using the market model.

Dodd and Quek (1985) observed the share price movements of bidder firms in the U.K. using the market model, and Madden (1988) used it to examine corporate takeovers and market efficiency.

Brown, Harlow and Tinic (1988) used the market model to test the risk aversion, uncertain information and market efficiency, and Keown and Pinkerton (1981) used it to test the effect of merger announcement and insider trading.

The popularity of the market model does indicate its relative potential in generating expected returns on stocks relative to the more sophisticated and simpler models, and/or the unavailability of a better model to measure expected returns.

(d) Extensive studies on the market model by Fama and Roll (1968), Fama and Babak (1968), and Bhattberg and Sargent (1971) indicate that the assumptions of linearity, stationarity and serial independence of market model residuals are not seriously violated. The estimated residuals, however, appear to be more closely approximated by a class of a stable paretian distributions with a characteristic exponent of less than two, of which normal distribution is a member. A stable paretian distribution has a characteristic exponent $\underline{a}$ which determines the height of the extreme tail areas of the distributions and take any value in the interval $0 \leq a \leq 2$. When $\underline{a} = 2$, the relevant stable paretian distribution is the normal or Gaussian distribution.

When $\underline{a}$ is in the interval $0 \leq a \leq 2$, the extreme tails of the stable paretian distribution are higher than those of normal distribution (i.e. also termed as leptokurtic) and the total probability in the extreme tails is larger, the smaller the value of $\underline{a}$. The distribution will contain more relative frequency near the mean and in the extreme tails than would be expected under the Gaussian distribution. When $\underline{a}$ takes the value of $1 \leq a \leq 2$, the distribution of price changes will have means but their variances will be infinite.

A non-normal but stable paretian distribution also implies that the variances of the distribution of price changes is only finite when $a = 2$, but the mean exists as long as $a \geq 1$.

The parameter $\underline{b}$ of the distribution indicates the skewness of the distribution, and takes the value of $-1 \leq b \leq 1$. Under normal distribution, the value of $\underline{b}$ will be zero, or the distribution is symmetric. When $\underline{b} > 0$, the distribution is skewed to the right and when $b < 0$, the distribution is skewed to the left (Fama, (1976, p. 26)).

Under the stable paretian distribution assumption, the price of a share will tend to change by large amounts in a very short time or the price level of the share will be discontinuous compared to share price behaviour under a normal distribution.

This characteristic of the stable paretian distribution conforms well to the reality of the dynamic and uncertain nature of the economics and politics of most countries in the world. If we assume that the successive price changes are independent, the discontinuity of price levels in the paretian distribution would imply that the intrinsic value of shares often changes by large amounts during short period of time, which is consistent with the Efficient Market Hypothesis.

The Efficient Market Hypothesis postulates that at any point in time, share prices on the stock exchange represents the best estimate of its intrinsic value, and any change in the intrinsic value caused by new information will be discounted instantly in the share price.

The behaviour of share prices under the stable paretian distribution also implies that the market is more risky than under normal distribution and consequently shares are expected to earn higher returns. Fama (1970) has shown that for stable distributions with finite expected values, the least square estimates of β_i are unbiased and consistent, but not efficient.

8.3: Analysis

The Fama, Fisher, Jensen and Roll (1969) methodology is used to determine the effect of announcement of takeovers and mergers on bidder and target share prices. This methodology (also known as 'residual analysis') involves a cross-sectional analysis of residuals of each firm, estimated by the market model. Cross sectional residuals for a group of firms on a given announcement day and cumulative residuals for a given time period are used to test the null hypotheses. The object of inquiry in this study is the effect of the announcement of takeovers and mergers on bidder and target returns in general rather than on the returns of a single firm.

The market model is used to calculate the expected returns on shares, which expresses the linear relationship between daily returns on a share and the daily market index as follows:

$$l_n R_{it} = \alpha_i + \beta_i \, l_n R_{mt} + e_{it}$$

where, $l_n R_{it}$ is the logarithm of observed daily returns on a share price, after adjustments for capital change and dividend contributions.

$l_n R_{mt}$ is the natural logarithm of the return on daily market index.

e_{it} is the residual or abnormal returns of security i on day t.

α_i, β_i are the model parameters which vary from share to share and are estimated using the OLS approach.

The abnormal return of each firm on a particular day is calculated by taking the difference between the observed return and the expected return on the share on that day. The abnormal return is expressed in the following way:

Abnormal return (e_{it}) = Observed return ($l_n R_{it}$) - Expected return ($\alpha_i + \beta_i l_n R_{mt}$).

The abnormal return (which is also known as the unsystematic return because it implies that it is uncorrelated with the market returns) is assumed to satisfy the following assumptions of the linear regression model:

(i) it has zero expectation and variance independent of t.

(ii) it is serially independent,

(iii) the distribution of the residual term is independent of R_{mt}

However, e_{it} and R_{mt} may not necessarily be independent because the process generating ($l_n R_{it}$, $l_n R_{mt}$), might be a quadratic function, in which case $E(e_{it}/l_n R_{mt})$ $\neq 0$.

The effect of the announcements is studied on returns rather than share prices because a given share price change is a different economic quantity depending on the initial investment (Fama (1976) p. 19).

The abnormal return rather than return (R_{it}) is used to measure the impact of the event of interest on the bidder and target's share price at the two- day announcement period because it has three potential properties which makes it better than R_{it} (Beaver (1981), p. 118)):

"...first, it can result in a transformation of R_{it} such that a common expected value of the security metric (e_{it}) exists over time and across firms; second, it can have smaller variance than R_{it}, leading to a more powerful statistical tests and more efficient estimates of the security return effects of the event of interest; and third, it can result in a smaller correlation among observations than R_{it} would, and in this sense e_{it} would more closely conform to conventional significance tests than R_{it} would..."

In an attempt to detect the impact of the event of interest on the firm's share price it was desirable to remove from all the firms the effects of market wide factors on the share price which can cause random variations in the share prices and obscure the impact of the event of interest. The use of the abnormal return instead of return is a means of removing the unwanted variations in the returns due to market wide factors (Fama, Fisher, Jensen and Roll (1969)).

The observed returns (R_{it}), are calculated in the following way:

$$R_{it} = \frac{P_{it}^* - P_{i(t-1)}}{P_{i(t-1)}}$$

where P_{it}^* is the market share price of firm i at the end of day t and $P_{i(t-1)}$ is the price per share of firm i at the end of day t - 1. The price P_{it} is adjusted for capital changes such as scrip issues/bonus issues and dividends, so that it is comparable to $P_{i(t-1)}$. For example, if there was a stock split two for one on day t, its actual closing price on day t is doubled. For dividends, it is assumed that on the ex-dividend day, the value of the individual share falls approximately by the amount of the dividend per share. The adjustment is made by adding back the dividend per share to the price of the share on ex-dividend day.

8.4: The analysis and estimation period, average abnormal returns (AR) and the cumulative abnormal returns (CAR)

For each firm, the announcement day is designated as day 0, and the analysis period is from five days before the announcement day (day 0) to five days after the announcement day. The estimation period is 53 days before the day - 5 and 53 days after the day + 5.

```
                    analysis period
estimation                        estimation
    period                           period
    ---------------------------------------------------
    (53 days)   -5   0   +5   (53 days)
```
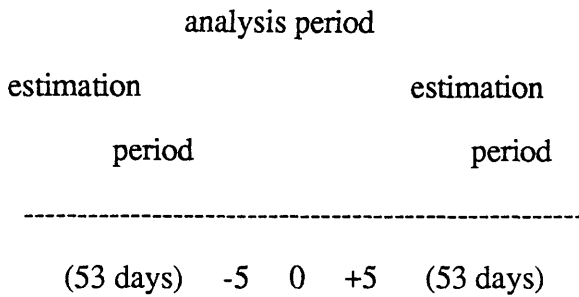
The parameters of the market model (α_i, β_i) are estimated using the returns of the sampled firms in the estimation period (i.e. day -58 to day -6 and day +6 to day +58) and the returns on the market index during the same period. The β is adjusted for thin trading of some securities using the Dimson's aggregated coefficient approach (Dimson (1979)). These parameters are than averaged and used to calculate the abnormal returns in the analysis period.

The abnormal return (e_{it}) for each firm is calculated from day -5 to day +5 and the cross- sectional average abnormal return (AR_t) for each day t is calculated as follows:

$$AR_t = \sum_{i=1}^{N} [e_{it}]/ N$$

N is the number of firms in the sample.

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To observe the daily cumulative effect, the Cumulative Abnormal Returns (CAR_T) are calculated by summing up the AR_t over various days of interest.

For example, the CAR_T from day T_1 through day T_2 is derived as follows:

$$CAR_T = \sum_{t=T_1}^{T_2} [AR_t]$$

Assuming that the abnormal returns for each security are approximately normal and independent across time and across securities, the t-statistics which follows the unit normal distribution as used by Dodd and Warner (1983) and Travlos (1987) are used to test the hypothesis that AR_t and CAR_T are equal to zero.

The statistics t for AR_t and t_T for CAR_T are calculated as follows:

$$\text{for } AR_t, \quad t = \sqrt{N} * AR_t$$

$$\text{for } CAR_T, \quad t_T = \frac{\sqrt{N}}{\sqrt{(T_2 - T_1 + 1)}} CAR_T$$

The abnormal returns (AR_t) and cumulative abnormal returns (CAR_T) are used to measure the effect of the event on the share price. The use of AR_t and CAR_T implicitly implies that equal amounts of money are assumed to be invested in each of the N securities at the start. Then at the end of each day, the portfolio is rebalanced so that the total wealth is again equally distributed across securities.

The rebalancing is achieved by reducing the investment in securities with high abnormal returns and increasing investment in securities with low or negative abnormal returns (Bowman (1983)). In practice, however, this rebalancing strategy is only useful if the correlation of abnormal returns of securities is negative.

To facilitate the comparison of abnormal returns between two portfolios of bidding (target) firms, the daily mean differences is derived by subtracting the associated average abnormal returns. For example, for day 0, the daily mean difference between abnormal returns of bidders (or targets) in cash offer and those in shares offer is calculated as follows:

$$AR_D = AR_{cash} - AR_{shares}$$

To test the statistical significance of the difference in the abnormal returns, the following t-statistic is used (Travlos (1987)):

$$t = \frac{AR_{cash} - AR_{shares}}{\sqrt{\dfrac{S_c^2}{N_c} + \dfrac{S_s^2}{N_s}}}$$

Where, S_c^2 is the variance of returns in the cash offer sample

S_s^2 is the variance of returns in the shares offer sample

N_c, N_s is the number of firms in the cash offer and shares offer sample respectively. This t- statistic is based on the assumption that the variances of returns of the cash and share samples are not equal.

8.5: Some relevant adjustments to the abnormal returns (AR)

8.5.1: Autocorrelation

Studies by Scholes and Williams (1977), and Copley, Cooley and Rosenfeldt (1984) provide evidence of significant autocorrelation in market model residuals. Schwart and Whitcomb (1977) suggests that beta estimates of the market model may be severely biased because of negative autocorrelation.

If the residuals of the regression equation are correlated, contrary to the assumption that $[E(e_t, e_{t-J}) = 0, J \neq 0]$, Maddala (1977) suggests that the estimates of α and β obtained using the least- squares approach will be unbiased, consistent but not efficient, and the values of R^2 and t statistics will tend to be exaggerated, leading to type-one errors.

To account for the autocorrelation problem in the abnormal returns in this study, the presence of first-order autocorrelation in the returns of each firm in the sample was tested using the Durbin and Watson's (1951) approach.

If significant first-order autocorrelation was detected in the returns, it was corrected using Cochrane-Orcutt's (1949) quasi-first-difference approach.

8.5.1(A): To test the presence of first-order autocorrelation in the returns using Durbin and Watson's (1951) approach

For each firm in the sample, the presence of any first-order autocorrelation in the residuals was detected using Durbin and Watson's (1951) approach. They proposed a test to track down the first-order autocorrelation by examining the successive residuals according to a test statistic (d) formulated as follows:

$$d = \frac{\sum\limits_{t=2}^{T} (e_t - e_{(t-1)})^2}{\sum\limits_{t=1}^{T} (e_t)^2}$$

where e_t is the residual from the regression. The value of d is estimated in the following way:

$$d \approx 2(1 - \hat{\rho})$$

where $\hat{\rho}$ is the first-order autocorrelation coefficient. If there was no autocorrelation,($\hat{\rho} = 0$), d should be approximately equal to 2.

For positive autocorrelation, ($\hat{\rho} > 0$), d will be less than 2 and for negative correlation, ($\hat{\rho} < 0$), d will be greater than 2 with d approximately equal to 4 for perfect negative correlation.

The statistical significance of the autocorrelation present is identified by comparing the calculated value of the d statistic with the lower (d_L) and upper limit (d_U) values of d (5 percent level of significance) as provided by the Durbin-Watson Statistic Table. The decision rules applied are as follows:

$$H_0 : \hat{\rho} = 0 \text{ (no autocorrelation).}$$
$$H_1 : \hat{\rho} \neq 0$$

If $d < d_L$ or $d > 4 - d_L$, reject H_0

If $d > d_U$ and $d < 4 - d_U$, accept H_0

If $d_L \leq d \leq d_U$ or if $4 - d_U \leq d \leq 4 - d_L$, indecisive region.

8.5.1(B): **Cochrane-Orcutt's (1949) quasi-first- difference approach to eliminate significant first- order autocorrelation**

For firms, whose residuals were found to have significant autocorrelation, Cochrane-Orcutt's (1949) the quasi-first-difference method was applied to eliminate the impact of the autocorrelation before estimating α and β for the analysis period.

The procedure is as follows:

It is assumed that residuals generated by the market model (Z1) are found to have significant first-order autocorrelation.

$$R_{jt} = \alpha + \beta R_{mt} + e_t, \quad (Z1)$$

where $e_t = \int e_{(t-1)} + \in_t$ and satisfy the assumptions of the error term in a linear regression model. The α and β are parameters to be estimated, but it is assumed that there is first-order autocorrelation ($\int$) between successive residual terms in the model. To transform Z1 to an equation without autocorrelation, we first difference it by the correlation coefficient, as shown below. The model for period t - 1 will be written as follows:

$$R_{j,(t-1)} = \alpha + \beta R_{m(t-1)} + e_{(t-1)} \quad (Z2)$$

Then, multiplying both sides by $\int$, we get

$$\int R_{j,(t-1)} = \int \alpha + \int \beta R_{m(t-1)} + \int e_{(t-1)} \quad (Z3)$$

And subtracting equation Z3 from equation Z1 gives

$$R_{jt} - (\int R_{j(t-1)}) = \alpha(1 - \int) + \beta(R_{mt} - \int R_{mt-1}) + (e_t - \int e_{(t-1)}) \quad (Z4)$$

Equation Z4 now contains an uncorrelated residual term by equation Z2, which can be expressed as follows:

$$R_{jt} - (\int R_{j(t-1)}) = \alpha(1 - \int) + \beta(R_{mt} - \int R_{m(t-1)}) + e_t \quad (Z5)$$

Denoting $(R_{jt} - (\int R_{j(t-1)}) = R_{jt}^*$,

$(R_{mt} - \int R_{m(t-1)}) = R_{mt}^*$, $\alpha(1 - \int) = \alpha^*$

and $\beta = \beta^*$, the equation (Z5) can be rewritten as follows:

$$R_{jt}^* = \alpha^* + \beta^* R_{mt}^* + e_t \quad (Z6)$$

Since f can be estimated, R_{jt}^* and R_{mt}^* can be computed. This is followed by regressing R_{jt}^* on R_{mt}^*. The intercepts and slope of equation (Z6) can now be used to calculate the estimate of α and β in equation (Z1), where,

$$\alpha = \frac{\alpha^*}{1-f} \quad \text{and} \quad \beta = \beta^*$$

8.5.2: Daily returns

Daily share prices are used to calculate the daily returns in this research for the following reasons: (a) There is evidence to suggest that it is a better choice. Brown and Warner (1985) in their simulation study reported that with the use of daily prices, rejection frequencies for the null hypothesis of no abnormal returns when abnormal returns were introduced into the sample, is roughly three times that reported for monthly data. The power of the market model to identify abnormal returns increases with the knowledge about the precise timing of an event. The power is measured in terms of minimising the type-one and type-two errors, and increasing the probability of correctly rejecting the null hypothesis.

Type-one error is the error of falsely rejecting the null hypothesis, when it is true. Type-two error is the error of falsely accepting the null hypothesis, when it is false.

The use of daily prices is potentially useful because it permits taking advantage of prior information about the specific day of the week on which the event took place. Also, the use of daily prices allows one to control the effect of some other events surrounding the event of interest on the share prices.

(b) Fama (1976), reports that daily returns have smaller standard deviations than monthly returns. The lower the standard deviations, the higher will be the probability of detecting abnormal returns when they are present.

(c) Unlike monthly returns, the use of daily returns allows a study of the impact of an event immediately surrounding the announcement date.

8.5.3: Non-synchronous trading of shares

Daily returns are subjected to non-synchronous trading problems, because some shares are more frequently traded than others. Scholes and Williams (1977) suggested that since the reported closing prices of shares represents trades prior to the actual close of the trading day, measured returns often deviate from true returns. This nonsynchronization of measured returns across securities introduces errors in the market model variables.

Fisher (1966) studied new stock-market indexes and concluded that an index constructed from shares that are infrequently traded tends to induce positive autocorrelation into the returns and the estimated variance of returns of the index is biased downward (therefore exaggerating the t-value and increasing the chance of committing type-one error).

Dimson (1979) suggests that when some securities are more actively traded than others, the securities which are less active tend to have a downward biased estimate of β, while those actively traded have upward biased estimates of β.

Copley, Cooley and Rosenfeldt (1984) provides evidence of a consistently inverse relationship between volume of trading and negative autocorrelation (i.e. also known as the 'Fisher Effect'), which support Roll's (1981 p. 887) contention that **"....trading infrequency seems to be a powerful cause of bias in risk assessments..."**

To mitigate this problem in this research, two filter rules were applied:

(i) only firms which are traded as alpha stocks on the London Stock Exchange (LSE) were sampled. Alpha stocks are the most actively traded stocks on the exchange, and there are about 500 such stocks on the exchange at present.

(ii) firms which had a complete set of share prices for the estimation and analysis period were sampled.

Despite these filters, the parameters of the market model were adjusted for non-synchronous trading problem using the Dimson's Aggregated Coefficient approach. The Scholes-Williams or Vasicek's approach to estimate the parameters of the market model were not used because there is evidence that the ordinary least square approach of estimating market model parameters perform as well as these approaches, whereas these approaches were supposed to correct the thin trading bias in daily security returns estimated through the ordinary least squares approach (Jain (1968), Morse (1984)).

8.5.3(A): **Dimson's aggregate coefficient approach to estimate a consistent beta**

Dimson's aggregated coefficient approach involves regressing security returns against lagged, matching and leading market returns, and an estimate of β is obtained by aggregating the slope coefficients from these regressions.

For example, to estimate a β for day -50, security returns on day -50 were regressed with the market returns of leading day (day -49), the market returns on lag day (day -51), and market returns on the matching day (day -50).

The slope coefficients that result from these regressions are summed to obtain an estimate of β on day -50 as follows:

$$[(\beta_{-49} + \beta_{-50} + \beta_{-51}) = \beta_{-50}]$$

For each day in the estimation period, the beta is calculated in the same way. The α for day -50 is estimated in the following way:

$$\alpha_{-50} = 1/N (\Sigma R_{it}) - \beta_{-50} [1/N (\Sigma R_{mt})]$$

where ΣR_{it} is the sum of the returns on each day in the estimation period.

N is the number of days in the estimation period.

ΣR_{mt} is the sum of the market returns on each day in the estimation period.

Once the α's and β's of each security are estimated for each day in the estimation period, they are averaged over the 106 estimation days for each security. The averaged α and β is then used to estimate the abnormal returns in the analysis period for the security.

8.5.4: Non-normality of daily returns

Fama (1976) and Brown and Warner (1985) provide evidence that the distributions of daily returns exhibit substantial departures from normality. This violates the assumptions of the market model that the joint distribution of the returns on securities is multivariate normal and hence reduces the possibility of parametric testing. Normality of distributions is essential because it allows to make probability statements about the future rate of returns, and allows the use of past rates of returns and their variability to estimate the future returns and variability. Normal distribution also enables the use of the standard statistical tools (i.e. means and standard deviations) to analyse the movement in share prices.

In practice, however, no statistical tools have yet been developed to deal with non-normal distribution problem. Empirical evidence, however, shows that the non-normality of daily return distributions is mitigated by the use of reasonable sample size. Brown and Warner (1985) reported that the non-normality of daily returns is not a serious problem because the mean abnormal returns in a cross-section of securities converges to approximately normal as the number of sample securities increases.

Dyckman, Philbrick and Stephen (1984 p. 29) did a simulation study to detect whether the abnormal performance from daily prices would change appreciably if the initial residuals were normally distributed, before inducing an abnormal performance and concluded that,

"...the non-normality of individual security daily-return residuals has little effect on the inferences drawn from the use of t-test applied to portfolios..."

In this research, the daily abnormal returns are assumed to be approximately near the normal distribution, and t-statistics are employed to test the hypotheses.

8.5.5: Skewness in the distribution of daily returns

Fama (1976) provides evidence that daily returns distributions are more skewed to the right, and Fama, Fisher, Jensen and Roll (1969) provide evidence of right skewness in security specific performance measures such as market model residuals. Skewness in the distribution of abnormal returns causes the sampling distribution of the test statistics assumed for the hypothesis tests to be misspecified (i.e. different from the actual distribution) which results in false inferences such as the true null hypothesis could be rejected more frequently than that given by the significance level of the test. Skewness in the distribution is caused by the bias in the information structure or the process by which information about an event is collected and disseminated to investors. Firms have a tendency to release good news promptly and bad news at their own convenience, and market participants anticipating such behaviour build it into the returns.

Demodaran (1985) have observed that a greater propensity to release good news than bad news introduce a negative bias in the observed skewness, and the skewness measured over a short time interval will be lower than that measured over longer intervals. The negative bias is caused by the probability of large negative information releases relative to large positive releases.

To mitigate the problem of skewness in the daily returns distribution in this research, natural logarithm of returns rather than simple returns were used. Fama (1976, p. 31) suggests that the use of natural logarithm of returns helps to pull in the right tails of the distribution and stretching out the left tails, thus reducing the degree of right skewness of the distributions.

Simkowitz and Beedles (1978) have shown that skewness is rapidly diversified away as securities are combined into portfolios. Singleton and Wigender (1986) provided evidence that skewness is sensitive to log transformation, although the stationarity of the skewness is not affected by such transformation. They also reported that skewness of individual stocks and portfolios of stocks does not persist across different time periods.

The use of natural logarithm of daily returns is also important because when least squares approach is used to estimate the parameters of the market model (although β's are later adjusted using Dimson's approach) the abnormal returns conform well to the assumptions of simple linear regression model (Fama, Fisher, Jensen and Roll (1969)). The natural logarithm of daily returns also imply that (Fama (1976 p. 17-20),

".... the returns are continuously compounded and therefore more consistent with a normal distribution than simple returns..".

However, Thompson (1988) using a simulation approach provided evidence that transformation from simple returns to continuously compounding returns only resulted in a marginal improvement in the power of the firm's t-test accompanied by an increase in type one error. This implies that the form of returns used in event studies is not a critical consideration.

8.5.6: Length of analysis period

The analysis period consists of eleven days surrounding the announcement. This choice was influenced by two factors. First, this study examines the impact of announcement of an event of interest on the two-day announcement period (day - 1, and day 0) abnormal returns. Assuming an efficient market, there is no reason to extend the analysis period beyond the five days period. Second, there was a trade-off between a longer analysis period and the sample size. The research was designed to eradicate any confounding effects of exogenous events on the daily returns in the analysis period at the time of the announcement of the event of interest, and the longer the analysis period chosen the more difficult it became to find reasonable number of firms satisfying this sampling requirement.

8.5.7: Effects of exogenous events on the analysis period returns

To mitigate the contamination effect of other important announcements on the share price at about the same time as the acquisition announcement, any firm which had any announcement such as publications of earnings reports, changes in the board of directors, appointment of chief executive and board of directors, new investment programmes, or launch of new products, in the five days before and five days after the official acquisition announcement was eliminated from the sample.

8.5.8: Systematic measurement errors

Every research is susceptible to the problem of measurement errors of one kind or another. In this study, the firms sampled experienced the event of interest at different calendar times and therefore any measurement errors are expected to be off-set over different firms and on average reduce the problem of systematic measurement error. Collins and Dent (1984) suggest that the distribution of calendar times also help to reduce the cross-sectional correlation of abnormal returns among firms.

The sample of firms in this study were from 17 different sector of business and the announcement of the event of interest was on different calendar times, it is therefore assumed that even if there is any cross-sectional correlation among abnormal returns it will not be significant to cause a higher incidence of type-one error.

8.5.9: Non-identical distribution of abnormal returns

The firms sampled in this study are from different sector of businesses and it is unlikely that the residuals of these firms are identically distributed. In testing the significance of the average abnormal returns (AR_t), any test which assumes the abnormal returns are independently and identically distributed in cross-section is likely to be inappropriate.

To mitigate this problem, previous research used the non-parametric Wilcoxon Sign-Test which assumes that the observations are independent and identically distributed (Ball, Brown and Finn (1977), Caplan and Roll (1972), Collins and Dent (1979)).

However, Brown and Warner (1980) report that due to the asymmetry in the distributions of residuals, (Wilcoxon Test assumes that the distribution is symmetric) the Wilcoxon Test has low power in terms of correctly rejecting the null hypothesis.

To correct the problem of non-identical distribution of abnormal returns in this study, Patel's (1976) approach is applied which requires the abnormal returns of each security in the analysis period to be standardised by the security's estimated abnormal return's standard deviation calculated from the estimation period as follows:

$$\frac{e_{it}}{q_i}$$

This procedure, however does not control for any cross-sectional dependence in the abnormal returns.

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With respect to independence of residuals, 86 out of 90 takeover announcements occured on different calender dates, and there are never more than two announcements on the same day. Therefore it is reasonably assumed that the residuals are independent.

8.5.10: Increase in variance of returns around announcement

There is evidence that a substantial increase in variance of security returns occurs around the announcement of events (Beaver (1968)). In this study, the market model parameters are estimated from the estimation period, and these parameters are then used to calculate the abnormal returns in the analysis period. It is suspected that the variances of security returns increase in the analysis period. Since for individual securities there is a positive empirical relationship between variance of returns and systematic risk (as well as market model residual variance and systematic risk)(Fama 1976, pp. 121-124), it might be expected that the tests for abnormal performance will be more powerful for low risk securities than for high risk securities.

This implies that there could be a tendency to commit type-one error. Conversely, if the analysis period is included in the estimation of parameters, this could increase the variance of the abnormal returns and lead to a non rejection of the null hypothesis as frequently as it should be (i.e. committing type-two error).

This is important for targets in cash offers, where after the announcement of the offer the target share price rises and it is reasonable to expect that the market's response to the new share price will be minimal, implying a reduction in risk.

To resolve this issue, the abnormal returns calculated for the analysis period using parameters calculated from the estimation period are standardised by a correction factor (Theil (1971)). The correction factor takes into account the changes in the variances over the estimation and analysis period.

The adjustment is incorporated in the following way:

$$\frac{e_{it}{}^*}{\sigma_i\sqrt{CF}}$$

where $e_{it}{}^*$ is the abnormal returns.

σ_i of the standard deviation of the security's abnormal returns, calculated from the estimation period, and $\sqrt{CF}$ is the square root of the correction factor.

The correction factor takes into account deviations of market returns from their average returns in the following way:

$$CF = 1 + 1/L + \frac{(R_{mt} - \bar{R}_m)^2}{\sum_{k=1}^{L}(R_{mk} - \bar{R}_m)^2}$$

L is the number of days in the estimation period (i.e. 106 days). The numerator of the correction factor is calculated from the analysis period, whereas the denominator is calculated from the estimation period.

The average market return for the estimation period is calculated as follows:

$$\bar{R}_m = 1/L \left(\sum_{t=1}^{L} R_{mt}\right)$$

8.5.11: Clustering of events

The findings of 'events-type' empirical studies could be biased by the effect of event-clustering. Clustering may be by industry, by time, or both. Brown and Warner (1980) examined the clustering issue in the context of monthly returns and explained the possible effect of industry and time clustering on the statistical significance of abnormal returns.

With respect to time clustering, they concluded that,

"...the general impact of clustering is to lower the number of securities whose month '0' behaviour is independent...if performance measures such as the deviations from historical mean returns or market model residuals are positively correlated across securities in calendar time, then such clustering will increase the variance of the average residual and hence lower the power of the tests..."(Brown and Warner (1980) p. 232)

With respect to industry clustering, there is a chance that the sample may consist of securities with higher (or lower) than average systematic risk and Fama (1976) suggests that there is a positive empirical relationship between variance of returns and systematic risk, which means that test for abnormal performance will be more powerful for low risk securities than for high risk securities.

Brown and Warner (1980 p. 236) suggest also that,

..." it seems reasonable to expect that the tests for abnormal performance will be more powerful for low risk securities than for high risk securities, the intuition is simply that a given level of abnormal performance should be easier to detect when 'normal' fluctuations in sample security returns (and the standard errors of parameter estimates such as β) are small rather than large..."

The sample of firms in this study are from seventeen different sectors of businesses, and the maximum number of bidder firms in any one sector is not more than 9 out of a total of 111, and for target firms it is 8 out of 111. As for the event time, not more than 7 firms out of 111 had their announcement on the same day. It is therefore assumed that the industry and time clustering effects have no significant influence on the findings of this study.

8.5.12: **Two-day announcement period returns**

In this study, two-day announcement period returns (i.e. day -1 and day 0) are used to measure the impact of the announcement of the event on the share prices. This is to account for the possibility of leakage of the news or announcement before the market closes on the day prior to the official announcement.

If information is released just before the Stock Exchange closes on day -1, some price reaction to the announcement can be expected to occur on day -1 and the rest of the impact can be expected to continue the next day. If the information is leaked before the market closes on day -1, the effect of the announcement on the announcement day would have been partially discounted into the price of day -1.

8.5.13: **Day of the week effect**

Fama (1965), Cross (1973), French (1980), Gibbon and Hess (1981) and Jacobs and Levy (1988) suggested that share prices in major stock exchanges are subjected to the 'day of the week effect'(also known as 'the Weekend Effect' or the 'Blue-Monday effect), which implies that prices of shares tend to be persistently low on Mondays relative to other trading days of the week. One explanation given for this phenomenon is that firms release bad news before the market closes on Fridays, the full impact of which is impounded on Mondays, although this explanation is inconsistent with efficient markets.

In this study, 25 % of the takeover announcements fell on Monday and it is possible that the 'day of the week effect' could have partially influenced the findings of bidder and target returns.

To ascertain this possibility, dummy variable regressions were run for all the bidders and targets in takeovers in which the dependent variable is the two-day announcement abnormal returns and the independent variable is given the value of one if the announcement falls on Monday and zero if it falls on other days.

The regression equation is expressed as follows:

$$Y_i = \beta_0 + \beta_1 X_1 + e_i$$

where,

Y_i is the two-day announcement cumulative abnormal returns.

$X_1 = 1$, If the announcement of the offer is on Monday otherwise its set to zero.

β_0 is the parameter of the model, e_i is an error term assumed to be normally distributed with zero mean and constant variance and covariance, (cov $(e_i, e_j) = 0$ for $i \neq j$). Cases implicitly coded in the intercept term represent announcements of takeovers on days other than Mondays.

The test of the hypothesis is equivalent to test of the coefficient β_1.

$H_0 : \beta_1 = 0$ (Monday effect vs. the rest of the days).

$H_1 : \beta_1 \neq 0$

Under the null hypothesis, the coefficient is zero and assumed to be distributed according to t - distribution.

Most of the above adjustments are incorporated in this study in view to provide a reasonable validity to the findings in context of the hypotheses tested.

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Chapter 9

Empirical Findings

9.1: Bidder returns

In pursuing takeovers, bidders offer alternative forms of payments to target shareholders such as cash, shares and, more often, a combination of shares and cash. The type of payment offered by the bidders could be influenced by a combination of factors. These include the importance of the target resources to the bidder; degree of competition for the target; the financial backing available; the amount of stake the bidder holds in the target; the target's expected resistance; the strength of the bidder's shares in the market and the general climate of the stock market as influenced by the national and international economic and political situation; the takeover accounting practices of bidder; the taxation implications and the requirements by the U.K. Takeover and Merger Code.

In empirical research it is often difficult to ascertain what particular combination of factors might have influenced the bidder's decision to offer a particular type of payment to the target shareholders. However, once the decision is taken and implemented it has important implications for the bidder's share price.

Myers and Majluf (1984) have suggested that the means of payment offered by bidders in takeovers provides a signal to investors of the estimated value of the bidder's share. They argued that information asymmetries exist in the market in the sense that the bidders are privileged to possess valuable information about the value of their own shares which is not available to the market, but which may be signalled by the type of payment offered for the target.

A share offer conveys a negative signal to the market because the bidder is assumed to believe that his shares are overvalued and is seeking to exploit the situation to take control of the target's resources. A cash offer conveys a positive signal because the bidder shares are assumed to be undervalued and the bidder is not willing to share the potential increase in value with the target shareholders. These suggestions have been collectively termed as the 'information hypothesis' by Myers and Majluf. This hypothesis assumes that at an announcement of a cash offer will have a positive impact and a share offer a negative impact on the bidder's share price. Other things being equal, the returns to bidding firms in cash offers will be higher than in share offers.

For combination offers, it is possible that the bidder is uncertain about the true value of its shares and intends to mitigate this uncertainty by offering an equity participation to the target shareholders. However, the net impact of the offer on the bidder's share price will depend on the weight of the share and cash portion in the combination. If the share portion of the combination is greater than the cash portion, we expect a negative impact on the bidder's share price at announcement of the offer and if the cash portion of the combination is greater we would expect a positive impact on the bidder's share price. If the combination offer consists of an equal portion of shares and cash, a neutral effect on the bidder's share price is expected.

If the information effects are present, the bidding firm's share price change at the announcement of the offer will reflect both the gains from the takeover and the information effects. It is not possible to separate the effect of the announcement of the bid from the effect of the announcement of the means of payment on the bidder's share price per se because the means of payment is an essential part of the offer and it is announced with the offer.

It is therefore assumed that the effect of the bid itself is equal for cash, share and combination offers and by segregating the sample with respect to means of payments and comparing the differences in the two-day announcement abnormal returns will ascertain the impact of the means of acquisition financing on bidder share price.

In this study a test of the 'information hypothesis' is conducted in two steps. First, by observing the abnormal returns for the eleven days surrounding the announcement for bidders offering cash, shares and a combination offer. The detailed results are presented in Tables 9 (A), (B) and (C) in the Appendix and the summary of the results is presented in Table 9 below. Second, the differences in the abnormal returns for the eleven days surrounding the announcement for bidders offering the different means of payment are calculated and the detailed results are presented in Tables 9.1 (A), (B) and (C) in the Appendix. The summary of the results is presented in Table 9.1 below.

Table 9

Summary of the abnormal returns (AR) and the two- day announcement cumulative abnormal returns (CAR) for bidders in the cash, share and a combination offers. The t-statistics are in parentheses.

Means of Payment

Event Day	Cash N=30	Share N=30	Combination N=30
-1	0.1129	-0.3662	-0.0296
	(0.618)	(-2.006)	(-0.162)
0	-0.3699	-0.8898	-0.8871
	(-2.026)	(-4.874)**	(-4.858)**
CAR (-1, 0)	-0.257	-1.256	-0.917
	(-0.995)	(-4.860)**	(-3.550)**

** Significantly different from zero at 1 % level

9.1.1: **Bidders in share offers**

The results in Table 9 show that for share bidders, the abnormal return on the day prior to the first announcement (day -1) of the offer is - 0.3662 which is not significantly different from zero (t=-2.006). The abnormal return on the announcement day (day 0) is -0.8898 which is significant at 1 % level (t=-4.874). The two-day (day -1 and 0) announcement CAR is -1.256 which is also significant at 1 % level (t=-4.860). These results indicate that, on average, the shareholders of bidding firms offering shares as a means of payment to the target shareholders in takeovers experience significant losses at the announcement of the offer. These results are consistent with the predictions of the information hypothesis that the announcement of share offers have a negative impact on the bidder's share price. The announcement of the shares offer may have conveyed a negative signal to the market about the true value of the bidder's shares. The market perceive that the bidder's share price is overvalued and it tries to exploit the situation by making a share offer. As a consequence, there is a selling pressure on bidder's share price at the announcement of the offer.

However, the significant negative abnormal returns to bidders in share offers at the announcement could be partially due to market's perception of share offers vis-a-vis cash offers. The market's perception of a lower probability of success of share offers relative to cash offers could have also contributed towards the bidders' negative abnormal returns at the announcement of the offer. Jensen and Ruback (1983) in their analysis of takeovers in the US showed that share offers had a higher probability of failure than cash offers.

9.1.1 (A): **Evidence on the possibility of bidders purchasing their own shares after the announcement of the offer**

Fallon and Srodes (1988) suggest that in share offers, bidders are sometimes suspected of supporting their share prices by repurchasing their own shares in the market through the financial intermediaries after the official announcement.

Although repurchasing of own shares was until recently illegal in the U.K., there is evidence in some major takeovers (for example, Guinness takeover of Distillers, Hanson Trust's takeover of Imperial Group, and even in the BTR's bid for Pilkington (Gray and McDermott (1989)) that bidders do practise this support operation to: (a) counter the fall in their share price after the announcement and hence make the share offer attractive and (b) to offset the possibility that a rival bidder, who may be a white knight to the target, will sell the initial bidders' shares in the market and encourage others to do the same, on the basis that the initial bidder's share price would fall significantly and the offer would be unattractive and likely to fail, or even if the bid succeeds, to ensure that the winning bidder pays expensively.

If most bidders practise the support operation, the post-announcement abnormal returns of bidders in share offers can be expected to be significantly positive.

Evidence from Table 9 (A) in the Appendix (bidder returns in share offers) is not consistent with the hypothesis that most bidders support their share prices after the initial announcement of the offer. Although the abnormal returns in the post-announcement period for bidders in share offers show a positive trend, they are not significantly different from zero. However, it is possible that the positive trend in the price becomes significant as the closing date of the initial offer approaches, which is beyond the scope of this study.

9.1.1 (B): Evidence of leakage of information in the pre-announcement period for bidders in share offers

Takeovers have a smaller probability of being anticipated relative to mergers because of the way they are planned and executed. Nevertheless, there is always a possibility of a takeover being leaked before the official announcement. In share offers, where considerable administrative and regulatory requirements need to be complied with before making the offer, the possibility of leakage is higher relative to cash offers. The findings in Table 9 (A) show that the pre-announcement (day -5 to day - 2) abnormal returns of share bidders are not significantly different from zero. The abnormal return on day -1 which was significantly negative probably because the bidder made the offer announcement before the market closed. These findings suggest that for the sample studied, there is no evidence of information leakage from day -5 to day -2 before the announcement of the offer.

9.1.2: Bidders in cash offers

For bidders offering cash as the means of payment to their target shareholders, Table 9 shows that the abnormal returns on day -1 (AR=0.1129, t=0.618) and the announcement day (day 0) (AR=-0.3699, t=- 2.026) are not significantly different from zero. The two-day announcement CAR is -0.257 which is also not significantly different from zero (t=- 0.995). These results indicate that shareholders of bidding firms in cash offers neither lose nor gain at the announcement of the offer. The results are not consistent with the prediction of information hypothesis which suggests that cash offers have positive impact on the bidder's share price at the announcement of the offer. The statistically insignificant two-day announcement abnormal returns for bidders in cash offers could be possibly due some information leakage about the offers before the official announcement and the effect of the announcement on the bidder's share price was small.

However, the abnormal returns of cash bidders from day -5 to day 0 are not significantly different from zero (Table 9 (B)), which suggests that there is no evidence of information leakage immediately before the announcement of the offer and if information leakage did occur it must have taken place before day -5.

9.1.3: Bidders in combination offers

For bidders in the combination offers, Table 9 indicates that their shareholders experience negative abnormal returns on the announcement day (AR=-0.8871, t=-4.858) and for the two-day announcement period (CAR=-0.917, t=-3.55) which are significantly different from zero at 1 % level. These results suggest that most of the combination offers studied had a higher proportion of shares in the offer. The negative effect of the share portion must have outweighed the positive effect of the cash portion of the offer.

9.2: Difference in the announcement period returns of bidders in the cash, share and combination offers

To ascertain whether there is any significant difference in the announcement day AR and the the two-day announcement CAR between the cash, shares and the combination bidders, the daily mean differences of abnormal returns were calculated for the eleven days surrounding the announcement. The results are presented in Tables 9.1 (A), (B) and (C) in the Appendix, and the summary of the differences in the abnormal returns and the cumulative abnormal returns are presented in Table 9.1 below.

9.2.1: Cash versus share offers

The Information Hypothesis makes two predictions with respect to bidder returns in cash and share offers. First, for the pre-announcement period the returns to bidders in share offers are relatively higher than returns to bidders in cash offers.

Evidence from Table 9.1 (A) in the Appendix indicates that the difference in the average abnormal returns between cash and share bidders in the pre-announcement period (day -5 to day -1) is not significant, and therefore not consistent with the Information Hypothesis. Second, if the information effects are present and assuming other things being equal, the returns to bidders in cash offers will be higher than in share offers at the two-day announcement period. Specifically, the following hypothesis is tested:

H_0: **The returns to bidders in cash offers are higher than those in the share offers at the two-day announcement period.**

H_1: **The returns to bidders in cash offers are equal to or lower than those in the share offers at the two-day announcement period.**

Table 9 shows that the returns to bidders in cash offers at two-day (day -1 and day 0) announcement period are negative but not significantly different from zero. The two-day announcement period returns to bidders in the share offers are negative and significantly different from zero at 1 % level.

Table 9.1 shows that the difference in the two-day announcement period abnormal returns of cash and share bidders is positive and significant at 5 % level (CAR(-1,0)=0.999, t=2.01).

These findings suggest that, on average, the returns to bidders in cash offers are higher than those in share offers at the two-day announcement period, therefore the null hypothesis cannot be rejected. The findings are also consistent with the Information Hypothesis which suggests that at the announcement, the returns to bidders in cash offers are higher than those in share offers.

9.2.2: The combination offer versus the share offer and cash offer

The Information Hypothesis is silent with respect to bidders in the combination offers and no hypothesis is tested for bidders in this category. However, as a matter of interest, the differences in the two-day announcement abnormal returns for bidders in these categories were calculated. Table 9.1 shows that the difference in the two-day announcement abnormal returns for bidders in the 'cash versus combination' is positive and for bidders in the 'share versus combination' category is negative but both differences are not significantly different from zero.

The negative and significant two-day announcement abnormal returns for bidders in the combination category as shown in Table 9 implies that most of the combination offers studied had on average a higher proportion of shares in the offer. If this implication about the combination offers could be related to the 'cash versus combination' and the 'share versus combination' offers, it implies that for the former category the positive effect of the cash offers outweighed the negative effect of the share offers but the positive difference is not significantly different from zero.

For bidders in the 'share versus combination' category the negative effect of the share offers outweighed the positive effect of cash offers but the negative difference is not significantly different from zero.

Table 9.1

Summary of the differences in the AR and CAR on day -1 and day 0 for bidders in the cash, share and combination offers. The t -statistics are in parentheses.

Means of Payment

Event Day	Cash vs. Shares	Cash vs. Combination	Shares vs. Combination
-1	0.480	0.206	-0.272
	(1.470)	(0.871)	(-1.30)
0	0.519	0.581	0.061
	(1.970)	(2.390)*	(0.240)
CAR (-1,0)	0.999	0.787	-0.211
	(2.01)*	(1.93)	(-0.312)

* Significantly different from zero at 5 % level

Table 9 shows that the two-day announcement abnormal returns for bidders offering shares is negative and significantly different from zero at 1 % level (CAR(-1,0)=-1.256, t= -4.860). These findings are consistent with the findings of Dodd (1980), Asquith (1983), Dennis and MacConnel (1986) and Travlos (1987) on bidder returns in share offers in the US. Bidders in their studies experienced significant negative abnormal returns at the two-day announcement period. Other studies in the US which used monthly returns reported mixed results for their bidders in the share offers. For example, Mandelker (1974) reported insignificant positive abnormal returns, Asquith (1982) reported significant positive returns and Franks, Harris and Mayer (1988) reported significant negative abnormal returns. The inconsistent results reported in studies using monthly returns could be due to the confounding effect of exogenous events on the monthly returns. Fishman (1986) suggested that bidders in cash offers experience positive and significant abnormal returns in the post-announcement period. The abnormal returns for cash bidders in the post announcement period (day +1 to day +5) in this study (Table 9 (B)) are positive but only abnormal returns on day +1 are significantly different from zero, which is not consistent with Fishman's suggestion.

9.3: Target returns

There is considerable documented evidence in the US that shareholders of target firms earn significant positive abnormal returns as a result of a bid, and that the shareholders of successfully acquired firms earn larger returns for a longer period of time than the shareholders of target firms which successfully defend themselves (Jensen and Ruback (1983)). There is also evidence that of successfully acquired targets, those that were subjected to cash offers earned higher abnormal returns than those subjected to share and combination offers at the announcement of the offer (Huang and Walking (1987)).

This study intends to test the empirical validity of Huang and Walking's(1987) findings on the returns and the differences in the returns to targets subjected to cash and share offers at the announcement of the offer in the US on a sample of successfully acquired targets incorporated in the U.K. This study also intends to determine whether the returns to target firms in cash, shares and combination offers are significantly positive and if there is any significant difference in their returns at the announcement of the offer.

As in the US, cash and share offers in the U.K. have different tax implications because cash offers generate tax obligations for the target firms' shareholders but allow the bidder to raise the writing-down allowance (depreciation charges) of the acquired assets to their fair (market) value through the application of acquisition accounting method (SSAP 14).

In cash offers, the application of acquisition accounting method requires the bidder to record the target firm's assets and liabilities in the consolidated accounts on fair value basis (which is the market value at the effective date of the takeover). Consequently, this will increase the writing-down allowance, lower the taxable income and increase the cashflows.

In share offers, any capital gains realised by the target shareholders are deferred until the shares are sold and the application of merger accounting method does not require the bidder to adjust the values of the assets and liabilities acquired to their fair values in its own books or on consolidation. The only adjustments appropriate are those to achieve uniformity of accounting policies in the bidder and target firms.

In the US, Wang, Lane and Yang (1983) and Huang and Walking (1987) provided evidence that due to the capital gains tax liability of accepting target shareholders in cash offers, the bidding firm pays a higher acquisition price in cash offers to offset the liability.

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From the bidders point of view, the high acquisition price in cash offers relative to share offers in part reflects the additional tax credits captured by the bidding firm in terms of higher writing-down allowances (depreciation tax shield). However, it is difficult to ascertain whether the bidding firms benefit from the additional tax credit associated with cash offers once the higher acquisition price is considered, because it depends on the degree of competition in the market for corporate control, alternative tax shields, effective tax rate of the bidders and the profitability of the firm (Rappaport (1987)). For example, the more competitive the market for corporate control the higher the price offered for the target, and the additional tax credit from the increase in the writing-down allowances may not compensate the high price offered. Firms with other ways to shield taxable income such as investment tax credits and payments of additional interest tax shield on debts, will value tax shield from higher writing-down allowances less highly than those without alternative tax shields. Firms facing high marginal tax rate will recoup the greatest benefit from additional tax credit captured through higher depreciation charges.

Tax shield from higher depreciation charges will be worth more to profitable and relatively stable firms that are likely to have taxable income to shield than firms with accumulated tax losses or uncertain prospects.

However, in contrast to investors in the US, investors in the U.K. are allowed to deduct certain expenses from the gains on sale of shares such as selling and buying expenses and capital losses on sale of other shares during the same period and inflation allowances, after which if the gains exceed £5000 (1989/90) they will be taxed on the investor's top slice tax rate. These tax deductible allowances are permitted by the present government in an effort to encourage the public to invest in shares especially through the Business Expansion Schemes and investments through the Unit Trusts, Investment Trusts, Pension Funds and Insurance Companies.

Institutional investors own about 70 % of the equity of all listed firms in the U.K. (Stock Exchange Quarterly, 1988), and some of these institutional investors such as the Unit Trusts and Investment Trusts are currently exempted from capital gains tax. Taking all these factors into consideration it is possible that target shareholders subjected to cash offers in the U.K. are not compensated for the capital gains tax liability and if this is true, assuming other things being equal, the differences in the abnormal returns to target shareholders in the cash offers and share offers should not be significantly different from zero.

Specifically, the following hypothesis is tested:

H_0: The target shareholders subjected to cash, shares and combination offers earn positive abnormal returns at the two-day announcement period.

H_1: The target shareholders subjected to cash, shares and combination offers earn zero or negative abnormal returns at the two-day announcement period.

Tables 9.2 (A), (B) and (C) in the Appendix present the details of the abnormal returns and cumulative abnormal returns for cash, shares and combination targets for the eleven days surrounding the initial announcement. Table 9.2 below presents the summary of average abnormal returns and cumulative abnormal returns on day -1 and day 0 (announcement day).

Table 9.2

Summary of the AR and CAR for targets subjected to cash, share and combination offers, on day -1 and on the announcement day. The t-statistics are in parentheses.

Means of Payment

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Event Day	Cash	Shares	Combination
-1	1.6703	1.1700	1.1981
	(9.148)**	(6.408)**	(6.562)**
0	2.2039	2.5010	1.7128
	(12.066)**	(13.693)**	(9.381)**
CAR(-1,0)	3.874	3.671	2.911
	(14.976)**	(14.218)**	(11.274)**

** Significantly different from zero at 1 % level

9.3.1: Targets subjected to share offers

The results in Table 9.2 show that for share targets, the abnormal returns on day -1 (AR=1.1700, t=6.408) and the announcement day (AR=2.5010, t=13.693) are positive and significantly different from zero at 1 % level. The two-day announcement cumulative abnormal return is 3.671, significant at 1 % level (t=14.218). These results indicate that on average target shareholders in share offers experience significant positive abnormal returns at the two- day announcement period.

9.3.2: Targets subjected to cash offers

For targets subjected to cash offers, Table 9.2 shows that the abnormal returns on day -1 (AR=1.6703, t=9.148) and the announcement day (AR=2.2039, t=12.066) are positive and significantly different from zero at 1 % level. The two-day announcement CAR is 3.874 which is also significant at 1 % level (t=14.976). These results indicate that target shareholders in cash offers experience significant positive abnormal returns at the two-day announcement period.

9.3.3: Targets subjected to combination offers

For targets subjected to a combination offers, the abnormal returns on day -1 (AR=1.1981, t=6.562) and the announcement day (AR=1.7128, t=9.381) are positive and significantly different from zero at 1 % level. The two-day announcement CAR is 2.911 which is significantly different from zero at 1 % level (t=11.274). These results imply that target shareholders in combination offers earn significant positive abnormal returns at the two-day announcement period.

These findings indicate that irrespective of the means of payment offered by bidders to their targets, the target shareholders earn significant positive abnormal returns at the two-day announcement period, consistent with the findings on target returns in the US. Based on these findings the null hypothesis of positive returns to target shareholders at the two-day announcement period in cash, shares and combination offers cannot be rejected at 1 % level. These positive abnormal returns might be due to the premiums offered by bidders to target shareholders at the announcement of the offer.

9.4: Differences in the announcement period returns to targets subjected to cash, share and combination offers.

The results in Table 9.2 show that the two-day CAR for cash targets is marginally higher than that of share targets and considerably higher than that of combination targets. To ascertain whether there is any significant difference in the two-day CAR of cash, shares and combination targets, the daily mean differences in abnormal returns were calculated. The results are presented in Tables 9.3 (A), (B) and (C) in the Appendix and the summary of these tables is presented in Table 9.3 below.

9.4.1: Cash versus share offers

In view of the documented evidence of higher returns to target firms subjected to cash offers than that of share offers due to the immediate capital gains tax liability of target shareholders in cash offers in the US and the possibility that this evidence is not valid for target firms in the U.K. because of the more lenient capital gains tax system in the U.K., the following hypothesis is tested:

H_0: Target shareholders subjected to cash offers earn equal or lower abnormal returns than those in share offers at the two-day announcement period.

H_1: Target shareholders subjected to cash offers earn higher returns than those in share offers at the two-day announcement period.

Table 9.3 shows that the returns to targets in the 'cash versus share' category on day -1 (AR=0.500, t=0.820) and day 0 (AR=-0.297, t=-1.52) are not significantly different from zero. The two-day CAR is 0.203 which is also not significantly different from zero (t=0.170). Based on these findings the null hypothesis of no difference in the returns to target shareholders subjected to cash and share offers at the announcement of the offer cannot be rejected.

Table 9.3

Summary of the differences in the AR and the CAR for cash, share and combination targets on day -1 and on the announcement day. The t-statistics are in parentheses.

Means of Payment

Event Day	Cash vs. Shares	Cash vs. Combination	Shares vs. Combination
-1	0.500	0.472	-0.028
	(0.820)	(0.760)	(-0.150)
0	-0.297	0.491	0.788
	(-1.52)	(0.890)	(0.980)
CAR (-1, 0)	0.203	0.963	0.760
	(0.170)	(0.850)	(0.810)

These findings are not consistent with the documented evidence of the difference in the two- day announcement CAR of successfully acquired cash and share targets in the US (Wansley, Lane and Yang (1983), Huang and Walking (1987), Travlos (1987)). These studies show that shareholders of cash targets always earn higher abnormal returns than those of share targets.

The findings of no difference in the abnormal returns to target shareholders in cash and share offers at the two-day announcement period in the U.K. may be explained by taxation factors. In the U.K., an investor does not pay capital gains tax on profits from sale of shares until those profits amount to £5000 (1989/90). The investor is allowed to make the following deductions from the capital gains on the sale of shares: the buying and selling expenses; inflation allowance and losses on sale of shares that the investor has sold in the same year. Investors are also able to practise 'bed and breakfast' transactions which involve selling shares on one day and buying at the beginning of the next day to establish losses which are deductible from capital gains before tax. The capital gains tax is charged at the investor's top slice of income tax.

As for the institutional investors such as Investment Trusts and Unit Trusts who are major shareholders in most firms, they are exempted from paying capital gains tax on transactions made by the fund, as part of the government's strategy to encourage the public to invest in shares. These exemptions however do not cover insurance firms. Financial institutions in the U.K. hold about 70% of the listed U.K. equities of large British firms (Stock Exchange Quarterly, 1988).

Therefore, unlike in the US, there is no evidence of significant difference in abnormal returns of cash and share targets at the announcement of the offer in the U.K. These findings are consistent with the notion that bidders do not compensate the target shareholders for the capital gains tax liability in cash offers. This is probably due to target shareholders in cash offers in the U.K. are able to mitigate their capital gains tax liability themselves.

These findings are inconsistent with that of Franks, Harris and Mayer's (1988) on cash and share target returns in the U.K. They found that the returns to target firms subjected to cash offers were higher than those in the share offers in the announcement month. This inconsistency could be due to two possible reasons: First, the studies related to different time periods. This study covers firms involved in takeovers from January 1985 to July 1988 whereas Frank et. al. study covers the period from January 1955 to June 1985.

Although Franks et. al. suggested that the difference in the cash and share target returns in their study cannot be completely explained by the capital gains tax factor because part of their sample covers the period earlier than 1965 (whereas the capital gains tax was first introduced in the U.K. in 1965), it is possible that investors incurring capital gains tax liability during the early years of the tax (i.e. April 1965 to April 1982) had a greater tax liability relative to investors in the later years (i.e. April 1982 onwards).

The present government in its effort to encourage the public to invest in shares has over the years gradually lightened the incidence of capital gains tax liability on investors by introducing the following amendments to its capital gains tax system (Homer and Burrows, 1988):

The introduction of indexation allowance in April 1982. This allowance allowed the investor to deduct from the proceeds of sale of shares the increase in the retail price index since April 1982 to the month of disposal.

The annual exemption threshold for capital gains tax (CGT) is £5000 (1988/1989). Unless it is a large investment, this allowance reduced the chances of most small investors to qualify for the CGT liability.

Since 1986 the government has introduced Personal Equity Plans (PEP's) to encourage savings through purchase of shares which enable investors to invest up to £3000 a year and, provided this investment is held for a minimum of one or two years, any capital gains and reinvested dividends are entirely tax free and remain so as long as the investment is held.

Since 1987 investors are allowed to practice 'bed and breakfast' transactions where shares are sold and bought back the next day to establish losses which are deductible from the gains. However, this practice is only allowed if both the purchase and sale are fully completed with consequent costs involved including the difference between the buying and selling price.

The introduction by the Finance Act 1988 of the right to have all gains and losses on assets acquired before 31st March 1982 calculated as if they had been acquired at their market value on that date. This effectively reduced the potential capital gains tax liability of shareholders who invested in shares before 31st March 1982 and were still holding their investment at that date.

Second, Frank et. al. study used monthly returns instead of daily returns and it is possible that the monthly returns are confounded by other events occurring in the same month as the offer.

9.4.2: **Cash versus combination and share versus combination offers**

As a matter of interest, the differences in the announcement period returns to target shareholders in the 'cash versus combination' and 'share versus combination' categories were also calculated, and the results are presented in Table 9.3. The differences in the two-day announcement abnormal returns in both categories are positive but not significantly different from zero.

9.5: **Total bidder and target returns**

Previous studies on acquisitions in the U.K. by Newbould (1970), Singh (1971), Utton (1974), Franks, Broyles and Hecht (1977), Firth (1980), Barnes (1978, 1984) and Dodd and Quek (1985) concentrated on returns to bidders and targets in mergers rather than takeovers. This could have been due to the availability of data on mergers and/or the popularity of this technique at that time. These studies which used different methodologies on different samples of firms in different time periods concluded that mergers in general did not create any wealth for the bidder shareholders though the target shareholders always gained. At present takeovers are as popular as mergers in the U.K. and yet there is little published evidence on firms involved in takeovers.

Unlike mergers, the bidder in a takeover invites the target shareholders to sell their shares at a premium above the current market price. The bidder in a hostile takeover does not negotiate with the target management but only informs them of the attempt at a very short notice in compliance with the requirements of the Takeover Code. Because the target management is informed at a very short notice before the announcement, the surprise attack makes it more difficult for them to build up an effective defence and hence gives the bidder a better chance of success.

The surprise nature of the takeover also makes it difficult to compare the returns to bidders and targets in takeovers and mergers at the announcement of the offer.

In this section no attempt is made to compare the returns to all the bidders and targets in the sample of takeovers and mergers but the returns to bidders and targets in takeovers are presented and discussed below.

It is expected that at the announcement of the takeover the bidder will offer a price which is above the current market price but below the estimated value of the target firm to the bidder.

If the bidder is successful in acquiring the target firm at this price, part of the potential gains from the takeover identified by the bidder should accrue to their shareholders, and bidder shareholders' should therefore earn positive abnormal returns at the announcement of the offer. The shareholders of the target firm should also earn positive abnormal returns, as the result of the premiums typically offered by the bidder.

In the U.K., there is very little published evidence on returns to bidders and targets in takeovers. Frank, Harris and Mayer's (1988) study provides evidence on returns to bidders and targets in takeovers classified according to the means of payments offered to their targets, but not on total returns on bidders and targets in takeovers. Evidence from the US on bidder returns in takeovers shows inconsistent results, in particular the two-day announcement abnormal returns for bidders is positive but statistically insignificant in Asquith (1983), negative and statistically significant in Dodd (1980) and Asquith and Kim (1982) and statistically significant positive returns in Bradley, Desai and Kim (1983) and Bradley (1980), and Jarrell and Poulsen (1989).

In general, most findings on daily and monthly announcement returns to bidders in takeovers tend to show that bidders suffer losses at the announcement of the offer (Jensen and Ruback (1983)). The results on announcement period targets returns in takeovers in all these studies are consistently positive.

Finance theory predicts that firms pursue new capital investments when the investments have positive effects on their market value. McConnell and Muscarella (1985) provide evidence in support of this view, reporting a significant positive share price reaction for a sample of industrial firms which announced an increase in planned capital expenditures.

Acquisitions are also planned capital expenditures and if the acquisition has any wealth-creating effect for the bidder firm, the bidder returns at the announcement of the offer should be positive.

To ascertain the wealth effect of takeover announcements to bidders and targets involved in hostile bids in the U.K., the following hypotheses are tested:

(Bidder Returns)

H_0: **Bidder shareholders in takeovers earn positive abnormal returns at the announcement of the offer.**

H_1: **Bidder shareholders in takeovers earn zero or negative abnormal returns at the announcement of the offer.**

(Target Returns)

H_0: **Target shareholders in takeovers earn positive abnormal returns at the announcement of the offer.**

H_1: **Target shareholders in takeovers earn zero or negative abnormal returns at the announcement of the offer.**

This section presents the average abnormal returns and the cumulative abnormal returns for all the bidders and targets in takeovers for the eleven days surrounding the announcement. The details are presented in Tables 9.4 (A) and (B) respectively in the Appendix and the summary of the two-day announcement period returns from these tables are presented in Table 9.4 below.

Table 9.4

Summary of the average abnormal returns (AR) and the cumulative abnormal returns (CAR) of all bidders and targets in takeovers at the two-day announcement period. The t-statistics are in parentheses

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	Event Day	AR
	-----------	--------
	-1	-0.1005
		(-0.954)
Bidders		
	0	-0.8915
		(-8.457)**

Bidder CAR (-1,0)   -0.992

(-6.65)**

	-1	1.4322
		(7.844)**
Targets		
	0	2.0534
		(11.250)**

Target CAR (-1, 0)   3.486

(23.385)**

** Significantly different from zero at 1 % level

9.5.1: **Bidder returns**

Table 9.4 shows that for bidders, the abnormal return on day -1 is negative (AR= -0.1005) but not significantly different from zero (t=-0.954) at 1 % level, whereas the announcement day abnormal return is negative (AR=-0.8915) and significantly different from zero at 1 % level (t=-8.457). The two-day announcement CAR is negative (CAR= -0.992) and significantly different from zero at 1 % level (t=-6.65). These results indicate that bidders shareholders in takeovers suffer losses at the announcement of the offer and the null hypothesis of positive returns to bidders at the announcement of the offer is rejected at 1 percent level.

The findings of negative abnormal returns to bidder shareholders at the announcement of the offer are not consistent with the view that acquisitions are wealth creating investments. However, it is possible that the positive wealth effect of takeover announcements is dominated by the combined effects of other factors which are beyond the control of research design. For example, in the enthusiasm to takeover target resources, the bidder management may characteristically overstretch its financial and management resources. Some consequent losses of efficiency in its current business activities may be expected and reflected in the share price.

However, the overall negative returns to bidders at the announcement of the offer is consistent with the notion that bidders believe that the market has a consistently short-term horizon. The bidders have a long-term view of their investment and do not make their investment decisions based on the market's perception of their investment. This suggest that, on average, bidders seems not to believe in market efficiency and therefore do not use market signals as a basis for their takeover decision.

The short-selling of bidders' shares around the announcement of the takeovers by arbitrageurs could have contributed to the significant negative abnormal returns at the two-day announcement period. This action on part of arbitraguers exerts a downward pressure on the bidders' share price.

The market might have already anticipated the acquisition strategy of the bidding firms before the analysis period, thus mitigating any valuation effect at the time of the formal announcement.

The significant negative abnormal returns for all bidders at the two-day announcement period in this study are not comparable with that of Barnes (1978, 1984) and Dodd and Quek's (1985), Utton (1974), and Franks, Broyles and Hecht's (1977) findings on returns to bidder firms, because they studied a sample of mergers rather than takeovers.

The findings are also not directly comparable to Franks, Harris and Mayer's (1988) findings on bidder and target returns in takeovers because their sample of bidders and targets was classified according to means of payments, and they used monthly returns.

However, the negative announcement day returns for all bidders in this study are consistent with the evidence from the US. For example, Langetieg (1978), Asquith (1983), Eger (1983) and Malatesta (1983) used different samples for different time periods and concluded that bidder firms' earned significantly negative abnormal returns at the announcement of the offer.

9.5.2: **Target returns**

For target firms, Table 9.4 shows that the abnormal return on day -1 (AR= 1.4322) and the announcement day (AR= 2.0534) is positive and significantly different from zero at 1 % level. The two-day announcement CAR is also positive (CAR= 3.486) and significantly different from zero at 1 % level (t=23.385).

These results indicate that the target shareholders earn significant positive abnormal returns at the announcement of the offer and the null hypothesis of positive abnormal returns to target shareholders at the announcement of the offer cannot be rejected.

The positive abnormal returns to target shareholders at the announcement of the offer could be due to the expected benefits of the takeover but can be attributed mainly to the large premiums offered by the bidders.

Two days prior to the official announcement, there is evidence of positive abnormal returns (AR=0.2658) which is significantly different from zero at 5 % level (t= 2.521), which could be due to information leakage about the offer. However this seems to be a one sided leakage as there is no evidence of abnormal share price activity for bidders during the same period.

The positive and significant two-day announcement period abnormal returns for targets in takeovers in the U.K. are consistent with the findings of announcement period target returns in takeovers in the US as reported by Langetieg (1978), Bradley (1980), Dodd (1980), Asquith and Kim (1982), Asquith (1983), Bradley, Desai and Kim (1983), Eger (1983) and Malatesta (1983).

9.6: Combined gains

If bidder managers seek to maximise their shareholders' wealth, their takeover activity can be justified only if there is some form of synergy present which will contribute towards the creation of such wealth. Synergy may manifest itself in the form of an increase in market power, possession of a new technology, research and development facilities, better distributional facilities, skilled management, production and sales economies of scale or any other form which will help towards the creation of more wealth. The presence and the potential of exploiting these expected synergies partially explain the rationale for bidders willing to offer large premiums for their targets.

In ascertaining the presence of synergy in takeovers through abnormal returns analysis it is difficult to identify the particular type of synergy present, but the expected synergy can be assumed if the combined abnormal returns of bidders and targets are significantly positive at the announcement of the takeover offer. Specifically the following hypothesis will be tested:

H_0: **The combined returns to bidders and targets are positive at the two-day announcement period.**

H_1: **The combined returns to bidders and targets are zero or negative at the two-day announcement period.**

To ascertain the presence of expected synergy in takeovers, the combined returns to bidders and targets at the two-day announcement period were calculated and the results are presented in Table 9.5 below.

Table 9.5

Summary of the two-day announcement cumulative abnormal returns (CAR) and combined returns for all bidders and targets in takeovers and bidders and targets classified according to the means of payment. The t-statistics are in parentheses.

	Total Sample	Cash	Shares	Combination
	N=90	N=30	N=30	N=30
	-------	------------	-------	--------------
Bidders	-0.992	-0.257	-1.256	-1.044
	(-6.65)**	(-0.995)	(-4.86)**	(-4.04)**
Targets	3.486	3.874	3.671	2.911
	(23.385)**	(14.976)**	(14.211)**	(11.266)**
Combined Gains	2.494	3.617	2.415	1.867
	(4.67)**	(3.42)**	(2.71)*	(2.03)*

** Significantly different from zero at 1 % level

* Significantly different from zero at 5 % level

9.6.1: Total sample

Table 9.5 shows that for the total sample of 90 bidders and 90 targets, shareholders of bidding firms earn significant negative abnormal returns whereas shareholders of target firms earn significant positive abnormal returns for the two - day announcement period. The gains to target shareholders more than compensate the losses to bidder shareholders and the combined gains are positive (AR=2.494) and significant at 1% level (t=4.67). Based on these findings the null hypothesis of positive combined returns to bidders and targets in takeovers at the two-day announcement period cannot be rejected.

These findings are consistent with the notion that the market recognises expected benefits from takeovers at the announcement of the offer, although a major portion of the benefits seem to accrue to the target shareholders. The distribution of expected benefits at the announcement of the offer could have been influenced by a combination of factors such as competition for the target, target management's resistance, bidder's lack of information about the target firm and its industry and consequently committing a negative valuation error.

It can be expected that when the bidder is successful in acquiring the target resources and able to implement a higher valued operating strategy to exploit the expected benefits from the takeover, it will be able to earn the expected return on its investment, which is reflected in the share price at the announcement of the offer. However, the positive effects of expected benefits could be overshadowed by the effects of other factors operating simultaneously such as competition, target resistance, valuation error and means of payment.

The bidder's ability to realise the potential synergies in the post takeover period will depend on how well it is able to integrate the target resources into its own organisation. The market, however, gauges the bidder's ability to realise the expected benefits of the takeover from its past experience, which is discounted in the bidder's share price at the announcement of the offer.

In essence, the findings of positive combined returns in takeovers imply that the intense takeover activity in recent years is not without purpose, as wealth is created in the process which is socially and economically desirable. The positive combined returns also imply that takeovers are an effective means of employing resources to a higher value use and indirectly an effective tool to discipline complacent managers.

9.6.2: Combined returns of bidders and targets in the cash, share and combination offers

Table 9.5 shows that the combined returns for bidders and targets in the cash, share and combination offers respectively are positive and significantly different from zero. However there was no significant difference in the combined gains of bidders and targets in the cash, share and combination offers. These results imply that, irrespective of the means of payments offered, takeovers are wealth creating investments.

9.7: Growth maximisation hypothesis

In recent years it is observed that takeovers are more frequent between firms in seemingly unrelated or loosely related businesses. Also, most acquired targets are left to operate as autonomous divisions run by the same management team that controlled it before the takeover. One possible reason for this is that there is a possibility that firms are responding towards the government's tough anti-competitive rules on takeovers.

When one firm takes over another in the same industry, the other firms in the industry may feel vulnerable and resort to defensive measures such as pursuing the takeover of other firms, even in unrelated or loosely related businesses. The reaction of the other firms is expected to restore some sort of equilibrium in the industry in terms of relative firm size.

There is an incentive to increase size because size makes it difficult and expensive for a potential bidder. The targets are usually left to manage their own business with minimum interference possibly due to the bidder's lack of expertise in the target's business and/or the difference in the bidder's management style (i.e. Strategic control or Financial control type of management).

Robin Marris (1964), Mueller (1969) and Murphy (1985) suggest that bidder managers pursue growth rather than profit objective because size provides both pecuniary and non-pecuniary benefits to the bidder managers. Wiedenbaum and Vogt (1987) argue that managers prefer to increase the size of their corporation because the ability of shareholders to monitor management decreases in larger and complex organisations.

If most bidder managers pursue takeovers basically for growth purposes at the expense of their shareholders' interests, we can expect on average their combined gains to be either zero or negative.

The findings of positive and significant combined gains shown in Table 9.5 above are not consistent with the hypothesis that bidders pursue takeovers with the intention to increase firm size rather than shareholders' wealth. The findings are consistent with the activities of large conglomerates in the U.K., such as BTR and Hanson Trust.

Their success is attributable to the strong management team which effectively employs a 'financial-control' type of management style and pursues an effective rationalisation policy once it takes control of the target resources.

BTR and Hanson Trust takeover firms in unrelated business, keep the most profitable part of the business and sell off the other parts which have very poor fit with its own business and are making losses. The proceeds from the sale help to recoup part of the purchase price.

The positive significant combined gains of bidders and targets in this research do not support Roll's (1986) hubris hypothesis which postulates that takeovers are a zero-sum game, that is, gains to target shareholders are offset by the losses to bidder shareholders. In the U.K., there is no published evidence of combined gains of bidders and targets in hostile takeovers, though there is evidence of combined gains of merging firms in the industrial sector provided by Firth (1980) and in the brewing and distilling sector by Franks, Broyles and Hecth (1977). However, it is not appropriate to compare the findings of combined gains of firms involved in hostile bids in this study with those of Firth's or Frank's et.al because mergers are technically different from hostile bids.

9.8: **The presence of co-insurance effect**

Lewellen (1971)) has suggested that when a bidder takes over a target whose cashflows are not perfectly correlated with its own, there would be a reduction in the default risk of the combined firm's debt and an increase in the market value of the debt. Assuming the takeover has no synergistic wealth creating effects (i.e. the combined gains of bidder and target are zero), an increase in the market value of debt would be offset by an equal decrease in the value of the combined firm's equity. This implies a wealth transfer from shareholders to debtholders (i.e. bondholders or other forms of lenders). This phenomenon is termed as the co-insurance effect, and can also take the form of wealth transfer from debtholders to shareholders if the bidder management invest in risky projects with new debt.

Higgins and Schall (1975) have suggested that one way to negate the transfer of wealth from shareholders to debtholders is for the bidder to increase its financial leverage before the takeover to a point that the post-takeover default risk of previously outstanding debt is sufficiently increased. This implies that if the co-insurance effect of wealth transfer from shareholders to debtholders is present, shareholders of low financial leveraged bidders will tend to suffer greater losses (or earn lower returns) than the shareholders of bidders with a higher degree of leverage.

This implication is tested on a total sample of bidders in takeovers in this study, which were subdivided into categories of high, medium and low leverage firms.

The financial leverage was measured in terms of total loan capital divided by the total capital employed as per latest balance sheet before the announcement of the offer, which ranged from 0% to 29%. It was arbitrarily decided that those bidders that had leverage from zero to 9.99% will be classified as low leveraged bidders, those in the range of 10% to 19.99% as medium leveraged and those with higher than 20% as highly leveraged. Financial leverage was measured in terms of total loan capital divided by total capital employed because it was easily available.

Specifically, the following hypothesis is tested:

H_0: **Bidders in the high leverage category earn higher returns than those in the low leverage category at the two-day announcement period.**

H_1: **Bidders in the high leverage category earn an equal or lower returns than those in the low leverage category at the two-day announcement period.**

The abnormal returns of bidders classified according to the degree of financial leverage, for the eleven days surrounding the announcement are presented in Table 9.8 (A) in the Appendix and the summary of the two-day announcement abnormal returns and cumulative abnormal returns are presented in Table 9.6 below:

Table 9.6

Summary of the two-day announcement abnormal returns (AR) and cumulative abnormal returns (CAR) for bidders in the low, medium and high financial leverage categories. The t-statistics are in parentheses.

Degree of Leverage

	Low (0-9.99%) N=34	Medium (10-19.99%)	High (> 20%)	Difference in CAR of Low and High Group
		N=29	N=27	
Event Day	AR	AR	AR	
-1	-0.1059	-0.2471	0.0498	
	(-0.618)	(-1.308)	(0.259)	
0	-0.7037	-0.9852	-0.490	
	(-4.103)**	(-5.213)**	(2.546)*	
CAR(-1,0)	-0.8096	-1.233	-0.440	-0.3696
	(-3.34)**	(-4.69)**	(-1.62)	(-1.72)

** Significantly different from zero at 1 % level

* Significantly different from zero at 5 % level

9.8.1: Comparison of returns to bidders in the 'high' and 'low' leverage category.

Table 9.6 shows that the two-day announcement cumulative abnormal return for bidders in the low leverage category is negative (CAR= -0.8096) and significantly different from zero at 1 % level (t=- 3.34). The two-day announcement CAR for bidders in the high leverage category is also negative (CAR= - 0.440) but not significantly different from zero (t= -1.62). The difference in the two-day announcement cumulative abnormal returns of bidders in the low leverage category and that of high leverage category is negative (-0.3696), but not significantly different from zero (t= -1.72). Based on these findings, the null hypothesis of higher returns to bidders in high leverage category than those in the low leverage category at the two- day announcement period cannot be accepted.

Though no direct test of wealth transfer was carried out due to the lack of appropriate sample, the findings of no difference in the returns to shareholders of bidders in the high and low leveraged categories at the announcement of the offer is not consistent with the implication that shareholders of low leveraged bidding firms earn lower returns than the shareholders in highly leveraged bidding firms.

9.8.2: Returns to bidders in the 'medium' leverage group

Table 9.6 shows that the two-day announcement cumulative abnormal returns for bidders in the 'medium' leverage group is negative (CAR= -1.233) and significantly different from zero at 1 % level, which is apparently lower than the returns to bidders in the 'low' and 'high' leverage groups. However, the difference in the two-day announcement CAR of bidders in the 'medium', 'low' and 'high' leverage groups is not significantly different from zero.

9.9: The presence of the day of the week effect on bidder and target returns in takeovers

It has been suggested in the literature that prices of shares in major stock exchanges are subjected to the day of the week effect, which implies that prices of shares tend to be persistently low on Mondays relative to other trading days of the week (Fama (1965), Cross (1973), French (1980) and Gibbon and Hess (1981)). For example, Fama (1965) reports that Monday's variance of daily returns is about 20% higher than other days, Cross (1973), French (1980) and Gibbons and Hess (1981) also provide evidence of negative average returns for Mondays.

One explanation offered for this effect is that firms release bad news just before the market closes on Friday and the effect on the share price is reflected on Monday, although this explanation is inconsistent with efficient markets.

In this study, 25% of the takeover announcement fell on Mondays, so it is possible that the day of the week effect could have partially influenced the bidder and target returns at the announcement of the offer. To ascertain this possibility, dummy variable regressions were run for all the bidder and targets in which the dependent variable is the two-day announcement cumulative abnormal returns and the independent variable is given the value of one if the announcement falls on Monday and a value of zero if the announcement falls on other days.

The results of the regressions on bidders and targets are presented in Tables 9.7 and 9.8 respectively below:

Table 9.7

Regression results for all the bidders in the takeover sample and for bidders classified according to the means of payment offered. Regressions A to D uses the two-day announcement abnormal returns as the dependent variable. The t-statistics are shown in the parenthesis.

Regressions	Intercept	Monday Effect	N	$r^2(\%)$
A (CASH)	-0.198	-0.322	30	7.0
		(-0.44)		
B (SHARES)	-1.380	0.327	30	5.0
		(0.37)		
C (COMBINATION)	-0.508	-0.868	30	4.0
		(-1.08)		
D (TOTAL)	-0.787	-0.107	90	10.0
		(-0.24)		

Table 9.8

Regression results for all targets in the takeover sample and for targets classified according to the means of payment offered. Regressions E to H uses the two-day announcement abnormal returns as the dependent variable. The t-statistics are in the parenthesis.

Regressions	Intercept	Monday Effect	N	r^2(%)
E (CASH)	0.394	0.695	30	8.5
		(1.61)		
F (SHARES)	2.360	-1.021	30	3.5
		(-1.52)		
G (COMBINATION)	0.933	0.536	30	5.2
		(1.24)		
H (TOTAL)	1.390	-0.127	90	12.1
		(-0.33)		

The findings in Tables 9.7 and 9.8 show that the Monday effect has no significant influence on the two-day announcement abnormal returns of bidders and targets in the cash, shares, combination categories and for all bidders and targets in the takeover sample. The Monday effect is present but not significant enough to influence the findings. Probably the aggregation of the returns into portfolios could have nullified this effect.

9.10: Returns to bidders and targets in mergers

The previous sections discussed the announcement period abnormal returns for bidders and targets in takeovers. This section discusses the announcement period returns of bidders and targets in mergers. There is a technical difference between takeovers and mergers in the sense that a merger is a negotiated deal between the bidder and target management in which the negotiations can start months before the official announcement. A takeover is a surprise attack on the target management, and the bidder directly appeals to the target shareholders to sell their shares. In a takeover, the target management is usually notified of the offer at very short notice before the announcement, in compliance with the requirement of the Takeover Code. This makes it difficult for the target management to defend the bid effectively.

It is desirable to compare the announcement period returns of bidders and targets in mergers and takeovers as, to date, there is no published evidence of such comparison in the U.K. There are many studies conducted on the returns to bidders and targets in mergers per se in the U.K., such as that of Newbould (1970), Singh (1971), Utton (1974), Franks, Broyles and Hecth (1977), Firth (1980), Barnes (1978, 1984) and Dodd and Quek (1985).

These studies provide evidence that bidder shareholders suffer losses and target shareholders enjoy gains at the announcement of the offer and the combined gains are not significantly different from zero.

In the US, there are studies on bidder and target returns in mergers (Dodd (1980), Eckbo (1983), Dennis and McConnel (1986)) and takeovers (Bradley (1980), Bradley and Kim (1985) and Travlos (1987)) which provide a inconclusive evidence on bidder returns but are conclusive on the positive returns to target shareholders at the announcement of the offer.

Based on the evidence of mixed findings for bidder returns in mergers and takeovers at the announcement of the offer, Guilkey, Harris and Stewart (1983) suggested that the inconsistency of bidder returns in the different type of acquisition is due to the different type of payments employed by the bidders, as mergers are usually consummated through a share exchange and takeovers through cash.

However, the inconclusive bidder returns in mergers and takeovers could also be due to the possibility of a difference in the degree of information leakage, the possibility of which is higher in mergers than in takeovers.

In mergers, negotiations may start months before the official announcement, during which period there is a possibility of a gradual leakage of information from the negotiations and appropriate adjustments of the bidders' share price in response to such information. In takeovers, the target management are usually caught by surprise and due to the relatively short time period during which takeovers are planned and executed, the chances of any information leakage well before the official announcement are minimised.

Due to the different ways mergers and takeovers are usually planned and executed it is not meaningful to compare the announcement period returns to bidders and targets in mergers and takeovers, unless one is able to trace back the share price activity of firms in mergers from the day the negotiations started. Due to the difficulty of tracing back the share price activity of bidder firm in mergers from the first day of negotiations, no comparison of returns to bidders and targets in mergers and takeovers at the announcement is attempted.

Previous studies on bidder and target returns in mergers in the U.K. were done on firms sampled in the late seventies and the attempt here is to revisit the subject in context of more recent evidence, especially when considerable regulatory and economic changes have taken place since the earlier studies were conducted. Specifically, the following hypotheses will be tested:

(Bidder Returns)

H_0: **Bidders in mergers earn zero or negative abnormal returns at the two-day announcement period.**

H_1: **Bidders in mergers earn positive abnormal returns at the two-day announcement period.**

(Target Returns)

H_0: **Targets in mergers earn positive abnormal returns at the two-day announcement period.**

H_1: **Targets in mergers earn zero or negative abnormal returns at the two-day announcement period.**

(Combined Returns)

H_0: The combined returns of bidders and targets in mergers is zero or negative at the two-day announcement period.

H_1: The combined returns of bidders and targets in mergers is positive at the two-day announcement period.

The abnormal returns and the cumulative abnormal returns of merger bidders and targets for the eleven days surrounding the official announcement is presented in Tables 9.9 (A) and (B) respectively in the Appendix. The summary of the returns on the announcement day is presented in Table 9.9 below:

Table 9.9

Summary of the abnormal returns (AR) and the two-day announcement cumulative abnormal returns (CAR) of bidders and targets in mergers. The t-statistics are in parentheses.

Event Day	Bidder	Target
----------	----------	----------
-1	0.2404	0.1704
	(1.102)	(0.781)
0	-0.4974	1.9756
	(-2.279)*	(9.053)**

CAR (-1,0)	-0.257	2.146
	(-0.471)	(3.65)**

Combined Gains	1.889
	(2.45)*

** Significantly different from zero at 1 % level

* Significantly different from zero at 5 % level

9.10.1: **Bidder returns in mergers**

The announcement day (day 0) abnormal return for bidders is negative (AR= -0.4974) and significantly different from zero at 5 % level (t=-2.279). This implies that even if there was information leakage during negotiations it was not complete as the merger announcement still had information for the market. The two-day announcement cumulative abnormal returns for bidders are not significantly different from zero (CAR= -0.257, t= -0.471). Unlike the returns to bidders in takeovers, the returns to merger bidders are expected to be spread over time as there is greater chances of information leakage in mergers which are negotiated long before the official announcement. Therefore, the two-day announcement returns are probably an underestimation of the total wealth effect of merger announcement. Since merger bidders had some form of ownership in the target ranging from 5% to 29%, any gains or losses expected from the information leaked must have been gradually captured by the bidder's share price. Based on these findings, the null hypothesis of zero or negative abnormal returns to bidders in mergers at the two-day announcement period cannot be rejected.

The two-day cumulative abnormal returns for bidders in this study are consistent with Asquith's (1983) and Eckbo's (1983) findings and inconsistent with Dodd's (1980) findings on bidder returns in mergers in the US. Asquith found insignificant performance (CAR=0.002, t=0.78) as did Eckbo (CAR=0.0007, t=0.12) for the two-day announcement period. Dodd found significant negative CAR for merger bidders in his sample (CAR=-0.0109, t=2.980).

In the U.K., Firth's (1980) and Dodd and Quek's (1985) findings on bidder returns in mergers at announcement cannot be directly compared with the findings of bidder returns in this study because they used monthly rather than daily returns.

Nevertheless, the direction of bidder returns in mergers in this study is inconsistent with Firth's (1980) findings and consistent with Dodd and Queks's (1985) findings. Firth reported that merger bidders in his sample experienced significant negative monthly abnormal returns (AR=- 0.063, t=-5.971) in the announcement month. He interprets these results as an indication of the merger being too expensive as costs of administrating the merger (i.e. premiums paid and the uncertainty involved in the merger at the announcement) more than outweigh the expected benefits (i.e. synergy and improvement of profitability).

Dodd and Quek (1985) found that bidders in their sample earned negative monthly abnormal returns (AR=-0.0002) in the announcement month, which were not statistically significant (t=-0.0002).

9.10.2: **Target returns in mergers**

The abnormal return to targets on the announcement day is positive (AR= 1.9756) and significantly different from zero at 1 % level (t=9.053). The two-day announcement period cumulative abnormal return is also positive (CAR= 2.146) and significantly different from zero at 1 % level (t= 3.650).

Based on these findings, the null hypothesis of positive abnormal returns to targets in mergers at the two-day announcement period cannot be rejected at 1 percent level. These findings are consistent with the findings of Asquith (1983), Eckbo (1983) and Dodd (1980) on returns to merger targets at the two-day announcement period in the US. The findings on target returns in mergers in the U.K. by Firth (1980) are not directly comparable because he used monthly returns instead of daily returns. However, the direction of his findings is consistent with the findings of this study, that target shareholders earn positive abnormal returns in the announcement month.

9.10.3: Combined returns in mergers

The two-day announcement period abnormal returns to target shareholders (CAR= 2.146) more than compensate the two-day announcement returns to bidder shareholders (CAR= -0.257) and the combined return is positive (1.889) and significantly different from zero at 5 % level (t=2.45).

This implies that announcement of mergers do have positive wealth effects on the shareholders of the combined firm and the null hypothesis of zero or negative combined returns of bidder and targets at the two-day announcement period is rejected at 5 percent level of significance.

These findings of positive and significant combined returns at the two -day announcement period implies that mergers do create wealth for the shareholders of the combined firm except that at the announcement of the offer most of this potential wealth apparently accrues to the target shareholders.

Overall, the bidder shareholders in mergers do not lose at the announcement as their returns are not significantly different from zero. However, the combined returns to bidders and targets are significantly positive, implying that mergers do create wealth for the shareholders of the combined firm.

Chapter 10

Conclusions, limitations and suggestions for future research

10.1: Conclusions

The following conclusions are implied by the findings of this research:

Shareholders of share and combination bidders earned significant negative abnormal returns at the two-day announcement period, whereas shareholders of cash bidders did not suffer losses. These findings support the 'information hypothesis' suggested by Myers and Majluf (1984). For potential investors, the chance to design a profitable trading strategy based on the knowledge of the findings is constrained by the speed of adjustment and by transaction costs.

The two-day announcement cumulative abnormal returns of all bidders in the takeover sample are significantly negative, which could have been due to one or more of the following factors: expected loss of efficiency in the bidder's current business operations due to management time and effort spent on pursuing the takeover; the takeover's lack of commercial or industrial logic as perceived by the market. Large premiums offered to target at announcement, probably due to the expected resistance from the target, competition from other potential bidders and lack of information about the target's business and its industry, could also have contributed towards the negative returns. These negative abnormal returns to bidders are, however, insufficient evidence that bidder management are not acting in the best interest of their shareholders, because the findings do not account for the total effect of the takeover but just the two-day announcement returns. There is also no evidence to indicate that the loss to shareholders benefits the management. It is naive to assume that bidder managers are consistently making irrational investment decisions, because this would jeopardise their own position as they would become the target of other bidders.

The majority of the bidders may be pursuing targets merely as a long term strategy to gain a competitive advantage in their respective markets or industries. This view is supported by the fact that the combined gains of bidders and targets are significantly positive implying that the takeovers do create wealth for the shareholders of the combined firm.

It is also possible that bidders' do not make investment decisions based on the market signals because they do not believe in market efficiency. The bidders' make investment decisions based on long-term view and believe that the market views investments on short-term basis.

The findings on bidder returns in takeovers in this research and those documented by other studies in the US, imply that in takeover situations bidder shareholders require some form of protection against management ambition. However, intervention is likely to be undesirable because shareholders are free to make their own choice as they have the legal right to vote against the management and to reinvest their capital in other firms of their choice. Legislation for investors' protection is not designed to secure investors against losses resulting from their own decisions but to ensure that the investors are treated fairly by accepted standards.

Shareholders of target firms earned significant positive abnormal returns for the two-day announcement period irrespective of the form of payment (cash, shares, and combination) and the type of acquisition (mergers or takeovers). In takeovers, there was no significant difference in the two-day announcement period returns of cash and share targets. This implies that cash targets are not compensated for the capital gains tax liability, probably because U.K. investors are provided with the opportunity to minimise the liability themselves. The U.K. Capital Gains Tax system is designed to encourage large and small investors to invest in shares.

There is no evidence of a difference in announcement period returns to shareholders of low leveraged bidding firms and those in the high leverage bidding firms. It is possible that the difference in the degree of leverage between the 'high' and 'low' leverage bidders was too small to detect any implication of difference in shareholder returns.

This research was based on the assumption that the capital market is at least semi-strong efficient. Since the analysis covered only eleven days surrounding the official announcement, it is not possible to infer that the findings of this study support this assumption. However, the significant positive combined gains of bidders and targets in both takeovers and mergers at the two- day announcement period imply that the securities market is strong form inefficient in the sense that financial markets were unable to anticipate all the information contained in the bid announcement.

For the sample of mergers, the two-day announcement period returns were positive for the targets, consistent with the findings of the earlier studies on merger targets in the U.K. and the US. The returns to bidders for the same period was not significantly different from zero.

The combined gains at the two-day announcement period were significantly positive implying that the announcements of mergers does have a positive wealth effect on the share price of the combined firm.

The findings of positive and significant combined returns of merger bidders and targets in this research are not directly comparable with the findings of earlier studies on mergers in the U.K., because the earlier studies based their findings on monthly rather than daily returns. However, the findings of earlier studies suggest that the combined gains in mergers are not significantly different from zero (Firth (1979)).

10.2: Limitations of study

The findings of this research are subjected to the following limitations:

(a) The sample size is relatively small as it was difficult to establish a large sample which satisfied all the sampling requirements.

(b) The study is based on a sample of successful bids. The exclusion of unsuccessful bids from the sample introduces a bias, assuming the distribution of failures is different across financing methods. The literature provides evidence that share offers have a higher probability of failures than cash offers (Jensen and Ruback (1983)).

The negative returns to bidders offering shares in this study could be due to the possibility of failure and information effects, which are difficult to distinguish without an analysis of the returns to bidders and targets in a sample of unsuccessful bids.

(c) To the extent that takeover and merger announcements are partially anticipated, the measured abnormal returns will understate the effect at announcement. The findings of this study did not indicate any anticipation of acquisition in the five days prior to the official announcement.

However, any such anticipation could have occurred prior to day -5 and consequently the abnormal returns on the announcement day will not reflect the complete effect of the information in the announcement.

(d) To eliminate the confounding effects of other events on the returns to bidders and targets during the analysis period, the firms sampled in this research were screened for such events. Nevertheless, there could have been other factors influencing the results which were not identified.

(e) The market model used to generate the expected returns in this study allows only the influence of the market factor to be removed from the returns. The residual (abnormal return) represents the influence of the takeover or merger announcement plus the influence of the statistical bias such as measurement errors and model mispecifications and the influence of omitted (unidentified) variables.

Ideally, to measure the impact of the merger and takeover accurately, it is desirable to remove the influences of these other variables from the expected returns. In reality, it is not possible to completely eliminate the effect of these other factors on the residual term, and any such effects are assumed to be minimal.

10.3: Suggestions for future research

There are many areas of takeovers and mergers which can be researched assuming that data are available. The issues addressed by this study could be extended to cover the following aspects:

(a) To ascertain whether the announcement period returns to bidders and targets in unsuccessful takeovers subjected to the different form of payments, behave in the same manner as the findings of this study. This might illuminate the extent to which the announcement period returns to bidders and targets in takeovers are influenced by the probability of success or failure of the bid. An analysis of target returns in unsuccessful takeovers might also help to explain whether the positive revaluation of target shares at the announcement of the offer is due to the information content in the announcement or it is due to the expectation that target resources would be put to a better use by the bidder through a transfer of control of the target's resources to the bidder.

(b) Due to lack of an appropriate sample, this study could not test the magnitude and direction of wealth transfers between shareholders and debtholders. To address the possibility of a co- insurance effect requires a study of the announcement period returns of shareholders and bondholders of a sample of bidder firms involved in takeovers but whose combined gains at the announcement of the offer are not significantly different from zero. With such a sample, if there is any evidence of transfer of wealth, than the magnitude and the direction of the wealth transfer can be determined.

TABLE 9 (A)
Daily average abnormal returns (AR) and cumulative abnormal returns (CAR) for the sample of thirty bidders offering shares to their target shareholders, for the eleven days surrounding the initial announcement.

Years 1985 through 1988

Event Day	AR	t-Value	CAR
-5	-0.0521	-0.285	-0.0521
-4	0.2651	1.452	0.2130
-3	0.1872	1.025	0.4002
-2	-0.0154	-0.084	0.3848
-1	-0.3662	-2.006	0.0186
0	-0.8898	-4.874**	-0.8266
1	-0.4753	-2.603*	-1.3020
2	-0.1309	-0.717	-1.4329
3	0.0663	0.363	-1.3666
4	0.2056	1.126	-1.1610
5	0.1384	0.758	-1.0226

** Significantly different from zero at 1% level
* Significantly different from zero at 5% level

TABLE 9 (B)
Daily average abnormal returns (AR) and cumulative abnormal returns for the sample of thirty bidders offering cash to their target shareholders, for the eleven days surrounding the initial announcement.

Years 1985 through 1988

Event Day	AR	t-Value	CAR
-5	0.0694	0.380	0.0694
-4	0.3681	2.018	0.4373
-3	0.1003	0.549	0.5377
-2	0.3568	1.964	0.8963
-1	0.1129	0.618	1.0092
0	-0.3699	-2.026	0.6458
1	0.4264	2.336*	1.0722
2	0.0720	0.395	1.1442
3	0.2531	1.386	1.3973
4	0.0584	0.319	1.4557
5	0.1593	0.873	1.6150

* Significantly different from zero at 5% level

TABLE 9 (C)
Daily average abnormal returns (AR) and cumulative abnormal returns (CAR) for a sample of thirty bidders offering a combination of shares and cash to their target shareholders, for the eleven days surrounding the initial announcement.

Years 1985 through 1988

Event Day	AR	t-Value	CAR
-5	0.2735	1.498	0.2735
-4	-0.1160	-0.635	0.1575
-3	0.0503	0.276	0.2078
-2	0.0951	0.521	0.3029
-1	-0.0296	-0.162	0.2733
0	-0.8871	-4.858**	-0.6138
1	-0.0920	-0.504	-0.7058
2	-0.1385	-0.759	-0.8443
3	-0.2001	-1.096	-1.0444
4	-0.1655	-0.906	-1.2099
5	-0.0503	-0.276	-1.2602

** Significantly different from zero at 1% level

TABLE 9.1 (A)
Differences in average abnormal returns (AR) between cash and share bidders, for the eleven days surrounding the initial announcement.

Event Day	Differences in AR	t-Value
-5	0.121	0.600
-4	0.105	0.360
-3	-0.087	-0.480
-2	0.380	1.260
-1	0.480	1.470
0	0.519	1.970
1	0.910	3.170**
2	0.203	1.010
3	0.184	0.770
4	-0.146	-0.560
5	0.021	0.110

** Significantly different from zero at 1% level

TABLE 9.1 (B)
Differences in the average abnormal returns (AR) between cash and combination bidders, for the eleven days surrounding the initial announcement.

Event Day	Differences in AR	t-Value
-5	-0.205	-0.870
-4	0.486	1.740
-3	0.050	0.210
-2	0.265	0.990
-1	0.206	0.871
0	0.581	2.390*
1	0.520	1.970
2	0.210	1.260
3	0.450	1.080
4	0.225	0.900
5	0.209	1.180

* Significantly different from zero at 5% level

TABLE 9.1 (C)

Differences in the average abnormal returns (AR) between share and combination bidders, for the eleven days surrounding the initial announcement.

Event Day	Differences in AR	t-Value
-5	-0.326	-1.600
-4	0.381	1.690
-3	0.137	0.590
-2	-0.115	-0.440
-1	-0.272	-1.301
0	0.061	0.240
1	-0.390	-1.362
2	0.007	0.040
3	0.266	1.481
4	0.371	1.720
5	0.188	1.050

TABLE 9.2 (A)
Average abnormal returns (AR) and cumulative abnormal returns for a sample of thirty targets subjected to shares offer, for the eleven days surrounding the initial announcement.

Years 1985 through 1988

Event Day	AR	t-Value	CAR
-5	-0.0091	-0.049	-0.0091
-4	0.0788	0.432	0.0697
-3	0.2209	1.209	0.2787
-2	0.2533	1.387	0.5320
-1	1.1700	6.408**	1.7020
0	2.5010	13.693**	4.2030
1	0.1205	0.660	4.3235
2	-0.0960	-0.526	4.2275
3	0.0060	0.330	4.2335
4	0.0633	0.347	4.2968
5	0.0138	0.076	4.3106

** Significantly different from zero at 1% level

TABLE 9.2 (B)
Average abnormal returns (AR) and cumulative abnormal returns (CAR) for a sample of thirty targets subjected to cash offers, for the eleven days surrounding the initial announcement.

Years 1985 through 1988

Event Day	AR	t-Value	CAR
-5	0.0176	0.096	0.0176
-4	-0.0183	-0.100	-0.0007
-3	0.0665	0.365	0.0658
-2	0.0957	0.524	0.1615
-1	1.6703	9.148**	1.8318
0	2.2039	12.066**	4.0357
1	0.0589	0.323	4.0946
2	-0.0218	-0.119	4.0728
3	-0.0097	-0.054	4.0631
4	-0.0038	-0.021	4.0593
5	0.0264	0.145	4.0858

** Significantly different from zero at 1% level

TABLE 9.2 (C)
Average abnormal returns (AR) and cumulative abnormal returns (CAR) for a sample of thirty targets subjected to a combination of cash and share offer, for the eleven days surrounding the initial announcement.

Years 1985 through 1988

Event Day	AR	t-Value	CAR
-5	-0.0809	-0.443	-0.0809
-4	0.0633	0.347	-0.1176
-3	0.0668	0.366	0.0492
-2	0.3821	2.093*	0.4313
-1	1.1981	6.562**	1.6294
0	1.7128	9.381**	3.3422
1	-0.0564	-0.309	3.2858
2	0.0814	0.446	3.3672
3	-0.0127	-0.069	3.3545
4	0.0729	0.399	3.4274
5	-0.0079	-0.043	3.4195

** Significantly different from zero at 1% level
* Significantly different from zero at 5% level

TABLE 9.3 (A)

Differences in the average abnormal returns between cash and share targets for the eleven days surrounding the initial announcement.

Event Day	Differences in AR	t-Value
-5	0.027	0.430
-4	-0.097	-1.180
-3	-0.154	-1.100
-2	-0.157	-1.180
-1	0.500	0.820
0	-0.297	-1.520
1	-0.062	-0.510
2	0.074	1.201
3	-0.016	-0.160
4	-0.067	-1.250
5	0.012	0.200

TABLE 9.3 (B)

Differences in the average abnormal returns between share and combination targets for the eleven days surrounding the initial announcement.

Event Day	Differences in AR	t-Value
-5	0.072	1.250
-4	0.016	0.140
-3	0.154	1.010
-2	-0.127	-0.540
-1	0.472	0.760
0	0.491	0.890
1	0.177	1.180
2	0.077	1.261
3	0.019	0.190
4	-0.637	-0.850
5	0.022	0.370

TABLE 9.3 (C)
Differences in the abnormal returns between cash and combination targets for the eleven days surrounding the initial announcement.

Event Day	Differences in AR	t-Value
-5	0.099	1.390
-4	-0.081	-0.920
-3	0.000	0.000
-2	-0.284	-1.340
-1	-0.028	-0.150
0	0.788	0.980
1	0.115	0.880
2	-0.103	-1.060
3	0.003	0.004
4	-0.704	-0.940
5	0.034	0.620

TABLE 9.4 (A)

Average abnormal returns (AR) and cumulative abnormal returns (CAR) of all ninety bidders for the eleven days surrounding the initial announcement.

Years 1985 through 1988

Event Day	AR	t-Value	CAR
-5	0.1017	0.965	0.1017
-4	0.1729	1.641	0.2746
-3	0.1394	1.323	0.4140
-2	0.1789	1.697	0.5929
-1	-0.1005	-0.954	0.4924
0	-0.8915	-8.457**	-0.1801
1	-0.0367	-0.348	-0.2167
2	-0.0743	-0.706	-0.2911
3	0.0365	0.346	-0.2546
4	0.0323	0.306	-0.2223
5	0.0823	0.782	-0.1400

** Significantly different from zero at 1% level

TABLE 9.4 (B)
Average abnormal returns (AR) and cumulative abnormal returns (CAR) of all ninety target firms for the eleven days surrounding the initial announcement.

Years 1985 through 1988

Event Day	AR	t-Value	CAR
-5	-0.0226	-0.215	-0.0226
-4	0.0400	0.380	0.0174
-3	0.1139	1.081	0.1313
-2	0.2658	2.521*	0.3971
-1	1.4322	7.844**	1.8293
0	2.0534	11.250**	3.8827
1	0.0377	0.358	3.9204
2	-0.0087	-0.082	3.9117
3	-0.0094	-0.090	3.9023
4	0.0250	0.237	3.9273
5	0.0080	0.076	3.9353

** Significantly different from zero at 1% level
* Significantly different from zero at 5% level

TABLE 9.8 (A)
Average abnormal returns for bidders with different degree of financial leverage, for the eleven days surrounding the announcement.

	Degree of Leverage					
	Low (0-9.99%) N=34		Medium (10-19.99%) N=29		High (> 20%) N=27	
Event Day	AR	t-Value	AR	t-Value	AR	t-Value
-5	-0.0071	-0.041	0.0424	0.225	0.1602	0.832
-4	0.0324	0.189	0.3533	1.869	0.2667	1.386
-3	0.0617	0.360	0.0013	0.007	0.1178	0.612
-2	-0.0608	-0.355	-0.0562	-0.298	0.4830	2.507*
-1	-0.1059	-0.618	-0.2417	-1.308	0.0498	0.259
0	-0.7037	-4.103**	-0.9852	-5.213**	-0.4901	-2.546*
1	-0.0811	-0.473	-0.1372	-0.726	-0.1215	-0.631
2	-0.2322	-1.748	0.0893	0.519	0.0515	0.268
3	-0.2998	-1.768	0.0794	0.473	0.0968	0.503
4	0.0037	0.0215	0.3341	1.767	0.1052	0.547
5	0.3182	1.856	0.0841	0.445	-0.0238	-0.123

** Significantly different from zero at 1% level
* Significantly different from zero at 5% level

$$\text{Degree of Leverage} = \frac{\text{Total Loan Capital}}{\text{Total Capital Employed}}$$

TABLE 9.11 (A)
Daily average abnormal returns (AR) and cumulative abnormal returns (CAR) of merger bidders for the eleven days surrounding the announcement of the offer.

Years 1985 through 1988

Event Day	AR	t-Value	CAR
-5	0.0402	0.184	0.0402
-4	0.0158	0.070	0.0560
-3	0.1436	0.658	0.1996
-2	0.1813	0.830	0.3809
-1	0.2404	1.102	0.6213
0	-0.4974	-2.279*	0.1239
1	-0.3161	-1.449	-0.1922
2	-0.3325	-1.524	-0.5247
3	-0.0086	-0.039	-0.5333
4	-0.0338	-0.155	-0.5671
5	-0.1158	-0.530	-0.6829

* Significantly different from zero at 5% level

TABLE 9.11 (B)
Daily average abnormal returns (AR) and cumulative abnormal returns (CAR) of merger targets for the eleven days surrounding the announcement of the merger.

Years 1985 through 1988

Event Day	AR	t-Value	CAR
-5	-0.0674	-0.309	-0.0674
-4	0.0057	0.026	-0.0617
-3	0.2999	1.374	0.2382
-2	0.1687	0.773	0.4069
-1	0.1704	0.781	0.5773
0	1.9756	9.053**	2.5529
1	-0.1068	-0.489	2.4461
2	0.0548	0.267	2.5009
3	-0.0435	-0.199	2.4574
4	0.1514	0.694	2.6088
5	-0.1481	-0.678	2.4607

** Significantly different from zero at 1% level

List of Firms in Takeovers

Cash Offers

Bidders	Beta	Targets	Beta
Bank of Scotland	0.66	Bank of Wales	-0.39
Unigate	1.54	Oldace	-0.89
Hillsdown Hold	1.08	Bluebird Confectionary	0.22
Meyer International	0.89	Brown Lee	1.23
Davy Corporation	1.29	Monk A	-0.02
British Commonwealth Shipping	1.43	Stell Brothers Holdings	-0.01
Imperial Chemical Industries	-0.01	Scottish Agri. Ind.	-0.72
Allied Textiles Co.	0.29	Blumer & Lumb Holdings	0.44
Tarmac	1.14	Feb International	0.64
General Electric Co.	0.47	Micro Scope	-0.81
Ratners	0.83	Jones Ernest	0.95
TSB	0.79	Hill Samuel	-0.10
Sears	1.10	Freemans	0.04
Dixons	0.85	Wigfalls	0.34
Woolworth Holdings	1.57	Tip Top Drugs	0.12
RMC	0.81	Wettern Brothers	-0.10
H Samuel	1.48	James Walker	0.11
Charterhall	0.98	Allebone	-0.15
William Holdings	1.03	Spencer Clark	-0.07
BM Group	1.37	Benford Concrete	0.04
Gallacher	1.33	NSS Newsagents	0.67

United Parcels	0.17	York Trailer Holdings	0.12
Citicorp	0.69	Seccombe Marshall&Campion	0.86
Bardon Hill Group	0.33	Vectis Stone	-0.05
Enterprise Oil	0.19	Saxon Oil	-0.01
M K Electric	0.91	Friedland Doggart	-1.67
Tilbury Group	1.15	West Group International	-0.13
Unilever	0.09	Brooke Bond	-0.01
Hepworth Ceramic Holdings	1.14	Henderson Group	-0.19
Trusthouse Forte	-0.03	Kennedy Brookes	0.25

Share Offers

Bidders	Beta	Targets	Beta
Trafalgar House	1.55	Brown John	1.00
F H Tomkins	0.97	Pegler Hattersley	0.78
Bet	1.54	Shorrock	0.05
Priest Marians	0.68	Linkroft Kilgour	0.39
Evode Group	0.23	Supra	0.24
UEI	0.03	Miles 33	0.04
Boots	-0.08	Clement Clarke Hold.	1.00
King & Shaxson	0.43	Smith St. Aubyn	0.64
London & Edinburg Trust	0.81	1928 Investments	0.03
Hollis	1.48	Exco	0.73
Wardwhite	0.04	Grosvenor Group	0.60
Tootal	1.02	LCP Holdings	0.49
BSG International	0.01	Sandhurst Marketing	0.68
Coloroll	0.37	Restonor	-0.24
Williams Holdings	0.78	Forgaty	0.22
Goldsmith Group	0.75	London& Midland Ind.	-0.04
BTP	-0.65	Prince of Wales	-0.34
Peek Holdings	2.12	Owens	1.04
Rank Hovis McDougall	0.27	Barrow Hepburn	0.35
Evered Holdings	1.40	Sarasota Technology	0.94
Newman Tonks	-0.03	Avana	0.93
Tesco	1.05	London & Northern	0.57
Granada Group	0.90	Peerless	1.81

Harrisons & Crossfields	1.17	Hilliards	0.86
Meggit Holdings	0.30	WSL Holdings	-0.13
Bestwood	0.74	Paul Michaels	0.23
Freemans	-0.15	Bestobell	0.98
Dowding & Mills	1.30	Barrie Invest.& Fin.	-0.16
British Syphoon	0.50	Warehouse Group	0.51
Bunzl	0.64	Bootham Engineering	-0.05

Cash and Share Offers

Bidders	Beta	Targets	Beta
Bunzl	0.46	Moss Roberts	0.12
Ratners	0.70	H Samuel	0.13
McKechnie Brothers	0.71	PSM International	0.32
Turner & Bull	0.88	AE	0.25
Sketchly	1.79	Equipu	0.23
Emess Lighting	0.63	Tenby Industries	0.97
Ferguson Industrial Holdings	0.28	Berisfords Group	-1.67
Marley	0.56	Nottingham Brick	0.53
Granada	0.36	Electronic Rental Gp.	-0.59
Ibstock Johnson	1.37	Eucalptus Pulp Mill	1.27
British Commonwealth Holdings	0.86	Abaco Investments	0.90
John Mowlem	1.59	Glasgow Stock. Trust	0.04
G M Firth	1.41	Porter Chadburn	1.21
Yule Catto	0.86	Reabrook Holdings	0.87
Crest Nicholson	0.76	Pearce CH & Sons	0.23
C H Beazer	0.15	French Kier	0.50
Scottish Heritable Trust	0.39	Robert Kitchen Taylor	1.04
Hambros	0.59	Bairstow Eves	-0.35
Guinness	0.49	Distillers	0.25
Hanson Trust	0.88	Imperial Group	0.25
John Crowther	1.94	Sunbeam Wolsely	-0.56
Bet	0.15	Initial	0.87

Associated Book Publishers	0.74	Routledge Kegan& Paul	-0.03
Burton Group	0.44	Debenhams	-0.02
Dalgety	0.98	Gill & Duffus	1.11
Rugby Portland Cement	0.44	John Carr	1.99
Newman Tonks	-0.30	Cartwright R	1.13
Scapa Group	0.17	United Wire	0.14
Mathew Hall	0.35	IDC Group	0.08
BSG International	1.37	Adams & Gibbons	-0.02

List of Firms in Mergers

Bidders	Beta	Targets	Beta
Dawson International	1.12	Coats Paton	-0.13
C & W Walker	0.14	Greenbank Group	0.52
Wingate	1.39	Property Holdings	0.01
Allied Plantation Group	-0.04	George Dew	-0.23
Property & Reversionary	0.01	Lynton Industries	0.37
Dudson & Pearce	0.46	Counter Production	-0.05
Merivale Moore	0.22	Municipal Properties	0.32
Pittard Group	0.08	Garner Booth	0.72
Atlantic Co.	0.49	Comcap	0.23
Godfrey	0.74	Sunlight	-0.24
First Securities	0.28	Howtal	0.72
Ferranti	1.57	International Signal	0.89
Kennedy Smale	0.43	McLeod Russel	0.14
United Spring	1.02	Ratchiffe	0.99
Casket S	1.14	Kingley & Forest	1.29
New Tonks	0.04	Henderson	0.01
Stafford Holdings	0.83	Skiers International	0.17
Wagon Industries	-0.06	Banro Industries	-0.18

Porter Chadburn	0.19	LDH Group	0.27
Carless	0.21	Ryan International	0.30
Sundell Perkins	0.62	Travos & Arnold	0.27