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Corporate Restructuring: Empirical Evidence from the UK

RAMA PRASAD KANUNGO
Doctor of Philosophy

ASTON UNIVERSITY
March 2010

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Aston University

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Thesis Summary

Corporate restructuring is perceived as a challenge to research. Prior studies do not provide conclusive evidence regarding the effects of restructuring. Since there are discernible findings, this research attempts to examine the effects of restructuring events amongst the UK listed firms. The sample firms are listed in the LSE and London AIM stock exchange. Only completed restructuring transactions are included in the study. The time horizon extends from year 1999 to 2003. A three-year floating window is assigned to examine the sample firms.

The key enquiry is to scrutinise the *ex post* effects of restructuring on performance and value measures of firms with contrast to a matched criteria non-restructured sample. A *cross sectional study* employing logit estimate is undertaken to examine firm characteristics of restructuring samples. Further, additional parameters, i.e. Conditional Volatility and Asymmetry are generated under the GJR-GARCH estimate and reiterated in logit models to capture time-varying heteroscedasticity of the samples. This research incorporates most forms of restructurings, while prior studies have examined certain forms of restructuring. Particularly, these studies have made limited attempts to examine different restructuring events simultaneously. In addition to logit analysis, an *event study* is adopted to evaluate the announcement effect of restructuring under both the OLS and GJR-GARCH estimate supplementing our prior results. By engaging a composite empirical framework, our estimation method validates a full appreciation of restructuring effect.

The study provides evidence that restructurings indicate non-trivial significant positive effect. There are some evidences that the response differs because of the types of restructuring, particularly while *event study* is applied. The results establish that performance measures, i.e. Operating Profit Margin, Return on Equity, Return on Assets, Growth, Size, Profit Margin and Shareholders' Ownership indicate consistent and significant increase. However, Leverage and Asset Turn Over suggest reasonable influence on restructuring across the sample period. Similarly, value measures, i.e. Abnormal Returns, Return on Equity and Cash Flow Margin suggest sizeable improvement. A notable characteristic seen coherently throughout the analysis is the decreasing proportion of Systematic Risk. Consistent with these findings, Conditional Volatility and Asymmetry exhibit similar trend. The event study analysis suggests that on an average market perceives restructuring favourably and shareholders experience significant and systematic positive gain.

Key Words: Firm Performance and Value, Logit Analysis, OLS and GJR-GARCH estimate, Event Study.

Dedication

To My Parents for Everything

Acknowledgements

To be conscious that you are ignorant is a great step to knowledge
Benjamin Disraeli (1804-1881)
Sybil, 1845

I commenced my journey from this point to reach at

*Knowledge must come through action, you can have no test which
is not fanciful, save by trial.*
Sophocles (496 BC- 406BC)
Trachinie

A journey, no matter how arduous it is, can be a memory, an experience of excitement. The work with this thesis as a journey to an uncharted realm, has been extensive and challenging; without help, support and encouragement of many, I would have never been able to accomplish this. It was hardly possible for me to thrive in my work without their treasured support. They were instrumental directly or indirectly in shaping up my work. I will never be able to thank them enough. Here is my deepest and sincere gratitude for all of them.

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L**ist of Abbreviations**

AIM	Alternative Investment Market
CARs	Cumulative Abnormal Returns
EVA	Economic Value Added
EMH	Efficient Market Hypothesis
FAME	Financial Analysis Made Easy
FTSE	Financial Times Stock Exchange
GJR-GARCH	Glosten-Jagannathan-Runkle Generalized Autoregressive Conditional Heteroskedasticity
JV	Joint Venture
IPO	Initial Public Offering
LBO	Leverage Buyout
OLS	Ordinary Least Square
M & A	Merger and Acquisition
MBO	Management Buyout
MDA	Multiple Discriminant Analysis
PIPES	Private Investments in Public Securities
SPDRs	Standard & Poor's Depository Receipts
SEC	Securities Exchange Commission
SIC	Standard Industrial Classification

1.1 Introduction

“Economic analysis and evidence indicate the market for corporate control is benefiting shareholders, society, and the corporate form of organisation. The value of transactions in this market ran at a record rate of about \$180 billion per year in 1985 and 1986- 47% above the 1981 record of \$122 billion. The number of transactions with purchase price exceeding one billion dollars was 27 of 3300 deals in 1986 and 36 of 3000 deals in 1985 (Grimm, 1985). There were only seven billion-dollar plus deals in total, prior to 1980. In addition to these takeovers, merger, and leveraged buyouts, there were numerous corporate restructurings involving divestitures, spin-offs, and large stock repurchase for cash and debt.”

The above view by Jensen (1987) captures the importance of restructuring activities. Restructuring is perceived as one of the most challenging and intriguing aspects of corporate control. Several empirical and theoretical studies have been undertaken in order to understand the process and measure the effects of restructuring. However, no unequivocal finding has been reached regarding restructuring. This research seeks to examine the effects of corporate restructuring on the performance and value characteristics of the UK listed firms with comparison to a matched criteria control sample. The control sample is designed in such a way so that any confounding accounting biases are eliminated. A floating window of +3 years is utilised for this purpose. This study incorporates all major corporate restructuring events.¹ The measures and multiples of performance and value are identified and discussed in both the Chapter 2 and Chapter 4. The testable hypotheses are developed and discussed in the Chapter 4. The study includes the UK firms over the period 1999-2003. This research is premised on the theoretical framework elaborated in the literature review.

¹ Appendix 1.

Typically, restructurings are meant to alleviate organisational problems and enhanced performance and value. Jensen (1987) provides some contextual perspective on restructuring transactions.²

“This restructuring is being accomplished through a variety of transactions in the market for corporate control and through voluntary actions of managers as they rationalize and refocus the firms they lead. These events take the form of hostile takeovers, voluntary mergers, leveraged buyouts, stockholder buyouts, spin-offs, split-ups, divestitures, asset sales, and liquidations. Restructurings are frequently wrenching events in the lives of those linked to the involved organizations - the managers, employees, suppliers, customers and residents of surrounding communities. Restructurings usually involve transfers of ownership and major organizational changes (such as shifts in corporate strategy) to meet new competition or market conditions, increased use of debt, and a flurry of recontracting with managers, employees, suppliers and customers. This activity sometimes results in expansion of resources devoted to certain areas and at other times in contractions involving plant closing, layoff of top-level and middle managers, staff and production workers, and reduced compensation.”

1.2 Restructuring: An Overture

In this study the description ‘corporate restructuring’ represents a range of organisational realignment, such as M&As, takeovers, joint ventures, spin-offs, equity carve-outs, tracking stocks, share repurchases, management buyouts, leverage buyouts and employee stock ownership plans etc. These involve simultaneous changes in ownership, financial, and incentive portfolios of firms. The different types of restructuring transactions are categorised in to three broad spectrums: expansion, selling off and changes in ownership structure (see Appendix 1). Restructurings undertaken to create expansion like mergers, takeovers, joint ventures were extensively popular and widely practised during 60-70s, whereas changes in ownership structure and sell-off activities like share repurchases, equity carve-outs, MBOs, LBOs, divestitures and tracking of stocks are relatively more recent forms of restructurings employed by firms.

² ‘The Merger Boom’, Proceeding of a Conference sponsored by Federal Reserve Bank of Boston, Oct. 1987, pp. 102-143.

The potential success of restructuring is inconclusive, since the influence of restructuring in improving characteristics of firm performance and value is still inexplicit and unresolved. Thus, this study attempts to address specific issues inherent to restructuring events. The issues hitherto largely ignored in prior studies are three folds. First, no other study has sought to empirically investigate the effects of major restructurings on measures of the UK listed firms contrasting with a matched criteria sample. In addition, while there are several studies those have examined individual types of restructuring, no particular effort has been made to examine all the major restructurings collectively in the UK context. Second, no well-supported explanation has been advanced as to what extent restructurings affect firm characteristics. In particular, measuring the probability of successful restructuring corresponding to firm specific characteristics. Third, all prior studies have examined either performance or value of the restructured firms (see Appendix 3), while we endeavour to scrutinise each measure separately. This we refer to as our integrated empirical approach. In essence, an integrated empirical framework is developed to evaluate issues surrounding the major forms of restructurings.

1.3 Issues Surrounding Restructuring Literature

To date no consensual result is obtained irrespective of extensive studies carried out on restructuring transactions. Different empirical studies approach the research problems from different perspectives. Some are purely constrained by their theoretical framework, some others are uneven due to methodological variation and some are limited by the types of restructuring examined. These issues surrounding key prior studies are summarised in Appendix 2 and Appendix 3 respectively. However, reviewing archival-empirical literature, it appears that relatively little attempts have

been made to examine major types of restructuring simultaneously. Most plausible reasons to explain the shortcomings of previous research are: 1) lack of sufficient data to examine all types of restructurings, 2) methodological differences to capture the entire effect of restructuring, and 3) difficulties to identify and specify appropriate determinants to measure restructurings.

The weaknesses with contrast to strengths of the restructuring literature stem from three possible reasons. First, different study approaches i.e. studies like Bethel and Liebeskind (1993) and Hurry (1993) have primarily focused on portfolio restructuring in terms of lateral and vertical downsizing. Gibbs (1993) and Long and Ravenscroft's (1993) studies develop around both the portfolio and financial transaction types, whereas Zajac and Kraatz (1993) pay more attention to organisational restructuring lending focus to synergy and production. This research sought to examine all major forms of restructurings. However, emphasis is given to differences in firm performance, shareholder value and changes to firm characteristics. Second, methodological differences, indicate discrepancies in the results. For example, Lopez et al. (2001) investigate using long window event study approach to examine the post-restructuring effects on performance in terms of market returns. Boone and Mullherin (2001) examine wealth effect within a narrow window without considering the fundamentals of firms before the restructuring period. Other empirical studies have made limited attempts to develop a consistent and robust approach to examine the structuring effects. A discussion concerning two key different methodological aspects is presented in Chapter 4 and Appendix 4. Here, we aim to examine post-restructuring effects over a reasonable long period (+3 years). In particular, we compare restructuring sample with a non-restructured matched comparison control sample. To supplement the results based on financial

characteristics, we use an event study based on the standard CAPM to examine the announcement effects of restructurings. We use both the OLS and GJR-GARCH estimation methods to generate the abnormal returns.

1.4 Research Definition

This study intends to ascertain to what extent performance and value characteristics of firms are affected by various forms of restructuring transactions. An empirical framework is developed incorporating both the *accounting study* and event *study* approaches as our methodologies. Logit analysis is utilised to disseminate the restructuring events. Logit models are employed to examine our hypotheses using firm characteristics. Further, additional parameters are generated under the GJR-GARCH estimate and included in our logit models to elicit a robust estimation. In addition, an event study is undertaken to supplement our findings obtained from logit analysis.

In essence, the emphasis of this research is to examine the effects of restructuring on measures of firm characteristics while compared to a matched criteria sample. Specifically, to empirically establish the significance of restructuring and changes it brings to firm measures.

1.5 Research Contributions

The significant contributions of this study are outlined as follows:

- Appropriate performance and value measures are specified to capture the influence of restructurings on firm characteristics.
- Findings from the logit estimates and diagnostic tests indicate that firm characteristics significantly influence the form of restructurings. The post restructuring accounting measures suggest substantial improvements in the

certain accounting measures of firms that have restructured relative to matched non-restructured control sample firms.

- The classificatory efficiency of the empirical models significantly increases when additional parameters obtained under the GJR-GARCH estimate incorporate into logit analysis. Hence, the findings confirm time varying heteroscedastic effects of certain firm characteristics on restructuring. Further, these results support the previous findings obtained from the logit analysis.
- Notable parameters, i.e. Operating Profit Margin, Return on Equity, Return on Asset, Growth, Size, Profit Margin and Ownership, Abnormal Returns, Return on Equity and Cash Flow Margin consistently improve over the sample period. In addition, Risk and Conditional Volatility of sample firms exhibit a decreasing proportion as the odds of restructuring success increase.
- The event study results supplement as well as support other empirical findings. The market responds favourably to restructurings and shareholders experience non-trivial systematic positive gain.

1.6 Thesis Layout

The remaining chapters are organised as follows. Chapter 2 outlines theoretical premises underpinning different types of restructuring events. Chapter 3 critically reviews the extant literature. Chapter 4 outlines the research methodology. The methodology is an empirical econometric research design. This chapter also includes preliminary analysis of data. Chapter 5 documents diagnostics and empirical findings obtained from the logit analysis. Chapter 6 reports logit results generated using the GJR-GARCH estimated parameters. Chapter 7 presents the event study analysis. Finally, Chapter 8 summarises the research findings.

2.1 Introduction

This chapter presents the generic typologies of restructurings. The aim of this chapter is to elucidate the theories and concepts underpinning different forms of restructurings. Many theories and concepts have been proposed and advanced to explain activities, such as mergers, acquisitions, joint ventures, management buyouts, leverage buyouts, share repurchases, equity carve-outs and spin-offs etc. Mostly, the term 'corporate restructuring' is preferred as a broad or representative connotation for these activities. The term has also been casually used to refer to industrial reorganisation prior to 1982 (Bluestone and Harrison, 1982).

Since 1980s, restructuring is identified with diverse actions. In a narrow sense, restructuring signifies altering organisational setup and renewing performance and value of the firms in terms of its capital and ownership structure. The following excerpt from Rappaport (1986, p. 10) characterises the idea.

"A new focal point of interest has been captured the imagination of management during the past couple of years-restructuring. Hardly a day passes without some firm announcing a major restructuring of its business or capital structure. Restructuring involves diverse activities such as divestiture of underperforming businesses or that do not 'fit', spin-offs directly to shareholders, acquisitions paid with 'excess cash', stock repurchases, debt swap and liquidation of overfunded pension funds."

Corporate restructuring can take different approaches to fully realise the benefit anticipated from a transaction associated with the performance and value of the firms. Customarily, the value and performance changes of firms are attributed to restructuring process. Jensen (1987), for example, states:

"Restructurings usually involve major organisational change (such as shifts in corporate strategy) to meet new competition or market conditions, increased use of

debt, and a flurry of recontracting with managers, employees, suppliers and customers. This activity sometimes results in expansion of resources devoted to certain areas and at other times in contractions involving plant closings, layoffs of top-level and middle managers and staff and production workers, and reduced compensation."

Hence, it is imperative to recognise different types of restructurings.

The chapter is organised into five sections. Section 2.2 elaborates different varieties and classes of restructuring. This section also includes concepts and theories underlying the transaction process. Section 2.3 briefly discusses the valuation process of restructuring. Section 2.4 provides some of the defence mechanisms and tactics firms use to avoid restructurings. Finally, section 2.5 concludes the chapter.

2.2 Types of Corporate Restructuring

The general framework for corporate restructuring comprises of reorganisation of assets (acquisitions and sell-offs), creating new ownership (spin-offs, split-ups and equity carve-outs), reorganising financial claims (exchange offers, leveraged recapitalization, financial reorganisation and liquidation) and other strategies (e.g. joint ventures, LBOs, etc) (Weston et al., 2001). The different types of restructurings are categorised into three main groups. Specifically these are: expansion, sell-off and changes in ownership structure (Weston et al., 1990). A synopsis of their classification is presented in Appendix 1 but we discuss them in greater detail below.

2.2.1 Expansion: A major objective of mergers, tender offers, and joint ventures is to achieve expansion and growth.

Mergers & Acquisitions (M&As): Begg (1985) identifies M&As as any transaction that forms one economic unit from two or more previous units. A typical idea behind merger is, generally it attains successful increase in stock price and real

gain in capital market efficiency. M&As are motivated to improve synergy combining two functions more efficiently together than they would do individually. M&As usually are acts of investment by purchasing firms or individual units in the form of exchange of existing assets, whereas investment flows involve creating of new assets (Golbe and White, 1988). These activities supplement the expansion of existing firms. On the other hand, sometimes firms consider contracting their portfolios, known as demerger, such as spin-off, tracking stock and equity carve-outs. Mergers are mainly classified into three categories, such as horizontal merger, vertical merger and conglomerate merger.

- 1) Horizontal Merger: In horizontal merger, two firms merge across similar products or services. Most often horizontal merger is perceived as an instrument to increase market share. Commonly firms merge with a competitor or with a firm engaged in similar industry.
- 2) Vertical Merger: Firms merger in the same industry but they have different product portfolios. They merge along the value chain, e.g. a manufacturer merging with a supplier. Vertical mergers usually generate competitive advantage for the firms.
- 3) Conglomerate Merger: Conglomerate mergers transpire when two firms from completely different industries merge. Conglomerates mergers balance earning fluctuations and provide sustained growth opportunities. Typically, firms in mature industries with inadequate prospects for growth attempt to diversify their businesses through mergers and acquisitions. A unique type of merger called a reverse merger is used as a way of going public without the expense and time required by an IPO (initial Public Offering).

The perceived value arising from merger and acquisition is discussed in the following section. Mergers create synergy. The joining or merging of the two firms generates additional value, which is identified as synergy. Aslinger and Copeland (1996) find that corporate and financial acquirers achieve superior performance following merger and acquisition. They show that for the period of 1985-1994, ten active corporate acquirers achieved annualized returns in excess of the S & P 500 benchmark of 14.3%. In addition, they find that a group of 13 financial buyers with capital of more than £ 16 billion achieved returns above 25% annually. Synergy generated from merger is identified in three ways: first, higher revenue is realised for the firm while two firms operate jointly. Second, firms aim to lower the expenses by merging and creating a single entity. Third, the cost of capital is reduced sizably by combining the two firms. Mostly, the prime source of synergy is achieved by lowering the expenses. Many mergers are driven by the need to cut costs. Cost savings often come from the elimination of redundant services. However, the ideal mergers have strategic reasons for the business combination (Weston et al., 1990). These strategic reasons include:

- 1) Positioning - Taking advantage of future opportunities that can be exploited when the two firms are combined. Firms need to position themselves to take advantage of emerging trends in the marketplace.
- 2) Supplementing Strengths/Weaknesses - One firm may have a major weakness, whereas the other firm has some significant strength. By combining the two firms, each firm compliments each other and fill strategic gaps that are essential for long-term survival.

- 3) Organisational Competencies - Acquiring human resources and intellectual capital promotes improving innovative thinking and development within the firm.
- 4) Broader Market Access - Acquiring a firm can give a firm immediate access to emerging or new markets.

M&As are characterised by their benefits. These benefits are considered to add shareholder value and enhance performance of firms. 'Economies of scale' is one of the key anticipated benefits from mergers and acquisitions: By reducing the redundant operations, firms attempt to maintain the same revenue stream, but increasing profit margin. Further, firms expect increased revenue and higher market share. Higher market share allows firms to operate broadly by cross selling complementary products. In addition, synergy created from the transaction generates additional resource and reduces taxes by writing off. Furthermore, M &As can also be undertaken for other business reasons, such as bargain purchase, diversification for smoothing out earnings, short term growth, undervalued target for investment etc.

2.2.1.1 Theories Behind M&As

Many theories for M&As have been proposed. They are summarised into three major categories (see Berkovitch and Narayanan, 1999). The categories are 1) Efficiency or synergy, 2) Hubris (Winner's curse, overpay) and 3) Agency Theory.

Efficiency or Synergy Theories

The synergy theory entails that the firms those are more efficient will acquire less efficient firms and realise gains by improving their efficiency. This presumes to increase managerial capability in the acquiring firm. Differential efficiency would be

most likely to be a factor in mergers between firms in related industries where the need for improvement could be more easily identified. On the contrast, the related inefficient management theory suggests that target management is so ineffective that virtually any management could do better, and thus could be an explanation for mergers between firms in unrelated industries. The operating synergy theory proposes economies of scale so that mergers maintain the levels of activities at which they can be obtained by complementing each other's capabilities. The financial synergy theory hypothesises that mergers can avail investment opportunities and internal cash flow.

Hubris Theory

The Hubris theory has a long history in the literature on auctions. When there are many bidders or competitors for an object of highly uncertain value, a wide range of bids is likely to result. Roll (1986) analysed the effect in takeover activity suggesting that the prevailing market price of the target already reflects the full value of the firm. The higher valuation of the bidders (over the target's true economic value), he states, resulted from hubris. Contextually hubris means excessive self-confidence, pride and arrogance of managers in taking a decision with reference to merger activities. Hubris is one of the factors that causes the winner's curse phenomenon to occur.

Agency Theory

Agency theory (Jensen, 1976) espouses the theory of the firm. An agency problem arises because of a conflict of interest between managers as agents and shareholders as principal. The agent-principal relationship exists between owners and managers, equity holders and debt holders, firm and non-investor stakeholders. A

conflict of interest triggers agency costs. Agency costs arise for three primary considerations.

First, the cost of contracting; second, less equity stake for managers and third, separation of ownership from control. Several organisational mechanisms are opted to discipline self-serving managers, and takeovers are viewed as an instrument to address the issues. Agents, on the other hand, view discipline as unfavourable to their interest. They further perceive takeovers as a manifestation of the agency problem rather than its solution. Managers often indulge in self-discretionary decision solely to increase firm size and their own compensation. However, anecdotal evidence advances evidence that restructurings, such as takeovers, mergers and acquisitions mitigate agency conflict. The hubris theory is another variant on the agency cost theory, it implies acquiring firm managers commit errors of over optimism in bidding for targets. This aspect is typically recognised as winner's curse.

2.2.1.2 Success of M&As

Successful mergers and acquisitions usually establish a clear strategic vision and developed synergies as well as limit their risks. Anslinger and Copeland (1996) identified several key principles employed by successful acquirers. They suggest sustainable innovation, managerial capability, rewarding decision control system, stable incentive and compensation schemes contribute to the success of transaction. Cornell and Shapiro (1987) find that merger activities help to lower debt to equity and generate higher liquid assets. Particularly, firms create value by selling implicit claims³ at price exceeding present value of cost for honouring them.

³ Service and delivery of expected quality to clients; job security for management etc.

2.2.1.3 Reasons for Failure

Rhetoric and conventional wisdom suggest that failure is the average outcome of M &As (Burner, 2004). Here, M&As regrettably do not appear to pay. However, several other studies suggest that mergers and acquisitions create value. The broad findings are presented in Appendix 3. The failure of M &As is attributed to several factors (Weston et al., 1990). Some of the reasons are inadequate strategic fit, incompatibility of corporate culture, incomplete due diligence, protracted post merger integration, overvalued premiums and non-objective strategies (Galpin and Herndon, 2007).

2.2.1.4 Accounting Principles

Primarily two methods are used to account for mergers and acquisitions (Weston et al., 1990 and Ross et al., 2004). The first one is the purchase method. This method is forward looking and prospective. Target firms are valued on account of fair market value, and the difference between the price paid and the fair market values are posted to the balance sheet as goodwill. The second method is pooling the interest. This method is backward looking and historical. Valuation is undertaken by combining the book values of both the firms. There is no recognition of goodwill in this method. Note that, this method often applies to the stock purchase only.

In the days when tangible assets were important, the purchase method was the main method for M&As. However, as the importance of intellectual capital and other intangibles has grown, the pooling of interest method is now the dominant method. Since intangibles are inextricably associated with M &As, it is practically impossible to recognise these assets from an M&A process which suggest serious implication on

financial accounting. As a result, the Financial Accounting Standards Board has proposed the elimination of the pooling of interest method.

Joint venture: JV is a combination of subsets of assets contributed by two (or more) business entities for a specific business purpose and a limited duration. Each of the venture partners continues to exist as a separate firm, and the joint venture represents a new business enterprise (Mayer, 1997). This is one of the forms of corporate alliance in which firms are joined to achieve specific and limited objectives. Cross-licensing, consortia, joint bidding, and franchising are some other ways for firms to combine resources.

Joseph and Tang (1992) state that: (1) a joint venture is the dominant entry strategy when there is a formidable local competitor and the risks of operation are high, (2) a wholly owned subsidiary is preferred if a multinational corporation has a significant cost advantage, (3) a joint venture is preferred to a wholly owned subsidiary if significant cost reductions can be achieved through combining the strengths of a multinational corporation and a local firm, and (4) multiple licensing is preferred if the number of local firms is large.

2.2.2 Sell-off: A general term for divestiture of part or all of a firm by any one of a number of means, e.g., sale, liquidation, spin-off etc.

Spin-off: It is a transaction in which a firm distributes on a pro ratio basis all of the shares it owns in a subsidiary to its own shareholders. Spin-offs create a new public firm with (initially) the same proportional equity ownership as the parent firm (Shoven & Waldfogel, 1990). Firms in general, increase their focus by disposing

unrelated divisions to their own shareholders. Comment and Jarrell (1995) find that firms are now focusing on their core businesses through restructuring. Cash transactions are not involved with spin-offs, thus it does not aim to generate cash flow. Thus, it is interesting to note that the study of spin-offs is free from such confounding effects, such as asset sell and source of funding. Spin-offs allow both the parent and subsidiary to exist as independent entities, thus differential performance is observed following the process.

Divestiture: Divestiture is a form of restructuring where sale of a segment of a firm (assets, a product line, a subsidiary) to a third party for cash and/or securities (Allen, 1989). Major reasons behind divestitures are:

- 1) To unlock the value of the firm on the basis that more accurate and detailed information that is provided to both the analyst and investment community regarding each distinct business line of a firm.
 - 2) To separate businesses those have different capital requirements or operating characteristics and to free a parent or subsidiary from the other's regulatory or legal burden.
 - 3) To eliminate internal conflicts. A divestiture can help resolve internal political battles over a firm's strategic direction, management succession issues or personality problems.
 - 4) To allow awards, stock options and other equity incentives to the management.
 - 5) To remove assets that does not align with the strategic objective of the parent
- (Comment and Jarrell, 1995).

Equity carve-out: A transaction in which a parent firm offers some of a subsidiary's common stock to the general public in order to bring in a cash infusion to the parent without loss of control (Burke & Cooper, 2000). An equity carve-out is also known as a partial sell-off, through an initial public offering (IPO) of a unit or subsidiaries by a parent firm (Madura and Nixon, 2002). However, the underlying rationale of this form of restructuring is not well established. Although in recent years, a significant rise in carve-out activities is reported in the USA. Schipper and Smith (1986) first identified the difference between carve-outs and other equity issues. Vijh (1999) observes that carve-outs are joint events, which combine features of equity offerings and divestitures.

Tracking stocks: Tracking stock is a relatively new form of restructuring. When a firm issues new shares and the shares belong to the parent firm, but their cash flows are tied to the performance of a particular subsidiary, which they track is called tracking stock (D'Souza and Jacob, 2000). Tracking stock is the stock that is issued by a firm that is supposed to track or follow a single business unit of the firm. The reasons firms issue tracking stock include wanting to sell shares in a subsidiary that is in a buoyant industry, to allow analysts to better follow the division, and to use in rewarding management and employees of the subsidiary. Holders of the tracking stocks are shareholders of parent firm, not of the subsidiary to which their cash flow is tied. As like carve-out, the reasons for adopting tracking stock are not obvious. Chemmanur and Paeglis (2000) find that are two key rationales behind the issue of tracking stocks. The first and most frequent one relates to unlocking the hidden value of firms. The other reason intends to achieve improved performance.

2.2.3 Changes in Ownership Structure: Different approaches to share options and purchases.

Exchange offer: A transaction which provides one class (or more) of securities with the right or option to exchange part or all of their holdings for a different class of the firm's securities, e.g., an exchange of common stock for debt. Exchange offer enables a change in capital structure with no change in investment (Gadiesh et al., 2001). This form of restructuring is attractive particularly for major shareholders, as investment portfolio remains unchanged, while a changing capital structure allows them to exert better control on management.

Share repurchase: Share repurchase occurs when a public corporation buys its own shares 1) by tender offer, 2) on the open market, or 3) in negotiated buybacks. Firms repurchase their own stock on the open market, usually common shares, for many reasons. In theory, the buyback should not be a short-term fix to the stock price but a rational use of cash, implying that a firm's best investment alternative is to buy back its own stock. Normally these purchases are done with free cash flow, but not always (Nohel and Tarhan, 1998). There are many reasons why firms buy back their shares. Fenn and Liang (2001) believe it has to do with the distribution of excess cash flow, while Dittmar (2000) suggests it relates to adjusting the capital structure of the firms. Share repurchases activity is currently growing at a dramatic rate in the UK (Young, 2002). The Securities Data Corporation reports that 60% European share repurchases comprises of the UK deals.

Management Buy-outs: MBOs constitute transformation of a public corporation into a privately held firm (often via a leveraged buyout or a management buyout). Buyout is an integral part of restructuring transactions, happens when all the outstanding stocks of a public firm is purchased by private parties, often including the managers of the firm (Wright et al., 1994). MBOs are mostly debt financed and dominated by incumbent management. MBO shareholders acquire all the stocks from the target shareholders as well as assets. When the MBO is highly leveraged, typically debts are amortised for at least 10 years. Outside investors may be allowed to involve in the process, but strictly on the limited equity participation scheme (Weston et al., 1999)

Leveraged Buy-outs: LBO is a form of restructuring, seen as a variant of MBO. The process involves purchasing of a firm by a small group of investors, financed largely by debt. Usually entails going private. It is similar with the pattern of MBOs. Leveraged buyouts are said to occur when a firm is taken private by the outside investors when the firm's equity is bought up and removed from publicly traded securities markets (Fox and Marcus, 1992).

Leveraged Cash-outs: This class of restructuring is a defensive reorganisation of the firm's capital structure in which outside shareholders receive a large one-time cash dividend and inside shareholders receive new shares of stock instead. Leverage cash-outs follow the approach of tender offers similar to the undertakings of LBOs (Samuelson et al., 1986).

Employee Stock Ownership Plan (ESOP): A defined contribution pension plan designed to invest primarily in the stock of the employer firm. An employee stock ownership plan (ESOP) is a type of defined contribution benefit plan in the U.S. that buys and holds firm stock. ESOPs are often used in closely held firms to buy part or all of the shares of existing owners, but they also are used in public firms.

2.3 Valuing Restructuring

Diverse empirical methods are utilised to examine the process of restructuring. Particularly, valuing the process of transaction has received wider attention. Many methodological approaches have scrutinised restructuring in many different ways. Different value drivers and multiples are often used to value restructurings. A comprehensive review of the valuing process is discussed below drawing upon Gilson, (2001), Evans (2004)⁴, DePamphilis (2007), and Krishnamurti and Vishwanath (2008). However, some traditional methods remain as key instruments for valuing process. The Discounted Cash Flow (DCF) Model is one of the preferred methods (Galpin and Herndon, 2007). The reasons behind opting for The DCF Model are as follows:

- 1) Discounted Cash Flow captures all of the measures important to valuation.
- 2) Discounted Cash Flow is based on the concept that investments add value when returns exceed the cost of capital.
- 3) Discounted Cash Flow has support from both research and within the marketplace.

⁴ Evans, M. H. (2004) Excellence in Financial Management: Course 1 and Course 7. <http://www.exinfm.com>.

2.3.1 Income Streams

Employing income stream as a measure of valuation is challenging. Typically, income streams include measures such as, earnings, Earnings Before Interest & Taxes (EBIT), Earnings Before Interest Taxes Depreciation & Amortization (EBITDA), Operating Cash Flow, Free Cash Flow, Economic Value Added (EVA) etc. The financial management recognises that firms experience value gain while a positive difference occurs between return on invested capital less cost of capital. In addition, earning is perceived as judgmental depending upon accounting principles and distortions. Thus, valuation needs to be robust and consistent with reference to accounting measures. Customarily valuations focus on cash flows, such as operating cash flows and free cash flows over a projected forecast period.

2.3.2 Free Cash Flow

Another reliable measure of valuations is Free Cash Flow (FCF). FCF accounts for future investments that must be made to sustain cash flow. With contrast to EBITDA, which ignores any and all future required investments, FCF appears to be more dependable. Consequently, FCF is considerably more acceptable than EBITDA and other earnings-based income streams. The generic formula for Free Cash Flow (FCF) is:

$$FCF = EBIT(1 - t) + Dep - CEs \pm NWC$$

Where EBIT= Earning Before Interest and Tax

Dep = Depreciation

CEs = Capital Expenditures

NWC = Net Working Capital

$(1 - t)$ is the after tax percent, used to convert EBIT to after taxes. Depreciation is added back since this is a non-cash flow item within EBIT. Capital Expenditures represent investments that must be made to replenish assets and generate future revenues and cash flows. Net Working Capital requirements may be involved when we make capital investments. So that the changes to working capital tend to be reversed at the completion of a capital investment.

The alternate estimate for Free Cash Flow is:

$$FCF = ATOTCF - I(1 - t) - PD - RP - RD - E$$

Where, ATOTCF = After Tax Operating Tax Cash Flow

I = Interest

PD = Preferred Stock Dividends

RP = Expected Redemption of Preferred Stock

RD = Expected Redemption of Debt

E = Expenditures required to sustain cash flows

2.3.3 Discount Rate

Determining the discount rate is the next step in the valuing process. The discount rate used should match the risk associated with the free cash flows. If the expected free cash flows are highly uncertain, both the risk and discount rate increase. The riskier the investment, the higher the discount rate and vice versa. Since valuation of the target's equity is often the objective within the valuation process, it is imperative to pay attention on the capital structure of the target firm. A review of peer group in the marketplace helps ascertaining target firms' capital structures. Hence, an overall weighted average cost of capital (WACC) can be calculated based of the

capital structure. The WACC serves as the base index for discounting the free cash flows of the target firms.

The valuation is undertaken once above three measures are estimated. Copeland et al. (2000) suggest five subsequent stages for valuing a firm:

- 1) Historical Analysis: A comprehensive analysis of *ex ante* performance, identifying measures of performance those drive to restructuring. Several financial characteristics need to be identified and calculated. Diagnostics such as, ratio analysis and benchmarking can be used to examine carry forward trends.
- 2) Performance Forecast: It is always important to estimate the future financial performance of the restructured firms. This involves characterising performance measures and what synergies are expected from the transactions.
- 3) Estimate Cost of Capital: Weighed average cost of capital needs to be determined for discounting from the free cash flows.
- 4) Estimate Terminal Value: A terminal value should be added to the forecast period to account for the time beyond the forecast period.
- 5) Test & Interpret Results: Finally, once the valuation is completed, the results should be compared against independent sources, revised, finalised, and presented to the target audience.

2.3.4 Final Valuation

One other measure that accounts significantly within the valuing process is price to earnings per share (P/E). Particularly P/E ratio or earnings multiple is used for assessing the influence of earnings on restructuring. Typically, higher P/E Ratio suggests increase in earnings in terms of earnings per share (EPS) for the restructuring

firms. However, in merger and acquisition events dilution of EPS occurs when the P/E ratio paid for the target exceeds the P/E Ratio of the acquiring firm. At the same time, the size of the target's earnings is crucial. Particularly, when larger the target's earnings relative to the acquirer, the greater the increase to EPS for the combined firm.

Another measure for valuation is exchange ratio when restructurings are undertaken on the basis of exchange of shares. The exchange ratio represents the number of shares offered by the acquiring firm in relation to each share of the target Firm. Subsequently the terminal value should be calculated. Often the free cash flow continuation persists beyond the valuation forecast. Therefore, a terminal value is added to the valuation forecast. The terminal value represents the total present value that will be received after the forecast period. Several approaches can be adopted to calculate the terminal value, such as:

Dividend Growth: The free cash flow in the final year of the forecast is added to a nominal growth rate and discounted from the free cash flow as a perpetuity. Terminal value is calculated as:

$$TV = FCF(t+1)/WACC - g$$

(t + 1) refers to the first year beyond the forecast period

WACC= weighted average cost of capital

G = growth rate, usually a very nominal rate similar to the overall economy

Please note that FCF used for calculating terminal values is a normalised free cash flow (FCF) representing the forecast period.

Adjusted Growth: Growth occurs when it generates returns higher than the cost of capital. Growth relocates free cash flow when firms reinvest their generated resources

into the business. Therefore, it appears adjusted growth approach as one of the most appropriate methods to estimate terminal value. The adjusted growth model is as follows:

$$TV = \frac{EBIT(1-tr)\left(1-\frac{g}{r}\right)}{WACC-g}$$

tr = tax rate

G = growth rate

r = rate of return on new investments

EVA Approach: If the valuation is based on economic value added (EVA), then following approach is more appropriate. The terminal value is as follows:

$$TV = \frac{NOPAT(t+1)\left(1-\frac{g}{rc}\right)}{WACC-g}$$

NOPAT = Net Operating Profits After Taxes

rc = return on invested capital

However, terminal values should always be calculated using the same basic model that is used within the forecast period. Please note, P/E multiples should not be used to calculate terminal values since the price paid for a target firm is not derived from earnings, but from free cash flows or EVA.

2.4 Defences against Restructuring⁵

Firms sometime face the challenges of restructurings against their formal acceptance. In particular, takeovers are seen as imposing instruments. However, the

⁵ This section is cited from Ross et al. (2004); Brealey and Myers (2003); Gaughan (2007); and Sudarsanam (2003).

guidelines and directives for such activities are monitored and regulated by different governmental authorities. The Security Exchange Commission is responsible to mandate and enforces the statutory requirements of restructuring activities in the USA. In the UK, the European Commission oversees the events in issuance with regulatory directives.⁶ Note that, in the UK, managers are restricted from applying certain defensive tactics to thwart the attempts of takeovers. That, in turn allows predatory firms to engage in hostile bids. If a firm is concerned about being acquired by another firm, several defences can be implemented to deter the attempt. Some of the most interesting defence mechanisms are outlined below.

Poison Pills

Poison pill is a typical and popular defence mechanism against takeover attempts (Gaughan, 2007). Effectively this preventive measure involves issuing rights or options to shareholders and bondholders so that the target seems less attractive to the bidder. These rights usually have an expiry date can be traded in conjunction with other securities. When a merger occurs, the rights are detached from the security and exercised, giving the holder an opportunity to buy more securities at a higher discount rate. Stock rights are issued to shareholders, giving them an opportunity to buy stock in the acquiring firm at an extremely low price. The rights cannot be exercised unless

⁶ Takeovers in the UK (meaning acquisitions of public companies only) are governed by the City Code on Takeovers and Mergers, also known as the 'City Code' or 'Takeover Code'. The rules for a takeover can be found what is primarily known as 'The Blue Book'. The Code used to be a non-statutory set of rules that was controlled by City institutions on a theoretically voluntary basis. However, as a breach of the Code brought such reputational damage and the possibility of exclusion from City services run by those institutions, it was regarded as binding. In 2006, the Code was put onto a statutory footing as part of the UK's compliance with the European Directive on Takeovers (2004/25/EC). The Code requires that all shareholders in a company should be treated equally, regulates when and what information companies must and cannot release publicly in relation to the bid, sets timetables for certain aspects of the bid, and sets minimum bid levels following a previous purchase of shares.

<http://en.wikipedia.org/wiki/Takeover>

a tender offer of 20% or more is made by another firm (Gaughan, 2007). This type of issue is designed to reduce the value of the target firm. Flip-over rights provide for purchase of the acquiring firm while flip-in rights give the shareholder the right to acquire more stock in the target firm. Put options are used with bondholders, allowing them to sell-off bonds in the event that an unfriendly takeover occurs. By selling off the bonds, large principal payments come due and this lowers the value of the target firm.

Golden Parachutes

Golden parachutes include large compensation packages to executive management, payable when they are trenched as a result of restructurings. Golden parachutes are selectively applied to only the most preferred executives, hence such mechanisms are often viewed negatively by shareholders and others. In relation to other types of takeover defences, golden parachutes are not very effective.

Changes to the Corporate Charter

The management seeks approval of the shareholders to alter the corporate charter structure, consequently discouraging the attempts of mergers and acquisitions. Several changes can be made to corporate charter upon shareholders' consent. These changes include, staggered terms for the board members and super-majority requirement.

Fair Pricing Provision

In the event that a partial tender offer is made, the charter requires that minority shareholders receive a fair price for their stock when restructuring events

take place. Specifically an amendment is considered to change the bylaws of corporate charter in favour of shareholders by the act of super-majority provision.

Dual Capitalisation

Dual capitalisation is an anti-takeover measure. Gaughan (2007, pp 189) states that from an anti-takeover perspective it allows a group of shareholders who hold greater voting rights to be more sympathetic to management view. The firms maintain a dual equity structure instead of having one class of equity stock. One class of stock, held by management, will have much stronger voting rights than the other publicly traded stock. Since management holds superior voting power, they have increased control over the firm, thus can decide a restructuring offer.

Recapitalisations

Another potential way to avoid merger involves making major changes to the capital structure of the firms. The firm can issue large volumes of debt and initiate a self-offer or buy back of its own stock. If the firm seeks to buy-back all of its stock, it can go private through a leveraged buyout (LBO). However, leveraged recapitalizations require sustained earnings and free cash flows for relocating the high debt. Moreover, the firm should not have plans for major capital investments in the near future. Therefore, leveraged recapitalisations have significant merits and generate additional values to shareholders.

Stand Still Agreement

Stand still agreement entails a temporary refrain period for the acquiring firm whereby the acquiring firm ceases to acquire stock from the target firm for a specified

period of time. This agreement can be reached by mutual consent of both the bidder and target firms. Stand still agreement allows the target firm enough time to explore alternate options against a potential threat.

Green Mail

The green mail refers to the payment of a substantial premium for a significant shareholders' stock in return for the shareholders' agreement that they will not initiate a bid for the takeover (Gaughan, 2007). This applies while the acquirer is an investor or group of investors intend to buy back their stock at a special offering price. The two parties negotiate privately and settle for a mutually accepted price. However, such targeted repurchase of stock is contrary to fair and equal treatment for all shareholders. Therefore, green mail is not a widely accepted anti-takeover defence.

White Knight

To avoid a hostile takeover, a target firm seek out another prospective partner instead of the bidder. Most often, the target firm engages an investment banker to identify and locate a 'white knight'. The white knight firm proposes a merger under mutually acceptable terms, which rescues the target firm from the hostile takeover attempt. In particular, the white knight offers a price more favourable than the price offered by the hostile bidder.

Litigation

A common approach to avoid merger is to legally challenge the merger. Usually the target firm obtains an injunction to deter the takeover from proceeding. Under that injunction period, the target firm manages to consider other options of

defence. The target firm routinely challenges the failing of acquiring firm to serve proper notice of the merger and disclosing all relevant information to shareholders.

Proxy Fights

A proxy fight is an attempt by shareholders to initiate takeover. Shareholders make changes to the corporate structure, since they have substantial voting rights within the firm. In this process, the incumbents and insurgents compete to take control of the firm by various means (Gaughan, 2007). The shareholders aim to remove the management by filling new positions within the board of directors. Proxy fights begin when shareholders request a change in the board. The next step is to solicit all shareholders and allow them to vote by 'proxy'. Shareholders will send in a card to a designated collector (usually a broker) where votes are tallied. Proxy fights are less costly than tender offers in changing control within a firm. However, most proxy fights fail to remove management.

2.5 Conclusion

Over the time, the definition of corporate restructuring has changed and evolved in the wake of merger waves, institutional renewal and corporate control. Currently restructuring is referred to a wide range of activities and perceived as an established management practice. However, the nature and scope of restructuring remain debatable. Although the appropriateness of restructuring is well received, it is often viewed differently from different perspectives without being seen as a single concept. This chapter has made an attempt to classify restructurings into specific categories based upon emerging patterns they exhibit while undertaken by the firms. Moreover, the concepts and theories surrounding restructuring are discussed here. The

chapter also recounts some of the conventional measures for valuing the process of restructuring. Please note, the key restructuring measures and multiples discussed in the valuing process are incorporated in the empirical methods developed in subsequent chapters.

The next chapter critically reviews the extant literature to identify the research objective and develop research enquiry.

3.1 Introduction

This chapter critically reviews the extant literature and theoretical premises underpinning restructuring events. The aim is to disseminate the current knowledge in the area and to identify the areas that will be explored in this thesis as the research objectives. The research enquiry has led to establish methodology and undertake empirical investigation in proceeding chapters.

This chapter is organised into seven sections. Section 3.2 introduces the nature of corporate restructurings. Section 3.3 presents an overview of restructuring events. Section 3.4 offers a critical perspective on restructuring activities. Both section 3.5 and section 3.6 review effects of restructuring on firm performance and value. Finally, section 3.7 summarises the chapter.

3.2 Nature of Restructuring

Firms have practised a wide range of activities to avoid systemic corporate crisis and challenges. In response to such issues, firms often expand and contract their structure to achieve specific objectives. They follow corporate bankruptcy reorganisation, realignments, management and financial restructurings⁷ as different approaches to address these issues. These measures of renewal are collectively recognised as corporate restructuring, they enable management to effectively and efficiently manage the firm's capital structure.

⁷ Appendix 1.

Over the last 40 years or so, restructuring has become an archetype in corporate world as a potential explanation to symptoms of poor governance and managerial irrationality. Moreover, often the reasons behind the increased restructuring activities were attributed to global competitive pressure, deregulations, innovations in financing methods and realignment of new market opportunities.

The 1980s has become known as the 'Restructuring' decade, as companies on both sides of the Atlantic increasingly adopted a host of strategic restructuring options, including management buyouts, buy-ins, spin-offs, sell-offs, mergers and acquisitions, and divestments (Hall and Norburn, 1987; Markides and Berg, 1992; and Thompson et al., 1989). However, benchmarking the success and failure of restructuring is often unpredictable.

3.3 Restructuring Phenomena: An Overview

Several empirical studies have indicated that restructuring is beneficial, while on the contrary, many other studies have identified a number of unfavourable outcomes of restructurings.⁸ Farnko (1989) and Hitt et al. (1990) argue extensive acquisitions gradually blunt the firms' sources of innovation and the strength of its core business. On the contrary, corporate restructuring has been recognised as innovative and essential for corporate renewal (Jensen, 1988 and Lubaktin, 1987). Nevertheless, there is also an expressed concern about the potential trade-offs resulting from excess focus on asset realignment, redeployment, and leverage as opposed to asset and value creation (see Hitt et al., 1990; Porter, 1987; and Smart and Hitt, 1994). Hence, the effects of restructuring remain controversial.

⁸ Appendix 2 and Appendix 3.

Often restructurings are explained within the theoretical premise of the agency theory (See Appendix 2). Since then, various empirical works have been undertaken to provide evidence in support of this theory (Mann and Sicherman, 1991; Crutchley and Hansen, 1989; Jensen, 1997; Apreda, 1998, 1999; Barnea et al., 1985; and Anderson and Sundaresan, 1996). An empirical study by Howton and Perfect (1998) suggests that the consequences of free cash flow within the agency paradigm instigate agent and principal conflict. The free cash flow hypothesis emphasises that firms with excess cash and inadequate investment opportunities will face considerable agency costs if the cash is not distributed to shareholders. Nohel and Tarhan (1998) suggest that such issues bear detrimental effects on firms, while restructuring can effectively eliminate the wasteful investment and increasing firm value and performance. Three main arguments are proposed from the agency perspective to explain why the firms undertake restructuring. First, shareholders are likely to look for long-term investment projects, i.e. positive NPV projects with substantial wealth gain. Second, they are more concerned about the risks associated with immediate insolvency, restructuring is a better choice for them than debt induced cash flow and third, the inability of management, where their incentive is based on sub-optimal contract.

3.3.1 Components of Restructuring

Gibbs (1993) breaks down the patterns of restructuring in to three major types: financial restructuring, portfolio restructuring and operational restructuring.⁹ Similarly, Bowman and Singh (1993) indicate that restructuring can encompass broad range of transactions, including selling lines of business or making significant

⁹ Financial restructuring including recapitalisations, stock repurchases, and changes in capital structure. Portfolio restructuring involving divestment and acquisition and resourcing on core business, resulting in change of the diversity of businesses in the corporate portfolio; and Operational restructuring including retrenchment, reorganisation and changes in business specific strategies.

acquisitions, changing capital structure through infusion of high level debt, and changing the internal organisation of the firm. They further add that restructuring include acquisitions and divestitures to develop a new configuration along the lines of the firm's business. Peel (1995) observes that the restructuring options selected by the UK managers were related through time at the macro level. He further refers to a strategic response triggered by some macro shift. Capital restructuring mainly includes the infusion of large amount of debt either to finance leveraged buyouts or to pay large one-time dividends to share holders. Portfolio restructuring brings about significant changes in efficiency and effectiveness of corporation by horizontal and lateral downsizing. Capital restructuring gains synergistic efficiency leading to debt-asset management accommodating the asset disposal and acquisitions. However, the maximisation of market value of firms is not always realised following such restructuring transactions. Therefore, changes at macro level are not intrinsically related to managers' willingness to restructure the firms. Rather, the preference to retain or distribute earnings after the transaction creates major conflict between managers and shareholder. Managers retaining excess cash flow want to escape monitoring by shareholders leading to agency problems. During the 1970s-1980s, the large debt burdens of firms together with declining market returns forced management to focus on restructuring transactions.

3.3.2 Restructurings in the UK Context

Marwick (1992) investigating UK restructurings over the period of 1980-1992 finds that the number of restructuring transactions had substantially increased in comparison to previous decade. He reported a total of 4720 MBOs, 2964 corporate divestments and 6826 M&A transactions totalling a market value of £152,276

millions. Nevertheless, these transactions are instrumental in attributing significant changes corresponding to value and performance of the firms. The antecedent of corporate restructuring in the UK were stimulated by external and internal determinants such as, rapid flux of globalisations and intense competitive threshold in global market, deregulation of industrial sectors and European Law enforcement, and increasing demand for reconfiguration and portfolio contraction (Peel, 1995). Some other potential elements contributing to the restructuring process include increased participation by institutional investors, venture capital mobility for new companies, increased Initial Public Offering (IPO) activities, equity partnerships between large corporations and upstart companies, restructuring arbitration, and rapid information processing (Jensen, 1987 and Lippincott, 1998). In this context Thompson et al. (1989) studying UK MBOs, reported receivership of cash flow from parent companies providing evidence in favour of agency theory. As in the case of buyouts, previous studies have shown consistently that firm's performance improves after following the first half of the buyout cycle (Bull, 1989; Singh, 1990; and Opler, 1992) but the performance associated with second half of the buyout is less well understood (Papelu, 1990). Though there is a credible explanation for this in agency theory, Smart and Hitt (1994) state that the agency explanation may be valid for asset restructuring but not always appropriate for Leverage Buyouts (LBOs). Taking a different perspective Zuta (1999) argues that the issue of a tracking stock mitigates, but does not eliminate these agency problems completely. Whereas Allen (2001) states that, those spin-offs are possible corrections of acquisition mistakes, and are designed to improve managers' incentives to maximise shareholder wealth in spun-off firms. Though extant literature on restructuring is redundant but very few researches have

attempted to examine the comparative importance of different types of restructuring events simultaneously in the UK.

3.3.3 Information Content and Restructuring

Traditionally it is construed that the announcement of corporate restructuring signals different pieces of information to investors and the market. In particular, when a restructuring is announced, three different sections of information affect the stock prices of the involved firms. First, the announcement reveals information about the potential synergies arising from the combination. Second, the announcement reveals information about the stand-alone value of the firms involved in the restructuring. Finally, the announcement indicates how the value will be split between the firms undertaking the restructuring transaction. This helps investors to perform rational expectation extracting information from the market price (Hong and Stein, 1999). In this case, over the period investors naturally favour the restructuring firms for further investment on the basis of market reaction expecting enhanced performance. This increase in performance measures of the restructured firms suggests that this enhanced performance is attributable to restructuring in sending a signal bearing positive effect on market (Kaplan, 1989; Lichtenberg and Siegel, 1989). Subsequently this reflects how the market reacts to the restructuring announcement and maximises the market value of the restructured firms. This registers evidence from value maximisation hypothesis. This hypothesis has two prominent aspects. Firstly, the *enhanced value maximisation hypothesis*, which predicts that initially the market will regard restructuring more favourably in response to value maximisation than performance enhancement subsequently leading to later one. Secondly, this provides evidence that the market's response to restructuring announcement has differential effects. Please

note, the extant literature has registered these findings over the last decades. The results found in the research of Chan (2001) provides significant evidence in favour of the *enhanced value maximisation hypothesis*, as firms on an average earn significant positive abnormal returns following the announcement, compared with negative abnormal returns for companies in more stable and mature industries. Furthermore, the findings also indicate that investors recognise restructurings add positive value to the firms.

3.4 Restructuring: A Critical Perspective

The agency problem suggests that firms with poor internal governance mechanism and divergent managerial interests reasonably fail to monitor their managers who as a result, pay less attention to shareholders' interest and involve in self-servicing activities such as, excessive diversification, sub-optimal investment, unprofitable capital investments, over leveraging and short-term non-value maximising investments. Further, managers promptly try to diversify the risk and engage in inadequate investments increasing their utilities irrespective of firm value. This, in turn leads firms to poor performance, which engage them in restructuring activities. However, Singh and Markides (1997) argue that this explanation is not always what it seems to be, rather restructuring may be an outcome of honest managerial mistakes in the choice of organisational structure than managerial self-servicing interests. The rationale behind this argument is that agency explanation is not always the most plausible reason for firms to undertake restructuring. Further, they highlight that though according to agency explanation restructuring corrects the immediate problems of the firms but does not really address the real problem of poor governance. Similarly, Smart and Hitt (1994) elicit that the agency explanation may

be valid for asset restructuring, such as divestitures but not appropriate for LBOs. This research in particular, intends to examine the issues surrounding restructurings.

The agency theory indicates when there is a change in ownership structure following certain types of restructuring such as MBOs, a positive performance change occurs. Some previous literatures suggest increased managerial ownership leads to better firm performance, where managers intent to restructure a poorly performing firm are most likely to balance debt and equity to enhance the performance (Jensen, 1989; Jensen and Ruback, 1983; and Kaplan and Weisbach, 1992). Whereas in some cases, e.g. reverse LBOs reduce managerial ownership, which according to agency theory increase conflicting interest between owners and agents and may trigger different restructuring emphases that tend to diminish firm performance (Muscarella and Vetsuypens, 1990). Some restructuring activities represent changes of sub-optimal contracts in response to changes in external and internal environments, and have a positive impact on the firm performance and value. Not necessarily restructuring represents a breach of implicit contracts, but increases future contracting costs and undermines long-term performance of the firms (Brickley and VanDrunen, 1990). There is another possibility that performance does not always stem from governance mechanism but from industry characteristics and their life cycle. Thus, the study will examine firm specific characteristics, as it is possible that some variables may be better predictors than others in explaining restructurings.

Market reaction is a systemic representation of corporate restructuring signalling information asymmetry to investors. Restructurings often indicate positive abnormal stock returns surrounding the announcement. However, several US studies (Jensen and Ruback, 1983; Magenheim and Mueller, 1988; and Franks et al., 1988) report negative abnormal stock returns following completion of takeovers. However,

Higson and Elliot (1998) did not find any evidence of negative abnormal stock returns for the UK firms. The immediate question that arises is: Do UK restructuring activities create value when measured in terms of abnormal stock returns? Assuming managers are rational, firm value should increase after restructuring as restructuring is likely to improved efficiency and productivity. Many of forms of restructuring increase managerial ownership providing greater incentive to managers in such a way that they would take choices that would increase shareholders' wealth while others might not. Another concern remains, i.e. how to capture the long-run effect of restructuring on firm value? Is the abnormal return only measure of firm value? How the firm characteristics change over a longer horizon following restructuring? What are the measures that can fully explain changes in firm value? There could be many measures and multiples those can effectively measure firm value. Some of the value measures and multiples are discussed in Chapter 2.

In light of free cash flow hypothesis, the top management has excess cash to fund the projects with negative NPV without really paying attention to value maximisation of shareholders. Free cash flow is defined as the cash flow excess of that required to fund all projects that have positive NPV when discounted at the relevant cost of capital. Gibbs (1993) states that there are three principal conditions for corporate restructuring in the free cash flow hypothesis. First, existence of free cash flow to create a potential agency problem; second, ineffective governance mechanism allowing management to become entrenched initiate agency costs; third, threat of takeover to engage management to adopt restructuring. In essence, Jensen (1986) observes that conflicts of interest between shareholders and managers are severe when the firms generate substantial free cash flow. Shareholders face difficulties to persuade managers to disengage them from investing below the cost of capital.

Typically, managers tend to support growth of firm beyond its optimal size to control the resources available within firms. This motivates shareholders to favour capital restructuring as a way of protecting their own interests. According to free cash flow hypothesis, management invests in an over-diversified way leading to organisational default and inefficiency which subsequently resulting in poor firm performance that lead to restructuring activities. Excess cash and redundant diversification cause and sometimes force management to restructure the firms. Jensen (1986) states that free cash flow can not be observed directly. He further maintains that different factors like, low financial leverage, stable cash flow and value adding diversifications are indicators of free cash flow. Although Jensen (1989) argued that value adding divestments are not substantial enough to absorb all the free cash flow.

Heitman and Zahra (1993) suggest that macro level change factors¹⁰ explain the USA restructuring activities. Their study outlines two different types of restructurings, such as financial and strategic. Restructuring activities focus on buying back stocks, infusing more cash by debt, reinvesting assets, divesting operations and acquiring compatible businesses are financial in nature. The principle reason for firms to undertake restructuring is to enhance their earnings, so as the stock price increases and takeovers could be averted. They find such restructuring involves realignment of corporate governance structures. In particular, changes in strategic orientation of ownership structure favouring shareholders' interests. Along the line, the realignment of corporate activities through restructuring can be broadly explained as maximisation of wealth for the benefit of shareholders and subsequent lowering of the conflict between ownership and control. Much earlier, Manne (1965) argued that conflicting interests are somehow complimentary but should be executed by management and

¹⁰ On a macro level, three trends appear to have intensified restructuring activities: 1) The globalisation of industries and competition in many sectors of the economy, 2) The deregulation of several key industries in the US, and 3) The threat of raiders and takeover bids.

shareholders collectively. Shleifer and Vishny (1997) also put forward a similar view on agent-principal conflict while Peel (1990) suggests that the corporate failure is simply not only the by-product of the conflicting interest but bad management as well.

3.4.1 Empirical Findings within the Literature

A review of the empirical literature by Markides and Berg (1992) indicates that in aggregate corporate restructuring activities do appear to create value for the shareholders. They suggest that on an average, the stock market looks at restructuring favourably, and rewards restructured firms with a higher stock return. For example, restructuring activity, such as, management buyout considered as a successful transaction method, which involves borrowing of large amount of money from investor groups to buy the firm from public stockholders taking it into private hands. This in turn successfully leads to investing the free cash flow of the firm in positive NPV projects. This by and large mitigates the diverging interests of principal and agents.

Similarly, Hoskisson and Turk (1990) in their study of the USA corporations in the 1980s rightly defined the MBO strategy as complimentary to M&A and value supplementing to shareholders. The conceptual framework of conflicting interest between management and shareholders, and the notion of shareholders' value enhancement subsequently lead to a proliferation of studies on restructuring in the UK (Fox and Marcus, 1992). In disseminating restructuring activities, Fox and Marcus (1992) observe that restructuring activities particularly the management buyouts and leverage buyouts, involve a very high level of debt relative to equity finance while managers acquiring substantial amount of equity stake in the post-restructured firms. At this point, the control and ownership conflict subsides and firms gain better

synergetic performance and value. This reduction in the separation of control and ownership leads to increased managerial incentives to maximise shareholders wealth and corporate performance, which in turn, is subjected to considerable risk by the threat of corporate bankruptcy if a substantial amount of cash flow is not generated to service the abnormal high debt that is carried over to the post-restructuring period.

Healy et al. (1992) observed that target stockholders benefit from merger as evidenced by the premium they receive when the shares are sold leading to better cash flow performance. In particular, the M&As tend to improve synergy when individual functions of the merging firms are combined. M&As usually constitute an act of investment by purchasing firms or individual units in the form of exchange of existing assets, whereas investment flows involve creating of new assets (Golbe and White, 1988). Typically, investment flows proceeding merger and acquisitions include cash raised by management from the transaction by either leveraging or buying out capital structure of firms. It is perceived that this investment flow decreases managerial discretion of non-value maximising diversification. In an extensive study of 1739 UK management buyouts, Thompson et al. (1989) report that a substantial proportion of buyouts are triggered by the receipt of cash flow by the parent firm through the sale of viable subsidiaries. Zuta (1999) develops an agency model in which the managers of a diversified two-division firm derive differential private benefits from each of the divisions, that leads to an inefficient allocation of resources within a firm. As a restructuring activity, diversification does not imply that free cash flow is the only possible indication of agency problem. However, it is a crucial aspect of free cash flow hypothesis. Along the line she argues that the issue of a tracking stock mitigates, but does not eliminate these agency problems in two ways, i.e. through increased transparency of manager's actions (due to the new information that becomes available

after the restructuring) and through a closer fit between the manager's compensation and the performance of both parts of the company. In particular, this study finds a decline in the performance following diversification after the introduction of the tracking stocks. Disclosure is a follow-up part of restructuring transactions. Healy and Papelu (1990) propose that management can probably alleviate agency conflict via disclosure. However if disclosure is not credible then they will be ineffective. They further suggest that disclosure is related to free cash flow and market referral. Denis et al. (1997) find that not only disclosure but diversification following restructuring is as well positively correlated with agency problem. It is recognised that restructuring consists of a reduction in diversification reflecting a partial resolution of the agency conflict.

3.4.2 The Theory of Firm and Optimal structure

The theory of firm and capital structure implies that agency costs explain the optimal structure of firm. The optimal structure of firms leads to increased debts and this, in turn increases the agency costs. Hence restructuring is typically undertaken to service the high level of debts. Most often, the shareholders behave opportunistically increasing the investment risk as there downside risk is limited. At the same time, shareholders put covenants into contracts, but the cost of contract enforcement runs high. The effect of contracting favours shareholders' equity value that leads to owner versus agents' conflict. Singh and Markides (1997) argue agency explanation of corporate restructuring is straightforward to explain, i.e. firms restructure to improve their performance. They further characterise that the reason their performance needs improving is because of past managerial excess such as over diversification, sub-optimal investment in R&D, unprofitable capital investments and over leveraging.

They observe that these mistakes originate from poor governance mechanism, such as manager controlled broad or inactive outside shareholders. They further specify four major rationales behind restructuring:

- 1) Firms may restructure in response to external forces such as, globalisation, deregulation and strategic innovations to prepare them for future changes,
- 2) Firms may restructure simply because other firms are doing so. They perceive it as 'mimetic' behaviour¹¹,
- 3) Another possibility is that firms restructure to improve their performance. At the same time they suggest that the sub-optimal performance stems not from governance problem but from industry conditions,
- 4) A final explanation may be that firms restructure to correct managerial mistakes.

Mainly managers are inclined for their self-servicing interest but restructuring brings large amount of cash from investors to buy the firm from the public shareholders and take it private, particularly in the case of public to private transactions (Singh and Bowman, 1993). Jensen (1986) proposes takeover in general and going private in particular enhance stockholders' gain by mitigating agency conflict associated with free cash flow. Lehn and Poulsen (1989) discover evidence in consistent with Jensen's theory in their study. On the other hand, Kieschnick (1998) conducted further study on Lehn and Poulsen's work and identified contrasting findings.

Customarily higher cash flow allows managers to involve in self-servicing discretion leading to poor performance. Denis and Kruse (2000) state that poorly performing managers face disciplinary pressures from both internal and external

¹¹ 'Mimetic' typically represents self replicating behaviour to transfer ideas and stories. Recently the implication of this concept within the context of M&A is advanced by Vos and Kelleher (2001).

corporate control mechanism. They argue if managers deviate from value maximisation corporate policies, their control will be reduced. Managers always avoid such risk and adopt restructuring to reaffirm their positions. Singh (1993) states that unlike the highly acquisitive period in the late 1960s, the 1980s have been marked by high levels of acquisitions, divestitures and buyouts. Particularly sell-offs and changes in ownership structures are meaningful and popular in terms of potential impact they bring to the adjustment of capital structure of the firms and lowering of agency problems within relatively short span of time compared to expansion activities. Nonetheless, agency theory argues that performance improvements observed following a buyout are the result of management's increased ownership stake in the firm implying lesser agency conflict (Jensen, 1989).

3.4.3 Influence of Stakeholders on Restructuring

Restructurings have different implication on stakeholders, such as shareholders, managers and lenders alike. Several studies have advanced support to indicate an explicit relationship between restructuring and firm characteristics¹² specified by stakeholders' involvement (Ofek, 1993; Lai and Sudarsanam, 1997; and Kang and Shivadasani, 1997). In particular, from the perspective of ownership and control, stakeholders' engagement is a deciding aspect in restructurings. The nature of their engagement is supervised by an effective monitoring mechanism so that the influence of restructuring can be measured. Essentially, an effective monitoring mechanism mitigates the situation while a restructuring transaction is in effect (Jensen, 1986). The monitoring mechanism can be executed by lenders, shareholders and managers (Jensen, 1986; Frederikslust and Veldhuizen, 1996).

¹² Firm characteristics imply measures of performance and value drivers.

3.4.3.1 Impact of Lenders on Restructuring

The lenders' association in restructuring is specified by the leverage of firms. Typically, leverage involves two other firm characteristics, i.e. ROA and ROE. Both ROA and ROE are considered as important measures of firm performance. On some occasions, firms opt for debt financing to improve their ROE while restructuring. Customarily, firms have both debt and equity. The Modigliani-Miller theorem (1958) suggests that the value of the ratio between the two is how much leverage the company has available to them. Leverage influences a firm in two ways. First, it serves as an essential control mechanism (Jensen, 1986). Second, leverage determines firm's response to declining performance (Lai and Sudarsanam, 1997; Ofek, 1993; and Jensen, 1989). High leverage firms are under scrutiny by investors during the process of restructuring. In particular, high leverage lenders exercise considerable influence in decision-making process of restructuring. Examining influence of lenders, Ofek (1993) indicates that high leverage increases the profitability of restructuring. Jensen (1986) in his free cash flow theory suggests a contemporaneous positive relation between leverage and short-term cash generating restructuring, i.e. sales of assets or disposal of subsidiaries. Further, he anticipated that the effect of leverage on the profitability of debt restructuring is also positive, since high leverage imposes to restructure their outstanding debts. Whereas, Lai and Sudarsanam (1993) observe a positive relation between leverage and all restructuring strategies. However, lenders indicate certain preferences for particular type of restructurings. Since debt restructuring obliges them to write off interest or extend debt tenure, along side they also pay for the charges incurred by restructuring, therefore they often consider restructuring as a last recovery option. Downsizing as a result of restructuring is also positively related to leverage. Lenders hold responsible to the management for the

distressed situation of firm and impose certain contractual obligation in return of their financial support enforcing a possible lay-off of management.

3.4.3.2 Ownership Effect

The ownership structure is determined by the distribution of shares and share holdings. Higher concentration of shares with few or particular shareholders authorise them with considerable power. Thus, large owners or block owners are effective in monitoring and controlling the management thereby perhaps contributing to corporate performance (Shliefer and Vishny, 1997). Bajaj et al. (1998) indicate that ownership is positively correlated with various measures of the debt-equity ratio and also with the indices of firm performance. Bethel and Liebeskind (1993) find that concentration of share holding is related to restructuring. While higher share holdings are retained by institutional investors, selling blocks of share became increasingly difficult; this implies that investors sufficiently influence the restructuring choice (Blommerstein, 1998 and Frijns et al., 1995). Dominant shareholders exercise their prerogative to avert performance decline (Kang and Shivadasani, 1997). Therefore, restructuring choices are influenced by the shareholders. They seem to favour debt restructuring (as lenders make concessions) over dividend cut, equity issue or disposal of assets to recoup default debts (Lai and Sudarsanam, 1997 and Lang et al., 1995). On the other hand, higher managerial shareholdings lead to reduce the control of other shareholders, thus resulting in restructuring favourable to their interest.

3.4.3.3 Influence of Governance Mechanism

Corporate governance is a multi-dimensional system. Stakeholders ensure to discharge their accountability so that the strategic goals of the firms are achieved. The

system of corporate governance is characterised by two broad categories, i.e. the outsider and the insider model (Blommestein, 1998 and Mayer, 1998). Typically, Anglo-Saxon countries like the USA, UK endorse the outsider model. This model emphasises the central role of shareholders in monitoring and controlling the management (Gelauff and Den Broeder, 1996; Frijns et al., 1995; and Moerland, 1995). In particular, the market for corporate control¹³ involving portfolio management is perceived as a decisive tool in this model. Thus, shareholders exercise their discretion while evaluating an option for restructuring expecting a favourable control on their behest.

Nonetheless, the insider model also signifies the imperatives of stakeholders (Frijns et al., 1995). The share ownership is concentrated and board of directors, block shareholders and lenders monitor the governance mechanism. At the same time, institutional investors as well influence the governance mechanism as they have financial caveats attached to the firms (Gelauff and Den Broeder, 1996). The board of directors, shareholders and lenders have their reasons of interest while strategising a restructuring. The structure of board differs from firm to firm depending upon outside directors and inside directors, as well as their derivative interest in governance mechanism. Fama and Jensen (1983) observe that the outside directors tend to exercise stronger sanction than insiders do. Weisback (1988) and Lai and Sudarsanam (1997) noted that downsizing and lay-off have a positive relation with the number of outside directors. Boycko et al. (1996) and Barberis et al. (1996) cite that changes in management and governance mechanism are important indices in value maximising restructurings.

¹³ The market for corporate control embodies stock sales, hostile take-over and capital expansion etc.

3.5 Corporate Restructuring and Firm Performance

Mostly firms show significant improvement in performance effectively addressing debt to asset liquidation problem after restructuring (Comment and Jarrell, 1995). Evidence of association between increase in stock market performance as well as the operating performance of the firm following restructuring is recognised in many empirical studies (see Appendix 2). Desai and Jain (1999) provide evidence on the improved performance of the firm following restructuring announcement. Also Bowman and Singh (1993) indicate that restructuring provides significant benefits and considerable improvements of the firms' performance. On the contrary, Dickerson et al. (1997) following a large panel of UK acquisitions argued that the acquisitions have a detrimental impact on company performance. Similarly Lopez et al. (2001) argue that restructuring has no significant effect on the post-restructuring performance of the firm. They further emphasize that it is difficult to interpret previous studies for two reasons, first, the effect of restructuring is not appropriately isolated and second, prior studies have generally limited to relatively short horizons (less than three years) to examine the post restructuring performance. They argue that firms may engage in actions immediately prior to restructuring those have potential to impact post restructuring operating performance. There is no reliable or significant consensus among previous studies that restructuring is a performance increasing activity for the firms.

Using a large panel of UK acquisition data, Dickerson et al. (1997) find that acquisitions have a detrimental impact on company performance and that company growth through acquisition yields a lower rate of return than growth through internal investment. On the contrary, Fluck and Lynch (1999) indicate that mergers increase the combined values of acquirers and targets by financing positive NPV projects that

cannot be financed as stand-alones. Furthermore, because these projects are only marginally profitable, conglomerates are less valuable than stand-alones. Following Jensen's free cash flow hypothesis Mann and Sicherman (1991) suggest that shareholders react more favourably to equity issue announcements if firms have acquired only assets related to their core business than to other forms of acquisitions as equity issue releases cash flow. This favourable reaction of shareholders brings better stock returns leading to improved stock performance.

Kusewitt, Jr. (1985) investigated the relationship of seven common factors of acquisition strategy to the long-run financial performance of acquiring firms. These include relative size, acquisition rate, industry commonality, type of consideration, acquired profitability, price paid and timing of event. He observed that all factors except the price paid were found to be individually significant related to the performance measures. Furthermore, he added that these factors together accounted for most of the post-merger financial performance, which can be attributed to the acquisition process. This result indicates that six key acquisition variables, on average, largely determine the success of acquisition strategy.

The literature suggests that equity ownership structure affects the manager and shareholder relation. Morck et al. (1988) and McConnell and Servaes (1990) observe that managers' and shareholders' interests become more closely aligned as managerial ownership increases, resulting in improved firm performance. On the other hand, if managers' equity stakes continue to decrease, their interests become divergent from shareholders' benefit, leading to declining firm performance. The imminent risk of performance decline drives firms to undertaken restructuring. Shleifer and Vishny (1997) suggest that the large, unaffiliated stockholders can also affect manager-shareholder agency conflicts, because they have powerful incentives to monitor

managers. Agency theory argues that performance improvements observed following a buyout are the result of management's increased ownership stake in the firm (Jensen, 1989). Increased managerial ownership means that the interests of owners and managers are more likely to coincide. Therefore, congruent goals and interests lead to better long-term control of the firm's costs because managerial behaviour will be more supportive of the owners' interests (Jensen and Meckling, 1976). As owners' and managers' interests become more closely aligned, the increased importance placed on control leads to the implementation of restructuring activities that brings greater benefit to the firm (Easterwood et al., 1989).

Building on Jensen's (1989) work, Holthausen and Larcker (1996) argue that it is the organisational form created by the MBO that raises the managerial incentive to create shareholder wealth. Morck et al. (1988) suggest that there is a non-linear relationship between ownership and companies' performance, as measured by their Tobin q statistic.¹⁴ In this instance Servaes (1991) reports that bidders have high Tobin q statistic whereas target firms' have low Tobin q statistic. In essence, higher Tobin q statistic corresponds to better performance and better internal control mechanism for the firms. Apparently, this demonstrates that measures of performance remain as key instruments of restructuring. Lakonishok and Vermaelen (1990) and Comment and Jarrell (1991) report that the stock market responds favourably to the firm's

¹⁴ **Tobin's q** compares the value of a company given by financial markets with the value of a company's assets. It was developed by James Tobin (Tobin, 1969).

Tobin's q = market value/asset value

Another use for q is to determine the valuation of the market as a whole. The formula for this q is: value of stock market/corporate net worth.

If the market value reflected solely the recorded assets of a company, Tobin's q would be one. Tobin's q is a mean reverting ratio, which tends to return to .63. If Tobin's q is greater than one, then the market value is greater than the value of the company's recorded assets. This suggests that the market value reflects some unmeasured or unrecorded assets of the company. High Tobin's q values encourage companies to invest more in capital because they are worth more than the price they paid for them. On the other hand, if Tobin's q is less than 1, the market value is less than the recorded value of the assets of the company. This suggests that the market may be undervaluing the company.

announcement of its intention to acquire some of its outstanding shares through either IPO or in an open market.

In particular, during share repurchases market reaction is positively perceived and signifies better performance. Nohel and Tarhan (1998) explain that the investors' reaction can be interpreted by two hypotheses, such as *information signalling hypothesis* and *free cash flow hypothesis*. The information signalling hypothesis states that when a firm is buying back its own shares, it sends a strong signal to lesser informed (outside) investors that the company's future is improving. On the other hand free cash flow hypothesis proposes that firms that have excess cash and poor investment portfolio will face large and recurring agency costs if the excess cash is not distributed to shareholders. Nohel and Tarhan (1998) found share repurchase announcement has a considerable effect on the firm's operating performance. They indicate that the performance improvement of low growth firms is positively related to their announcement period abnormal returns. However, the performance of high growth firms is unrelated to announcement returns.

Howe et al. (1992) provide empirical evidence that contrast with those of Jensen (1986), Lang and Litzenberger (1989). Following studies regarding the positive response of announcement of tender offer repurchases they found that it is difficult to see why Jensen's free cash flow hypothesis applies to one set of events (major dividend changes) and not to the other (tender offer repurchases). Recently Young (2002) indicates that share repurchases are rendered by the firms to offset the excess surplus cash and exploit under-pricing while there is evidence of poor share return of the firm in the market. Although share repurchasing absorbs excess free cash flow, but prior to this managers have their self-serving investment, which still leaves surplus cash at managers' disposition. This in turn fails to restrain managers to engage in sub-

optimal investment. Therefore, free cash flow hypothesis finds it difficult to explain repurchase tender offers. As in the case of buyouts, previous studies have shown consistently that firm's performance improves following the first half of the buyout cycle¹⁵ (Bull, 1989; Singh, 1990; and Opler, 1992) but the performance associated with second half of the buyout cycle is less well understood (Papelu, 1990). There is no credible explanation for this in agency theory. Plausibly there is a lag in timing of the transaction conveyed to the market, in particular the announcement of buyout. Of the studies that have examined firm performance following a buyout, all found that buyout firms mostly experience improvements in their performance or efficiency (Bruton et al., 2002).

A number of financial variables have been shown to be good proxies for performance measure while examining different forms of restructurings. An appraisal of restructuring typology is presented in Chapter 2 and Appendix 1. These measures include increase in sales (Bull, 1989; Muscarella and Vetsuypens, 1990; and Singh, 1990), income (Kaplan, 1989; Singh, 1990), cash flow (Bull, 1989; Smith, 1990; and Opler, 1992) and, combinations of these variables (Zahra, 1995). In addition, efficiency representing increased productivity (Lichtenberg and Siegel, 1989) or decreased expenditures (Kaplan, 1989 and Singh, 1990) is also considered as a performance measure. Any individual measure does not represent performance in its entirety. Apparently, any stand-alone proxy is inadequate in capturing the full changes in performance. Studies by Bliss (1997) and Paeglis (2002) include a combination of measures, i.e. ROA, SIZE, Leverage, Asset Turnover, Cash Flow Margin and

¹⁵ Buyouts are substantial part of restructuring transactions. Mainly ownership structure changes during the buyout period. The process of this change is usually initiated once the firms decide to engage in restructuring and continue until the entire process is accomplished. Buyout periods differ depending on the market capitalisation and book value of firms, but by and large the announcement of buyout to officiating management change is referred as first half of the buyout cycle, whereas the completion of entire change of ownership is know as second half of the buyout cycle.

Operating Income to examine performance of firms. However, it is important to note that most restructuring studies have simply examined firm's post performance measures (Bruton et al., 2002; Zahra, 1995; and Palepu, 1990). Also very little attempt has been made to compare different forms of restructurings to other relevant peer groups or control sample. As a result, it is difficult to reliably compare performance after restructurings. This issue will be examined in this empirical work.

3.6 Corporate Restructuring and Firm Value

The effect of restructuring on firm value is widely recognised in the restructuring literature. Most of the studies base their estimate on abnormal return to measure the value of the restructured firms (Hite et al., 1983; Schwert, 1996; Krishnaswami et al., 1999; Boone and Mulherin, 2001). However, relatively a very small number of studies have used composite measures of firm value (Feroz et al., 2006 and Gupta et al., 2009). Some of the key value measures and multiples are discussed in Chapter 2.

Examining UK restructuring activities Hogson and Elliott (1998) did not find negative abnormal returns for the UK firms over a longer window. They reported that there appears to be no evidence of significant abnormal post-takeover performance in equal-weighted portfolio of the UK acquires over the period 1975-90, though they have taken a measure against a multi-factor benchmark containing proxies for size, past returns and dividend yield. Whereas, in contrast to their study Ruback(1993), Magenheim and Muller (1988) and Franks et al. (1988) find negative abnormal return following restructuring for the USA firms, Jensen (1986, 1988) found negative abnormal stock returns over several years following the completion of takeovers in their studies of takeovers in both the UK and USA. Lubaktin (1987) indicates that

mergers lead to permanent gains in stockholder value for both acquiring and acquired firms' stockholders. Shareholders of acquired firms receive premium upon completion of transaction, while shareholders of acquiring firms realise gain by higher share value of the firm.

Andrade et al. (2001) document that the average three-day abnormal return for target firms is 16%, which subsequently rises to 24% over longer event window. Studies undertaken by Jensen and Ruback (1983), Jarrell et al. (1988) are consistent with Lubaktin (1987) that mergers create value for shareholders in general. While, Clark and Ofek (1994) argue examining 38 takeovers of distressed firms using five different measures to evaluate post-merger performance of the combined bidder and target firms, that all performance measures suggest that bidders are unable to successfully restructure targets creating value for shareholders. However, he indicates that the market demonstrates an ability to forecast the success of restructuring. Restructuring success is negatively related to the size of premium paid by the bidder for the target and positively related to the financial distress of the target. The value of firm measured in terms of stock returns following restructuring favours shareholders wealth gain. However, previous studies have shown negative abnormal stock returns over a long window after the restructuring activities such as takeovers and MBOs. (Jensen and Ruback, 1983; Magenheim and Mueller, 1988; and Franks et al., 1988).

Equity carve-outs and spin-offs as instruments of restructuring activities have received much attention in terms of valuing wealth gain for firms. Firms distribute on a *pro rata* basis all of the shares it owns in a subsidiary to its own shareholders when they spun off another entity. Typically, they maintain to create a new public company with (initially) the same proportional equity ownership as the parent company. Market favours such changes with higher returns to shareholders (Appendix 2). Similarly, in

an equity carve-out a parent firm offers some of its subsidiary's common stock to the general public in order to bring in a cash infusion to the parent without loss of control. As the control remains with the parent firm, the shareholders mostly gain from cash invested in their firms. Allen (2001) suggests that the spin-offs are possible corrections of acquisition mistakes, and are designed to improve managers' incentives to maximise shareholder wealth in spun-off firms. An alternative motive for spin-offs is that managers may wish to separate poorly performing assets from the parent in order to improve earnings or other financial measures. It is also possible that spin-offs may occur to establish a market value for a unit prior to being acquired by another firm. With reference to the later possibility, Cusatis et al. (1993) indicate that the market for corporate control has historically played a major role in the wealth gains to shareholders of firms in the form of spin-offs showing positive abnormal returns.

Similarly prior studies by Schipper and Smith (1986), and Slovin et al. (1995) report significant positive abnormal returns following announcements for equity carve-outs. Allen and McConnell (1998) found significant positive abnormal returns of 2.12%, on average following equity carve-out announcements. Vijh (1999) conducted a cross sectional analysis of stock price performance of equity carve-outs taking corporate focus as a determining factor in long term returns, he observed insignificant negative excess returns earned by the firms. This was consistent with Ritter's (1991) findings that the long-run performance of carve-out through IPO which is more unfavourable for parents that were distressed before the carve-outs. Nevertheless, he reported that such carve-outs are more favourable for units that were carved out of distressed parent firms. Contrary to this Nanda (1991) states equity carve-out and other forms of equity announcements' i.e. spin-offs and divestitures have distinct differences and have a positive market reaction to the announcement.

Firms sometimes re-designate their existing shares as stock that follow their core business, while issuing a new class of stock for a subsidiary company to be tracked, known as tracking stock. Common stock issued by a parent company that tracks the performance of a particular division without having claim on the assets of the division or the parent company. When a parent company issues a tracking stock, all revenues and expenses of the applicable division are separated from the financial statement of parent company and linked to the tracking stock. Often, this separates a subsidiary's high-growth division from a larger parent company that is incurring losses. The parent company and its shareholders still control the operations of the subsidiary. The most popular tracking stock is the QQQQ, which is an exchange-traded fund that reflects the returns of the Nasdaq 100 index. Another type of tracking stock is Standard & Poor's depository receipts (SPDRs), which mirror the returns of the S&P 500 index.

Tracking stock differs from a traditional spin-off in sense that the business represented by the tracking stock remains wholly within the parent company. Subsequently, the firm would distribute shares for the tracked business segment as a tax-free dividend to current shareholders and may also issue new shares in a public offering. Unlike a spin-off, the issuance of tracking stock does not change the overall corporate governance structure. Holders of the tracking stock are considered shareholders of the parent firm. A single board of directors oversees the entire corporation, including the tracked business units. Perhaps most significantly, the assets of the tracked business segment continue to be assets of the parent entity and can be used to satisfy any of the corporation's liabilities. Furthermore, capital raised through the issuance of tracking stock is not restricted for use only by the tracked

business segment. Thus, typically value gain is an immediate feature of tracking stock in comparison to spin-offs.

Another type of restructuring activity is exchange offer, which enables a change in capital structure with no change in investment (Gadiesh, et al., 2001). Exchange offer is a transaction which provides one class (or more) of securities with the right or option to exchange part or all of their holdings for a different class of the firm's securities, e.g., an exchange of common stock for debt. Following exchange offers Masulis (1980, 1983), Cornett and Travlos (1989), Copeland and Lee (1991), Brown et al. (1993), Shah (1994), and Chatterjee et al. (1995) found that the announcements of such events as exchange offers are, on average, associated with a negative common stock price reaction. Usually exchange offers are relatively popular for lateral alliance where financial distress is caused by institutional investors. It is also anticipated that the signal conveyed by restructuring is about the market reaction and share performance having a potential link with firm value leading to changes in cash flow and agency conflict. Samuelson and Rosenthal (1986) examined movements in the prices of target stocks as predictors of the ultimate success or failure of tender offers during exchanging stock for debt. Their empirical investigation of cash tender offers (fully in cash) indicated that with few exceptions, market prices are well-calibrated, to exchanged stock. That is, the current target price during the offer period measures the expected (discounted) stock price at the conclusion date. The stock prices change effectively in market forecast of earnings than they do change in earnings themselves which entirely depends upon the market, showing the crucial importance of market reaction. Price movement following a restructuring like exchange offers enhances the firm specific information transparent by disseminating

the information and increasing interest among potential investors. As exchange offers depend on investors, such market changes impart a positive influence on firm value.

It is imperative to make the stock market more information efficient so that the internal control mechanism can be positively related to the potential economic value of the information being generated. When restructuring transactions are undertaken, every restructuring announcement and process has its own benefit of informing outside investors to rationalise the information in their advantage. Bethel and Liebeskind (1993) suggest that managers' willingness to restructure the firm depends on the ownership structure of the firm, *ceteris paribus*. In long run, this is expected to increase the size of new stockholders. The new stockholders enhance the firm's value. Hill and Snell (1988) indicate that potential outside investors and existing shareholders will have more complete information about corporate restructuring by the alignment of information signalled out and received by the investors. The interest of stockholders is usually triggered by the positive abnormal returns of the firms, which subsequently increase the firm's value.

In essence, this study intends to investigate the changes in firm value following restructuring. A range of value measures will be used to examine the overall value changes of firms. In addition, an event study will be undertaken to investigate announcement effect of individual restructuring, particularly the potential wealth effect of restructurings corresponding to shareholders' gain. The research design is presented in the methodology chapter.

3.7 Conclusion

The effects of restructuring on measures of firm performance and value remain inconclusive irrespective of extensive studies carried out over decades. Different

studies view the research problems from different perspectives. Some are purely constrained by their theoretical framework and restructuring types, others are inconsistent due to methodological variance. Bowman and Singh (1993) have summarised some important studies highlighting the underpinning theoretical premises and methodical approaches.¹⁶ A more comprehensive list of studies on restructuring is presented in Appendix 3. In essence, the key enquiry of all the prior studies is always to find how and to what extent restructurings influence firm performance and increase value.

The limitations of restructuring literature are based on two plausible reasons. First, it emanates from different theoretical frameworks undertaken to examine restructuring events. Second, the methodological differences that exist across the research approach. Thus, this research intends to develop an integrated empirical framework to measure the effects of restructurings on measures of firm performance and value.

The proceeding chapter presents research methodology and develops hypothesis based on restructuring literature. Further, it outlines data source, sample selection and preliminary analysis of the samples.

¹⁶ Refer to Appendix 2.

4.1 Introduction

This chapter presents the research methodology used to examine the restructuring events amongst the UK firms. The methodology developed here is based on the extant literature, which was reviewed in the previous chapter. This chapter discusses the development of the hypotheses for the empirical analysis as well as the model specification, data source and sample selection process. These considerations will form the basis for our empirical analysis in the next chapters. Specifically, we will examine effects of corporate restructuring on the financial characteristics of firms along with the stock price effects of the restructuring announcements. The approach provides an integrated framework for considering the restructuring issues. This approach is not commonly adopted in empirical work. The particular forms of corporate restructuring we consider are M&A, share repurchase, spin-off, Equity-carveouts, MBOs, LBOs, IPOs, JVs. We analyze those forms of restructuring since their use is likely to give rise to different effects on both financial measures and the share price.

This chapter is organised into six sections. Section 4.2 develops testable hypotheses and outlines methodology. In addition, this section includes empirical technique and model specifications. Section 4.3 presents estimation of additional parameters. Section 4.4 presents data source, sample selection criteria and provides sample description. Section 4.5 reports preliminary results of the data. Finally, a synopsis of the chapter is recounted in the concluding section 4.6.

4.2 Empirical Perspective: Hypothesis Development and Methodology

Several prior studies have attempted to document the effects of restructuring. A common failing of prior work is the absence of a systematic, coherent and rigorous approach to measure the effects of restructuring (Thorburn and Eckbo, 2008). Thus, in an aggregate the findings of prior works appear contradictory and inconclusive (see Appendix 3). In this study, we intend to address the issue by developing an integrated empirical approach. As indicated earlier, we examine both the financial performance of the firms that have undertaken restructuring as well as the share price effect. We are particularly interested in determining whether the stock price effects are consistent with the firms' financial performance.

Typically, the financial literature recognises two main research approaches offering insights into transaction profitability (Bruner, 2004). One is the *event study* approach and other one is the *accounting study* or *accounting based study*. Event studies typically examine the abnormal returns to shareholders surrounding the announcement period of the particular restructuring (Kaplan, 2006). The abnormal return is the raw return less a benchmark of the investors required that day, usually, the benchmark is the return specified by the capital asset pricing model (CAPM). Bruner (2004) observes those studies based on this approach assume that the stock markets are forward-looking and that returns contain an unconditional variance. The event study approach has dominated the M&A area since the 1970's (Bruner, 2004).

The accounting study or accounting based study approach relies on the reported financial results on financial statements of the firms' involved with restructurings. The *ex post* effects of transactions are compared with a matched comparison non-restructured control sample to measure the economic benefits of the restructurings. These studies incorporate variables, such as net income, return on

equity or asset, EPS, leverage and liquidity. Typically, a matched sample comparison is conducted in which restructured firms' performance is benchmarked against that of non-restructured sample of firms that operate in the same industry sector (Bruner, 2004). The implicit focus of these studies is to identify whether the restructured firms outperformed their non-restructured peers. As indicated earlier, an important feature of this thesis is that we employ both the event and accounting study approaches to examine restructuring effects for the same set of sample firms.

The subsequent section discusses and develops two generic sets of hypotheses related to the effects of restructuring. The first set of hypotheses considers the effects of restructuring on firm performance where performance is defined as several accounting measures of restructured firm. The next set of hypotheses focuses on the effects of restructuring on firm value. Here firm value represents a combination of market returns and accounting items. The hypotheses are posited on three axioms, thus prior to restructurings, **A1**: *Ceteris paribus*, it is expected that the performance and value characteristics of the firms are unaffected by subsequent corporate restructuring. **A2**: Performance and value changes of matched criteria control sample are not attributable to restructuring. **A3**: Changes in performance and value measures of restructuring firms and control firms are asymmetric. These main hypotheses are presented below for specific themes. The model specification, estimation, and diagnostics are discussed in the next chapter.

4.2.1 Hypotheses Development: Measures of Firm Performance

The performance based hypotheses reflect the view that firms' engaged in corporate restructuring will show improvement in their accounting and financial measures. We present the hypotheses below according to their main themes.

Profitability hypothesis

We predict that for almost any type of restructuring we examine their use will increase the profitability of firms. We do so because those types of restructurings are aimed at maximizing stakeholders' wealth. Following Smart and Waidfogel (1994) and Lopez et al.'s (2001) argument, we use a sample of non-restructuring firms for a comparison of the difference in profitability performance. Hence, we conjecture that the profitability of the restructured firms will be greater than those of our control sample of non-restructured firms. Thus, hypothesis 1 predicts that restructurings will significantly improve profitability measures of restructured firms against the control sample.

H1: Firms' profitability characteristics that take on corporate restructuring will be significantly higher compared to the profitability of non-restructured firms.

The link between profitability and restructuring is associated with the free cash flow problem.¹⁷ Ofek (1993) observes significant profitability for the firms in his sample following restructuring and suggests a positive relation in the performance of restructured firms using earning as a measure of firm performance.

The prime issue of measuring restructuring impacts via profitability is to select a performance measure that captures the changes in economic performance while excluding the accounting effects of restructuring (Lopez et al., 2001). Jenings et al. (1998) state that corporate restructuring is a multidimensional event that bears

¹⁷ The literature recognises restructuring activities are compatible to firm's profitability in the capital market for two reasons; first, it effectively addresses the free cash flow problem inducing debt and substituting it for dividends, second it generates managerial incentives to relocate the free cash flow in positive net present value projects. Jensen describes this as 'control hypothesis' (Jensen, 1986). Comment and Jarrell (1995) find that firms' performance improves significantly after restructuring effectively addressing liquidity constraints of the firms leading to profitability. Studies by Desai and Jain (1999), Daley et al. (1997), Brickley and Van Drunen (1990), Atiase et al. (1999) and Kross et al. (1998) provide evidence of performance improvement.

differential effects on the accounting measures of firms. Thus, some profitability metrics may provide less reliable evidence than others.¹⁸ For this reason, we follow Lopez et al. (2001), Smart and Waldfogel (1994), Atiase et al. (1999) and Carter (1998) and incorporate several profitability measures as follows: operating margin (OPM), return on equity (ROE), asset turnover (ATRN), return on assets (ROA) and profit margin (PMARG), which we hypothesize will be greater than those of non-structured firms.

Further, operating margin reflects the relative profitability of the firm's operating activities but is less susceptible to accounting effect, which is seen as a comprehensive measure of profitability (Lopez et al., 2001). In essence, operating margin is a better index than earnings for reflecting performance, measure as non-recurring items included in earnings constraint the reliability of operating performance (Barber and Lyon, 1996). Barber and Lyon (1996) further suggest that operating margin provides a measure of performance that captures economic improvements generated by the restructuring while limiting the improvements that may be induced by the accounting effects. These arguments further justify our use of several profitability measures.

Growth and Size Hypothesis

Many empirical studies suggest that the firm's growth and size are positively related to its capital structure (Titman and Wessels, 1988; Rajan and Zingales, 1995; and Fama and French, 2002). Restructurings invariably alter capital structure, hence

¹⁸ For example, when a firm writes down an asset to its net realisable value, it has no direct impact on the current or future cash flow of the firm. Thus, it affects the post restructuring earnings of the firm. Similarly downsizing management causes reduction in payroll expenses, but may show declining productivity. Lopez et al. (2001) find that the measures of performance that include non-recurring items (restructuring, asset write-downs or asset sales) mislead to erroneous conclusion about the performance effects of restructuring.

bring changes in firm size. Moreover, firm size is often perceived as a proxy for performance (Shumway, 2001), for it is sometimes contended that larger firms are more difficult to fail and liquidate than smaller firms. Firms engaged in restructurings can borrow or issue equity to meet certain forms of restructuring. Titman and Wessels (1988) find that the cost of issuing debt and equity securities is also related to firm size. Since cash flow is commonly associated with managerial compensation (Amihud and Lev, 1981), managers attempt to increase the firm's turnover (sales) as their incentives are likely to increase.

Further, certain types of restructurings, i.e. diversification and acquisitions, typically allow firms to enter into either unrelated or related capital markets. Chari et al. (2009) find that acquirers tend to prefer large USA targets, measured in terms of sales to total assets. Schary (1991) and Koke (2002) find that neither firm profitability nor other firm characteristics, such as firm size, number of plants or financial reserves explain the difference between bankruptcy and other exits, like acquisition. While, Harhoff et al. (1998), Leroy, et al. (2009) and Praet (2008) suggest that firm size may have a positive effect on probability of successful restructuring. Clearly, not all forms of restructuring will be positively related with size. For example, firms that divest will essentially be smaller. However, growth measures are predicted to be positively associated with forms of restructuring. Thus, we test:

***H2:** Measures of firm growth (GROW) and size (SIZE) will exhibit improvement subsequent to corporate restructuring events in comparison to measures of non-restructured firms.*

To test this hypothesis, we measure growth as the standard deviation of research and development divided by sales similar to Mehran (1995). Size is

expressed as percentage of annual sales to the total asset of the firm. To avoid misspecification and serial bias we have taken percentage change as a proxy of size. Given that restructurings are functionally affected by these measures, the following additional hypotheses are developed.

Systematic Risk and Leverage Hypothesis

Systematic risk is a reliable measure of performance as it indicates the degree of volatility in the firm's stock return (Amihud and Lev, 1981; Chatterjee and Lubatkin, 1990; and Mandelker, 1974).¹⁹ In particular, systematic risk of a firm is the covariance of firm's returns with market returns, adjusted for the variation in the market return. Typically, systematic risk accounts for around 20%-30% of the total variation in a firm's returns (Chatterjee et al., 1992). However, Lubatkin and Rogers (1989) and Rumelt (1974) find conclusive evidence of contemporaneous relationship between corporate diversification and systematic risk. Helfat and Teece (1987), Peavy (1984) and Salter and Weinhold (1979) state that since the reduction in risk is a principal motive for firms, corporate diversification will reduce the volatility of firms. Indeed, Helfat and Teece (1987) find that vertical mergers significantly reduce systematic risk.

John (1991) indicates that firm's leverage in addition to agency cost and tax shield influences firm's choice of merger. While payment levels are exogenously specified in highly leveraged firm, restructurings provide investment incentives leading to synergetic gains. Stevens (1973) finds that leverage is the most significant indicator of whether a firm is acquired or non-acquired. Further, studies such as, John

¹⁹ The systematic risk, i.e. beta is estimated under the OLS regression of the market model. Brown and Warner (1985) established that the market model under the OLS estimate outperforms other models such as; mean adjusted model and market adjusted model.

(1986), Kim and McConnell (1977) and Scott (1976) suggest that mergers potentially reduce risky debt lowering leverage. Thus the hypothesis we test is,

H3: Systematic risk (RISK) and leverage (LEV) will decrease for firms that take on corporate restructuring compared with non-restructured matched firms.

Ownership Structure and Governance Hypothesis

Share ownership has direct influence on restructurings. Specifically, block shareholders can exercise their monitoring and control mechanism to ensure operating efficiency is achieved as a result of restructurings. Typically, block shareholders can carry out a proxy contest or undersell their holding to a bidder facilitating a potential takeover threat, if management is resistant to corporate policy change (Shleifer and Vishny, 1986). Several empirical studies document that share ownership is positively associated with returns to acquisitions (Morck et al., 1990) and firm value (McConnell and Servaes, 1990 and Morck et al., 1988). However, shareholders concentration and managerial ownership can adversely affect restructurings (Hill and Snell, 1988). Indeed, Bethel and Liebeskind (1993) find that managers' willingness to restructure the firm depends, *ceteris paribus*, on the ownership structure of the firm.

Lloyd et al. (1987) also find that firms pursue divergent objectives when managers' shareholding is different from the block shareholding in merger situations. Restructuring forms, like M&As are likely to initiate greater control of block shareholding. To test for an association between shareholder ownership and restructurings, we define share ownership in terms of the percentage of total number of shares of major shareholders to the total number of shares in issue. Major shareholders represent ownership of more than half of a firm's outstanding shares.

Since share ownership influences restructuring, this measure is considered as a performance predictor. Thus we test,

H4: The shareholders' ownership (OWN) of firms' engaged in corporate restructuring will increase in comparison to non-restructured firms.

4.2.2. Model Specification to Estimate Performance Measures

To test our hypotheses in relation to firm performance we use a logit model. We use the logit model because we have a binary choice problem in relation to different types of firms. That is, firms that restructure are compared against firms that did not restructure. The logit model does not require the normality assumption to hold for the distribution of the variables. As such, the logit model would generate more efficient parameter estimates compared to the discriminant analysis model (see Section A: Appendix 4).

The logit model is specified for all the variables in one run of the model. The variable specifications to examine above hypotheses 1-4 are defined in Table 4.1 (see Section B: Appendix 4). The logit model is written as follows:

$$Y_{i,t}^*(\pi) = a_0 + a_1 OPM_{i,t+k} + a_2 ROE_{i,t+k} + a_3 ATRN_{i,t+k} + a_4 ROA_{i,t+k} + a_5 PMARG_{i,t+k} + a_6 GROW_{i,t+k} + a_7 SIZE_{i,t+k} + a_8 RISK_{i,t+k} + a_9 LEV_{i,t+k} + a_{10} OWN_{i,t+k} + \varepsilon_{i,t}$$

where $Y_{i,t}^*$ is not observable but a binary latent variable for firm i at year t , according to the grouping of the firms. Here t represents the event year, while k denotes post restructuring year 1, 2, 3 respectively. However, what is observed is a 0-1 (firms that restructure/firms that did not restructure) dummy variable defined

as $y_{i,t} = \begin{cases} 1 & \text{if } Y_{i,t}^* \geq 0 \\ 0 & \text{if } Y_{i,t}^* < 0 \end{cases}$. The logit transformation gives the log-odds $\text{Ln}\left(\frac{\pi}{1-\pi}\right)$. A

positive and significant value of any coefficient indicates sizable influence of that particular variable on likelihood of successful restructuring. The explanatory variables are incorporated as batch input into logit model. Each post-event year, i.e. $t+k$, where, t is event year and $k=1, 2, 3$ is considered as year specific individual observation for all the samples. In effect, we employ 6 observations in logit model for each explanatory variable, i.e. 3 observations for restructured samples and 3 observations for non-restructured samples. Please note, to examine only combined year datasets, we have incorporated year ($YR_{i,t+k}$) as a categorical covariate in our logit model.

4.2.3 Hypotheses Development: Measures of Firm Value

Prior studies have used multiple measures to assess firm value, where measures of firm value are typically (capital) return based measures. In particular, a number of cross-sectional studies (Travlos, 1987; Tsagkanos, et al. 2006; and Misra, 2009) employ accounting variables along with market return to capture firm value. We examine whether their findings can be generalised across our sample of firms.

Capital Gain Hypothesis

The most indicative measures of firm value identified by several accounting studies are return on equity (ROE), return on capital employed (ROCE) and cash flow margin (CFMAR).²⁰ The specified predictors lead to capital gain for the firms. Thorburn and Eckbo (2008) find that typical restructuring creates substantial value for the shareholders. Hence, this leads to following hypothesis.

²⁰ A comprehensive discussion on value measures is presented in Feldman (2005).

H5: The capital gains for firms that take on corporate restructuring will be significantly higher compared to non-restructured matched firms.

The return on equity relative to the industry and cash flow to market value of assets improve as a result of restructurings. Maydew et al. (1999) have used cash flow as a proxy of value to examine restructurings. Donaldson (1994) finds a contemporaneous relation between return on equity and a form of restructuring. Healy et al. (1992) observe merged firms show significant improvements in asset productivity relative to other firms in their industry, leading to higher cash flow margin. Similarly, Haynes et al. (2002) use return on capital employed as a measure of value. Froud et al. (2000) document significant improvement in both ROCE and ROE subsequent to restructurings.

Abnormal Returns Hypothesis

The value of restructured firms is estimated as the abnormal returns on the announcement day (Andrade and Kaplan, 1998; Mitchell and Stafford, 2001; and Mulherin and Boone, 2000).²¹ Studies by Copeland et al. (1987), Krishnaswami and Subramaniam (1999) find restructurings yield higher proportion of abnormal returns. However, several other studies document ambiguous results.²²

The entire process of restructuring extends over a certain period. Subsequent to this, the market signals and reflects the changes in the firm value. However, the initial

²¹ See Appendix 2.

²² Agrawal et al. (1992) establish that the US acquisitions are wealth-creating activities. Whereas, examining 1800 UK takeovers covering the period of 1955-1985 Franks and Harris (1989) report ambiguous positive abnormal return in the 24 months post takeover period depending on the benchmark taken for his study. However, his study receives criticism for the lack of right use of benchmark, i.e. different proxies for value-weighted index for security prices. Healy et al. (1992) examining 50 largest mergers between 1979 and 1984 find that post-merger value improves significantly, but relative to the industry benchmark. Similarly Jarrell, Brickley and Netter (1988) and Jensen and Ruback (1983) report mergers create value for the shareholders of the combined firms.

announcement does not necessarily capture the changes in firm values. The value of firms is estimated based on firms' completion of entire restructuring process. Therefore, an *ex post* approach employing a +3 year post stock return is estimated. This leads to the hypothesis 6.

H6: *Abnormal returns of the firms that take on corporate restructuring will be significantly higher than non-restructured matched firms.*

Revenue and Expense Hypothesis

Corporate restructurings benefit firms from revenue growth and expense reduction. Gilson (2001, pp 415) has cited several examples where revenue growth and reduction in expense have been achieved through restructurings. Similarly, Ofek (1993) observed a significant reduction in operating cost while probability of successful restructurings increases. Allan and Simon (2004) find earning persistence, such as improved revenue and reduced cost affects characteristics and market value of firms. Therefore, the following hypothesis predicts that:

H7: *Sales relative to market value will increase and expense to revenue will decrease for restructured firms when compared to non-restructured firms.*

We consider two measures, such as sales to market value and expense over revenue to examine event effect of restructurings. Sales growth subsequent to restructuring remains as a key explanation in agency literature. Studies by Hite and Vetsuypens (1989), Trifts *et al.* (1990) and Roenfeldt *et al.* (1992) indicate significant and positive announcement effect of restructuring implying that the stock market expects a proportional growth in the firm's revenue. To test our hypothesis, we

construct a measure based on total sales relative to market value of firms. This measure contains two conjectures.²³ First, sales growth should correspond to increase in market value of firms, otherwise expected productivity may not be attained. Second, since market value increases, sales growth should increase to achieve successful outcome of restructuring. The characteristics and behaviour of total sales to market value ratio is discussed by Trueman et al. (2006). Similarly, total expense relative to revenue appears to decline since total sales indicates incremental growth as a result of restructuring.

4.2.4 Model Specification to Estimate Value Measures

The logit model is specified for all the variables in one run of the estimation. The variable specifications to examine above hypotheses 5-7 are defined in Table 4.2 (see Section B: Appendix 4). The logit model is written as follows:

$$Y_{i,t}^*(\pi) = a_0 + a_1 ROE_{i,t+k} + a_2 ROCE_{i,t+k} + a_3 CFMAR_{i,t+k} + a_4 ABRETUN_{i,t+k} + a_5 EX / RE_{i,t+k} + a_6 S / MV_{i,t+k} + \varepsilon_{i,t}$$

where $Y_{i,t}^*$ is not observable but a latent variable for firm i at year t . Here t represents the event year, while k denotes post restructuring year 1, 2, 3 respectively. However, what is observed is a 0-1 (firms that restructure/firms that did not restructure) dummy

variable defined as $y_{i,t} = \begin{cases} 1 & \text{if } Y_{i,t}^* \geq 0 \\ 0 & \text{if } Y_{i,t}^* < 0 \end{cases}$. The logit transformation gives the log-odds

²³ Sales revenue is a key financial accounting measure subject to the least amount of manipulation by management. That makes it a favourite of financial accountants and analysts. Market value is another favourite among these professional. Sales revenue is a variable used frequently in research. Market value is used just as frequently in financial accounting. One might think that two variables so fundamental to various discipline, when combined in a ratio, would be a topic of academic research with a long history. Surprisingly, it is not. This review confirms this ratio is relatively unknown in academic research. It also suggests a new twist that the ratio is of growing importance among financial analysts (Cook Jr., 2007).

$Ln(\frac{\pi}{1-\pi})$. A positive and significant value of any coefficient indicates sizable influence of that particular variable on likelihood of successful restructuring. The explanatory variables are incorporated as batch input into logit model, which is consistent with the approach adopted for performance measures. Effectively, we employ 6 observations in logit model for each explanatory variable, i.e. 3 observations for restructured samples and 3 observations for non-restructured samples. Please note, to examine only combined year datasets, we have incorporated year ($YR_{i,t+k}$) as a categorical covariate in our logit model.

4.3 Additional Parameter Estimate

Market Model Under the OLS and GJR-GARCH Methods

We employ the market model to generate two parameters, the ARs and beta, i.e. systematic risk. To do this, we estimate both parameters using the market model under the OLS estimation method. In addition, two additional parameters, i.e. conditional volatility and asymmetry are computed under the GJR-GARCH estimation method (see Section C: Appendix 4). These additional parameters are incorporated into logit model and the logit model is re-estimated. However, methodological studies differ to agree on the best method for calculating abnormal returns (Dichev and Piotroski, 2001).²⁴ Standard OLS estimation method is the most common method used in event study analysis (Fama, 1969). However this estimation method suffers from ARCH effects, especially when high frequency data is use. For this reason, we also estimate the ARs under the GJR-GARCH estimation method. We use both the estimation methods to compute the ARs and CARs.

²⁴ Barber and Lyon (1997) and Fama (1998).

The standard market model can be specified as:

$$R_{it} = \alpha + \beta R_{mt} + \varepsilon_{it} \quad (4.1)$$

Where, $t = -156, -155, \dots, 0, +155, +156$ weeks

R_{it} = return on the i^{th} firm on week t ,

R_{mt} = return on the market security on week t ,

α and β represent intercept and slope coefficient of the market model, where slope coefficient, i.e. beta denotes systematic risk.

ε_{it} represents residual return on firm i at time t .

Under the GJR-GARCH estimation the conditional variance of Eq. (4.1) can be written as:

$$\sigma_t^2 = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + \beta \sigma_{t-1}^2 + \gamma \varepsilon_{t-1}^2 I_{t-1}^- \quad (4.2)$$

where $I_{t-1}^- = 1$ if $\varepsilon_{t-1} < 0$ and 0 otherwise. In Eq. (4.2), last period's good news, $\varepsilon_{t-1} > 0$, and bad news $\varepsilon_{t-1} < 0$, have differential effects on the conditional variance, as well as good news have an impact of α_1 , while bad news have an impact of $\alpha_1 + \gamma_1$. If, $\gamma_1 > 0$, bad news increases volatility, and this condition is referred as leverage effect for i -th order. If $\gamma_1 \neq 0$, the news impact is asymmetric. I_{t-1}^- is a zero/one dummy variable which is set to zero if ε_{t-1} is positive, otherwise 1. Typically, this specification assists to examine the asymmetry with respect to ε_{t-1} . We employ FTSE All Share stock index as a benchmark while computing conditional variance (β) and asymmetry (γ).

Returns for each firm undertaken restructuring were obtained from Datastream. The returns were generated for 156 weeks (52weeks \times 3) prior to restructuring completion day and 156 weeks after. The completion day is defined as reported by Zephyr. We included ± 156 weeks intending to capture stock returns over

a period of 3 years. The market returns were approximated by the FTSE All Share price index. The slope coefficients and intercepts were estimated in three ways. By using weekly returns beginning ± 156 weeks, ± 104 weeks and ± 52 weeks surrounding the announcement date. The estimated intercept and slope coefficients of the market model were then used to calculate the ARs for each firm. ARs for four-week period surrounding the completion day were computed for each firm according to the following equation

$$AR_{it} = R_{it} - (\alpha + \beta R_{mt}) \quad (4.3)$$

Where, $t = -2, -1, 0, +1, \dots, +2$ weeks

AR_{it} = abnormal return for the i^{th} firm on the week t ,

α and β are estimated values for the intercept and slope coefficient, i.e. beta representing systematic risk. The estimation window is specified as -157 to -209 weeks.

We subtracted the estimated expected return from the actual returns for firm i on week t . This represents residual return known as abnormal returns (ARs). Further, the average abnormal returns AR_t and cumulative average abnormal returns $ACAR_T$ were computed.²⁵ The average abnormal returns were estimated simply by dividing the total of abnormal returns for all the firms by the number of firms (n). The average abnormal return on n stocks on week t , AR_t is presented as:

$$AR_t = \sum_{i=1}^n \frac{AR_{it}}{n} \quad (4.4)$$

The cumulative average abnormal returns or the mean cumulative abnormal returns were obtained by summing up the average cumulative abnormal return of each firm.

²⁵ The estimation of average abnormal returns and average cumulative abnormal return is based on Aydogan and Muradoglu (1998).

For n securities, the average cumulative abnormal returns over an event window from $t=t$ to $t=T$; $ACAR_T$, is the sum of average abnormal returns over that period, given as:

$$ACAR_T = \sum_{t=\tau}^T AR_t \quad (4.5)$$

The estimated average abnormal returns for each firm are used as ABRETUN in the logit models. Further, a standard t-test is employed to examine the statistical significance of all the average ARs and CARs across the firms. In particular, we calculate the t-statistics for the average CARs across all firms as:

$$t - stats = \frac{ACAR_T}{\sigma(ACAR)_T} \quad (4.6)$$

Where, the standard deviation $\sigma(ACAR_T) = \sigma(AR_T)(T+1)^{1/2}$ and $\sigma(AR_T)$ is the variance over the event window. Standard deviation is simply the square-root of variance.

Please note, in Chapter 7 we have included daily returns for event study analysis. The rationale for this consideration is presented in Section 7.3 of Chapter 7.

4.4 Data Source, Sample Selection and Description

4.4.1 Data Source

Researching restructuring events requires broad coverage of data enlisting details of event transactions. In this study, three different data sources are utilised to extract the samples, namely **Zephyr**, **DataStream** and **FAME**. At the initial stage, availability of necessary restructuring details is imperative. Hence, Zephyr was utilised for this purpose. In the subsequent stage, while accounting variables were required we used both the DataStream and FAME to extract those items.

Empirical literature on restructurings recognises three major sources, such as Thomson Financial, Mergerstat and Zephyr. A brief description of each database and their strengths and limitations are presented in Section D: Appendix 4. The discussion establishes the premise of selecting Zephyr as primary data source in comparison to other leading sources. Zephyr includes almost all types of restructuring events. The typologies of deals are discussed in the literature review chapter. The nomenclature restructuring has widely been recognised by prior studies (Jensen, 1987). This research includes almost all major transactions and deal types, therefore initial data are identified and extracted from Zephyr.

Zephyr contains information on multiple deal types including M&A activity, IPOs, public to private, and joint ventures etc. Since SDCs and Mergerstat coverage of the United Kingdom is inadequate, Zephyr seemed to be the ideal option for our initial data source. Note that, there is no minimum deal value for inclusion in the database. Zephyr provides very comprehensive coverage of restructuring events commencing from the year 1999. The key characteristics of database are specified based on 15 criteria (Section E: Appendix 4).

At the first stage, a sample was obtained by reviewing all the completed restructuring transactions in the UK from year 1999 to 2003 from the Zephyr. The restructurings are merger, acquisition, share repurchase, IPO, MBO, LBO, Spin-off, Equity Carve-outs, and Joint Ventures. The types of restructurings are decided by the Zephyr categories. Once a transaction is identified within Zephyr, we check the 'deal types' to extract the transaction specific information. Please note, we assign a floating window of +3 years, hence year 1999 became the logical choice as base year since data before 1999 were inadequate in the Zephyr. Similarly, we extend the sample up

to year 2003, while data beyond year 2006 were not available.²⁶ The initial data i.e. restructuring events and deal variables were obtained from the Zephyr.²⁷ The next set of variables was extracted from the FAME. The FAME also belongs to *Bureau Van Dijk* database portfolios. The FAME provides other research specific accounting variables not directly available from the Zephyr. Finally, the stock returns were extracted from the DataStream enabling the estimation of variables such as systematic risk, abnormal returns, conditional volatility and asymmetry. After initial identification of sample data, two samples are generated. One including mergers, acquisitions and share repurchases deals and other one includes other restructuring data. The rationale behind this separation and sub-set are two fold. First, M&As and Share repurchases account for most of the restructuring events. Second, prior researches on M&A have produced most disputable results. Burner (2004) states that conventional wisdom seems to hold that failure is the average outcome of all classes and varieties of M&A and that, in this sense, is a loser's game. Yet, an objective reading of 130 studies supports the conclusion that M&A does pay. Similarly, share repurchase remains one of the challenges of restructuring studies.²⁸ Therefore, in this research, M&A and share repurchase are grouped into one category and other forms of restructurings are placed into another category. Further, we separated the merger and acquisition events from the share repurchases by creating two sub-sets of data. The logit analysis was reiterated for the sub-sets of data. Particularly we intend to examine any confounding effect that may unduly bias the results.

²⁶ The data collection was conducted in 2007, hence annual accounts were not made available beyond year 2006.

²⁷ Turn over, total assets, shareholders ownership, profit before tax and book value etc.

²⁸ Rau and Vermaelen, 2002; Rees, 1996; Oswald and Young, 2002.

4.4.2 Sample Selection and Description

The samples were constructed for each year and one for combined years. Each year specific sample was categorised into three sub-sets of sample. The sample period covers from year 1999 to year 2003. A floating window is assigned over post three-year period starting from year 1999 to 2003, while each restructuring year is taken as a base year. Each year observation for explanatory variable is used in the logit models, i.e. 3 observations for restructured sample and 3 observations for non-restructured sample. The year specific windows examined here are outlined in Table 4.3.

Table 4.3: Restructuring window for Post Event three years

Restructuring Year*	Post-Restructuring Years used in sample
1999	2000,2001,2002
2000	2001,2002,2003
2001	2002,2003,2004
2002	2003,2004,2005
2003	2004,2005,2006

* Each restructuring year is the base year. The post event years are, i.e. $t+k$, where t is event year and $k=1, 2, 3$.

The entire sample is comprised of 9 different restructuring events as identified and reported by the Zephyr. The first sample contains merger and acquisition deals, the second sample contains share repurchase transactions, and the third sample includes all other restructuring events.²⁹ We hypothesise that firm performance and value measures improve following restructuring events. We compared performance and value measures of restructured firms over a window of +3 year with a matched comparison non-restructured control sample. As indicated earlier, the samples are examined by employing binary logit analysis. In addition, volatility and asymmetry of the sample are estimated utilising the GJR-GARCH estimate. These two parameters were incorporated into the logit models to examine the time varying asymmetry of the

²⁹ IPOs, LBOs, MBOs, Equity Carve-outs, Spin-offs and JVs.

sample. Additionally, an event study analysis was undertaken to examine individual restructurings to measure the event induced wealth effect of transactions.

To begin with, we specified several criteria to generate our raw sample. The sample criteria are included in Table 4.4 on the basis of item categories of Zephyr.

Table 4.4: Primary Sample Selection Criteria	
Activity	New FTSE / DJ Industry Classification Benchmark (ICB) (acquirer and target, vendor excluded). UK SIC (acquirer and target, vendor excluded).
Time Period	Starts 1999, proceeds year wise up to 2003.
Geography	UK (acquirer and target, vendor excluded).
Deal Status	Only completed deals are included in the sample. Announced, pending (awaiting regulators approval), pending (awaiting shareholders approval), pending (unspecified reason), postponed, rumoured, unconditional, withdrawn deals are excluded.
Deal Types & Methods of payment	All deal types and sub-deal types All methods of payments All types of financing included*
Quoted Companies	All quoted companies (acquirer and target), vendor-quoted and unquoted are excluded.
Stock Exchange	London stock exchange and London AIM stock exchange.

* Both the cash payments and option payments are included, as we have separated tender offers from the mergers deals while analysis is undertaken.

Based on those criteria, initially a total of 1595 restructuring events were identified and reported in Table 4.5. Next, 78 firms were excluded from the sample for mismatched deal value/enterprise value.³⁰ Further, 48 thinly traded firms were also eliminated from the sample. For two apparent reasons such firms were excluded, such as lack of data availability and high volatility, which is often associated with thinly traded securities. A total number of 87 firms were also eliminated since restructuring completion dates were not available. We further eliminated 32 firms as they did not provide the R&D (Research and Development) value. Typically, the R&D value is a

³⁰ We matched each deal value of restructuring obtained from the Zephyr with the information available from the FAME.

constituent of deal value to measure the growth of firms. In addition, 128 firms were excluded from the sample since those restructurings were either aborted or incomplete or exited from the deals.

Table 4.5: Sample Description

Restructuring events initially identified	1595
Restructuring deleted because of missing information	
Mismatch deal value, equity value, enterprise value/estimated enterprise value	(78)
No. of thinly traded firms	(48)
Missing restructuring completion dates	(87)
Missing R&D Value	(32)
Restructuring announced but not completed	(128)
Total missing information	(373)
Restructuring deleted as outliers*	(26)
Total Identified events	1196
Restructurings identified year wise	
Year 1999	304
Year 2000	308
Year 2001	224
Year 2002	128
Year 2003	232

Note: Restructuring events were identified following specific criteria outlined in the above section by using database Zephyr by *Bureau Van Dijk*. Based on identified events, other variables were extracted from the FAME and DataStream.

* Outliers are identified as observations with Studentized residuals with an absolute value greater than 3 when included in logit models

Finally, influence diagnostics from the models indicated that 26 restructurings report outliers. Eliminating those firms resulted in a better fit of the models with robust inferences. Hence, altogether 399 firms were eliminated from the sample. The final sample consisted of a total of 1196 identified events. We break down the entire sample into year wise restructuring events. The break down of restructuring events is documented in Table 4.6. Next, we extracted 26 accounting variables from the FAME for our sample (see Section F: Appendix 4). Further, we estimated 13 model specific variables by combining those variables. Moreover, four additional parameters, i.e.

systematic risk, conditional volatility, asymmetry and abnormal returns were computed employing the market model under both the OLS and GJR-GARCH estimates. Subsidiary data like share prices were generated from the DataStream.

Table 4.6: Sample Size and Distribution

Restructuring Events	Individual year					Combined Year
	1999	2000	2001	2002	2003	
Acquisition	52	64	20	16	28	180
Merger	80	92	76	24	44	316
Share-Repurchase	36	36	20	16	28	136
IPO	28	20	24	12	20	104
LBO	20	16	24	8	20	88
MBO	40	16	20	16	20	112
JV	20	12	12	8	20	72
Equity-Carveout	16	28	12	16	24	96
Spin-Off	12	24	16	12	28	92
Total	304	308	224	128	232	1196

Finally, a set of control samples were constructed and compared with the restructuring samples. These control samples were consisted of non-restructured firms. The samples were designed based on matched comparison criteria. The criterion variables of control firms were extracted from the Zephyr, FAME and DataStream collectively. The selection of control firms is based on four criteria. The selection process is described below:

Industry Types and Standard Industrial Code (SIC)

Nine industry types and 99 sub types based on the UK SIC code classification specified by Zephyr³¹ are matched with New FTSE/DJ Industry Classification Benchmark (ICB). Subsequently, the initial samples corresponding to the FTSE All

³¹ We based our selection criteria prior to SIC 2008. The major revision of the UK Standard Industrial Classification of Economic Activities (SIC), announced in 2002, has been completed and is effective from 1 January 2008. It is the outcome of Operation 2007-a series of consultations started in 2002 and carried out in conjunction with the major revision of the European Union's industrial classification system, NACE.

Share³² firms were used to construct the final samples. The samples exclude the firms engaged in financial activities (Zephy-8, ICB 8000) and its super-sectors, sectors and sub-sectors (see Section G: Appendix 4). Also we excluded sub sector ICB 2795 of industries (ICB 2000) as that sector provides services for financial management and administration.

Market Value (MV)

We calculated average MV for all the FTALLSH firms, which is within one year of the date of a restructured firm first announced the event. Next, a matched firm having closest average MV with the restructured firms within those of FTALLSH index was identified. However, we excluded any matched firms that are on the FTALLSH list one year of the date before the restructured firm's announcement.

Market Value (MV) + Market to Book Value (MTBV)

The average MV and MTBV for all the FTALLSH companies were calculated which is within one year of the date a restructured firm first announced the event. Next, we group the firms which average MV are in +/- 30%³³ of the restructured firm's average MV. Finally, in the group of firms, a matched firm that has the closest MTBV with the restructured firm was indentified. Again, we excluded any matched firms that are on the FTALLSH list one year of the date before the restructured firm's announcement.

³² The **FTSE All-Share Index**, originally known as the FTSE Actuaries All Share Index, is a capitalisation-weighted index, comprising around 800 of more than 2,000 companies traded on the London Stock Exchange. It aims to represent at least 98% of the full capital value of all UK companies that qualify as eligible for inclusion. The index base date is 10 April 1962 with a base level of 100. To qualify, companies must have a full listing on the London Stock Exchange with a Sterling or Euro dominated price on SETs or SETmm or a firm quotation on SEAQ or SEATS, and must meet a number of other eligibility requirements. FTSE All-Share is the aggregation of the FTSE 100 Index, FTSE 250 Index and FTSE SmallCap Index.

http://en.wikipedia.org/wiki/FTSE_All-Share_Index.

³³ When we cannot find any matched firms with this range, we will expand it to +/- 35%, +/-40%, etc.

Market Value (MV) + Market to Book Value (MTBV) + Industry

First, we separated all the FTALLSH firms into 10 industry groups according to the FTSE/DJ Industry Classification Benchmark (ICB) and matched that with Zephyr classification. Second, we calculated average MV and MTBV for all the firms within the restructured firm's industry, which is within one year of the date a restructured firm first announced the event. Next, we grouped the companies which average MV are in +/- 30% of the restructured firm's average MV. Finally, within the group of companies, we identified a matched firm that has the closest MTBV with the restructured firm. Again, we excluded any matched firms that are on the FTALLSH list one year of the date before the restructured firm's announcement. All the delisted firms and any matched firm from the FT All share index that are on the list as a restructured firm was excluded.

4.5 Preliminary Results

The following sections present various statistics that describe the sample firms. In this section, descriptive statistics are discussed along with the collinearity, autocorrelation and outlier diagnostics. From an empirical perspective, collinearity, autocorrelation and outliers are main constraints those unduly influence the logit analysis. In particular while a sample contains time series data.

In this part, section 4.5.1 reviews collinearity, autocorrelation and outlier diagnostics. Section 4.5.2 outlines descriptive statistics for all the restructuring transactions. However, we have not reported individual descriptive statistics for year specific data set, instead combined year descriptive statistics are presented for each sub-sample.

4.5.1. Multicollinearity, Autocorrelation and Outliers

Multicollinearity and Autocorrelation

The individual data sets and all year data sets were examined for collinearity. The collinearity diagnostic, VIF (Variance Inflation Factor)³⁴ obtained for each data set indicated a score well below customary cut-off point of 10 (O' Brien, 2007). Therefore, our variables suggest no collinearity and ensure none of them is redundant. In addition, we have undertaken *Ljung-Box* test for individual data sets to determine any autocorrelation that may bias our results. Further to ascertain normality of distribution of each data set Kolgomorov and Smirnov test was performed for all the samples. The diagnostics for individual data set are reported in logit result tables.

Outliers

Similarly, our data sets were examined for potential outliers that may unduly influence the accuracy of the models. Standardised residuals greater than 2.58 are outliers at the .01 level, which is the customary level (standardised residuals more than 1.96 are outliers at the less-used .05 level). Customarily standardised residuals greater than 2.58 are sequentially deleted from the data sets. However, the studentised residual is then suggested as a robust alternative to check homoscedasticity and normality by Belsley et al. (1980). Thus, the outliers with an absolute value greater than 3 were identified as studentised residuals and sequentially deleted from our samples.

³⁴ $VIF_k = \frac{1}{1 - R_k^2}$ where R_k^2 is the coefficient of multiple determination, when X_k is regressed on the $p-1$ remaining independent variables.

4.5.2 Sample Descriptive Statistics

Table 4.7 reports descriptive statistic for the entire sample, which includes both the restructured firms and non-restructured matched criteria sample covering year 1999 to year 2003. The descriptive statistics for other sub-samples are presented in the Section H: Appendix 4. Please note, the statistics indicate similar observations across the sub-samples.

The mean scores of restructured sample and non-restructured sample indicate contrasting difference. The median statistics suggest the same as well. In addition, both the t-statistics and the Wilcoxon Z statistics for testing the difference in the explanatory variables of the restructured and non-restructured control sample are statistically significant at at least 10% level. The average operating profit margin of restructured sample is .4422, which is higher than 75% percentile of the entire observation, i.e. representing approximately 95% of total operating margin. The matched criteria non-restructured sample has a mean score of .1760, which is significantly different from the restructured sample. This is consistent with the profitability hypothesis proposed in Section 4.2.1. The reported standard deviation for operating profit margin of restructuring sample is 3.5356. Thus, the kurtosis tends to have a distinct peak near the mean and skewness indicates a right skew. The mean value of restructured sample for risk is 2.4012, whereas the standard deviation is 12.0475 suggesting an asymmetric distribution. While, the mean score of risk for non-restructured sample is .4086, which is significantly different from the restructuring sample. This confirms non-normality of volatility, which is consistent with risk hypothesis. The average abnormal returns of restructured sample is .1118 and 50% percentile is 1.1700 indicating almost half of abnormal returns fall within second quartile of observed values. Almost one quarter of abnormal returns show negative

Table 4.7: Descriptive Statistics
All the Restructuring Events: Entire Sample Period

Variables	Mean ⁱ (N=3588)	Mean ⁱⁱ (N=3588)	Median ⁱ (N=3588)	Median ⁱⁱ (N=3588)	Std. Dev ⁱ (N=3588)	Skewness ⁱ (N=3588)	Kurtosis ⁱ (N=3588)	Percentiles ⁱ			t-statistics for tests of mean differences	Z-statistics from the Wilcoxon two-sample test
								25%	50%	75%		
OPM	.4422	.1760	.0814	1.0757	3.5356	34.679	58.857	.0324	.858 ^a	18.458 ^a	.858 ^a	18.458 ^a
ROE	5.7773	7.6765	.1330	2.1006	9.1965	55.508	41.163	.0553	1.018 ^a	-5.548 ^a	1.018 ^a	-5.548 ^a
ATRN	1.7287	.6452	.3324	1.2430	4.90257	5.281	32.849	.0419	-13.702 ^a	11.682 ^a	-13.702 ^a	11.682 ^a
ROA	2.7880	.2833	.0810	1.0789	23.1767	15.079	27.130	.0193	2.201 ^a	-20.242 ^a	2.201 ^a	-20.242 ^a
PMARG	.4585	.1726	.0546	1.0632	4.36908	24.125	66.644	.0198	3.546 ^b	13.193 ^b	3.546 ^b	13.193 ^b
GROW	55.7151	21.9525	.4926	2.5189	83.4341	21.154	44.376	.1654	4.851 ^a	1.649 ^a	4.851 ^a	1.649 ^a
LEV	7.1076	11.5344	.1825	.2171	78.6341	15.114	21.100	.0478	-6.737 ^a	19.334 ^c	-6.737 ^a	19.334 ^c
SIZE	15.7006	2.7557	1.0201	1.0360	21.9461	19.713	49.016	.3315	4.426 ^b	5.999 ^b	4.426 ^b	5.999 ^b
RISK	2.4012	.4086	.1028	.1105	12.04754	17.109	34.793	.0429	3.345 ^a	-19.267 ^a	3.345 ^a	-19.267 ^a
VOLATILITY	.0773	.0945	.0186	.02910	.16594	2.529	13.480	.0033	-.201 ^a	.515 ^a	-.201 ^a	.515 ^a
ASYM	.1281	.1479	.0466	.06380	.2273	3.973	33.631	.0091	3.439 ^c	1.262 ^b	3.439 ^c	1.262 ^b
OWN	36.7553	21.2418	17.4600	27.1800	80.1617	6.314	48.858	8.4600	.704 ^a	-1.178 ^a	.704 ^a	-1.178 ^a
ABRETUN	.1118	.8495	1.1700	.4400	19.6677	2.101	20.306	-2.5100	2.456 ^a	14.632 ^a	2.456 ^a	14.632 ^a
CFMAR	23.4521	.7418	.3031	.2520	41.5491	11.693	14.975	.1737	6.404 ^b	10.770 ^c	6.404 ^b	10.770 ^c
EX/RE	.5965	.3402	.2241	.1780	2.70538	20.054	48.793	.0968	4.129 ^a	14.613 ^a	4.129 ^a	14.613 ^a
ROCE	192.1297	.2294	.1297	1.1250	680.7760	48.542	25.965	.0561	.372 ^a	4.136 ^a	.372 ^a	4.136 ^a
S/MV	180.2515	6.6067	1.7584	2.5144	440.1310	38.472	16.524	.4281	2.747 ^a	-10.476 ^a	2.747 ^a	-10.476 ^a

i: Restructuring sample.

ii: Non-restructured matched criteria sample.

N: Number of observations.

a, b, c: indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

returns. The mean score of abnormal returns for the non-restructured sample is .8495, which is statistically different at conventional 1% level. However, kurtosis of abnormal returns for restructured sample exhibits a leptokurtic distribution. Therefore, probability of log odds of abnormal returns suggests conditional variance. This is consistent with market return, i.e. abnormal returns hypothesis, as well as supports logit analysis as an empirical instrument for this study. The mean and standard deviation statistics of ownership for the restructured sample are 36.75 and 80.1617 respectively, which are significantly different from the non-restructured sample. Thus, consistent with ownership and governance hypothesis.

The skewness of profit margin for the restructured sample implies a right skewed distribution. Most symmetric distributions are observed for cash flow margin, size and volatility. Please note, all these predictors for the restructuring sample are significantly different from the non-restructured sample. Hence, consistent with capital gain hypothesis. The mean score of return on equity of restructured sample is 5.777 and standard deviation 9.1965. Its percentiles report that average return on equity is 60% higher than second quartile observation. The mean value of grow for restructuring sample is 55.7151 and standard deviation 83.4341, thus ensures an asymmetric distribution. The variable, asymmetry indicates high kurtosis (33.631) suggesting a high peaked distribution, which is expected for this parameter. Further, estimate obtained for asymmetry under the GJR-GARCH method confirms this. The mean of expenses over revenue for restructured sample is .5965 and standard deviation is 2.7053, which implies declining proportion of revenue with relation to expenses. The reported mean of non-restructured sample is .3402 and median .1780, which are significantly different from the restructured sample at 1% level. This is consistent with revenue and expense hypothesis.

4.6 Conclusion

This chapter outlines the empirical methodology. Particularly, the chapter discusses the hypothesis development together with model specifications. The literature review presented in the previous chapter also contributes developing hypotheses and their implication in this study. The empirical perspective suggests that logit analysis is appropriate and adequate instrument to examine the data, since other alternate approaches, such as the MDA lacks efficient and robust parameter estimation. Hence, logit models are developed to examine the hypotheses based on firm characteristics. The variable descriptions are also presented in this chapter. In addition, data source, sample selection, preliminary results and bivariate statistics are reported in this chapter.

The next chapter documents the empirical findings along with other diagnostic statistics generated from the logit models.

5.1 Introduction

This chapter documents the empirical results estimated from the logit analysis. In particular, the chapter presents the results for differences in firm characteristics of restructured firms and a matched criteria non-restructured sample.³⁵ The firm characteristics are specified based on two sets of categorical measures of firms, namely performance and value. Further, the findings obtained from the estimates are reviewed with reference to prior studies. The results suggest restructured firms' financial characteristics significantly improve when compared to their non-restructured peers. Note that, earlier studies sought to establish the same, not necessarily achieved the similar results. However, this work implies that the observation obtained is due to broader scope of methodological approach.³⁶

Chapter 5 is organised into five sections. Section 5.2 discusses multivariate analysis. Section 5.3 reports logit estimates and diagnostics for the whole sample as well as for Mergers, Acquisitions and Share Repurchases events. Similarly, section 5.4 presents findings from logit estimate for all other restructuring events. Finally, section 5.5 concludes the chapter recounting the results briefly.

5.2 Multivariate Analysis

Initially, the entire sample including all types of restructurings is examined to elicit general observations about the differential impacts of firm characteristics on the

³⁵ Refer to Section B: Appendix 5.

³⁶ Refer to Chapter 4.

restructuring firms and non-restructured sample. The entire sample is categorised into two sub-samples. One containing mergers, acquisitions and share repurchases deals and other one includes rest of the restructuring events. Further, the merger and acquisition events are separated from the share repurchase deals and examined individually. Each category of sample is examined for post restructuring effects over a floating window of +3 years in comparison to a matched criteria sample. To explore each measure of firm, i.e. performance and value, two principal models are constructed and specified in methodology chapter.

5.3 Logit Estimates and Diagnostics

5.3.1 All Restructuring Events

Performance Measures: Combined Years

Table 5.1 reports logit estimates for the entire sample. The ‘percentage correctly classified’ for the overall model is 73.4. This represents a high predictability of correct classification for our model. The percentage correctly classified is compared to the proportional chance model used by Morrison (1969) and explained in Hosmer and Lemeshow (2000, p156).³⁷ It also indicates that the probability of model for accurate prediction than the chance outcome is significant at a 1% level.

Further, the sensitivity (correct | event did not occur, i.e. percentage of occurrences correctly predicted) of prediction is 78.4%. Therefore, the model correctly predicts 78.4% successful outcome of performance improvement for the firms undertaken restructuring transactions.

³⁷ Refer to Section B: Appendix 5.

Table 5.1: Estimate for Performance Measures of all Restructurings for Combined Years

Predictors	β	SE	Wald's χ^2	Df	e^β (odds ratio)
Constant	.409 ^a	.068	36.342	1	1.506
OPM	.101 ^a	.022	20.443	1	.904
ROE	.013 ^a	.021	.519	1	1.000
ATRN	-.149 ^a	.012	16.297	1	.861
ROA	.144 ^a	.037	15.285	1	.866
PMARG	.075 ^a	.021	12.908	1	1.078
GROW	.001 ^a	.002	11.065	1	1.001
LEV	.027 ^a	.007	14.312	1	.973
SIZE	-.012 ^a	.002	13.215	1	1.013
RISK(β)	-.112 ^a	.038	8.614	1	1.118
OWN	.870	.021	2.119	4	0.003
YR(1)	.133 ^a	.065	17.169	1	0.897
YR(2)	.146 ^a	.079	3.448	1	.864
YR(3)	.120 ^a	.088	1.857	1	1.127
YR(4)	.944 ^a	.095	9.539	1	.389
YR(5)	.538 ^a	.102	27.839	1	.584
Goodness-of-fit test			χ^2	Df	
Omnibus model Test			787.481 ^a	14	
Hosmer & Lemeshow Test			159.508 ^d	8	
Diagnostic tests					
Percentage correctly classified			73.4 ^c		
Cox and Snell R ²			.193		
Nagelkerke R ² (Max rescaled R ²)			.246		
-2 Log likelihood			237.234		
Kolmogorov-Smirnov					
Logit residuals			10.654 ^a		
Studentized residuals			5.613 ^a		
Standardised residuals			4.223 ^a		
Ljung-Box Q statistics					
Q ² (2)			.891		
Q ² (6)			.943		

N: 7176 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels, respectively.

d. sig. = 0.897

Note: All statistics reported herein use 3 decimal places in order to maintain statistical robustness.

The percentage correctly classified is a measure of the classificatory efficiency of the model indicating the model performs better than a naive proportional model.

Cox and Snell R² and Nagelkerke R² are measures, which explain the proportion of variance of predictors in the model.

-2 Log likelihood estimation terminated at iteration number 10 because parameter estimates changed by less than .001.

K-S test examines the null hypothesis that the residuals of the logit regression are normally distributed. The outliers identified as observations with Studentized residuals with an absolute value greater than 3 when included in logit models are sequential deleted.

The Ljung-Box Q statistics up to 6 lags indicate the lack of autocorrelation in the squared unstandardized residuals for the model. p-values for each lag up to 6 are greater than .05.

Moreover, employing 'Probability Miscalculation Model' (PMC) as specified in Hosmer and Lemeshow (2000, p 156) inaccurate classification was calculated and found statistically not significant. The graph for the observed and predicted probability confirms the classification efficiency of the model. Therefore, it concludes that the model is effective in predicting the overall outcomes with 73.4% accuracy. However, Hosmer and Lemeshow (2000, p 157) suggest that the classification table may be a useful adjunct to other measures based more directly on residuals. Thus, to assess the adequacy of this model, other diagnostic statistics were subsequently explored. To measure the goodness-of-fit of the model two key indicators are examined. The model reports that the Omnibus test of co-efficient with a chi-square value of 787.481 and 14 degrees of freedom is significant at 1% level (p-value $.001 < .05$).

In addition, the Hosmer and Lemeshow Test with chi-square value 159.508 (8 degrees of freedom) and significance value .897 supports our model as being worthwhile. The Hosmer and Lemeshow test examines the null hypothesis that there is a linear relationship between the predictor variables and the log odds of the criterion variable. Cases are arranged in order by their predicted probability on criterion variable. A chi-square statistic is computed comparing observed frequencies with those expected under the linear model. A non-significant chi-square indicates that the model adequately fits. The distribution of chi-square depends on m-asymptotics thus the appropriateness of p-value depends on the validity of the assumption that the estimated value should be larger than .05 for the model to be an ideal fit (Hosmer and Lemeshow, 2000). Therefore, with p-value of .897 ($> .05$) our model represents an adequate fit. Based on Omnibus test and Hosmer and Lemeshow statistics the null

hypothesis is summarily rejected.³⁸ The model entails that performance improves effectively following restructuring. Thus, the model readily implies that characteristics of restructured firms suggest significant improvement with contrast to a non-restructured control sample.

The two other measures, which explain the adequacy of the model, are the Cox and Snell R Square and the Nagelkerke R Square. These values provide an indication of the amount of variation in the dependent variable explained by the predictive power of the model (Pallant, 2000). The values range from minimum of 0 to the maximum 1. These are described as pseudo R square statistics unlike as true R square value reported by multiple regressions. However, as deviance is considered as a measure to identify inadequate model fit, an analogy is produced in logit regression to sum square residual of the OLS estimate.

The proportion of unaccounted for variation that is reduced by adding variables to the model is the same as the proportion of variance accounted for R^2 (R Squared). The values reported from our model for the Cox and Snell R Square and the Nagelkerke R Square are .193 and .246 respectively, suggesting that between 19.3% and 25% of variability is explained by this set of predictor variables. Thus establishes that the explanatory variables considered are effective to explain the predictive power of the model. Further, it implies that the predictors capture the performance change following restructuring.

The other specific criterion of model correctness is to assess how the residuals are distributed. A correctly specified model exhibits randomly (normally) distributed residuals. As logit regression does not make assumption concerning the distribution of scores of predictors, Kolmogorov-Smirnov Test was performed to reveal any

³⁸ Refer to Section B: Appendix 5.

anomalies that may unduly influence the model by being extreme or biased. The Standardized Residuals, the Studentized Residuals and the Logit Residuals are examined to estimated normality of residual distribution and comparison of difference between measurements. The results are reported in Table 5.1 imply that Kolmogorov-Smirnov statistics summarily reject non-normality.

To assess the existence of collinearity, a correlation matrix was generated while running logit regression. The presence of multicollinearity inflates the variances of the parameter estimates. Such inferences report wrong signs and magnitudes of regression coefficients. The correlation matrix produced for the logit model entails that no problematic partial inter-correlations of the explanatory variables. However, some relatively moderate correlations between OPM and PMARG, OPM and RISK (negatively correlated), PMARG and RISK (negatively correlated) are reported.

The probable cause of these correlations is due to the association amongst the accounting measures. Nevertheless, to further examine the existence of collinearity a linear regression model was run with the same explanatory variables. Hosmer and Lemeshow (2000, p 141) suggest that it is prudent to investigate the association among the covariates using collinearity analysis similar to linear regression to identify the discrepancies among the covariates. The collinearity statistics, i.e. the Tolerance and VIF (Variance Inflation Factor) from linear regression analysis indicate that there is no collinearity problem in our predictors. The VIFs of predictor variables are well below the customary cut-off value 10. Further, to examine autocorrelation in the residuals (square of unstandardized residuals) of model, we employed Ljung-Box (L-B) test to reveal any observation, which may unduly influence the model by being extreme or biased.³⁹ We reiterated the test up to maximum 6 Lags. The L-B statistics

³⁹ Refer to Section B: Appendix 5.

indicate that there does not exist any autocorrelation in the residuals ($p\text{-value} > .05$ at each lag). The contribution of individual predictors in our model is examined to establish how much each one explains the significance of successful outcome. The Coefficients, Wald Chi-square, and Odds ratio statistics are reported in Table 5.1. Notice that, reported Wald Chi-square for each predictor in the model meets the conventional .05 standard for statistical significance. However, according to Hauck and Donner (1977) the performance of Wald statistics found to behave in an aberrant manner often failing to reject the null hypothesis when the coefficient was significant. Jennings (1986) also concludes the same about the adequacy of inference based alone on Wald statistics. To address the issue, Hosmer and Lemeshow (2000, p 38-39) suggest that Wald statistics should be inferred along with likelihood ratio test to establish significance of predictors. In our model, the Wald statistics support our likelihood ratio test.

The variables with positive coefficients are OPM, ROE, ROA, PMARG, SIZE, GROW and OWN. Thus, the above predictors except OWN contribute significantly to the improvement of performance measures consequent to restructurings. This finding is consistent with Jayaraman et al. (2002), Ghosh (2001), Nohel and Tarhan (1998), Walking (1985), Neumann et al. (1983), Bothwell et al. (1984), and Dickerson et al. (1977). In contrast, Meeks (1977) comments that acquisition has a negative effect on profitability and Ravenscraft and Scherer (1987) report either deterioration or little improvement of profit margin and operating profit following M&A. The discrepancy in their sample is that they did not adjust the income (before extraordinary charges) for the restructuring charges by adding back the after tax restructuring charges. This accounting bias may have caused this problem. RISK denotes a negative coefficient

value and significant at 1% level. Moreover, all the individual years are statistically significant at 1% level.

Examining the odds Ratios, i.e. EXP (B) reported for these predictors, it indicates that ROE alone enhances by one (reported odds ratio score 1.000) corresponding to odds of successful outcome of restructuring. Where, PMARG increases 1.078 times, GROW 1.001 times and SIZE increases 1.013 times with contrast to measures of non-restructured firms. Tabachnick and Fidell (2001, p 548) state that the odds ratio is the increase or decrease in odds of being in one outcome category when the value of the predictor increases or decreases by one unit.

The predictors with negative coefficients are ATRN, SIZE and RISK. It is interesting to notice that RISK is significant at 1% level with an odds ratio of 1.118 and coefficient value -.112. The coefficient value means that the higher the RISK, lower the performance improvement after restructuring. In other word, higher systematic risk is associated with decreasing proportion of success for these restructurings. Further, it indicates less volatility associated with the firms' return after restructuring. This readily supports the criteria of systematic risk discussed in the methodology chapter. Martin (1996) has discussed the risk sharing proposition (between acquiring and acquired firms) suggesting SIZE could be a confounding factor to influence risk sensitivity of the firms. Note that, in our findings SIZE reports significant contribution explaining Martin's supposition. The covariates of restructuring years are significant at 1% level.

Value Measures: Combined Years

The logit estimates for the entire sample are presented in Table 5.2. The percentage correctly classified for the overall model is 77.2, which is statistically

significant at customary 1% level. The graph for the observed and predicted probability of the model confirms the same. The Omnibus Test coefficient is significant at 1% level ($p < .05$) with a chi-square value and 10 degrees of freedom. The chi-square value for Hosmer and Lemeshow Test is 144.427 with a significance level of 0.802. The value is larger than .05, therefore indicate best fit for the model.

Table 5.2: Estimate for Value Measures of all Restructurings for Combined Years

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.111 ^a	.063	.718	1	1.118
ROE	.003 ^a	.001	.557	1	1.000
ABRETUN	.005 ^a	.001	13.656	1	1.005
CFMAR	.001 ^a	.000	23.984	1	1.001
EX/RE	-.083 ^a	.023	13.275	1	1.086
ROCE	.023 ^a	.000	.302	1	1.022
S/MV	-.021 ^b	.000	5.623	1	1.002
YR(1)	.045 ^a	.087	14.523	4	.811
YR(2)	.056 ^a	.075	.553	1	.946
YR(3)	.185 ^a	.084	4.918	1	1.204
YR(4)	.779 ^a	.092	11.933	1	.459
YR(5)	.440 ^c	.098	19.965	1	.644
Goodness-of-fit test			χ^2	df	
Omnibus model Test			256.628 ^a	10	
Hosmer & Lemeshow Test			144.427 ^d	8	
Diagnostic tests					
Percentage correctly classified			77.2 ^a		
Cox and Snell R ²			.181		
Nagelkerke R ² (Max rescaled R ²)			.210		
-2 Log likelihood			468.765		
Kolmogorov-Smirnov					
Logit residuals			8.235 ^a		
Studentized residuals			11.233 ^a		
Standardised residuals			12.098 ^a		
Ljung-Box Q statistics					
Q ² (2)			.897		
Q ² (6)			1.087		

N: 7176 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels, respectively.

d. sig. = 0.802

Note: All estimation parameters are same as reported in the note of Table 5.1.

The model supports rejection of the null hypothesis. Further, the Cox and Snell R square, and Nagelkerke R square statistics are .181 and .210 respectively suggesting

that between 18% and 21% of the variability is explained by the set of our predictors. All other statistics indicate the model is significant and adequate.

Examining the coefficient, Wald test, odds ratio, i.e. EXP (B) for the predictive ability of individual variables, it indicates that all the predictors in our model are significant at least 1% level. EXP(B) statistics report that the predictors, ROE, ABRETUN, CFMAR and ROCE enhance 1.000, 1.005, 1.001 and 1.022 times subsequent to restructurings. Both EX/RE and S/MV denote a negative coefficient value, thus indicates a decreasing odds of probability of 1.086 and 1.002 respectively for every successful outcome of restructuring.

The estimate suggests a trend of proportional increase in abnormal returns of restructured firms with comparison to the control sample. Bruner (2004) identifies almost 24 studies those report higher proportion of abnormal returns for M&As deals.⁴⁰ Parrino and Harris (1999, 2001) report +2.1% cash flow returns to acquirer after merger and acquisition. Chatterjee and Meeks (1996) find that accounting profitability items like cash flow margin and ROA exhibit significant positive improvements. The above findings are consistent with our results.

5.3.2 Merger, Acquisition and Share Repurchase Events

In this section, performance and value measures of post merger, acquisition and share repurchase events are compared with a matched criteria control sample. The control sample is constructed based on matched criteria discussed in Chapter 4. To maintain the rigour of enquiry we have pursued the above approach consistent with literature. Thus, the effects of restructurings on firm characteristics can be captured and evaluated against the control sample. We intend to establish that the long-run

⁴⁰ Refer to Section B: Appendix 5.

measures significantly improve subsequent to restructuring events. The tables containing logit estimates and inferential diagnostics are reported in Section A: Appendix 5.

Performance Measures: Year 1999

Examining the results in Table 5.3, it indicates that the percentage correctly classified for the overall model is 78.6. All other diagnostics suggest the model is significant and adequate to explain the predictors. Thus, the null hypothesis is rejected.

The variables OPM, ROE, ATRN, ROA, PMARG, GROW, LEV, SIZE and OWN exhibit positive coefficient value and are significant at at least 10% level. Hence, the above predictors contribute significantly to the improvement of performance measures following merger, acquisition and share repurchase.

This finding is consistent with Jayaraman et al. (2002) and Bothwell et al. (1984). In contrast, Meeks (1977) and Ravenscraft and Scherer (1987) document deterioration or little improvement of profit margin and operating profit following M&A. The predictor with negative coefficient value is RISK. It is interesting to notice that RISK is significant at 1% level with an odds ratio of .709 and coefficient value .344. It entails that higher the RISK, lower the performance improvement after merger, acquisition and share repurchase.

Value Measures: Year 1999

The logit result for the year 1999 is presented in Table 5.4. The model adequately predicts 72.2% for each category. All other estimation statistics indicate best fit for the model and the null hypothesis is summarily rejected.

Examining the coefficient, Wald test, odds ratio for the predictive ability of individual variables, it indicates that all the predictors in our model are highly significant at 1% level. Odds ratio statistics report that three predictors, ABRETUN, CFMAR and EX/RE enhance 1.030, 3.893 and 5.792 times following merger, acquisition and share repurchase transaction.

Performance Measures: Year 2000

The results presented in Table 5.5 indicate that the percentage correctly classified for the overall model is 77.7. All other estimation parameters and diagnostics justify that the model adequately predicts the successful outcome. Therefore, the null hypothesis is rejected.

Please note that all our predictors are highly significant and report consistent result with previous findings. However, GROW carries a negative coefficient value but indicate merely marginal effect on restructuring, i.e. odds ratio .256. Other variables, ROE, ROA, LEV and RISK and OWN most significantly contribute towards the successful outcome of restructuring. In particular, RISK exhibits a negative coefficient value and an odds ratio of 6.614.

Value Measures: Year 2000

Table 5.6 reports the logit results for the year 2000. The percentage correctly classified for the overall model is 69.9 and the model sensitivity is 72.5%. Other estimation statistics imply that the classificatory efficiency of model is adequate and robust. Hence, the null hypothesis is rejected.

All the predictors reported in the above table are highly significant at 1%. Four predictors, i.e. ROE, ABRETUN, CFMAR and EX/RE contribute largely to

successful outcome of restructuring and demonstrate considerable improved following restructuring. However, S/MV implies only marginal influence on restructuring.

Performance Measures: Year 2001

The logit result generated for the year 2001 is reported in Table 5.7. The percentage correctly classified for the model is 85. The sensitivity is 87.8%. All other diagnostics indicate the model is robust and adequate to explain our predictors. All the predictors are highly significant at 1% level with exception of intercept. However, overall the model exhibits high classificatory significance. Thus, it is prudent not to emphasis the non-significance of intercept.

The odds ratios for the predictors, i.e. OPM, PMARG, ROA, ATRN and ROE suggest considerable increase of performance, which readily supports the restructuring literature discussed in the earlier chapter and consistent with the results reported in the previous sections. However, here RISK bears a positive coefficient value and indicates reasonable strong influence on restructuring. The negative coefficient values for GROW, LEV, SIZE deserve attention but suggest trivial influence on restructuring.

Value Measures: Year 2001

Table 5.8 reports the logit result and diagnostics for the year 2001. The percentage correctly classified for the overall model is 68.5. All other estimations and diagnostics suggest that the model is adequate to satisfy the predictive efficiency of our predictors. Hence, the null hypothesis is readily rejected.

The coefficient, Wald test and odds ratio scores are highly significant at 1% level. ROE, ABRETUN, CFMAR and EX/RE contribute largely towards the

successful outcome of restructuring. Note that, S/MV reports a negative coefficient value; however, it indicates marginal influence (odds ratio is.237) on restructuring.

Performance Measures: Year 2002

The logit result is presented in Table 5.9. The percentage correctly classified for the model is 87.7 and sensitivity is 89.6%. All other diagnostic measures indicate that our model is parsimonious and adequately robust to explain the explanatory variables. Thus, the null hypothesis is rejected.

The coefficient, Wald test and odds ratio statistics are highly significant at 1% and 5% level respectively. OPM, ROE, ATRN, ROA, PMARG, SIZE, RISK and OWN contribute substantially to performance improvement. GROW and LEV denote negative coefficient value, but imply marginal influence on restructuring. In particular, the odds ratio of LEV suggest trivial and non-sizable effects on odds of every successful restructuring outcome.

Value Measures: Year 2002

Table 5.10 reports that the percentage correctly classified for the model is 74.4 and the sensitivity is 78.2%. All other parameter estimations and diagnostics indicate best fit for the model. The model establishes to be adequately robust. Thus, the null hypothesis is summarily rejected.

The predictors are highly significant at 1% level. ROE, CFMAR and EX/RE influence sufficiently the measures of value. However, only S/MV reports negative coefficient value and exhibits merely marginal influence (odds ratio is .770) on restructuring. Note that, here ABRETUN is significant but does not necessarily influence restructuring outcome.

Performance Measures: Year 2003

Table 5.11 reports logit result for the year 2003. The percentage correctly classified is 74.4 and the sensitivity of the model is 77.4%. All other diagnostic statistics establish that our model is adequate to explain the predictors. Therefore, the null hypothesis is readily rejected.

The coefficient, Wald test and odds ratio statistics of predictors are highly significant at 1% and 5% level respectively. Please note, OWN is not statistically significant. However, it does not affect the successful outcome of restructuring (reported odds ratio value of 0.007). The predictors, i.e. OPM, ROE, SIZE, RISK and OWN contribute mostly to the performance improvement. Consistent with our previous years' findings RISK denotes negative coefficient value and implies considerable influence on restructuring (odds ratio 1.6). ATRN and GROW both denotes negative coefficient value but their odds ratio statistics indicate only marginal influence on restructuring.

Value Measures: Year 2003

The logit result for the determinants of value is reported in Table 5.12 for the year 2003. The percentage correctly classified for the model is 73.5 and the sensitivity is 75.8%. All other estimation parameters and diagnostics suggest that the model is adequate and parsimonious. Hence, the null hypothesis is rejected.

The coefficient, Wald test and odds ratio statistics of the predictors are highly significant at 1% and 5% level respectively. ROE, ABRETUN, CFMAR, ROCE and S/SM mostly influence the restructuring outcome. Note that, EX/RE denotes a negative coefficient value and indicates marginal influence on successful outcome of restructuring.

Performance Measures: Combined Years

Table 5.13 reports logit result for the combined years. The percentage correctly classified for the overall model is 61.7 and the sensitivity for the model is 65.2%. The model is robust and parsimonious to explain our predictors, thus the null hypothesis is summarily rejected. Please note, on this occasion our chi-square is highly significant, thus justifies that R square measure can be taken less seriously.

The coefficient, Wald test and odds ratio statistics are highly significant at 1% and 10% level respectively. The parameters, i.e. SIZE, RISK and OWN influence mostly the performance improvement. Typically, RISK bears negative coefficient value. This finding is consistent with our previous results. Note that, individual years are also highly significant.

Value Measures: Combined Years

Table 5.14 reports that the percentage correctly classified for the overall model is 62.2 and the sensitivity is 64.5%. All estimation statistics ensure that the model is robust and parsimonious. Thus, the null hypothesis is rejected. The coefficient, Wald test and odds ratio statistics are highly significant at 1% level. All individual restructuring years are highly significant. The parameters, i.e. ABRETUN, CFMAR, EX/RE and S/MV influence mostly the restructuring outcome. Note that, ROCE denotes negative coefficient value and imparts moderate influence on restructuring outcome. This finding is consistent with our previous results, in particularly with the previous sections' combined years results.

Separating Merger and Acquisition from Share Repurchases

In this section we have separated M&A deals and share repurchase transactions into two individual groups. Each group is examined similar to the previous section. To isolate and identify any confounding bias that may influence our findings by grouping them together, we intend to examine the deals independently. However, we limit our analysis to only combined years, thus no year specific individual analysis is presented here.

Merger and Acquisitions

Performance Measures: Combined Years

The results shown in Table 5.15 indicate that the model is significant at 1% level. Other diagnostics and estimations ensure that the model is adequate to explain the parameters. Except LEV, all other parameters are statistically significant at at least 10% level. Particularly OPM, ROE, SIZE, OWN, RISK and year specific variables predominantly influence the outcome of restructuring.

Value Measures: Combined Years

The diagnostics and estimations reported in Table 5.16 indicate that the model is significant and effectively explanatory. The predictors, ABRETUN and CFMAR along with year specific variables largely contribute to the successful outcome of restructuring.

Share Repurchases

Performance Measures: Combined Years

Table 5.17 indicates that the model is statistically significant at 1% level. All other diagnostics and estimations ensure the predictive efficiency of the model and reject the null hypothesis. The parameters largely contribute to successful outcome of restructuring are OPM, ROE, ATRN, ROA, PMARG, SIZE, RISK and OWN.

All year specific variables are significant at at least 10% level. Please note, though LEV is significant, it has trivial influence on restructuring.

Value Measure: Combined Years

The logit results reported in Table 5.18 suggest that the model is adequate and parsimonious. Other estimates and diagnostics confirm that all the predictors are statistically significant at 1% level except S/MV. In particular, ROE, EX/RE and ROCE largely influence successful outcome of restructuring.

5.4 Logit Estimate and Diagnostics: Other Restructuring Events

In this section, other restructuring events⁴¹ are examined. The approach adopted here is consistent with the previous section.

Performance Measures: Year 1999

Examining the results in Table 5.19, it indicates that the 'percentage correctly classified' for the overall model is 67.3. All other estimations confirm that the model

⁴¹ See Appendix 1.

is robust and effective in predicting the strength of our parameters. This allows rejecting the null hypothesis.

Reviewing the odds ratios, reported for the predictors, it indicates that GROW, SIZE, RISK and OWN predominantly contribute towards the successful outcome of restructuring. The predictors with negative coefficients are ATRN, PMARG and RISK. It is interesting to notice that RISK is highly significant at 1% level with an odds ratio of 3.420. It entails that higher the RISK, lower the performance improvement after restructuring in contrast with a control sample. In other word, higher risk is associated with decreasing proportion of success for these restructurings. Further, it indicates less volatility of firms' stock after restructuring.

Value Measures: Year 1999

The logit result presented in Table 5.20 implies that the percentage correctly classified for the overall model is 68.1 and the reported sensitivity is 72.2%. Other estimations and diagnostics affirm that the model is robust and adequate with effective explanatory variables. This leads to reject the null hypothesis readily. Examining the coefficient, Wald test, odds ratio for the predictive ability of individual variables, it indicates that all the predictors in our model are highly significant at 1%, 5% and 10% level respectively. Four predictors, ABRETUN, CFMAR, EX/RE and ROCE notably influence restructuring outcome. However, S/MV does indicate a moderate influence on restructuring.

Performance Measures: Year 2000

The results presented in Table 5.21 indicate that the percentage correctly classified for the overall model is 62.2. The sensitivity is 64.7%, this suggests that the

model adequately predicts the successful outcome of restructuring. Further, other estimations confirm that the model is robust, hence allows rejecting the null hypothesis.

All the predictors are highly significant at 1% level. The predictors significantly contribute to the successful outcome of restructuring are ROE, PMARG, GROW, SIZE, RISK and OWN. ATRN and ROA both report negative coefficient value, but indicate marginal influence on restructuring. In particular, ROA suggests trivial and non-sizable effect on odds of successful outcome of restructurings. Note that, as consistent with previous results RISK also denotes negative coefficient value but strongly indicate an inflated influence on restructuring (odds ratio 15.004).

Value Measures: Year 2000

Table 5.22 reports the logit results for the year 2000. The percentage correctly classified for the overall model is 61.6 and the model sensitivity is 64.7%. All other diagnostic statistics imply that the model is adequate and robust. This allows rejecting the null hypothesis.

The predictors are highly significant at 1%, 5% and 10% level respectively with exception to S/MV. Notably, S/MV is insignificant and fails to impart any sizable influence on restructuring. The odds ratios for five predictors, i.e. ROE, ABRETUN, CFMAR and ROCE contribute substantially to restructuring outcome. EX/RE denotes a negative coefficient value but suggests marginal influence on restructuring.

Performance Measures: Year 2001

The logit results are reported in Table 5.23. The percentage correctly classified for the model is 62.1 and the sensitivity is 66.7%. Other diagnostic statistics indicate that the model is robust and effective in explaining predictive power of our explanatory variables. Thus, the null hypothesis is rejected.

The coefficient, Wald test and odds ratio statistics are highly significant at 1% and 10% level respectively. However, neither OWN is significant, nor it bears any impact on restructuring. The predictors, i.e. ROE, PMARG, GROW, SIZE and RISK suggest notable influence on successful outcome restructuring. ATRN and ROA report negative coefficient value but do not confirm any measurable impact on restructuring. RISK demonstrates consistent result with our previous findings.

Value Measures: Year 2001

Table 5.24 reports the logit result for the year 2001. The percentage correctly classified for the overall model is 65.3 and the sensitivity for the model is 67.8%. All other estimations and diagnostics affirm that the model is robust and adequate to satisfy the predictive efficiency of our parameters. This readily allows rejecting the null hypothesis.

All the predictors are highly significant at 1% level with exception to S/MV. S/MV is not significant and suggests merely no influence on restructuring outcome. ROE, CFMAR, EX/RE and ROCE contribute largely to successful outcome of restructuring. Exceptional to note that ABRETUN reports a negative coefficient value; however, its Exp (B) indicates marginal influence (odds ratio is .989) on restructuring.

Performance Measures: Year 2002

The logit result is presented in Table 5.25. The percentage correctly classified is 68.2 and sensitivity for the model is 72.7%. All diagnostics indicate that the model is adequately robust to explain the explanatory variables. Therefore, the null hypothesis is rejected.

The coefficient, Wald test and odds ratio statistics are highly significant at 1% and 5% level respectively. However, only ROA is not significant but it indicates only marginal influence on successful outcome of restructuring. ROE, PMARG, GROW, SIZE, RISK and OWN contribute substantially to performance improvement. The exception deserves attention is ATRN. Although coefficient of ATRN is negative, in this instance its odds ratio implies marginal influence on restructuring.

Value Measures: Year 2002

Table 5.26 reports that the percentage correctly classified for the model is 63 and the sensitivity is 67.4%. All other estimations establish that the model is adequately robust and effective. Thus, the null hypothesis is rejected.

The coefficient, Wald test and odds ratio statistics are highly significant at 1% and 10% level respectively. ROE, CFMAR and S/MV influence sufficiently the performance measures following restructuring. Note that, EX/RE and ROCE report negative coefficient value and exhibit moderate influence on restructuring.

Performance Measures: Year 2003

Table 5.27 reports that the percentage correctly classified for the model is 70.9 and the sensitivity of the model is 76.4%. Other diagnostic statistics establish that the model is robust. Therefore, the null hypothesis is rejected.

The coefficient, Wald test and odds ratio statistics are significant at 1% and 5% level respectively. ROE, PMARG, GROW, SIZE, RISK and OWN contribute substantially to the performance improvement. The predictors, i.e. ATRN and ROA both denote negative coefficient value but indicate moderate to marginal influence on restructuring. Note that, RISK implies large influence on restructuring.

Value Measures: Year 2003

The logit result for the year 2003 is reported in Table 5.28. The percentage correctly classified is 72.5 and the sensitivity of the model is 78.8%. Other diagnostic statistics suggest that the model is adequate and robust. This leads to reject the null hypothesis.

All the predictors are significant at 1% and 5% level respectively. ROE, ABRETUN, CFMAR, EX/RE and ROCE contribute mostly to successful outcome of restructuring. Note that, S/MV denotes a negative coefficient value and indicate marginal influences.

Performance Measures: Combined Years

Table 5.29 reports the logit results for the combined years. The percentage correctly classified for the model is 72.5 and the sensitivity is 78.2%. Other estimates and diagnostic statistics indicate that the model is robust and adequate to explain our predictors. Thus, the null hypothesis is summarily rejected.

The coefficient, Wald test and odds ratio statistics are highly significant at 1% and 5% level respectively. The parameters, i.e. ROE, PMARG, GROW, SIZE, RISK and OWN mostly influence the successful outcome of restructuring. Three variables, ATRN, ROA and RISK denote negative coefficient value. However, ATRN and ROA

imply moderate to marginal influence on restructuring. Typically, RISK indicates consistent results with reference to our previous findings. Note that, individual years are also significant and influence sufficiently the outcome of restructuring with exception to year 3, i.e. 2002. This does not confirm the findings for performance for the individual year 2002 in the previous section.

Value Measures: Combined Years

Table 5.30 reports that the percentage correctly classified for the overall model is 62.5 and the sensitivity is 65.7%. All other estimation statistics indicate that the model proves to be robust and parsimonious to explain our predictors. Thus, the null hypothesis is rejected. The predictors are highly significant at 1% level. All the parameters substantially influence the restructuring outcome. In particular, CFMAR and EX/RE indicate a stronger influence on restructurings. Please note, the coefficient of EX/RE denotes a positive value. The year specific covariates are statistically significant at at least 5% level with exception to year 3, i.e. 2001. This is not consistent with the results obtained for the individual year 2002.

5.5 Conclusion

This chapter documents the empirical results. The estimates are obtained from the restructuring sample while compared against a non-restructured matched criteria sample under logit analysis. The restructurings are categorised into two sections, section one includes merger, acquisition and share repurchase deals and the other section comprises of other restructuring deals.⁴² Further, merger, acquisition and share

⁴² Refer to Appendix 2 and Chapter 2.

repurchase events are examined separately. In addition, each section consists of year wise samples. A floating window of +3 years is assigned to each year wise samples.

The results signify that restructurings continue to exhibit significant improvement in performance and value measures. The results explicitly reveal and emphasis that restructurings are value creating instruments, while previous studies often fail to register consistency in agreeing the same. The plausible reason for this result is the inclusion of several additional predictors as measures of performance and value. The predictors those consistently exhibited significant contribution to performance improvement are OPM, ROA ROE, PMARG, GROW, RISK, SIZE and OWN. However, other predictors, i.e. LEV and ATRN also indicate moderate contribution. Particularly, RISK exhibits a decreasing proportion of probability corresponding to odds of successful restructuring. In other words, successful restructuring strongly suggests lowering of risk. Similarly, value parameters ROE, ABRETUN, CFMAR and ROCE demonstrated substantial influence on restructuring. The increase in ABRETUN, CFMAR, ROCE significantly indicate that restructuring is associated with higher proportion of abnormal returns and greater cash flow margin. Please note, announcement effects of individual restructurings are examined under both the OLS and GJR-GARCH estimate using a market model in Chapter 7. Whereas, EX/RE and S/MV indicated moderate to marginal influence on restructuring.

The next chapter presents the logit results using parameters generated from the GJR-GARCH estimate.

6.1 Introduction

This chapter presents an alternate method for estimating certain parameters for inputs into the logit models. Two additional parameters, i.e. conditional volatility and asymmetry are generated under the GJR-GARCH estimate⁴³ from the portfolio of sample firms. Consequently, the parameters are used in the logit models for re-estimation. In the previous analysis systematic risk, i.e. beta was generated from the OLS estimate using the market model. The OLS method assumes homoscedasticity and unconditional variance over the estimation period. However, volatility associated with systematic risk differs over a time varying series. Please note, here the estimated beta is computed under the GJR-GARCH method. We intend to address the limitations and ascertain how consistent our previous result is with this alternate finding.

This chapter comprises of four sections. Section 6.2 discusses multivariate analysis. Section 6.3 presents logit estimates for performance and value measures. Section 6.4 concludes the chapter summarising the findings from the empirical analysis.

6.2 Multivariate Analysis

The parameters, asymmetry and volatility obtained under the GJR-GARCH estimate are employed in the logit models to examine the restructuring events similar

⁴³ Glosten, Jagannathan and Runkle (1993); Zakoian (1994).

to Chapter 5. Systematic risk, i.e. beta estimated under the OLS estimate assumes unconditional variance and inadequate to capture time varying effects in the data. Since risk is perceived as one of the key parameters of performance, it warrants utilising alternate measures of risk to evaluate the restructuring effect. Further, our observations are based on *ex post* historical transactions, whereas market model risk is derived from *ex ante* expectations. Similarly, we employ these measures to reiterate logit models for value measures. This consideration is taken, since abnormal returns are generated under unconditional variance. Our approach to estimate the logit models is consistent with that of previous chapter. We predict that these parameters will significantly decrease compared to matched criteria sample.

6.3. Logit Estimate and Diagnostics

6.3.1 Restructuring Events: Performance Measures

All Restructuring Events: Combined Years

The estimates obtained for the entire sample is reported in Table 6.1. The percentage correctly classified for the overall model is 72.3. All other diagnostics establish the model to be adequate and robust. Thus, the null hypothesis is summarily rejected.

The predictors are significant at at least 10% level. The parameters, i.e. ROE, PMARG, GROW, SIZE, VOLATILITY, ASYM and OWN influence mostly the restructuring outcome. However, VOLATILITY, ASYM and LEV consistently reduce as a result of restructurings in comparison to a non-restructured control sample. Note that, covariates of restructuring years are significant at at least 10% level

Table 6.1: Estimate for Performance Measures of all Restructuring for Combine Year

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.318 ^c	.070	20.483	1	1.259
OPM	.086 ^b	.022	14.813	1	.959
ROE	.003 ^c	.000	.527	1	1.000
ATR _N	-.147 ^c	.012	10.848	1	.885
ROA	.035 ^b	.008	17.537	1	.982
PMARG	.071 ^c	.021	11.634	1	1.118
GROW	.001 ^c	.000	10.895	1	1.002
LEV	-.023 ^b	.006	12.696	1	.990
SIZE	.012 ^a	.002	28.779	1	1.016
VOLATILITY	-.119 ^c	.173	.467	1	1.248
ASYM	-.651 ^a	.141	21.398	1	2.525
OWN	.021	.011	1.468	1	1.001
YR(1)	.096 ^a	n/a	16.907	4	.681
YR(2)	.181 ^c	.085	4.522	1	.986
YR(3)	.203 ^b	.088	5.277	1	1.457
YR(4)	.913 ^c	.095	12.484	1	.483
YR(5)	.495 ^b	.103	13.002	1	.746
Goodness-of-fit test			χ^2	df	
Omnibus model test			692.534 ^a	15	
Hosmer & Lemeshow test			126.281 ^d	8	
Diagnostic tests					
Percentage correctly classified			72.3 ^a		
Cox and Snell R ²			.181		
Nagelkerke R ² (Max rescaled R ²)			.223		
-2 Log likelihood			7203.729		
Kolgomorov-Smirnov					
Logit residuals			17.973 ^a		
Studentized residuals			12.456 ^a		
Standardised residuals			10.577 ^a		
Ljung-Box Q statistics					
Q ² (2)			1.021		
Q ² (6)			.969		

N: 7176 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels, respectively.

d. sig. = 0.897

Note: All statistics reported herein use 3 decimal places in order to maintain statistical robustness.

The percentage correctly classified is a measure of the classificatory efficiency of the model indicating the model performs better than a naive proportional model.

Cox and Snell R² and Nagelkerke R² are measures which explain the proportion of variance of predictors in the model.

-2 Log likelihood estimation terminated at iteration number 10 because parameter estimates changed by less than .001.

K-S test examines the null hypothesis that the residuals of the logit regression are normally distributed. The outliers identified as observations with Studentized residuals with an absolute value greater than 3 when included in logit models are sequential deleted.

The Ljung-Box Q statistics up to 6 lags indicate the lack of autocorrelation in the squared unstandardized residuals for the model. p-values for each lag up to 6 are greater than .05.

The predictor, ATRN denotes negative coefficient value but suggests moderate impact on the successful outcome of restructuring.

Mergers, Acquisitions and Share Repurchases

Individual Years

The tables documenting logit estimates and inferential diagnostics are presented in Appendix 6. The results for year 1999 indicate that SIZE, VOLATILITY, ASYM and OWN contribute substantially to performance improvement following restructuring. The odds ratio of volatility alone enhances 6.5 times following a restructuring. Where, the odds ratio of ASYM increases 1.3 times and OWN increases 1.0 times in comparison to pre restructuring measures. This finding warrants attention although measures of risk typically exhibit higher volatility following restructuring, particularly while a control sample, i.e. non-restructured matching industry firms is assigned to draw comparison. Year 2000 findings entail that ROE, ROA, LEV and OWN increase 3.3, 2.8, 3.0, and 1.0 times respectively following merger, acquisition and share repurchase event. VOLATILITY and ASYM report marginal influence on restructuring. Although consistent with previous results, year 2001 findings show that LEV, SIZE and OWN have negative coefficient values but their odds ratios imply only marginal influence on restructuring. The results from year 2002 show that the odds ratios of VOLATILITY and ASYM imply marginal influence (.045 and .032 respectively) on restructuring. This is consistent with the previous year findings. In addition, the overall findings are very similar to the results reported for the performance measure for the year 2002 in the previous Chapter 5. Year 2003 indicate OPM, ROE, ASYM, SIZE and OWN contribute mostly to the performance improvement. The odds ratio of ASYM represents a sizable increase, i.e. 3.152. The

most probable conjecture is that the asymmetry of volatility fluctuates on restructuring. Thus, it is prudent to infer that although volatility imparts non-significant effect on restructuring, the asymmetry may cause either higher positive shock or negative shock in firms' returns.

Combined Years

Table 6.7 reports the logit results for the combined year performance measures. The diagnostics and other estimates summarily reject the null hypothesis. The model is adequate to explain all the predictors. Thus, it is adequate and parsimonious. The parameters, i.e. SIZE, ASYM and OWN influence mostly the performance improvement. Whereas predictors like, OPM, ROE, ROA and PMARG as well indicate reasonable effect on the successful outcome of restructurings. However, LEV indicates it is significantly positive with a reported odds ratio value .870. This is contrary to the assumption that restructurings reduce leverage. Similarly, the predictor VOLATILITY is significant at at least 10% level and imparts moderate influence on restructurings (odds ratio .438 and with a positive coefficient value). It is interesting to note that ASYM significantly contributes to restructurings with a reported odds ratio value 3.034, which is inconsistent with our previous results. All individual years are significant and bear reasonable effects on the odds of successful outcome of restructurings. The finding is consistent with our individual year results.

Merger and Acquisition

In this section, merger and acquisition deals are separated from the share repurchase transactions and each category is subjected to logit analysis similar to the previous section. Please note, the rationales behind grouping the events together are presented in Chapter 4. In contrast to the US events, share repurchases reported in the

UK have not received much empirical investigation (Comment and Jarrell, 1991 and Ikenberry et al., 1995). Thus, we intend to examine the deals independently. However, we limit our analysis only to combined years.

Combined Years

The logit results presented in Table 6.8 ensure the best-fit criteria for the model indicating it is robust and significant at at least 10% level. All other diagnostics confirm that the model is adequate to explain all the predictors. Thus, the null hypothesis is readily rejected.

The predictors those largely influence the successful outcome of restructuring are ATRN, PMARG, LEV, ASYM and OWN. This finding is consistent with our previous results. The predictor LEV is significantly positive with a reported odds ratio value 1.101, which suggests that an increasing leverage follows restructuring. This finding contradicts the assumption relating restructuring expectations. Both VOLATILITY and ASYM significantly influence restructuring outcome and indicate a decreasing proportion with every increasing odds of successful restructuring. This is very consistent with the previous results. All the individual years significantly contribute to restructuring outcome. In particular, YR (2), i.e. year 2000 is significantly positive with a reported odds ratio value 1.098.

Share Repurchases

Combined Years

The logit results reported in Table 6.9 ensure that the model is robust and satisfies the best-fit criteria. The predictors those significantly contribute to successful

outcome of restructurings are ATRN, PMARG, LEV, ASYM and OWN. Please note, both ROE and GROW are insignificant with exception to SIZE, which is significant at 1% level and denotes a negative coefficient value.

Other Restructuring Events

Individual Years

The diagnostics and logit results are reported in Appendix 6. The findings ensure that all the models are significantly robust at at least 10% level. Thus, the null hypothesis is summarily rejected. The correlation matrix and the graph for the observed and predicted probability of the models confirm the classificatory efficiency of the models. All the predictors are significant at at least 10% level.

For the restructuring year 1999, the predictors contribute significantly to the improvement of performance measures are GROW, SIZE and OWN. This finding is consistent with our previous findings. GROW enhances 1.02 times following a restructuring. Where, SIZE increases 1.15 times and OWN 1.00 times in contrast to non-restructured firms. The odds ratios for VOLATILITY and ASYM are .007 and .005 respectively. The findings suggest that volatility almost remains unaffected or tends to exhibit marginal change subsequent to restructurings.

The year 2000 results indicate that the model is robust and adequately predicts the successful outcome of restructuring. The Wald test reported in Table 6.20 indicates that all the predictors are significant at 1% and 10% level respectively. Examining the odds ratios, i.e. EXP (B) of ROE, PMARG, GROW, SIZE, VOLATILITY and OWN, it suggests that these measures increase 1.1, 1.1, 1.0, 1.0, 2.4 and 1.0 times respectively following restructuring events. These predictors

significantly contribute to the performance improvement. Whereas, VOLATILITY exhibits a negative co-efficient value implying lower volatility contributes to restructuring success. In other words, the probability of restructuring being a success in contrast to non-restructured sample firm is higher where the volatility is decreased by 2.5 times. Moreover, the odds ratio of ASYM indicates no influence on restructurings.

All diagnostic statistics and estimations for the year 2001 suggest that the model is robust and effective in explaining our predictors. The coefficient, Wald test and Odds ratio statistics are significant at at least 10% level. The odds ratios for the predictors, i.e. ROE, ROA, PMARG, ROA, GROW, SIZE, ASYM and OWN suggest considerable contribution to successful outcome of restructuring. VOLATILITY implies trivial influence on restructuring. However, ASYM denotes negative coefficient value indicating 1.7 time decreasing proportion with reference to successful outcome. These findings are consistent with the results reported for the previous years.

The logit results for the year 2002 indicate a significant and adequate model ensuring best-fit criteria. The coefficient, Wald test and Odds ratio statistics are highly significant at 1%, 5% and 10% level respectively. ROE, PMARG, GROW, SIZE, ASYM and OWN substantiate considerable contribution to performance improvement. LEV and ASYM report negative value for their coefficients and deserve attention. The odds ratio of LEV suggests marginal influence of restructuring. The odds ratio of ASYM is 4.810, thus implies higher volatility following restructuring.

Estimates for the year 2003 suggest that all the predictors are significant at least 10% level. The predictors ROE, PMARG, GROW, SIZE, VOLATILITY, ASYM and OWN indicate significant contribution towards successful outcome of

restructuring. This finding corroborates our previous years' findings. VOLATILITY and ASYM demonstrate 3.8 and 4.3 times increase following restructuring events in contrast to non-restructured firms. However, both the predictors denote negative coefficient values, thus suggesting lowering of volatility subsequent to restructuring.

Combined Years

Table 6.15 reports logit result for the combined years. The percentage correctly classified for the overall model is 61.4 and the sensitivity is 68.7%. All other estimations and diagnostic statistics suggest that the model is adequate and parsimonious to explain our predictors. Hence, the null hypothesis is summarily rejected. The coefficient, Wald test and Odds ratio statistics are significant at 1% and 5% level respectively. The reported odds ratios suggest that the parameters, i.e. ROE, PMARG, GROW, SIZE, ASYM and OWN influence mostly the performance improvement. This finding is consistent with our previous results. Note that, individual years are also significant. Particularly YR(2), i.e. year 2001 imparts most significant influence on restructuring. VOLATILITY and ASYM both denote negative coefficient value implying decreasing proportion of risk after restructuring. This finding registers that ASYM decreases 2.05 times for restructured firms as compared to non-restructured firms.

6.3.2 Restructuring Events: Value Measures

All Restructuring Events: Combined Years

In this section, logit results for value measures are discussed similar to the previous section. The year specific estimates are presented in Appendix 6. The logit

results for the full sample are reported in Table 6.16. The percentage correctly classified for the overall model is 69.8. All other diagnostics and estimates indicate that the model is adequate and significant. Thus, the null hypothesis is rejected.

Table 6.16: Estimate for Value Measures of all Restructuring for Combined Years

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.041 ^a	.390	.390	1	1.042
ROE	.012 ^a	.004	.575	1	1.000
ABRETUN	.003 ^b	.001	4.917	1	1.003
CFMAR	.001 ^a	.005	24.269	1	1.001
EX/RE	-.070 ^a	.020	12.065	1	1.073
ROCE	.034 ^c	.012	.354	1	1.000
S/MV	.067 ^a	.103	5.386	1	1.000
VOLATILITY	-.018 ^a	.169	.011	1	.982
ASYM	-.585 ^a	.133	9.306	1	1.795
YR(1)	.210 ^a	.032	14.981	4	.076
YR(2)	.173 ^b	.081	4.501	1	.841
YR(3)	.242 ^c	.085	8.193	1	1.274
YR(4)	.768 ^a	.092	6.745	1	.464
YR(5)	.424 ^a	.100	18.019	1	.654
Goodness-of-fit test			χ^2	df	
Omnibus model test			261.013 ^a	12	
Hosmer & Lemeshow test			60.529	8	
Diagnostic tests					
Percentage correctly classified			69.8 ^a		
Cox and Snell R ²			.146		
Nagelkerke R ² (Max rescaled R ²)			.198		
-2 Log likelihood			477.609		
Kolmogorov-Smirnov					
Logit residuals			8.271 ^a		
Studentized residuals			8.098 ^a		
Standardised residuals			7.098 ^a		
Ljung-Box Q statistics					
Q ² (2)			.987		
Q ² (6)			.992		

N: 7176 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels, respectively.

d. sig. = 0.866

Note: All estimation parameters are same as reported in the note of Table 6.1.

All the predictors are significant at at least 10% level. The parameters influence significantly the successful outcome of restructuring. Note that, individual years are significant at customary confidence levels. EX/RE, VOLATILITY and

ASYM denote negative coefficient supporting predicted hypotheses. These predictors consistently exhibit decreasing odds of probability for every successful outcome of restructuring while being compared with a non-restructured control sample.

Mergers, Acquisitions and Share Repurchases

Individual Years

The logit results and other diagnostics are presented in appendix 6. All the models are significant and robust. Therefore, the null hypothesis is rejected. The findings for the year 1999 are consistent with the previous years, in particular with the restructuring year 1999, while pre and post value measures are compared. However, ROCE is significant but denotes a negative coefficient value. The year 2000 results indicate similar results. In addition, ROCE and ASYM are also significantly positive and influence restructuring considerably. The year 2001 findings follow identical pattern but ROCE is negatively significant, but barely impart any reasonable influence on restructuring, i.e. odds ratio .164. The results obtained for the restructuring year 2002 and 2003 are mostly consistent with the previous findings.

Combined Years

The results reported in Table 6.22 suggest that ABRETUN, CFMAR, EX/RE, S/MV and ASYM largely influence the successful outcome of restructuring. The predictors like ROE and ROCE indicate moderate effect on restructuring. All the year specific variables are positively significant at at least 10% level.

Merger and Acquisition

The logit estimates for mergers and acquisitions discussed here are similar to the previous section. We limit our analysis only to combined years and no year specific results are reiterated.

Combined Years

The results shown in Table 6.23 suggest that ABRETUN, CFMAR, EX/RE, S/MV, VOLATILITY and ASYM significantly contribute to the successful outcome of restructuring. VOLATILITY denotes a negative coefficient value suggesting a decreasing proportion of VOLATILITY increases the odds of successful outcome of restructuring. This particular finding remains consistent throughout our analysis.

Share Repurchases

Combined Years

The results reported in Table 6.24 are typically similar to previous findings. In particular, the predictor such as ABRETUN, CFMAR and EX/RE mainly influence restructuring outcomes. Please note, ASYM is not significant, but reports an odds ratio 2.327.

Other Restructuring Events

Individual Years

The logit estimates and other inferential diagnostics are reported in Appendix 6. All the models are statistically significant at at least 10% level. Other diagnostics

and estimates ensure that the models are adequate in explaining the predictors and robust.

The results for the year 1999 indicate that ABRETUN, CFMAR, EX/RE, ROCE, VOLATILITY and ASYM significantly influence the successful outcome of restructuring. Both VOLATILITY and ASYM denote negative coefficient value with reported odds ratio of 2.436 and 1.279 respectively. The results are consistent with the restructuring year 1999 presented in the pre and post comparison section 6.2.2.2.

The year 2000 results suggest that all the predictors except ASYM largely influence restructuring. Please note, here ASYM is significantly positive with a reported odds ratio of .001, but bears no measurable effect on successful outcome of restructuring. The estimates for the year 2001 and 2002 are very similar. However, for year 2001 ASYM indicates marginal influence on restructuring, while for year 2002 VOLATILITY bears no effect on restructuring. The year 2003 findings are also similar to those of previous years with exception to ROCE, which is negatively significant but indicate a reasonably moderate influence on restructuring.

Combined Years

The logit results for the combined years are presented in Table 6.30. The estimates indicate that the model is significant and ensures best-fit criteria adequately explaining all the predictors. Moreover, all other diagnostics suggest the model is robust.

All the predictors significantly contribute to the successful outcome of restructuring. However, VOLATILITY suggests a moderate influence on restructuring. The year specific variables are significant at at least 10% level and confirm our individual year results.

6.4 Conclusion

This chapter reports the logit estimates consistent with Chapter 5. We incorporate two additional parameters, conditional volatility and asymmetry into our logit models to reiterate the analysis. The additional parameters are generated under the GJR-GARCH estimate. We consider using the GJR-GARCH method to capture the time varying effects of certain parameters.

All the models demonstrate high classificatory efficiency with contrast to the models examined in the Chapter 5. This establishes that inclusion of additional parameters significantly improve the predictive efficiency of the models. It suggests that the probability of successful outcome of restructuring is higher where firm characteristics are estimated under conditional parameterisation.

The performance measures, such as OPM, ROA ROE, MPARG, GROW, SIZE and OWN consistently indicate significant improvement following restructuring. However, other predictors, i.e. LEV and ATRN suggest occasional and moderate contribution to performance improvement. The VOLATILITY and ASYM provide evidence that there is a highly negative contemporaneous relation between the successful outcome of restructurings and firm specific risk, i.e. inherent in firm portfolio. In particular, volatility of firm portfolio reduces after restructurings. Thus, it is prudent and reasonable to assume that restructured firms are characterised by positive return.

The findings obtained for value measures suggest that firm characteristics, i.e. ABRETUN, CFMAR, and EX/RE indicate significant improvement over the sample period. In particular, those parameters to a large extent influence successful outcome of restructuring. Please note, the above finding is consistent with our previous result reported in the Chapter 5.

The next chapter presents the final stage of the study, which involves an event study analysis. The event study is undertaken employing a market model under both the OLS and GJR-GARCH estimate. The chapter aims to examine market response to restructuring announcement.

2.1 Introduction

The chapter examines the stock market response to restructuring announcements. It starts by providing a brief overview of the restructuring process, including the various types of restructuring such as mergers, acquisitions, spin-offs, divestitures, and leveraged buyouts (LBOs). It then discusses the theoretical background of the market response to restructuring, focusing on the agency costs and benefits. The chapter also reviews the empirical literature on the market response to restructuring, highlighting the mixed findings. Finally, it outlines the structure of the chapter, which is organized into four main sections: (1) Data and Descriptive Statistics, (2) Market Response to Restructuring: OLS and GJR-GARCH Estimates, (3) Market Response to Restructuring: Event Study, and (4) Conclusion.

7.1 Introduction

This chapter examines the stock market response to restructuring announcements and event induced wealth effect for shareholders. Hence, we estimate the abnormal returns associated with restructuring announcements. The restructuring events considered here are: Mergers, Acquisitions, Share repurchases, Initial Public Offerings (IPOs), Leverage Buyouts (LBOs), Management Buyouts (LBO), Management Buyouts (MBOs), Joint Ventures (JVs), Equity Carve-outs and Spin-offs. To analyse the market reaction in response to restructuring announcement an *event study* methodology is used. In particular, the abnormal returns of the firms are estimated surrounding the restructuring announcement day leading up to one trading year. In the previous chapters, *accounting study* approach is undertaken to evaluate restructurings.⁴⁴ However, methodological difference surrounding *Accounting studies* and *Event studies* remains as a key issue in restructuring literature. Most of the previous works have either used an event study to analyse the stock market reaction or employed firm specific accounting variables to examine restructurings (Johnson, 1996; Rhodes, 1994; and Wright et al., 1993). Haynes (2002) argues that neither approach is acceptable. Hence, we employ the event study approach to supplement our results in earlier chapters.

⁴⁴ A comprehensive discussion on each methodological approach is presented in the Chapter 4. Typically, accounting study or accounting based study approach examines financial characteristics of firms engaged in restructuring, both *ex ante* and *ex post*. Typically, these studies are matched sample comparison where restructured firms are set against that of non-restructured firms based on specified matched criteria. Our previous empirical chapters are premised on this approach.

This chapter is divided into 5 sections. Section 7.2 outlines event definition and selection criteria. Section 7.3 presents estimate procedure for the market model under the OLS and GJR-GARCH estimates. Section 7.4 reports the event analysis results. Finally, section 7.5 concludes the chapter.

7.2 Event Definition and Selection Criteria

We estimate the daily abnormal return of the restructured firms for the period January 1999 to December 2003. The event window spans -250 days, 0, +250 days with day 0 being the announcement date of the restructuring. We employ the FTSE All Share index to generate the market return (Stevenson, 2006 and Brown, 1999). Further details of data sources are discussed in the methodology chapter. The market model is used to estimate the abnormal returns.⁴⁵ This model is estimated using both the standard OLS and the asymmetric GJR-GARCH methods. The OLS method assumes homoscedasticity in error terms, which is unlikely particular when daily data is used. While daily return series exhibit heteroscedasticity and the variance of forecast error depends on the volatility of the series (Engle, 1982; Bollerslev et al., 1992; and Pagan, 1996), the GARCH models address the issue of heteroscedasticity in time series analysis. The GJR-GARCH however is superior to the standard GARCH as the former also captures asymmetric volatility that may affect the abnormal returns.

7.3 Model Estimation

The model and estimation procedure is similar to the one presented in Section 4.3 of methodology chapter, which is consistent with Fama et al. (1969) and Brown and Warner (1980). However, here we use daily returns for the estimation, while

⁴⁵ In this case, the OLS results can be used to benchmark the abnormal returns (see, Dodd and Ruback, 1977; Dodd, 1980; and Bradley et al., 1983).

weekly returns were employed in the previous chapter. Since, daily returns tend to yield comparable results to the weekly returns under the OLS estimation, this consideration is applied here (see Binder, 1998). Further, abnormal returns generated from the GJR-GARCH estimate register better results by capturing time-varying heteroscedastic effects of the sample. Along the line, Berry et al. (1990) have expansively justified the inherent merits of daily returns in event study.

The model is estimated for each stock with $t = \pm 250$ days. The use of a relatively large window is likely to avoid the stationarity associated with small samples. However, abnormal returns computed over an event window, i.e. from 0 days to ± 15 days are only reported as results beyond this period indicate no significant announcement effect. For this event period, the estimation window is stipulate to -30 days to -250 days.⁴⁶ Please note, CARs are computed cumulatively from -15 days onwards similar to Travlos (1987) and William et al. (1992).

7.4 Event Analysis Results

This section presents the results for the market model under both the OLS and GJR-GARCH estimates. The estimates are over the period 1999-2003 similar to our earlier chapters. The ARs and CARs results are shown for a window of up to ± 15 days from the event date for each restructuring event. Typically, the CARs beyond ± 15 are not significant. Therefore, the results beyond ± 15 days are not reported.

7.4.1 All Restructuring Transactions

Table 7.1 reports the announcement effect of all the restructuring events under both the OLS and GJR-GARCH estimate. In an aggregate, restructuring

⁴⁶ Typically, to avoid contamination and information leakage several studies have routinely adopted similar estimation window. For a detailed discussion, please refer to Akats et al. (2007).

announcement registers a systematic positive wealth gain for the sample firms. The ARs obtained from the OLS estimate on the pre-announcement day are 1.47 percent, which is statistically significant at 1% level. The reported CARs are 5.73 percent and significantly different from zero at 1% level with a t-statistics 4.52. The ARs and CARs on the announcement day ($t = 0$) is 1.50 percent and 7.23 percent respectively.

Table 7.1: The Abnormal Returns (ARs) and Cumulative Abnormal Returns (CARs) obtained for all restructuring transactions under the OLS and GJR-GARCH estimate for ± 15 days

Event Days	All Restructuring Transactions			
	OLS Estimate		GJR-GARCH Estimate	
	AR%	CAR%	AR%	CAR%
-15	1.03	1.03	1.29	1.29
-14	1.62	2.65	1.86	3.15
-13	1.04	3.69	1.31	4.46
-12	-1.97	1.72	-1.72	2.74
-11	1.06	2.78	1.41	4.15
-10	2.37	5.15	2.62	6.77
-9	-1.57	3.58	-1.33	5.44
-8	-2.17	1.41	-1.92	3.52
-7	1.27	2.68	1.51	5.03
-6	2.25	4.93	2.30	7.33
-5	-2.74	2.19	-2.47	4.86
-4	1.86	4.05	2.11	6.97
-3	-1.91	2.14	-1.56	5.41
-2	2.12 ^a	4.26 ^a	2.37 ^a	7.78 ^a
-1	1.47 ^a	5.73 ^a	1.72 ^a	9.50 ^a
0	1.50 ^b	7.23 ^a	1.75 ^a	11.25 ^a
+1	1.14 ^a	8.37 ^c	1.39 ^a	12.64 ^a
+2	1.45 ^a	9.82 ^b	1.70 ^a	14.34 ^a
+3	1.98 ^b	11.8 ^a	2.23 ^b	16.57 ^a
+4	-1.88 ^a	9.92 ^a	-1.66 ^a	14.91 ^a
+5	-2.52	7.40	-2.27	12.64
+6	-2.92	4.48	-2.67	9.97
+7	-2.10	2.38	-2.05	7.92
+8	-2.22	0.16	-1.97	5.95
+9	1.70	1.86	1.96	7.91
+10	1.60	3.46	1.85	9.76
+11	-2.40	1.06	-2.15	7.61
+12	1.70	2.76	2.05	9.66
+13	1.18	3.94	-1.43	8.23
+14	-1.55	2.39	-1.40	6.83
+15	1.65	4.04	1.90	8.73

N: 1196 (Number of Cases).

Note: a, b and c respectively denote statistical significance at a 1%, 5% and 10% level. The statistical significance is estimated using the standard t-statistics.

Both the returns are statistically significant at at least 10% level. The CARs for the sample firms are significantly positive surrounding the announcement days (-2

days to +4 days). The ARs and CARs prior to announcement day ($t = -1$) under the GJR-GARCH estimate are 1.72 percent and 9.50 percent respectively, which are significantly different from zero at 1% level. The announcement day results under the GJR-GARCH estimate indicate similar results to those of the OLS method. Further, the CARs are significant and positive leading up to 4 days from the announcement day. Please note, the return continuation does not persist beyond +5 days as none of the returns under both the OLS and GJR-GARCH estimate yields any significant results.

Apart from quantitative difference, the results obtained under the GJR-GARCH estimate are similar to those of the OLS method. The findings suggest any asymmetric volatility that may influence the ARs is better captured under the GJR-GARCH estimate than the OLS method.

7.4.2 Mergers and Acquisitions

We have separately reported merger and acquisition results from rest of the restructuring events. The mergers and acquisitions have always received more attention across the restructuring studies and lead to inconclusive results. A comprehensive discussion is presented in Bruner (2004). Given that differential findings, it seemed prudent to discuss merger and acquisition results individually.⁴⁷

Table 7.2 and Table 7.3 show the ARs and CARs for the case of mergers and acquisition. Since prior studies provide mixed empirical results for the bidder and target firms (Travlos, 1987 and Higson and Elliot, 1998), we present the ARs and

⁴⁷ Although mergers and acquisitions are used synonymously, the fundamental characteristics differ between two mechanisms. Studies by Sudarsanam and Mahate (2006); Agrawal and Jaffe (2000); and Berkovitch and Khanna (1991) explain some of the intrinsic differences.

CARs for each group separately. Similarly, acquisitions results are reported as acquirer and acquired firms.

Table 7.2 shows the ARs and the CARs under both the OLS and GJR-GARCH method for the bidder and target firms. In general, the announcement of merger has a non-trivial systematic positive effect on both the bidder and target firms. The findings are consistent with Matsusaka (1993) and Ferris et al. (2002). Prior event study results are presented in Appendix 3. The abnormal returns under OLS estimate on the day prior to the announcement day for the bidder firms is 0.18 percent and 0.04 percent for the target firms, both are significantly different from zero at 1% level. The abnormal return of bidder firm on the announcement day ($t = 0$) is 0.15 percent and significant, while for the target firms the abnormal return is 0.22 percent which is also significantly different from zero at 1% level with a t-statistics 3.71.

The CARs for both the bidder and target firms are significantly positive surrounding the announcement days, in particular the target firms yield higher returns in contrast to the bidder firms. The ARs and CARs ($t = -1$) under the GJR-GARCH estimate for the bidder firms are 0.19 percent and 3.31 percent which are significantly different from zero at 1% level. Similarly, the ARs and CARs for the target firms are 0.06 percent and 3.59 percent and significant. The announcement day results under the GJR-GARCH estimate indicate similar results to those of OLS method. In addition, the two days ($t = 0$ to $t = 1$) announcement period average CARs for the bidder and target are 3.45 percent and 3.87 percent respectively, which are significant at 1% level. Further, the CARs are significant and positive leading up to 4 days from the announcement day under both the OLS and GJR-GARCH estimate.

To draw a comparison of the abnormal returns between the bidder and target firms, the daily mean differences are derived by subtracting the associated average

abnormal returns. On event day, the daily mean difference of abnormal returns under OLS estimate between the bidder and target firms is -0.07 percent, which is significantly different from zero at 1% level (t-statistics 3.87). The daily mean difference for the event day 0 under the GJR-GARCH estimate is -0.06 and significant

Table 7.2: The Abnormal Returns (ARs) and Cumulative Abnormal Returns (CARs) obtained for Mergers under the OLS and GJR-GARCH estimate for ± 15 days

Combined Years								
Mergers								
Event Days	OLS Estimate				GJR-GARCH Estimate			
	Bidder		Target		Bidder		Target	
	ARs%	CAR%	AR%	CAR%	ARs%	CAR%	AR%	CAR%
-15	0.08	0.08	0.26	0.26	0.09	0.09	0.27	0.27
-14	0.11	0.19	0.51	0.77	0.13	0.22	0.52	0.79
-13	0.12	0.31	0.43	1.20	0.13	0.35	0.45	1.24
-12	0.10	0.41	-0.26	0.94	0.12	0.47	-0.25	0.99
-11	0.18	0.59	0.49	1.43	0.19	0.66	0.51	1.50
-10	0.16	0.75	0.62	2.05	0.18	0.84	0.63	2.13
-9	0.23	0.98	0.23	2.28	0.24	1.08	0.24	2.37
-8	0.20	1.18	0.84	3.12	0.22	1.3	0.86	3.23
-7	0.13	1.31	0.17	3.29	0.14	1.44	0.18	3.41
-6	0.20	1.51	-0.89	2.40	0.22	1.66	-0.87	2.54
-5	0.30	1.81	0.72	3.12	0.31	1.97	0.73	3.27
-4	0.39	2.20	0.05	3.17	0.41	2.38	0.06	3.33
-3	0.32	2.52	0.08	3.25	0.33	2.71	0.10	3.43
-2	0.39	2.91	0.09	3.34	0.41	3.12	0.10	3.53
-1	0.18 ^a	3.09 ^a	0.04 ^a	3.38 ^a	0.19 ^a	3.31 ^a	0.06 ^a	3.59 ^a
0	0.15 ^a	3.24 ^a	0.22 ^a	3.60 ^a	0.17 ^a	3.48 ^a	0.23 ^a	3.82 ^a
+1	0.43 ^a	3.67 ^a	0.54 ^a	4.14 ^a	0.44 ^a	3.92 ^a	0.55 ^a	4.37 ^a
+2	0.67 ^a	4.34 ^a	0.47 ^a	4.61 ^a	0.69 ^a	4.61 ^a	0.49 ^a	4.86 ^a
+3	0.63 ^a	4.97 ^a	0.41 ^a	5.02 ^a	0.64 ^a	5.25 ^a	0.42 ^a	5.28 ^a
+4	0.26 ^a	5.23 ^a	0.65 ^a	5.67 ^a	0.28 ^a	5.53 ^a	0.67 ^a	5.95 ^a
+5	-0.85	4.38	-0.45	5.22	-0.84	4.69	-0.44	5.51
+6	0.27	4.65	-0.27	4.95	0.29	4.98	-0.26	5.25
+7	-0.85	3.8	-0.65	4.30	-0.84	4.14	-0.63	4.62
+8	0.25	4.05	0.25	4.55	0.27	4.41	0.26	4.88
+9	-1.03	3.02	-1.03	3.52	-1.02	3.39	-1.01	3.87
+10	0.87	3.89	-0.67	2.85	0.89	4.28	-0.66	3.21
+11	-1.04	2.85	0.33	3.18	-1.03	3.25	0.34	3.55
+12	-0.38	2.47	-0.54	2.64	-0.36	2.89	-0.52	3.03
+13	0.15	2.62	0.46	3.10	0.16	3.05	0.47	3.50
+14	0.14	2.76	-0.43	2.67	0.16	3.21	-0.41	3.09
+15	0.10	2.86	-0.51	2.16	0.11	3.32	-0.50	2.59

N: 316 (Number of Cases).

Note: a, b and c respectively denote statistical significance at a 1%, 5% and 10% level. The statistical significance is estimated using the standard t-statistics.

at 1% level. The significant difference in returns is noticed in the preannouncement day ($t = -1$) to post announcement days ($t = +1$ to $t = +4$). The results suggest that the target firms in merger events experience higher gain than bidder firms.

Overall, the results obtained under the GJR-GARCH estimate are quantitatively similar to those of the OLS method. However, the CARs under the GJR-GARCH estimate exhibit higher magnitude indicating that the GJR-GARCH estimate tends to capture the conditional volatility better than the OLS estimates. Since both the results are quantitatively similar, we mainly focus on the GJR-GARCH results so as any asymmetric volatility that may influence the ARs can be captured. Our overall results for merger are consistent with the findings of Mulherin and Boone (2000), Mulherin (2000), Houston et al. (2001), Moeller, Schlingemann, and Stulz (2003) and Kuipers et al. (2003).

The results for the acquisitions under both the OLS and GJR-GARCH estimates are reported in Table 7.3. The results suggest that on average, acquired firms experience significant higher returns than the acquirers do. The announcement day abnormal returns for the acquirer under the OLS and GJR-GARCH estimate are 0.04 percent and 0.06 percent respectively, which are statistically insignificantly. The reported CARs are 0.69 percent and 1.06 percent, which are also statistically insignificant. Thus the acquirer firms experience normal rates of return while the acquired firms abnormal returns under both the OLS and GJR-GARCH method are 0.38 % (t-statistics = 3.41 and significant) and 0.40 percent (t-statistics = 4.07 and significant) respectively. The CARs for the acquired firms on the announcement day are significantly positive under both the OLS and GJR-GARCH estimates. The CARs for acquired firms consistently exhibit significant positive returns over the period of $t = -1$ to $t = +3$ days. However, under the GJR-GARCH estimate the CARs for the

acquired firms show significant positive returns on day 4 and day 5 as well i.e. 3.04 percent and 3.31 percent respectively. Here the return continuation is marginally stronger for the ARs and moderately stronger for the CARs than the OLS estimates. Based on the results, it is concluded that on average the shareholders of acquired firms experience systematic gains while acquirer experience normal rate of returns.

Table 7.3: The Abnormal Returns (ARs) and Cumulative Abnormal Returns (CARs) obtained for Acquisitions under the OLS and GJR-GARCH estimate for ± 15 days

Combined Years								
Acquisitions								
Event Days	OLS Estimate				GJR-GARCH Estimate			
	Acquirer		Acquired		Acquirer		Acquired	
	AR%	CAR%	AR%	CAR%	AR%	CAR%	AR%	CAR%
-15	0.04	0.04	0.08	0.08	0.06	0.06	0.10	0.10
-14	0.08	0.12	0.04	0.12	0.11	0.17	0.05	0.15
-13	0.08	0.20	0.07	0.19	0.10	0.27	0.09	0.24
-12	0.06	0.26	0.06	0.25	0.08	0.35	0.08	0.32
-11	0.07	0.33	-0.02	0.23	0.09	0.44	-0.01	0.31
-10	-0.04	0.29	0.04	0.27	-0.01	0.43	0.06	0.37
-9	0.05	0.34	0.03	0.30	0.07	0.50	0.04	0.41
-8	0.08	0.42	0.03	0.33	0.11	0.61	0.05	0.46
-7	0.07	0.49	0.02	0.35	0.09	0.70	0.04	0.50
-6	-0.11	0.38	0.03	0.38	-0.09	0.61	0.04	0.54
-5	0.04	0.42	-0.01	0.37	0.06	0.67	0.01	0.55
-4	0.01	0.43	0.11	0.48	0.04	0.71	0.12	0.67
-3	0.08	0.51	0.16	0.64	0.10	0.81	0.18	0.85
-2	0.04	0.55	0.26	0.90	0.07	0.88	0.28	1.13
-1	0.10	0.65	0.27 ^a	1.17 ^a	0.12	1.00	0.28 ^a	1.41 ^a
0	0.04	0.69	0.38 ^a	1.55 ^a	0.06	1.06	0.40 ^a	1.81 ^a
+1	0.09	0.78	0.29 ^a	1.84 ^a	0.11	1.17	0.30 ^a	2.11 ^a
+2	0.08	0.86	0.22 ^a	2.06 ^a	0.11	1.28	0.24 ^a	2.35 ^a
+3	0.07	0.93	0.29 ^a	2.35 ^a	0.09	1.37	0.31 ^a	2.66 ^a
+4	0.04	0.97	0.37	2.72	0.07	1.44	0.38 ^a	3.04 ^a
+5	0.04	1.01	0.25	2.97	0.06	1.50	0.27 ^a	3.31 ^a
+6	-0.08	0.93	-0.28	2.69	-0.06	1.44	-0.27	3.04
+7	0.08	1.01	0.22	2.91	0.10	1.54	0.24	3.28
+8	0.20	1.21	-0.11	2.80	0.23	1.77	-0.09	3.19
+9	-0.11	1.10	-0.23	2.57	-0.09	1.68	-0.22	2.97
+10	0.04	1.14	0.02	2.59	0.07	1.75	0.04	3.01
+11	0.05	1.19	-0.20	2.39	0.07	1.82	-0.19	2.82
+12	0.08	1.27	-0.11	2.28	0.10	1.92	-0.09	2.73
+13	-0.07	1.20	-0.20	2.08	-0.05	1.87	-0.18	2.55
+14	0.04	1.24	-0.12	1.96	0.07	1.94	-0.11	2.44
+15	0.04	1.28	0.27	2.23	0.06	2.00	0.29	2.73

N: 180 (Number of Cases).

Note: a, b and c respectively denote statistical significance at a 1%, 5% and 10% level. The statistical significance is estimated using the standard t-statistics.

Specifically, the announcement day CAR under the GJR-GARCH estimates is 1.06 percent, which is statistically insignificant at conventional level. In addition, to examine the abnormal returns between the acquirer and acquired firms, we used identical procedure employed for the mergers. The findings suggest that the daily mean difference for the announcement under both the OLS and GJR-GARCH estimate is statistically significant at 1% level.

Further, the significant difference in returns is noticed in the preannouncement day ($t = -1$) to post announcement days ($t = +1$ to $t = +5$), particularly under the GJR-GARCH estimates. Overall, our finding is consistent with Fuller et al. (2002), Renneboog and Goergen (2003) and Moeller et al. (2003).

7.4.3 Other Restructuring Transactions

The results obtained for share repurchase, equity carve-out and spin-offs events under the OLS and GJR-GARCH estimate are reported in Table 7.4. The abnormal returns obtained from the OLS estimates for share repurchase on the announcement day is 0.31 percent, which is significantly different from zero at 1% level with a t-statistics 3.70. The reported CAR is 1.43 percent and statistically significant at 1% level. The announcement day CAR under the GJR-GARCH estimates is 1.71 percent, which is significantly positive. Also the CAR prior to the announcement day ($t = -1$) is statistically significant and positive. The CARs up to day 3 ($t = +3$) show a consistent trend of significant positive returns under both the OLS and GJR-GARCH estimates. Our findings are similar to the study by Rees (1996) who finds a 0.25% 5-day announcement abnormal return in the UK market from 1981 to 1990. A study by Oswald and Young (2004) from January 1995 and December 2000 examining a more comprehensive sample yields a 1.95% 11-day abnormal return, and

Table 7.4: The Abnormal Returns (ARs) and Cumulative Abnormal Returns (CARs) obtained for Share repurchases, Equity Carve-outs and Spin-Offs under the OLS and GJR-GARCH estimate for ±15 days

Event Days	Share Repurchases						Equity Carve-outs						Spin-Offs							
	OLS Estimate		GJR-GARCH Estimate		OLS Estimate		GJR-GARCH Estimate		OLS Estimate		GJR-GARCH Estimate		OLS Estimate		GJR-GARCH Estimate		OLS Estimate		GJR-GARCH Estimate	
	AR%	CAR%	AR%	CAR%	AR%	CAR%	AR%	CAR%	AR%	CAR%	AR%	CAR%	AR%	CAR%	AR%	CAR%	AR%	CAR%	AR%	CAR%
-15	0.31	0.31	0.33	0.33	0.08	0.08	0.11	0.11	0.73	0.73	0.74	0.74	0.73	0.73	0.74	0.74	0.73	0.73	0.74	0.74
-14	0.06	0.37	0.07	0.40	0.10	0.18	0.12	0.23	-0.44	0.29	-0.42	0.32	-0.44	0.29	-0.42	0.32	-0.44	0.29	-0.42	0.32
-13	0.73	1.10	0.74	1.14	0.12	0.3	0.13	0.36	0.06	0.35	0.08	0.40	0.06	0.35	0.08	0.40	0.06	0.35	0.08	0.40
-12	0.31	1.41	0.33	1.47	0.12	0.42	0.14	0.50	-0.73	-0.38	-0.71	-0.31	-0.73	-0.38	-0.71	-0.31	-0.73	-0.38	-0.71	-0.31
-11	0.06	1.47	0.09	1.56	0.10	0.52	0.12	0.62	0.44	0.06	0.46	0.15	0.44	0.06	0.46	0.15	0.44	0.06	0.46	0.15
-10	-0.73	0.74	-0.71	0.85	0.11	0.63	0.14	0.76	0.06	0.12	0.07	0.22	0.06	0.12	0.07	0.22	0.06	0.12	0.07	0.22
-9	0.31	1.05	0.33	1.18	0.07	0.70	0.09	0.85	-0.73	-0.61	-0.71	-0.49	-0.73	-0.61	-0.71	-0.49	-0.73	-0.61	-0.71	-0.49
-8	0.06	1.11	0.07	1.25	0.06	0.76	0.07	0.92	0.44	-0.17	0.46	-0.03	0.44	-0.17	0.46	-0.03	0.44	-0.17	0.46	-0.03
-7	-0.73	0.38	-0.72	0.53	0.07	0.83	0.09	1.01	0.06	-0.11	0.08	0.05	0.06	-0.11	0.08	0.05	0.06	-0.11	0.08	0.05
-6	0.31	0.69	0.33	0.86	0.08	0.91	0.10	1.11	0.73	0.62	0.75	0.80	0.73	0.62	0.75	0.80	0.73	0.62	0.75	0.80
-5	0.06	0.75	0.09	0.95	0.14	1.05	0.17	1.28	0.44	1.06	0.45	1.25	0.44	1.06	0.45	1.25	0.44	1.06	0.45	1.25
-4	-0.73	0.02	-0.71	0.24	-0.18	0.87	-0.16	1.12	0.06	1.12	0.08	1.33	0.06	1.12	0.08	1.33	0.06	1.12	0.08	1.33
-3	0.31	0.33	0.33	0.57	0.10	0.97	0.11	1.23	0.73	1.85	0.75	2.08	0.73	1.85	0.75	2.08	0.73	1.85	0.75	2.08
-2	0.06	0.39	0.07	0.64	0.12	1.09	0.14	1.37	-0.44	1.41	-0.42	1.66	-0.44	1.41	-0.42	1.66	-0.44	1.41	-0.42	1.66
-1	0.73	1.12	0.74 ^a	1.38 ^a	0.04	1.13	0.06	1.43	0.06	1.47	0.08	1.74	0.06	1.47	0.08	1.74	0.06	1.47	0.08	1.74
0	0.31 ^a	1.43 ^a	0.33 ^a	1.71 ^a	0.09 ^a	1.22 ^a	0.12 ^a	1.55 ^a	0.73 ^a	2.20 ^a	0.74 ^a	2.48 ^a	0.73 ^a	2.20 ^a	0.74 ^a	2.48 ^a	0.73 ^a	2.20 ^a	0.74 ^a	2.48 ^a
+1	0.06 ^a	1.49 ^a	0.09 ^a	1.80 ^a	0.11 ^a	1.33 ^a	0.13 ^a	1.68 ^a	0.44 ^a	2.64 ^a	0.46 ^a	2.94 ^a	0.44 ^a	2.64 ^a	0.46 ^a	2.94 ^a	0.44 ^a	2.64 ^a	0.46 ^a	2.94 ^a
+2	0.73 ^a	2.22 ^a	0.75 ^a	2.55 ^a	0.09	1.42	0.10	1.78	0.06 ^a	2.70 ^a	0.08 ^a	3.02 ^a	0.06 ^a	2.70 ^a	0.08 ^a	3.02 ^a	0.06 ^a	2.70 ^a	0.08 ^a	3.02 ^a
+3	0.31 ^a	2.53 ^a	0.33 ^a	2.88 ^a	-0.05	1.37	-0.03	1.75	0.73 ^a	3.43 ^a	0.75 ^a	3.77 ^a	0.73 ^a	3.43 ^a	0.75 ^a	3.77 ^a	0.73 ^a	3.43 ^a	0.75 ^a	3.77 ^a
+4	0.06	2.59	0.07	2.95	0.10	1.47	0.12	1.87	0.44 ^a	3.87 ^a	0.46 ^a	4.23 ^a	0.44 ^a	3.87 ^a	0.46 ^a	4.23 ^a	0.44 ^a	3.87 ^a	0.46 ^a	4.23 ^a
+5	-0.73	1.86	-0.72	2.23	-0.09	1.38	-0.06	1.81	0.06 ^a	3.93 ^a	0.07 ^a	4.30 ^a	0.06 ^a	3.93 ^a	0.07 ^a	4.30 ^a	0.06 ^a	3.93 ^a	0.07 ^a	4.30 ^a
+6	0.31	2.17	0.33	2.56	0.07	1.45	0.09	1.90	-0.73	3.20	-0.71	3.59	-0.73	3.20	-0.71	3.59	-0.73	3.20	-0.71	3.59
+7	0.06	2.23	0.09	2.65	-0.25	1.20	-0.24	1.66	-0.44	2.76	-0.42	3.17	-0.44	2.76	-0.42	3.17	-0.44	2.76	-0.42	3.17
+8	-0.73	1.50	-0.71	1.94	-0.19	1.01	-0.17	1.49	0.06	2.82	0.08	3.25	0.06	2.82	0.08	3.25	0.06	2.82	0.08	3.25
+9	0.31	1.81	0.33	2.27	-0.14	0.87	-0.12	1.37	-0.73	2.09	-0.71	2.54	-0.73	2.09	-0.71	2.54	-0.73	2.09	-0.71	2.54
+10	0.06	1.87	0.07	2.34	0.06	0.93	0.09	1.46	-0.44	1.65	-0.43	2.11	-0.44	1.65	-0.43	2.11	-0.44	1.65	-0.43	2.11
+11	-0.73	1.14	-0.72	1.62	0.11	1.04	0.13	1.59	0.06	1.71	0.08	2.19	0.06	1.71	0.08	2.19	0.06	1.71	0.08	2.19
+12	0.31	1.45	0.33	1.95	0.11	1.15	0.12	1.71	-0.73	0.98	-0.71	1.48	-0.73	0.98	-0.71	1.48	-0.73	0.98	-0.71	1.48
+13	0.06	1.51	0.09	2.04	0.09	1.24	0.11	1.82	0.44	1.42	0.46	1.94	0.44	1.42	0.46	1.94	0.44	1.42	0.46	1.94
+14	0.73	2.24	0.75	2.79	0.06	1.30	0.08	1.90	0.06	1.48	0.08	2.02	0.06	1.48	0.08	2.02	0.06	1.48	0.08	2.02
+15	0.31	2.55	0.33	3.12	0.08	0.08	0.05	1.95	0.11	1.59	0.12	2.14	0.11	1.59	0.12	2.14	0.11	1.59	0.12	2.14

N: Number of Cases for Share Repurchase-136; Equity Carve-out-96; Spin-offs-92.

Note: a, b and c respectively denote statistical significance at a 1%, 5% and 10% level. The statistical significance is estimated using the standard t-statistics.

significant positive one-year return (7.53%) following the announcement, which is consistent with our results. Both the studies confirm our results. However, On the other hand contrary to our findings Rau and Vermaelen (2002) find a 1.14% abnormal return in the 11 days surrounding the announcement of 264 UK share repurchases between January 1980 and June 1998, but reported a significant negative one-year abnormal returns (-7%) after the announcement. They conclude that share repurchases in the UK market are triggered by the tax consequences for pension funds, and thus UK share repurchases have little signalling power. Please note unlike their study, our sample excludes pension fund share repurchases⁴⁸, thus has no bearing on our sample characteristics.

The findings for equity carve-out indicate similar results. The announcement day abnormal returns under both the OLS and GJR-GARCH are 0.09 percent (t-statistics 3.67 percent) and 0.12 percent (t-statistics 3.89 percent) respectively, which are significantly different from zero at the 1% level. The CARs obtained from the OLS and GJR-GARCH estimates are 1.22 percent and 1.55 percent respectively and statistically significant. Thus, it is concluded that the equity carve-outs correspond to systematic gain. Our findings are similar to the Vijh (2000) and Hurlburt et al. (2002) but suggest smaller announcement CARs. In particular Vijh's study reports a 14.3% CARs lending support in favour of market efficiency.

The abnormal return on the announcement day for the spin offs under the OLS estimate is 0.73 percent which is significantly different from zero at 1% level, t-statistics = 3.17. The CARs for the same event day are also significantly positive, i.e. 2.20 percent. An identical result is observed under the GJR-GARCH estimate as well. In particular the CARs under both the OLS and GJR-GARCH estimates are

⁴⁸ Ref Appendix 4: Section C.

statistically significant up to day 5 ($t = +5$). It is interesting to note that our three day (0 to +2) mean CARs for spin offs are not as high as those of Mile and Rosenfield (1983) and Johnson et al. (1994). However, our findings closely correspond with the recent work of Chris and Veld-Merkoulova (2008).

The results for IPOs, LBOs and MBOs are reported in Table 7.5. The estimated abnormal return for the IPO on the announcement day under the OLS estimates is 1.79 percent and significantly different from zero at the 1% level (t -statistics 4.89). The announcement day CAR is 2.09 percent, which is also significant at 1% level. The OLS results are quantitatively similar with the GJR-GARCH results. In addition, the two day ($t = 0$ to $t = 1$) mean announcement period CAR under the GJR-GARCH estimates is 4.39 percent, which is significant at 1% level with a t -statistics 4.40. Positive and highly significant initial abnormal returns for IPOs over a shorter window are empirically well documented (Ibbotson and Ritter, 1997). However studies by Levis (1991, 1993), and Espenlaub et al. (1997) on UK IPOs show significant negative abnormal returns following 3-5 years of trading. On the contrary, our results suggest that IPOs exhibit non-trivial systematic gain, however please note that our event window is confined to a period of ± 15 days only.

The announcement day abnormal returns for LBOs under both the OLS and GJR-GARCH estimates are -2.19 percent and -2.11 percent respectively, which are statistically insignificant at conventional level, so as their CARs. The post announcement day ($t = +1$) abnormal returns are negative and insignificant. The CARs over the window of 5 days ($t = -1$ to $t = 3$) yield insignificant returns. Thus, the shareholders of LBOs experience, on average, insignificant returns. Here, changes in returns appear less predictable and conclusive. Particularly, the difference between the magnitudes of the CARs obtained under the OLS estimates from the GJR-GARCH

Table 7.5: The Abnormal Returns (ARs) and Cumulative Abnormal Returns (CARs) obtained for IPOs, LBOs and MBOs under the OLS and GJR-GARCH estimate for ± 15 days

Event Days	IPOs				LBOs				MBOs			
	OLS Estimate		GJR-GARCH Estimate		OLS Estimate		GJR-GARCH Estimate		OLS Estimate		GJR-GARCH Estimate	
	AR%	CAR%	AR%	CAR%	AR%	CAR%	AR%	CAR%	AR%	CAR%	AR%	CAR%
-15	1.40	1.40	1.48	1.48	-2.24	-2.24	-2.16	-2.16	-1.12	-1.12	-1.10	-1.1
-14	1.45	2.85	1.54	3.02	2.04	-0.20	2.13	-0.03	1.29	0.17	1.31	0.21
-13	-0.37	2.48	-0.27	2.75	-1.22	-1.42	-1.12	-1.15	0.88	1.05	0.89	1.1
-12	-3.16	-0.68	-3.06	-0.31	0.13	-1.29	0.23	-0.92	-0.82	0.23	-0.81	0.29
-11	0.08	-0.60	0.18	-0.13	0.84	-0.45	0.94	0.02	1.07	1.30	1.08	1.37
-10	-1.79	-2.39	-1.69	-1.82	-2.51	-2.96	-2.41	-2.39	-1.25	0.05	-1.23	0.14
-9	2.10	-0.29	2.20	0.38	1.40	-1.56	1.50	-0.89	-1.23	-1.18	-1.21	-1.07
-8	-1.55	-1.84	-1.45	-1.07	-2.10	-3.66	-2.00	-2.89	1.62	0.44	1.64	0.57
-7	-1.68	-3.52	-1.58	-2.65	2.70	-0.96	2.80	-0.09	-1.26	-0.82	-1.25	-0.68
-6	1.85	-1.67	1.95	-0.70	2.25	1.29	2.35	2.26	1.72	0.90	1.73	1.05
-5	1.93	0.26	2.03	1.33	-2.40	-1.11	-2.30	-0.04	-1.07	-0.17	-1.06	-0.01
-4	1.66	1.92	1.76	3.09	2.13	1.02	2.23	2.19	0.97	0.80	0.99	0.98
-3	-1.76	0.16	-1.71	1.38	1.95	2.97	2.00	4.19	2.52	3.32	2.54	3.52
-2	1.62	1.78	1.69	3.07	-2.41	0.56	-2.34	1.85	-1.65	1.67	-1.63	1.89
-1	-1.48	0.30	-1.40	1.67	2.64	3.20	2.72	4.57	1.16	2.83	1.17	3.06
0	1.79 ^a	2.09 ^a	1.71 ^a	3.38 ^a	-2.19	1.01	-2.11	2.46	1.38 ^a	4.21 ^a	1.39 ^a	4.45 ^a
+1	2.10 ^a	4.19 ^a	2.02 ^a	5.40 ^a	-2.46	-1.45	-2.38	0.08	1.26 ^a	5.47 ^a	1.27 ^a	5.72 ^a
+2	-1.55	2.64	-1.59	3.81	1.88	0.43	1.92	2.00	-0.77	4.70	-0.75	4.97
+3	-1.68	0.96	-1.73	2.08	1.38	1.81	1.43	3.43	-0.65	4.05	-0.63	4.34
+4	-1.85	-0.89	-1.85	0.23	-2.51	-0.70	-2.51	0.92	1.09	5.14	1.11	5.45
+5	-1.93	-2.82	-1.90	-1.67	1.40	0.70	1.43	2.35	-1.27	3.87	-1.26	4.19
+6	1.66	-1.16	1.70	0.03	-2.10	-1.40	-2.06	0.29	-1.32	2.55	-1.31	2.88
+7	1.76	0.60	1.79	1.82	2.70	1.30	2.73	3.02	1.45	4.00	1.46	4.34
+8	1.62	2.22	1.71	3.53	-2.25	-0.95	-2.16	0.86	-1.34	2.66	-1.32	3.02
+9	-1.48	0.74	-1.41	2.12	1.14	0.19	1.21	2.07	-2.47	0.19	-2.45	0.57
+10	-1.79	-1.05	-1.72	0.40	1.18	1.37	1.25	3.32	-1.24	-1.05	-1.22	-0.65
+11	1.48	0.43	1.58	1.98	-1.33	0.04	-1.23	2.09	1.58	0.53	1.59	0.94
+12	-2.19	-1.76	-2.14	-0.16	-0.76	-0.72	-0.71	1.38	1.61	2.14	1.62	2.56
+13	1.69	-0.07	1.79	1.63	0.69	-0.03	0.79	2.17	-1.53	0.61	-1.52	1.04
+14	1.19	1.12	1.20	2.83	-0.34	-0.37	-0.33	1.84	1.91	2.52	1.93	2.97
+15	0.29	1.41	0.32	3.15	0.18	-0.19	0.21	2.05	-1.62	0.90	-1.60	1.37

N: Number of Cases for IPOs-104; LBOs-88; MBOs-112.

Note: a, b and c respectively denote statistical significance at a 1%, 5% and 10% level. The statistical significance is estimated using the standard t-statistics.

estimates on the announcement day. In contrast, a study by Christian et al. (2007) examining a sample of 115 European LBOs from 1997 to 2005, reports average abnormal returns as reaction to the LBO announcement amount to 24.20%, which is not consistent with our findings.

Table 7.6: The Abnormal Returns (ARs) and Cumulative Abnormal Returns (CARs) obtained for Joint Ventures under the OLS and GJR-GARCH estimate for ± 15 days

Event Days	Joint Ventures			
	OLS Estimate		GJR-GARCH Estimate	
	AR%	CAR%	AR%	CAR%
-15	0.85	0.85	0.86	0.86
-14	0.77	1.62	0.79	1.65
-13	0.70	2.32	0.71	2.36
-12	-1.12	1.20	-1.10	1.26
-11	1.09	2.29	1.10	2.36
-10	-1.27	1.02	-1.25	1.11
-9	0.94	1.96	0.95	2.06
-8	-0.91	1.05	-0.89	1.17
-7	1.02	2.07	1.03	2.20
-6	-1.12	0.95	-1.10	1.10
-5	1.03	1.98	1.04	2.14
-4	1.06	3.04	1.08	3.22
-3	1.30	4.34	1.31	4.53
-2	-1.05	3.29	-1.03	3.50
-1	-1.14	2.15	-1.13	2.37
0	1.13 ^a	3.28 ^a	1.15 ^a	3.52 ^a
+1	1.04 ^a	4.32 ^a	1.05 ^a	4.57 ^a
+2	1.04 ^a	5.36 ^a	1.06 ^a	5.63 ^a
+3	1.05 ^a	6.41 ^a	1.06 ^a	6.69 ^a
+4	-1.27	5.14	-1.25	5.44
+5	-0.94	4.20	-0.93	4.51
+6	0.91	5.11	0.93	5.44
+7	-1.02	4.09	-1.01	4.43
+8	-1.12	2.97	-1.10	3.33
+9	-2.32	0.65	-2.31	1.02
+10	2.70	3.35	2.72	3.74
+11	1.76	5.11	1.77	5.51
+12	-2.55	2.56	-2.53	2.98
+13	1.45	4.01	1.46	4.44
+14	-2.58	1.43	-2.56	1.88
+15	0.44	1.87	0.45	2.33

N: 72 (Number of Cases).

Note: a, b and c respectively denote statistical significance at a 1%, 5% and 10% level. The statistical significance is estimated using the standard t-statistics.

Overall, the findings for MBOs indicate a systematic significant positive result. The abnormal returns and the CARs surrounding the announcement day ($t = 0$ and $t = 1$) are significantly positive under both the OLS and GJR-GARCH estimates.

Please note that the results for LBOs differ from that of MBOs. Presumably, the advantages of MBOs over the LBOs influence the market response (Franknel 2005, pp 19-20). In particular, high leverage and difficulties in collateralisation of securities involving LBOs are not seen favourably by the market.

Examining results of JVs reported in Table 7.6, we find at the aggregate level similar abnormal returns to those identified by previous studies by McConnell and Nantell (1985), Woolridge and Snow (1990) and Burton et al. (1999). However, they find small significant positive abnormal returns to announcements of joint venture, in contrast, on announcement day we register 1.04 percent abnormal returns under OLS method and 1.05 percent under GJR-GARCH estimate, both are statistically significant at 1% level. The CARs for the announcement day are 3.28 percent and 3.52 percent respectively, which are also statistically significant at 1% level. A more recent study by Jones and Danbolt (2005) find significant positive abnormal returns of 1.1% on the day of announcement, which is closely similar to our result. In addition, Our CARs consistently yield significant positive returns leading up to day +3.

7.5 Conclusion

This chapter examines the market reaction to restructuring events using the market model. The market model is estimated under both the OLS and GJR-GARCH methods. We estimated the abnormal returns ± 250 days surrounding announcement date. However, we only reported ± 15 days results since the CARs beyond this window indicate no significant announcement effect.

The market model under the OLS estimate typically fails to capture asymmetric volatility. Problems arise because of the kurtosis and volatility clustering inherent in the returns of event-study portfolios. Brown and Warner (1985) showed that

the traditional test statistic under the OLS estimate frequently rejects no abnormal returns when it is true after event. Thus, to avoid lack of estimation accuracy we calculated abnormal returns under the GJR-GARCH estimate. However, we find that results obtained under both the estimations are not exclusively different. The GJR-GARCH estimates tend to yield higher magnitude positive returns with contrast to market model results. In particular, the magnitude of the CARs under the GJR-GARCH is larger than the OLS method. Presumably, the differences in abnormal returns are due to the fact that the coefficient estimates of the OLS market model are inefficient since they are not adjusted for conditional heteroscedasticity (Solibakke, 2002).

Overall, our sample returns are significant and positive. However, event like LBOs indicates less predictable results. Most of the restructuring events yield significant CARs up to +3 days following announcement day. We document significant systematic gains to shareholders. Please note, our findings provide evidence in support of the EMH (*Efficient Market Hypothesis*). This result is also consistent with our previous findings from logit analysis, implying return to share holder show proportional increase as odds of success of restructuring increase.

The next chapter will summarise the empirical findings accounted in this chapter and previous chapters. In addition, the chapter will suggest limitation of this research along with opportunity for further research.

8.1 Introduction

This study examines the influence of restructuring on measures of firm performance and value. Specifically, how firm characteristics change consequent to restructurings when compared to a matched criteria sample. Performance and value parameters are identified based on extant literature. In addition, certain parameters are generated under the OLS and GJR-GARCH estimate. In particular, the GJR-GARCH estimation is used to capture time-varying heteroscedasticity of the samples. The sample is comprised of the UK listed firms. The research characterises both *accounting based* and *event study* methodology.⁴⁹ In essence, an integrated empirical framework is applied to examine the research objectives of this work, such that we analyse a wide variety of restructurings as well as the associated ARs.

It seems reasonable to conclude that the study has achieved its purpose in several ways. This work has provided a robust and comprehensive estimation of 'long-run' effects of restructurings by incorporating a combination of parameters by engaging different econometric models. The literature surrounding the UK restructurings has received comparatively less attention. In particular, not all the major restructuring types are examined simultaneously. This work has accomplished that by specifying firm characteristics those explain performance and value measures adequately. Moreover, the event study has offered further insights into the stock market reaction to various forms of restructurings and reinforces the overall findings.

⁴⁹ Both the *accounting based study* and *event study* approaches are discussed in Chapter 4.

The results generated from the analysis of sample as a whole, as well as results obtained from alternate estimates are discussed in the following section.

8.2 Discussion

8.2.1 Summary of Logit Analysis

Hypotheses Testing: Performance Measures

This section highlights research findings based on proposed hypotheses. Hypothesis H1 predicted that profitability characteristics of restructured firms will be significantly higher than non-restructured matched sample. OPM, ROE, ATRN, ROA and PMARG are identified as profitability characteristics of firms. Individual and combined year samples provide enough evidence to support this. OPM has significantly improved across the sample. Consistent with Comment and Jarrell (1995), Desai and Jain (1999) and Atiase et al. (1999) our results support this. ROE has also shown significant improvement. This finding is similar to the one obtained by Ofek (1993). The predictors ATRN, ROA and PMARG demonstrate significant improvement with contrast to control sample. This is consistent with the studies undertaken by Smart and Waldfogel (1994), Atiase et al. (1999) and Carter (1998). Thus, hypothesis H1 is well supported by the results. Hypothesis H2 predicted that the GROW and SIZE of firms will indicate significant improvement. Our result supports the hypothesis across the sample firms, which is consistent with the findings of Lichtenberg and Siegel (1989).

Hypothesis H3 predicts that systematic risk and leverage will decrease for firms that take on restructuring compared with matched criteria sample. This is

partially supported by our results. Systematic risk has demonstrated consistent results across the sample firms. Risk indicates a decreasing proportion for every successful outcome of restructuring. A discussion in Bowman and Singh (1993) provides evidence that there is an association between certain forms of restructuring and lowering of systematic risk. Further, Chatterjee and Lubatkin (1990), Salter and Weinhold (1979), and Lubatkin and O'Neill (1987) find support that systematic risk reduces subsequent to restructurings. On the contrary, only a few year specific samples indicate a lowering of leverage, whereas in most cases the leverage shows a significant increase. The findings suggest that restructurings are probably debt financed and risky. Hypothesis H4 predicts that OWN will increase significantly. Our results readily support this hypothesis.

Please note, the additional parameters, i.e. conditional volatility and asymmetry of firms undertaken restructuring transaction decrease in comparison to non-restructured matched sample. Overall, this finding is consistent with hypothesis H3. The summary of above findings is presented in Table 8.1.

Table 8.1: Summary of Hypotheses Testing for Performance Measures

	Hypothesis	Predicted outcomes	Empirical results
H1:	Profitability characteristics of restructured firm will be significantly higher compared to non-restructured firm	Higher OPM, ROE, ATRN, ROA and PMARG	Supported
H2:	Firm growth and size will improve significantly compared to non-restructured firm	GROW and SIZE improvement	Supported
H3:	Systematic risk and leverage will decrease consistently compared to non-restructured firm	Reduction of RISK and LEV	Not fully supported
H4:	Shareholders' ownership will increase significantly compared to non-restructured firm	Increase in OWN	Supported

Hypotheses Testing: Value Measures

Hypothesis H5 predicts that capital gains for firms that take on restructuring will be significantly higher compared to matched sample. The capital gains are characterised by ROE, ROCE and CFMAR. The hypothesis is supported by our results and consistent with several empirical studies.⁵⁰ Hypothesis H6 proposes that abnormal returns of restructured firm will be significantly higher than non-restructured matched firm. This hypothesis is well supported. Hypothesis H7 predicts sales to market value will increase while expense relative to revenue will significantly decline. However, this hypothesis is not supported by our findings. We infer two conjectures from this hypothesis. First, though restructuring yields systematic gain and increases market value of firms, it tends to appear sales growth remains unaffected. Second, sales to market value might have been influenced by macroeconomic factors and structural variables (see Cook Jr., 2007). The summary of above findings is presented in Table 8.2.

Table 8.2: Summary of Hypotheses Testing for Value Measures

	Hypothesis	Predicted outcomes	Empirical results
H5:	Capital gains for firms that takes on restructuring will be significantly higher compared to non-restructured firm	Higher ROE, ROCE and CFMAR	Supported
H6:	Abnormal returns of restructured firms will be higher compared to non-restructured matched firm	Higher ABRETUN	Supported
H7:	Sales relative to market value will increase and expense to revenue will decrease for restructured firms with contrast to matched sample	Increase in S/MV and reduction in EX/RE	Not Supported

⁵⁰ Beitel et al. (2002); Billett et al., (2003); DeLong (2001); Houston et al. (2001); Kuipers et al.; Comment and Jarrell (1995) and Markides (1995).

8.2.2 Event Study under the OLS and GJR-GARCH Estimate

The event study results are summarised and reported in Table 8.3. The findings from the OLS and GJR-GARCH estimate are quantitatively similar. Even if the OLS method is inadequate to capture conditional volatility relative to the GJR-GARCH method, this limitation of the OLS appears to have little effect on the CARs and their volatility. Overall, our sample returns are significant and positive in response to restructuring announcement. Particularly, the announcement day returns are significantly positive at conventional 1% level. The whole sample of all the restructurings events yield a systematic significant positive return surrounding the announcement day. Further, the return continuation remained up to +3 days under both the estimations.

In merger deals, the target firms experience higher return with contrast to bidder firms under both the OLS and GJR-GARCH estimates. Further, the return continuation persists with positive yield up to +3 days of announcement. In an average, a 10%-12% increase in the CARs for the announcement day to +1 day is registered. The findings are consistent with the prior studies presented in Appendix 7. Moreover, the difference of abnormal returns between the target and bidders is statistically significant. The acquisition events indicate similar results and register significantly positive return on the announcement day, particularly under the GJR-GARCH method. Whereas, under the OLS estimate neither acquirer nor acquired show any announcement effect indicating a normal rate of return. The differential returns confirm that the GJR-GARCH estimates capture asymmetric volatility more precisely than that of OLS method.

In share repurchase events, shareholders experience non-trivial significant positive return surrounding the announcement date. Please note that day -1 also yields

significant positive return. A typical feature of repurchase deals is the market anticipation prior to the announcement day, which the results truly reflect. Other restructuring events, i.e. equity carve-out, spin-offs, IPOs and MBOs explicitly show similar pattern of returns. However, prior studies on IPO for industrial firms, Asquith and Mullins (1986) and Masulis and Korwar (1986) report an average drop of approximately 3% in share prices on the announcement day. We ascribe inconsistency of the results to the sample construction, as our sample is not only comprised of industrial firms.

Table 8.3: Summary of Event Study

Restructurings	CARs		Findings
	Under the OLS Estimate	Under the GJR-GARCH Estimate	
All Restructurings (N=1196)	7.23%	11.25%	Significant positive return for the whole sample firms
Mergers (N=316)	3.24% for bidders 3.60% for targets	3.48% for bidders 3.82% for targets	Higher significant positive return for target
Acquisitions (N=180)	0.69% for acquirers 1.55% for acquired	1.06% for acquirer 1.81% for acquired	Higher significant positive return for acquired
Share Repurchases (N=136)	1.43%	1.71%	Significant positive return
Equity Carve-outs (N=96)	1.22%	1.55%	Significant positive return
Spin-Offs (N=92)	2.20%	2.48%	Significant positive return
IPOs (N=104)	2.09%	3.38%	Significant positive return
LBOs (N=88)	1.01%	2.46%	Insignificant positive return
MBOs (N=112)	4.21%	4.45%	Significant positive return
Joint Ventures (N=72)	3.28%	3.52%	Significant positive return

N: Number of restructuring events

Event like LBOs indicates less predictable results with no announcement effect. On the contrary, Bae and Simet (1998) find on an average shareholders receive a 12% CARs on announcement day of LBOs. It appears that information asymmetry could be the plausible explanation for the no announcement effect of LBOs. The JVs returns are significantly positive yielding 3.28% CARs under the OLS estimate and 3.52% CARs under the GJR-GARCH method.

The results obtained from the event study largely supplement our previous empirical findings. Further, the findings corroborate our overall conclusion that restructurings experience systematic non-trivial gain. In addition, the results highlight effects of individual restructurings.

8.3 Conclusion to the Thesis

Corporate restructuring as a management tool is becoming increasingly popular. Irrespective of extensive studies, it remains as one of the most challenging areas to examine. Restructuring is synonymous with many forms of corporate renewal, reorganisation and realignment. Admittedly, a high level of diversity is recognised in the theories and practices of restructurings, in particular in archival-empirical studies.

Equally, several research approaches are designed to examine restructuring. Despite many differences there are certain commonalities surrounding restructuring. The key cables are, principal-agent conflict and excess of free cash flow which make managers to indulge in self-serving discretion ushering restructuring. These contention are widely recognised by several prior studies. This discretion of managers originates form two main factors. First, slow market response and lack of efficient monitoring mechanism. Second, declining firm performance initiated by divergent principal-agent

interests. However, there is no unequivocal consensus regarding restructuring effects. In particular, to what extent restructuring influence firm characteristics.

Our findings provide support that restructurings significant influence measures of firm performance and value. Firm measures specified by several firm characteristics suggest plausible improvement while compared with a matched criteria non-restructured sample. Moreover, the findings obtained from the event study effectively supplement our other results. Thus, the validity and reliability of our hypotheses are established. In addition, our empirical findings provide robust indication that restructuring, in an aggregate is a beneficial management instrument. The rationale behind this assertion is reflected by our results as well as by several cases of M&As cited by Bruner (2005).

8.4 Research Limitations and Opportunities

In this research some aspects of restructuring have not been explored, such as analyst forecast. Restructuring is a lengthy process over a certain period of time. Typically, analysts prefer to observe the restructuring process around the announcement period and appear to pay limited attention to restructuring completion. We make this conclusion because analyst forecasts fail to outperform the naive models in predicting long-run performance of restructurings (Elton and Grubber, 1972). So far, it is not certain to what extent analyst forecast affects post restructuring firm characteristics. A study by Lippincott (1998) indicates transitory components of analyst forecast and its revision effect on restructurings. There can be two plausible reasons behind this; first, the lack of necessary data to cover major restructuring events; second, long-run comparison beyond 3 years is not widely practiced in archival-empirical literature. In particular, a study in this context examining the UK

firms seems as a prospect. Further, this research has not investigated the characteristics of repeated and multiple restructurings.⁵¹ This is another area of research that can be explored.

However, there is always opportunity to pursue different research directives and extend it in several ways. First, measures of performance and value can be further analysed in more details using additional parameters. Additional parameters can provide better parameterisation and robust estimation. Second, a comparative study, i.e. contrasting firm characteristics of the UK and USA restructuring could be an option. This will allow inclusion of larger samples. Third, employing a longer window could be rewarding as expanding the time horizon will capture wider and subsidiary effects of restructuring.

Another potential area of interest could be to explore repeated and multiple restructurings. Lately a continuing trend has been seen to undertake repeated and multiple restructurings. A study in this area could validate the necessary benefits of restructuring as an instrument of corporate renewal. Alternative estimation methods, such as genetic algorithm can be used here. The genetic algorithm creates accurate parameter optimisation as well as allows extension and accommodation of several constraints that can not otherwise be incorporated in traditional empirical methods.

⁵¹ For example, during 2002 Proctor and Gamble completed acquisition, divestiture and spin off (P&G 2002 Annual Report).



Typology of Corporate Restructuring

Corporate restructuring has different approaches to fully realise the benefit anticipated from a transaction, which is associated with value and performance improvement of the firms. The value and performance changes are particularly attributed to restructuring process (Tudor, 2003). In the following section, different procedures/types of restructuring processes have been discussed.

1. Expansion - A major objective of mergers, tender offers, and joint ventures is to achieve expansion and growth.

Mergers & Acquisitions- M&A is a kind of transaction that forms one economic unit from two or more previous units (Begg, 1985). Mergers generally reflect successful increase in stock price and real gain in capital market efficiency. M&As are motivated to improve synergy combining two functions more efficiently together than they would do individually.

M &A usually constitute an act of investment by purchasing firms or individual units in the form of exchange of existing assets, whereas investment flows involve creating of new assets (Golbe and White, 1988).

Tender offers - A method of making a take-over via a direct offer to target firm shareholders to buy their shares. This is a standard practice in both friendly and hostile takeover transactions. In a friendly takeover stockholders are asked to tender or sell their shares to a designated financial institution, along with the signed power of attorney that transfers the ownership of the shares to the acquiring firm. The target firm's shareholders then receive the specified payment, either by common stock of the acquiring company, in which case the target company's stockholders become stockholders of the acquiring company, cash, bonds, or some mix of cash and securities.

Joint venture - JV is a combination of subsets of assets contributed by two (or more) business entities for a specific business purpose and a limited duration. Each of the venture partners continues to exist as a separate firm, and the joint venture represents a new business enterprise (Mayer, 1997).

This is one of the forms of corporate alliance in which companies are joined to achieve specific and limited objectives. For example, cross-licensing, consortia, joint bidding, and franchising are some other ways for firms to combine resources.

Joseph and Tang (1992) state that (1) a joint venture is the dominant entry strategy when there is a formidable local competitor and the risks of operation are high, (2) a wholly owned subsidiary is preferred if a multinational corporation has a significant cost advantage, (3) a joint venture is preferred to a wholly owned subsidiary if significant cost reductions can be achieved through combining the strengths of a multinational corporation and a local firm, and (4) multiple licensing is preferred if the number of local firms is large.

2. Sell-off - A general term for divestiture of part or all of a firm by any one of a number of means, e.g., sale, liquidation, spin-off etc.

Spin-off - A transaction in which a company distributes on a pro ratio basis all of the shares it owns in a subsidiary to its own shareholders. Spin-offs create a new public company with (initially) the same proportional equity ownership as the parent company (Shoven & Waldfoegel, 1990).

Divestiture - Sale of a segment of a company (assets, a product line, a subsidiary) to a third party for cash and/or securities (Allen, 1989).

Major reasons behind divestitures are:

1. to unlock the value of the firm on the basis that more accurate and detailed information that is provided to both the analyst and investment community regarding each distinct business line of a company,
2. to separate businesses that have different capital requirements or operating characteristics; to free a parent or subsidiary from the other's regulatory or legal burden,
3. to eliminate internal conflicts. A divestiture can help resolve internal political battles over a company's strategic direction, management succession issues or personality problems,
4. to allow awards, stock options and other equity incentives to the management,
5. to remove assets that do not align with the strategic objective of the parent (Comment and Jarrell, 1995).

Equity carve-out - A transaction in which a parent firm offers some of a subsidiary's common stock to the general public in order to bring in a cash infusion to the parent without loss of control (Burke & Cooper, 2000). An equity carve-out is also known as a partial sell-off, through an initial public offering (IPO) of a unit or subsidiaries by a parent company (Madura and Nixon, 2002).

Tracking stocks- These are the shares of the parent company, but their cash flows are tied to the performance of a particular subsidiary, which they track (D'Souza and Jacob, 2000). Tracking stock is the stock that is issued by a firm that is supposed to track or follow a single business unit of the firm. The reasons firms issue tracking stock include wanting to sell shares in a subsidiary that is in a buoyant industry, to allow analysts to better follow the division, and to use in rewarding management and employees of the subsidiary.

3. Changes in Ownership Structure- Different approaches to share options and purchases.

Exchange offer - A transaction which provides one class (or more) of securities with the right or option to exchange part or all of their holdings for a different class of the firm's securities, e.g., an exchange of common stock for debt. Exchange offer enables a change in capital structure with no change in investment (Gadiesh et al., 2001).

Share repurchase - A public corporation buys its own shares (1) by tender offer, (2) on the open market, or (3) in negotiated buybacks.

Companies repurchase their own stock on the open market, usually common shares, for many reasons. In theory, the buyback should not be a short-term fix to the stock price but a rational use of cash, implying that a company's best investment alternative is to buy back its stock. Normally these purchases are done with free cash flow, but not always (Nohel and Tarhan, 1998).

Management buyouts- MBO is the transformation of a public corporation into a privately held firm (often via a leveraged buyout or a management buyout). Buyout is an integral part of restructuring transactions, happens when all the outstanding stocks of a public firm is purchased by private parties, often including the managers of the firm (Wright et al., 1994).

Leveraged buyout - The purchase of a company by a small group of investors, financed largely by debt. Usually entails going private. It is similar with the pattern of MBOs. Leveraged buyouts are said to occur when a firm is taken private by the outside investors when the company's equity is bought up and removed from publicly traded securities markets (Fox and Marcus, 1992).

Leveraged cash-out - Leverage cash-out is a defensive reorganisation of the firm's capital structure in which outside shareholders receive a large one-time cash dividend and inside shareholders receive new shares of stock instead. Leverage cash-outs follow the approach of tender offers of the firms similar to the line of LBOs (Samuelson, Leonard Rosenthal, 1986).

Employee Stock Ownership Plan (ESOP) - A defined contribution pension plan designed to invest primarily in the stock of the employer firm. An employee stock ownership plan (ESOP) is a type of defined contribution benefit plan in the U.S. that buys and holds company stock. ESOPs are often used in closely held companies to buy part or all of the shares of existing owners, but they also are used in public companies.

A

ppendix-2

Key Studies on Restructuring

Author/s	Sample/Methods	Data Type	Theoretical Premise
Lopez,Regier,Holder-Webb (2001)	Large sample and value line sample	Secondary	Organisational change and performance measure
Boone and Mullherin (2001)	Medium sample, event analysis and event study	Secondary	Wealth effect and valuing management decision
Froud, Haslam, Johal & Williams (2000)	Medium sample, theory building and ratio analysis	Secondary	Shareholder value and labour market
Denis and Kruse (2000)	Large sample, event study	Secondary	Agency theory, corporate control mechanism
Lai and Sudarsanam (1997)	Medium sample, Logit regression model	Secondary	Agency theory
Thompson and Wright (1995)	Medium sample	Secondary	Agency theory and governance mechanism
Bethel and Liebeskind (1993)	Large sample , cross-sectional and time series	Secondary	Agency theory
Gibbs (1993)	Large sample	Secondary- Historic	Agency theory
Hitt et al. (1990)	Large sample	Primary/Secondary-questionnaire and historical	Agency theory/Management Vs. Strategy
Hurry*	Theory building/interpretivism	Secondary	Options theory/ stock return
Zajac and Kraatz*	Large sample, pooled cross-sectional and time series	Secondary	Organisational adaptation/ Structural change
Robins*	Longitudinal, pre-determined sample	Secondary-historic	Internal control/mechanism theory
Long and Ravenscraft*(1993)	Large sample,cross-sectional and time series	Secondary	Agency theory/ capital market anomaly theory
Cannella and Hambrick*	Large sample	Primary questionnaire	Management Vs. strategy theory
Brockner, Grover,O'Malley, Reed & Glynn*	Experimental theory building	Primary	Employee motivation
Reilly, Brett and Stroh*	Large sample of middle management	Primary questionnaire	Psychological contracts and organisational change

* Source: Bowman and Singh (1993).

Event Studies on Restructuring Event

A discussion on other Event Studies is presented in Appendix 3

Panel A: Completed Studies

Study	Event	Announcement Date	Announcement CAR (%)	Full Event CAR (%) Window
Miles and Rosenfeld (1983)	Spin-off	Announcement of event in WSJ*	3.34	Not reported
Hite and Owers (1983)	Spin-off	Possible event announcement in WSJ	3.30	7.00(-50, completion)
Krishnaswami and Subramaniam (1999)	Spin-off	Press announcement	3.28	Not reported
Schipper and Smith (1986)	Carve-out	Announcement in WSJ	1.83	Not reported
Vijh (2000)	Carve-out	WSJ publication or SEC filing	1.94	Not reported
Klein (1986)	Diversification	Announced	1.12	Not reported

Panel B: Both Completed and Cancelled Studies

Study	Event	Announcement Date	Announcement CAR (%)	Full Event CAR (%) Window
Copeland et al. (1987)	Spin-off	Announcement in WSJ	2.94	5.02 (multiple date)
Hite, Owers and Rogers 91987)	Diversification	Announcement in WSJ	1.66	2.78 (-1, complete)
		Completed Asset Sales		
Bradley, Desai and Kim (1983)	Target Takeover	Asset Sales Later terminated	1.41	-7.17 (-1, complete)
		Announced Successful	39.06	60.18 (months-1,+24)
		Unsuccessful	23.94	1.93 (months-1,+24)

* Wall Street Journal.

Accounting Studies and Event Studies on Restructuring

This part is adopted from the Endnote of Bruner (2004) and discussed in Kaplan (2006)

Studies reporting returns to target firm shareholders include these:

1. Langetieg (1978)
2. Bradley, Desai, Kim (1988),
3. Dennis and McConnell (1986)
4. Jarrell, Poulsen (1989)
5. Lang, Stulz, Walkling (1989)
6. Franks, Harris, Titman (1991),
7. Servaes (1991)
8. Bannerjee, Owers (1992)
9. Healy, Palepu, Ruback (1992)
10. Kaplan, Weisbach (1992), Berkovitch, Narayanan (1993)
11. Smith, Kim (1994)
12. Schwert (1996)
13. Loughran, Vjih (1997)
14. Maqueira, Megginson and Nail (1998)
15. Eckbo, Thorburn (2000)
16. Leeth, Borg (2000)
17. Mulherin and Boone (2000)
18. Mulherin (2000), DeLong (2001)
19. Houston et al. (2001)
20. Kuipers, Miller and Patel (2003)
21. Renneboog and Goergen (2003)
22. Billett, King, and Mauer (2003)
23. Beitel et al. (2002)

Studies reporting significantly negative returns to buyer shareholders include:

1. Dodd (1980)
2. Asquith, Bruner, and Mullins (1987)
3. Varaiya and Ferris (1987)
4. Servaes (1991)
5. Jennings and Mazzeo (1991)
6. Bannerjee and Owers (1992)
7. Byrd and Hickman (1992)
8. Kaplan and Weisbach (1992)
9. Sirower (1994)
10. Mitchell and Stafford (2000)
11. Walker (2000)
12. DeLong (2001)
13. Houston et al. (2001)
14. Kuipers, Miller, and Patel (2003).

Studies reporting insignificantly negative returns to buyer shareholders are:

1. Langetieg (1978)
2. Morck, Shleifer, and Vishny (1990)
3. Franks, Harris, and Titman (1991)

4. Healy, Palepu, and Ruback (1992)
5. Berkovitch and Narayanan (1993)
6. Eckbo and Thorburn (2000)
7. Mulherin and Boone (2000)
8. Ghosh, A. (2002). Studies

Reporting insignificantly positive returns are:

1. Asquith (1983)
2. Malatesta (1983)
3. Wier (1983)
4. Lang, Stulz, and Walkling (1989)
5. Smith and Kim (1994)
6. Schwert (1996)
7. Lyroudi, Lazardis, and Subeniotis (1999)
8. Beitel et al. (2002)
9. Billett, King, and Mauer (2003).

Studies showing significantly positive returns to buyer shareholders are:

1. Dodd and Ruback (1977)
2. Kummer and Hoffmeister (1978)
3. Bradley (1980)
4. Jarrell and Bradley (1980)
5. Bradley, Desai, and Kim (1982)
6. Asquith, Bruner, and Mullins (1983)
7. Eckbo (1983)
8. Denis and McConnell (1986)
9. Jarrell, Brickley, and Netter (1987)
10. Sichernman and Pettway (1987)
11. Bradley, Desai, and Kim (1988)
12. Jarrell and Poulsen (1989)
13. Loderer and Martin (1990)
14. Maquieira et al. (1998)
15. Eckbo and Thorburn (2000)
16. Leeth and Borg (2000)
17. Mulherin (2000)
18. Kohers and Kohers (2000)
19. Kohers and Kohers (2001)
20. Floreani and Rigamonti (2001)
21. Fuller, Netter, and Stegemoller (2002)
22. Renneboog and Goergen (2003)
23. Moeller, Schlingemann, and Stulz (2003)

Studies of long-term returns to buyers are:

1. Mandelker (1974)
2. Dodd and Ruback (1977)
3. Langetieg (1978)
4. Asquith (1983)
5. Bradley, Desai, and Kim (1983)
6. Malatesta (1983)
7. Agrawal, Jaffe, and Mandelker (1992)
8. Loderer and Martin (1992)
9. Gregory (1997)
10. Loughran and Vijh (1997)
11. Rau and Vermaelen (1998)
12. Louis (undated)
13. Pettit (2000)
14. Moeller, Schlingemann, and Stulz (2003)

15. Ferris and Park (2001)
16. Kohers and Kohers (2001)

Twenty-four studies reporting positive returns:

1. Halpern (1973)
2. Langetieg (1978)
3. Firth (1980)
4. Bradley, Desai, and Kim (1982)
5. Bradey, Desai, and Kim (1983)
6. Malatesta (1983)
7. Varaiya (1985)
8. Bradley, Desai, and Kim (1988)
9. Lang, Stulz, and Walkling (1989)
10. Franks, Harris, and Titman (1991)
11. Servaes (1991)
12. Bannerjee and Owers (1992)
13. Healy, Palepu, and Ruback (1992)
14. Kaplan and Weisbach (1992)
15. Berkovitch and Narayanan (1993)
16. Smith and Kim (1994)
17. Leeth and Borg (2000)
18. Mulherin and Boone (2000)
19. Mulherin (2000)
20. Houston et al. (2001)
21. Fan and Goyal (2002)
22. Kuipers, Miller, and Patel (2003)
23. Gupta and Misra (undated)
24. Beitel et al. (2002).

Sixteen studies of financial performance:

1. Meeks (1977)
2. Salter and Weinhold (1979)
3. Mueller (1980)
4. Mueller (1985)
5. Ravenscraft and Scherer (1987 article)
6. Ravenscraft and Scherer (1987 book)
7. Herman and Lowenstein (1988)
8. Seth (1990)
9. Healey, Palepu, and Ruback (1992)
10. Chatterjee and Mecks (1996)
11. Dickerson, Givson, and Tsakalotos (1997)
12. Healy, Palepu, and Ruback (1997)
13. Parrino and Harris (1999)
14. Parrino and Harris (2001)
15. Ghosh (2001)
16. Carline, Linn, and Yadav (2001)

Studies that have looked at accounting performance:

Though accounting-based operating results are easily 'managed' by executives and are vulnerable to exogenous effects unrelated to diversification, they are an easy focus of investigation. Four studies (Rumelt (1974, 1982); Ravenscraft and Scherer (1987); and Kaplan and Weisbach (1992)) showed that firms following strategies of unrelated diversification underperform those firms who focus more.

Yet four others (Kruse (2002); Healey, Palepu, and Ruback (1992); Parrino and Harris (1999); and Cornett and Tehranian (1992)) found improvements in operating performance following diversifying

acquisitions. In addition, Anslinger and Copeland (1996) found that firms pursuing a conscious strategy of unrelated diversification realized high abnormal returns for sustained periods.

Event studies of acquisitions, joint ventures, divestitures, spin-offs, and carve-outs:

Acquisitions: Seven studies

1. Morck, Schleifer, and Vishny (1990)
2. Sicherman and Pettway (1987)
3. Morck (1990)
4. Maqueira et al. (1998)
5. Nail, Megginson, and Maqueira (1998)
6. DeLong (2001)
7. Megginson, Morgan, and Nail (2002)

All the studies find cumulative average residuals (CARs) at the announcements of transactions that are significantly more negative for diversifying deals than for focusing deals. These studies suggest that mergers that focus the firm enhance the buyer's share value by 1-3% more than diversifying deals.

Yet six other studies

1. Carow (2001)
2. Hubbard and Palia (1999)
3. Schipper and Thompson (1983)
4. Elgers and Clark (1980)
5. Matsusaka (1993)
6. Ferris et al. (2002))

The above studies show significantly positive CARs for diversifying acquisitions; most of these, however, are studies of conglomerate acquisitions in the 1960s (e.g., Hubbard and Palia (1999)) or are associated with the relaxation of regulatory constraints on diversifying acquisitions (e.g., Carow (2001)). On balance, the event studies of acquisition announcements suggest that focus pays more than diversification.

Joint ventures and alliances:

Three studies consider the effect of focusing or horizontal JVs.

1. Ferris et al. (2002) find that focus-increasing JVs show materially larger CARs than diversifying JVs.
2. Chan et al. (1997) report that horizontal alliances involving technology transfer have a materially higher CAR.
and
3. Gleason et al. (2003) find that horizontal deals in the financial services industry have materially higher CARs than diversifying deals.

The event studies of JV and alliance announcements suggest that focus pays more than diversification.

Divestitures, spin-offs, and carve-outs:

Generally, divestitures, spin-offs, and carve-outs are good news for investors; and since these deals shed assets, the results would seem to be roughly supportive of focusing. However, what matters is the nature of the assets being disposed. Two studies of carve-outs suggest a materially larger announcement CAR when the carved-out unit is not from an industry related to the parent's core business.

1. Hurlburt et al. (2002)
and
2. Vijh (2000))

Three studies of spin-offs show a materially larger announcement CAR when the transaction is focus-increasing

1. Veld and Veld-Meruklova (2002)
2. McNeil and Moore (2001)
3. Johnson et al. (1996)

Regarding divestitures, Donaldson (1990) reports materially larger positive CARs at the announcement of sale of non-core assets compared to core asset sales. Dittmar and Shivdasani (undated) report that, over the year following the divestiture, firms that became single-business firms had a 3% higher return than those that remained diversified. In short, the event studies of divestitures, spin-offs, and carve-outs are consistent with benefits from focusing and penalties from diversification.

The "diversification discount" (see Berger and Ofek, 1995) is computed as the market value of a company's equity plus the book value of liabilities divided by the company's "imputed" value-measured as the sum of its segment values estimated by the product of a valuation multiple for single-business peers (total capital divided by assets, sales or operating earnings) times the accounting value for the segment). Eight studies document the diversification discount: Berger and Ofek (1995, 1999); Lang and Stulz (1994); Servaes (1996); Comment and Jarrell (1995); Lins and Servaes (1999); Mansi and Reeb (2002); Denis, Denis, and Yost (2002); and Lamont and Polk (2002) find negative excess values for diversified firms, in the range of 8% to 15%. Studies showing that diversified firms have lower market values: "Tobin's Q" is a measure of economic efficiency that is estimated as the ratio of the market value of assets divided by book value. The higher the Q, the higher is efficiency. Typically, these studies regress Q against a variety of independent variables, including measures of diversification and focus. Three studies give findings consistent with the benefits of focus. Lang and Stulz (1994) find that diversified firms have lower Qs than single-business firms. Morck and Yeung (1997) find that diversification is associated with lower Q except where the industry is information-intensive. Aggarwal and Samwick (2003) report that diversification has a significantly negative effect on Q.

Eight studies that find no discount:

1. Chevalier (2000)
2. Hyland and Diltz (2002)
3. Klein (2001)
4. Graham, Lemmon, and Wolf (1998)
5. Campa and Kedia (1999)
6. Villalonga (1999, 2003a)
7. Mansi and Reeb (2002)
8. Whited (2001).

Studies that have examined post-merger productivity:

Lichtenberg (1992) found lower total factor productivity with increases in diversification. But Schoar (2002) reported that plants in diversified firms were 7% more productive than plants in single-business firms. Nevertheless, increases in diversification are associated with a net decrease in productivity. Plants that had been acquired actually increased their productivity, whereas incumbent plants decreased in productivity, but since there were fewer acquired than incumbent plants, the total effect on productivity was negative. She wrote, "Diversified firms experience a "new toy" effect, whereby management focus shifts towards new segments at the expense of existing divisions. As a whole, these results indicate that diversified firms have a productivity advantage over their standalone counterparts. They even increase the productivity of their acquired assets. With each diversifying move, however, these firms lose some of their productivity advantage" (page 2380).

Studies of announcement returns from divestitures:

One study reported positive and significant returns (Hite et al., 1987), a second reported positive and insignificant returns (John and Ofek (1995)), and a third reported negative and insignificant returns to buyers (Allen and Phillips (2000)).

Studies on restructurings:

Lang et al. (1995) found an announcement return of 4% when the firm committed to returning the divestiture proceeds to investors (e.g., in the form of reducing the firm's debt.) In comparison, the

announcement return was insignificantly different from zero when the firm planned to reinvest in the business. Announcements of plant closings (Blackwell et al., 1990) are frequently the prelude to divestiture or liquidation and produce small but significantly negative returns to shareholders. Announcements of plant closings can signal to investors the failure of a strategy. Complete voluntary liquidations of a business, which is the ultimate divestiture program, deliver the highest returns to shareholders, in the range of 12-13%.

Evidence that the market rewards focusing divestitures:

John and Ofek (1995) document a significant relation between the announcement returns at divestiture and the degree of increase in strategic focus of the firm after divestiture. In his study of a 20-year restructuring program at General Mills, Donaldson (1990) found that announcements of the sale of non-core assets was associated with higher abnormal returns than was the sale of correlated assets (+2.03% versus -0.43%). Kaiser and Stouraitis (2001) studied the re-focusing effort of Thorn-EMI and reported positive and significant abnormal returns.

Allen and McConnell (1998) found that investors reacted positively to carve-outs that would generate cash to be paid to creditors, but were neutral in instances where the funds were to be reinvested in the business.

Evidence of share price rise on series of strategic acquisitions:

1. Asquith, Bruner, and Mullins (1983)
2. Fuller, Netter, and Stegemoller (2002)
3. Gregory (1997)
4. Schipper and Thompson (1983).

Research finds cost savings are discounted the least and the others somewhat more: Houston, James, and Ryngaert (2001) studied the association of forecast cost savings and revenue enhancements in bank mergers and found a significant relationship between the present value of these benefits and announcement-day returns. The market appears to discount the value of these benefits, however, and applies a greater discount to revenue-enhancing synergies and a smaller discount to cost-reduction synergies. DeLong (2003) also studied bank mergers and found that investors responded positively to mergers where one partner was inefficient, and where the merger focuses geography, activity, and earnings: all are symptomatic of synergy gains.

Studies revealing that M&A efforts to enhance market position yield no better performance:

1. Ravenscraft and Scherer (1987)
2. Mueller (1985)
3. Eckbo (1992).

Studies of share price movements of competitive rivals:

1. Stillman (1983)
and
2. Eckbo (1983).

Studies reporting value destruction associated with the announcement of M&A transactions by firms with excess cash:

1. Servaes, Lang, Stultz, and Walkling (1991)
2. Harford (1999)
3. Jensen (1986).

Research showing that targets of hostile tender offers are underperformers with relatively low share prices:

Targets of hostile bids show lower sales growth, debt, returns on equity, insider ownership, and price/earnings ratio; they also show higher liquidity and unused debt capacity. Schwert (1997) writes

that the differences in performance are “consistent with the notion that targets of hostile offers suffer disproportionately from entrenched management...inefficient use of corporate assets.” Prior to hostile bids, institutional investors have been defecting from the target firm (see Ambrose and Megginson (1992)). Studies of the likelihood of takeover find numerous predictive factors consistent with underperformance. Hasbrouck (1985) found that high market/book ratios and large size reduced the probability of takeover. Palepu (1986) found that high sales growth, high leverage, and large size reduce the probability. Morck et al. (1988) confirmed the effect of size and market/book ratio. Medium or small size might predict takeover if these firms are followers or otherwise at a size-induced competitive disadvantage. Trimbath (2002) concluded that ‘relatively inefficient firms have a higher probability of being taken over.’ (page 71) Comparisons of targets in hostile and friendly deals reveal that hostile targets show higher management turnover, lower profitability, and lower indebtedness. Management and board turnover increase following hostile takeovers as corporate restructurings do (see Dahya and Powell, 1998 and Shivdasani, 1993).

Studies that are consistent with the view that targets are healthy but happen to fit very well with the buyer’s strategy:

Some evidence suggests that targets are not particularly different from other firms, and no less efficient (see Ravenscraft and Scherer (1987) and Schwert (2000)). Franks and Mayer (1996) found that “there is little evidence of poor performance prior to bids.” McWilliams (1990) found that the exploitation of synergies better explains returns from takeovers than does the replacement of entrenched managers or redirection of underperforming firms. Models that attempt to predict likelihood of takeover do not select measures of valuation such as market/book or price/earnings (see Ambrose and Megginson (1992); Shivdasani (1993); and Comment and Schwert (1995)).

Comparing acquisitions of public and private companies:

Using a multiples-based approach, Koeplin, Sarin, and Shapiro (2000) estimated an “as-if public” valuation for acquisitions of private firms, 84 in the U.S. and 108 outside, between 1984 and 1998. Then using the actual transaction prices, they calculated the discount from this public value. Bruner and Palacios (2004) model the so-called marketability discount for private firms as an option to switch securities and derive results in simulation that are consistent with the observed discounts.

Several studies report a sizeable positive announcement-day return to bidders buying private firms:

Chang (1998) found a positive 2.64% cumulative average return to bidders who buy private targets with stock. The return in cases where a new significant shareholder is created in the deal is a positive 4.96%. Chang hypothesized that the new block holder will help to monitor the public firm’s management. Hansen and Lott (1996) reported that, in buying private firms, bidders earn a 2% higher cumulative average residual (CAR) than when buying a public firm. Fuller, Netter, and Stegemoller (2002) reported a 3.08% higher CAR for acquisitions of private companies. Moeller, Schlingemann, and Stulz (2004) report that over a very large sample of transactions, the equal-weighted (value weighted) CAR for buyers of public firms is +0.76% (-1.249%). In comparison the equal-weighted (value weighted) CAR for buyers of private firms is +2.318% (+1.272%).

Methodological Perspective, Variable Definitions, Database, Data Description and Selection, Preliminary Results

Section A: An Appraisal of Methodological Perspective

Multiple Discriminant Analysis

Altman (1968) and Taffler (1984) attempted successfully to predict corporate failures using the MDA model. However, it is perceived that the success of the MDA model was attributed to lack of other quantitative models at that time. Many additional failure prediction models have been developed since the work of Beaver (1966), Altman (1968) and Taffler (1984). Lev (1974), Deakin (1972), Ohlson (1980), Taffler (1984), Platt and Platt (1990), Gilbert et al. (1990), and Koh and Killough (1990) amongst others those have contributed towards the development of multivariate statistical models. Along the line some other models are developed such as Springate's model (Springate, 1978), Fulmer's model (Fulmer, 1984) and the CA-SCORE model (Quebec CA's, 1987). However, these models never proved to be robust in comparison to the MDA and logit model. Almost all of these traditional models have been either matched-pair multi-discriminate models (such as Altman's) or logit models (such as Ohlson's). Ohlson (1980) experimenting with logit model observes that when he used discriminant analysis, he got worse results in terms of prediction. A further study by Begley et al. (1996) concludes that Ohlson's original model based on logit instrument is frequently preferred for its stronger performance. Also, the merits of using logit model relative to discriminant model are supported by Maddala (1983).

Primarily the MDA model classifies a firm in to one, two or more groups using vectors of predictors (Maddal, 1983). In most applications, the derived discriminant function is a linear combination of the independent variables, which most efficiently separate the two or more group centroids⁵², represented by binary or dichotomous dependent variables. However, the MDA is not sufficient to interpret association between dependent and independent variables (Hanushek, 1977). Also, the MDA requires that the independent variables should be normally distributed and the separate sample from which the estimates have been derived, have equal variance-covariance matrices. This obviously is a constraint in the study of restructuring variables. Moreover, assessment of the individual coefficient in linear combination of variables in the MDA is impossible (Lo, 1986). These limitations make logit analysis more preferred over the MDA. In logit analysis, no assumptions have to be made regarding the distribution of the independent variables and their coefficients those are derived from the logit. Further logit model estimates representative effects of the sample and statistical significance of independent variables. The explanatory power of logit model is indicated by the McFadden's (1973) R square.⁵³ This is similar to the usual R^2 derived from OLS regression estimate, in that it represents one for perfect fit and zero for no fit. In this type of regression independent variables do not to be normally distributed, linearly related or assume equal variance within each group. In addition, the independent variables do not have to be discreet; the independent variables can be mix of continuous, discrete or dichotomous variables. A detailed analysis on this has been presented following the discussion on MDA in the subsequent section.

Altman (1968, 2000) proposes that MDA has predictive power to examine firm's failure or success. However, it is important that sector and industry classifications in the use of MDA model should be carefully considered. MDA model combines several financial ratios into a single predictive equation. MDA model produces a 'Z-Score' to identify success and failure of firms. In his first model, if the Z-Score happens to be below 1.8, then the firm is most likely to fail in the market. A score higher

⁵² The centroid of a set of multi-dimensional data points is the data point that is the mean of the values in each dimension. For X-Y data, the centroid is the point at (mean of the X values, mean of the Y means). A simple regression line always passes through the centroid of the X-Y data.

⁵³ Appendix 3.

than 3 shows high probability of non failure and scores between 1.8 and 3 fall in the unpredictable zone, where it is difficult to say in affirmative whether the firm will or will not fail. In most of the cases, this has been seen as one of the major limitations of this model.

The coefficients for each variables ($X_1..._5$) are determined in such a way as to maximise the predictive power of the function for any sample firm. Nevertheless, there are some issues need to be clarified before utilising this model. Variables X_1 to X_4 must be calculated as absolute percentage value. For example, the firm whose net working capital to total assets(X_1) is 10% should be included as 10.0% and not 0.10. Only variable X_5 (Sales to total assets) should be expressed in a different way; such as, X_5 ratio of 200% should be included as 2.0. Mostly the limited and specific ratios used in the model fail to capture the entire effect of firm performance.

Altman subsequently developed a revised Z-Score model (2000) with revised coefficients and Z-Score cut-offs, which dropped variable X_4 and replaced with a new variable $X_4 =$ net worth (book value)/(total liabilities). Also the coefficients changed with the revised model. The revised Z-Score model with a new X_4 looks different from the earlier model. The coefficient for X_1 went from 1.2 to 0.7. The actual variable that was modified, X_4 , shows a coefficient change to 0.42 from 0.6001; i.e. it now has less of an impact on the Z-Score. Whereas, both X_3 and X_5 are virtually unchanged. The univariate F-test for the book value of X_4 (25.8) is lower than the 33.3 level for the market value but the scaled vector results show that the revised book value measure is still the third most important contributor (Altman, 2000). The non-failure group's mean Z-Score is lower than that of the original model (4.14 against 5.02). This indicates that the distribution of scores is now tighter with larger group overlap. The grey area or the unpredictable zone is wider, since the lower boundary is now 1.23 as opposed to 1.81 for the original Z-Score model (Altman, 2000). However, Altman's model was never appreciated due to its severe limitations and ambiguity to measure success or failure of firms with precision.

Logit Analysis

This study intends to utilise logit analysis to avoid limitations of MDA model. The underpinning objective is to investigate if performance and value of firms have improved or not after restructuring. Thus the exogenous, i.e. predictable dependent variable has binary effect and dichotomous in nature. In the empirical literature logit regression has received significant attention for its unique attributes. The following section attempts to present a discussion on the logit regression. Further, it presents the appropriateness of logit regression in the context of this study. The discussion drawn in this part has mainly been cited from Maddala (2001), Hosmer and Lemeshow (1989) and Pregibon (1981).

Typically, logit regression is employed where the dependent variable is dichotomous and the independents assume much less restrictions. Logit regression can be used to predict a dependent variable on the basis of continuous and/or categorical independents and to determine the percent of variance in the dependent variable. It further explains the relative importance of independents to assess interaction effects and to understand the impact of covariate⁵⁴ control variables (Collett, 1991). This research requires identifying the performance and value change following restructuring. Therefore to assess this effect the dependent variable (effects of restructurings on performance and value), it is necessary to find if they are improving or not with contrast to a matched comparison control sample. The generic logit model is presented as:

$$\text{Probability (Event)} = \frac{e^{\beta}}{1 + e^{\beta}}$$

where β is the following linear combination

$$\beta = a_0 + a_1x_1 + a_2x_2 + \dots + a_nx_n$$

where $a_0, a_1, a_2, \dots, a_n$ are coefficients; and

x_1, x_2, \dots, x_n are independent variables.

Probability of event refers to the probability that the event 1 or 0 (performance and value improves 1 or performance and value do not improve 0) will occur with x_i , where, $i = 1, 2, 3, \dots, n$. The

⁵⁴ A covariate is a variable that may affect the relationship between two variables of interest, but is not of intrinsic interest itself. As in blocking or stratification, a covariate is often used to control for variation that is not attributable to the variable under study. A covariate may be a discreet factor, like a block effect, or it may be a continuous variable, like X variable in an analysis of covariance.

probability of occurrence is calculated by using log-likelihood. Generally logit regression applies maximum likelihood estimation after transforming the dependent into a logit variable (the natural log of the odds of the dependent occurring or not) (Hosmer and Lemeshow, 1989). In this way, logit regression estimates the probability of a certain event occurring or not. Importantly logit regression calculates changes in the log odds of the dependent, not changes in the dependent itself as the OLS regression does. However, logit regression is analogous to the OLS regression in many ways (Hosmer and Lemeshow, 1989). The logit coefficients correspond to β coefficients in the OLS regression equation, the standardised logit coefficients correspond to beta weights, and a pseudo R^2 statistic is available to summarize the strength of the relationship. In this study the principle objective is to differentiate changes that occur following restructuring, thus maximum likelihood estimation after transforming the dependent variable (natural log of probability of occurrence) to ascertain changes in the log odds of the dependent variable perfectly indicates logit regression is ideal for this methodical approach (Santner and Duffy, 1986).

Further, logit regression does not assume linearity of relationship between independent variables and dependent variables. It does not require normally distributed variables, does not assume homoscedasticity⁵⁵; and in general, has less stringent requirements. The flexibility of logit regression in terms of above assumption proves appropriate for this study. First, assuming probability of change in dependent variable is not linear to independent variables avoids orthogonality and does not need normal distribution, which is already an existing assumption of logit regression; second, as finite variance is expected among independent variables not assuming homoscedasticity, it is perceived as an advantage for this kind of study. However, the logit regression requires that observations are independent and the logit of the independent variables is linearly related to the dependent. In this study all the independent variables are accounting numbers and selected as mutually exclusive, thus they are customarily independent. Moreover, since dependent variable measures the changes, logits of the independent variables are supposed to be linearly related to dependent. Notice that, the robustness⁵⁶ of the logit regression can be assessed by looking at the classification table, showing correct and incorrect classifications of the dichotomous, ordinal, or polytomous dependent. Also, goodness-of-fit tests such as model chi-square are available as indicators of model appropriateness as is the Wald statistic⁵⁷ to test the significance of individual independent variables.

In essence, logit regression enables to overcome many of the restrictive assumptions of the OLS regression. As discussed, logit regression does not assume a linear relationship between the dependents and the independents. It may handle nonlinear effects even when exponential and polynomial terms are not explicitly added as additional independents because the logit link function on the left-hand side of the logit regression equation is non-linear. The dependent variables need not to be normally distributed, but does assume its distribution within the range of the exponential family of distributions, such as Normal, Poisson, Binomial and Gamma. Further, the dependent variables need not to be homoscedastic for each level of the independents; that is, there is no homogeneity of variance assumption. In addition, it does assume normally distributed error terms, does not require that the independents are interval by nature and unbounded.

However, logit regression has certain assumption those still apply. Logit coefficient needs to be coded meaningfully; otherwise it is difficult to interpret it. Conventionally for binomial logits the

⁵⁵ Normal-theory-based tests for the equality of population means, i.e. the t-test and analysis of variance, assume that the data from populations that have the same variance, even if the test rejects the null hypothesis of equality of population means. If this assumption of homogeneity of variance is not met, the statistical test results may not be valid. Heteroscedasticity refers to the lack of homogeneity of variance.

⁵⁶ Robust statistical tests operate well across a wide variety of distributions. A test can be robust for validity, meaning that it provides P value close to the true ones in the presence of (slight) departures from its assumptions. It may also be robust for efficiency, meaning that it maintains its statistical power in the presence of those departures.

⁵⁷ Wald statistical test is named after Abraham Wald (1902-1950). The maximum likelihood (ML) estimate of the parameter/s of choice X is compared with the proposed value x, with the assumption that the difference between the two will be approximately normal. Typically, the square of the difference is compared to a chi-squared distribution. In the univariate case, the Wald statistic is, $(X-x)^2 / \text{var}(X)$; which is compared against a chi-square distribution. Alternatively, the difference can be compared to a normal distribution. In this case the test statistic is $(X-x) / \text{se}(X)$, where $\text{se}(X)$ is the Standard Error of the maximum likelihood estimate.

dependent class of greater interest should be coded as 1 and the other class as 0. Further, their correlate is assumed as +1 to show positive correlation. In this study, dependent variable is binary and expected to be positively correlated as pre and post effect of log-linear changes are examined. Caution should be taken to include relevant variables to explain the variance they share with covariates and similarly irrelevant variables should be excluded to limit the inflation of the standard error of the regression coefficient. Error terms in logit regression are assumed to be independent. Again as orthogonality is not assumed and finite variance of independent variables are expected, error terms generated from our regression are expected to be independent.

Although logit regression does not require linear relationships between the independent factor or covariates and the dependent, but it does assume a linear relationship between the independents and the log odds (logit) of the dependent. When the assumption of linearity in the logits is violated, then logit regression will underestimate the degree of relationship of the independents to the dependent and will lack power. In such instances, logit of a continuous covariate is to divide it into categories and use it as a factor, thereby getting separate logits for various levels of the variable. In terms of dividing continuous covariates into categories, this study intends to classify them into year specific period. Hence, it is expected that a linear relationship between the independents and the logits of dependent will be assumed. Summarily, in logit analysis, no assumptions have to be made regarding the distribution of the independent variables and their coefficients derived from the logit model. They estimate representative effects of the sample and statistical significance of independent variables.

The explanatory power of logit model is indicated by the McFadden's R^2 (1973).⁵⁸ In this research, the distribution of response on dependent variable is expected to be nonlinear with one or more independent variables. This research is premised to be hypothesis generating empirical work; hence, logit regression appears to be ideal to examine the models constructed upon hypotheses. Further logit analysis allows including and excluding independent variables from the equation to avoid any possible risk of multicollinearity or 'ill conditioning', which is an advantage relative to other forms of regressions. Therefore, logit regression is employed as estimator in this study.

At the initial stage, identification of a parsimonious model is imperative to perform a logit analysis. A parsimonious model is a saturated model having perfect goodness-of-fit. The explanatory variables employed in a parsimonious model must be adequate to explain the predictive significance of the model. Usually a stepwise method i.e. forward-stepwise or backward-stepwise is utilised to examine the predictive power of the model, relevancy of explanatory variables and any other anomalies observed in data set. The forward-stepwise method utilises chi-square differences to determine inclusion or exclusion of variables in the model. However, the method runs the risk of modelling noise in the data and considered useful only for explanatory purpose. Hosmer and Lemeshow (2000, p 121) urge with a note of caution that the maximum likelihood estimates for the coefficients of all variables not in the model must be calculated at each step while engaging a stepwise method. They further state that in this context, a rigorous analysis should be performed to examine statistical and clinical significance of the model.

In logit regression, the errors are assumed to follow a binomial distribution and significance is assessed by the likelihood ratio chi-square (Hosmer and Lemeshow, 2000, p 116). The greatest change the variable that brings to the log-likelihood is most suited for inclusion. In addition, while attributes of the covariates are relatively unknown a stepwise method is worth considered. In conjunction with stepwise method, the Leverage and Cook's distance are used to identify and eliminate redundant variables. Hosmer and Lemshow (2000, p 96) criticise that mechanical selection methods such as, stepwise and best subsets are likely to yield biological implausible models and can select irrelevant,

⁵⁸ This model was first developed by Berkson (1944). He proposed logistic transformation in place of cumulative normal to linearise the distribution of variables. The conditional logit was introduced by McFadden (1973) to represent a more generalized model that is derived from a random utility model based on specific attributes of the different choices. McFadden model allows predictions of probabilities of choice when a new choice is introduced. The distinction between logit model and McFadden's model is typically important for the computer programmes used, in the analysis of sample selection biases, and in the discussion of the relationship between discriminant analysis and logit analysis (Maddala, 1991). McFadden's conditional logit model is adaptable to computer programme that is more general than the logit analysis. However, conditional logit involves redefinition of variables, which is perceived as very tedious and time consuming. Nevertheless, evaluative parameter coefficient of conditional logit and logit model generate similar outcomes. Studies such as; Ohlson (1980), Lo (1986) and Palepu (1986) use conditional logit with specific computer programmes, but in reality any of the regular available computer packages could handle data and produce similar results (Maddala, 1991).

noisy variables for inclusion resulting in a spurious model selection.⁵⁹ Further, Tabachnick and Fidell (2001, p 535) finds that stepwise procedure can heavily influence the model by including and excluding variables purely on statistical ground causing random variation in the outcome. Therefore, selecting variables on theoretical basis and using 'Enter' method is most preferred.⁶⁰ Hence, in this analysis, variables included are based on theoretical premises and stepwise method was ignored.

⁵⁹ Greenland (1989), Flack and Chang (1987) and Griffiths and Pope (1987).

⁶⁰ <http://www2.chass.ncsu.edu/garson/PA765/logit.htm>.

Section B: Variable Definitions

Table 4.1: Variables employed for Performance Measures

OPM	Restructuring firms' operating margin for the period $t+k$, where t is the year of restructuring and $k=1, 2, 3$ Defined as the ratio of operating income to sales.
ROE	Restructuring firms' return on equity for the period $t+k$, where t is the year of restructuring and $k=1, 2, 3$ Defined as the ratio of income before any extraordinary charges to owners' equity.
ATRN	The assets turnover for year $t+k$, when t is the year of restructuring. $k=1,2,3$. This is denoted as ratio of net sales to average total assets.
ROA	The return on assets for year $t+k$, when t is the restructuring year. This is denoted as ratio of operating income to total assets. $k= 1, 2, 3$
PMARG	The profit margin for the year $t+k$, when t is the restructuring year. This is explained as ratio of income before any extraordinary changes to net sales. Income will be adjusted for the restructuring charges by adding back the after tax restructuring charge. $k= 1, 2, 3$
GROW	Stands for growth opportunity of the firm for year $t+k$ and of restructured firm. $k=1, 2, 3$ Growth is expressed as the standard deviation of research and development divided by sales.
SIZE	Stands for asset utilisation decided on the basis of sales growth defined as percentage of annual sales to the total asset of the firm for the year $t+k$, when t is the restructuring year. $k= 1, 2, 3$
RISK	Systematic Risk (β) for the year $t+k$, when t is the restructuring year. $k= 1, 2, 3$
LEV	Stands for the leverage ratio of the restructured firm for year $t+k$, where $k= 1, 2, 3$. Leverage ratio represents the total debt (long-term debt and short-term debt) divided by book and market value of asset.
OWN	Ownership of major shareholders for the year $t+k$, when t is the restructuring year. $k= 1, 2, 3$ OWN is represented as percentage of total number of shares of major shareholders. Major Shareholders denote ownership of more than half of a firm's outstanding shares.

Note: We have generated two additional parameters, conditional volatility and asymmetry under the GJR-GARCH estimate. Conditional volatility (VOLATILITY) captures time varying effect of risk, while asymmetry (ASYM) represents the skewness of the restructured firms for the year $t+k$, when t is the restructuring year. $k= 1, 2, 3$. These parameters are incorporated into logit models for reiteration. The estimates obtained from this analysis are reported in Ch 6.

Table 4.2: Variables employed for Value Measures

ROE	Restructuring firms' return on equity for the period $t+k$, where t is the year of restructuring and $k=1, 2, 3$. Defined as the ratio of income before any extraordinary charges to owners' equity.
ROCE	Return on capital employed defined as percentage of net profit before interest and taxes (NPIT)/total capital employed (CE), where capital employed defined as fixed assets plus working capital, i.e. current assets less current liabilities for the period $t+k$, where t is the year of restructuring and $k=1, 2, 3$.
CFMAR	Cash flow margin defined as the EBITDA divided by the sale for the period $t+k$, where t is the year of restructuring and $k=1, 2, 3$.
ABRETUN	The abnormal returns obtained for the sample and control firms surrounding the announcement date for the period $t+k$, where t is the year of restructuring and $k=1, 2, 3$.
EX/RE	Expenses/revenue for the period $t+k$, where t is the year of restructuring and $k=1, 2, 3$.
S/MV	Sales over Market Value for the restructuring year $t+k$, where $k=1, 2, 3$; where MV is denoted as price of share times number of shares in circulation, i.e. market capitalisation.

Note: We have generated two additional parameters, conditional volatility and asymmetry under the GJR-GARCH estimate. Conditional volatility (VOLATILITY) captures time varying effect of risk, while asymmetry (ASYM) represents the skewness of the restructured firms for the year $t+k$, when t is the restructuring year. $k=1, 2, 3$. These parameters are incorporated into logit models for reiteration. The estimates obtained from this analysis are reported in Ch 6.

Section C: Estimates under the OLS and GJR-GARCH Methods

We have estimated systematic risk using the market model under the OLS method as a predictor for logit model. Typically, the slope coefficient of the market model is denoted as risk. However, the OLS method has certain limitations, which do not fully capture the time varying effect of volatility. Therefore, we have estimated two other parameters, i.e. conditional volatility and asymmetry using the GJR-GARCH method and reiterated the logit models incorporating them. The following section presents the GJR-GARCH method and model specifications.

In 1982, Engle proposed ARCH (Autoregressive Conditional Heteroskedasticity) model. ARCH models are developed to capture the conditional volatility in a time varying series. The ARCH model estimates the mean and variance jointly and captures the serial correlation of volatility by expressing conditional variance as a distributed lag of past squared innovations.

Subsequently Bollerslev (1986) extended Engle's model, which is known as, GARCH (Generalised ARCH) model.⁶¹ However, this model assumes that asymmetry is zero. Golsten, Jagannathan and Runkle (1993) extended the GARCH model by incorporating an additional term (dummy variable) to account for conditional asymmetries. Particularly, good news and bad news have different impacts on predicting future volatility. This modification of GARCH model allows both positive and negative innovations to exhibit different impact on volatility. Engle and Ng (1993) find that the GJR-GARCH model provides best parsimonious estimation to capture asymmetric effect of volatility. The GJR-GARCH specification is attractive since fewer parameters need to be estimated (Chiang and Doong, 2001). Engle and Ng (1993) also find that the parameterisation of GJR-GARCH model is most promising one in contrast to family of GARCH models.

Typically, systematic risk, i.e. beta is unconditional and limited to estimate volatility while time series have asymmetric attributes. It is commonly derived from a market model, $Y_t - r_t = \beta(M_t - r_t) + \varepsilon_t$, whereas Y_t is adjusted monthly returns to a stock and M_t represents adjusted monthly returns to market index. Usually the returns are decreased by the monthly risk free rate of interest r_t to avoid estimating a constant in the model. ε_t stands for unsystematic risk, which may decrease by diversification. β (Beta Coefficient of Regression line) denotes systematic risk as the covariance of the excess returns to the market and excess returns to the stock divided by the variance of the excess returns to the market. However, this approach has three main limitations.

The model is derived from *ex ante* expectations while measurements are available are *ex post* observations of historical transactions.

The OLS assumes that the regression coefficient remains constant over the estimation period. However, in reality the observations differ over a time varying series.

The variance of error terms ε_t in the model is generally assumed to be independent identically distributed random variables (i.i.d.) sampled from a normal distribution with zero mean: $\varepsilon_t \sim N(0, \sigma^2)$, where σ^2 is the variance. However, such unconditional variance does not exist. Although a number of parameterised extensions of the standard market model are available, but none of them provide robust estimations.

To address the limitation we utilise GJR-GARCH model to estimate volatility and asymmetry.

⁶¹ The GARCH model is presented as;

$$Y_t = X_t \theta + \varepsilon_t$$
$$\sigma_t^2 = \omega + \alpha \varepsilon_{t-1}^2 + \beta \sigma_{t-1}^2$$

Section D: A description of Restructuring Databases

Thomson Financial

The worldwide M &As (part of SDC platinum) data can be obtained from Thomson Financial. Also selected data is available through the SDC Mergers and acquisitions database Westlaw (SDC-M&A) and Dialog (File 551). This database has been widely used in academic research and publications in scholarly journals. However, European deals included in this database are limited and remains as main constraint of this database.

Mergerstat

The Mergerstat database available through the Mergerstat web site⁶², as well as through Lexis (COMPNY: MSTAT), Alacra and Factset. Particularly Mergerstat covers acquisitions and divestiture, where at least one significant party is a USA company, but does not include other restructuring types such as IPO, Share repurchase, Equity carve-out, MBOs and LBOs. This study intends to include these restructurings, therefore lack of these events is perceived as a key limitation.

Zephyr

Relatively new but the third database that offers almost all major types of deals is Zephyr. Zephyr is provided by Bureau Van Dijk. In 2003, just one year after it was started Zephyr grew at a greater rate than SDC, Dealogic and Mergerstat (Tudor, 2003). This is only available through subscription from their website.⁶³ Zephyr covers deals both in the USA and outside of the USA, but particularly strong in Europe. Further, it covers deals of smaller value in comparison to Thomson Financial and Mergerstat. Therefore, Zephyr was subscribed for a period of four months to collect necessary data. Since Zephyr is considered relatively a new data source, a brief outline of Zephyr is presented in the following section.

Overview of Zephyr

Zuphus, the company that provides Zephyr was originally owned by Regional Independent Media Ltd. of the United Kingdom, which was incorporated into Bureau Van Dijk in April 2002 (Tudor, 2003). Together Zephus and BvD (Bureau Van Dijk) created Zephyr and including it with other BvD product portfolios like FAME (Financial Analysis Made Easy), Amadeus (a pan-European database of comparable financial information for 7 million public and private companies), FACT-CRS (credit risk analysis with algorithmics' integrated credit models) and Rate (a detailed quantitative measure of equity research). Zephyr directly collects data from multiple sources, i.e. newspapers, magazines, Factiva's 8000 publications and Reuter's news, annual reports, Edgar SEC filings, corporate web sites, global advisors and investment banks. Every deal is thoroughly scrutinised prior to the inclusion in the database by senior researchers and analysts based in Manchester, UK. The data is cross-referenced if the deal is cited from multiple sources.

⁶² www.mergerstat.com.

⁶³ www.zephyr.bvdep.com.

Section E: Selection Criteria Itemised by Zephyr for Restructurings

1. Primary deal type: acquisition, merger, institutional buyout, joint venture, management buy-in, management buyout, minority stake, IPO, Equity Carve-out, Spin-offs and share buy-back.
2. Sub deal type: contested bid, exit, hostile bid, leveraged build-up, partial exit, PIPES, privatisation, public takeover, capital pool, de-merger, exit, partial exit, exit new stake, hostile initially became recommended, recommended initially became hostile, unsolicited bid, recommended bid, reverse take-over or start up.
3. Rumour, announcement, completion or expected completion dates.
4. Financing- 26 categories.
5. Deal structure and Deal status.
6. Deal value, equity value, enterprise value/estimated enterprise value.
7. Name of target(s) plus activity and country; other deals related to the target(s).
8. Other deals in the target companies' sector(s).
9. Name of acquirer(s) plus activity, country and parent.
10. Other deals in the acquirer companies' sector(s), other deals in the vendor companies' sector(s).
11. Name of vendor(s) plus activity, country and parent.
12. Other vendor deals.
13. Comment and deal rationale.
14. Financial summary and multiples for the target company: turnover, EBITDA, EBIT, pre-tax profits, net income (multiple figure relates to P/E), shareholders funds, total assets and market capitalisation.
15. Advisors and investors for the acquirer(S) target(s) and vendor(s).

Section F: Accounting variables extracted from Zephyr and FAME

1. Operating income,
2. Sales
3. Income before any extraordinary charges
4. Owners' equity
5. Total assets
6. Research and development Expenses
7. Depreciation
8. Book value of preferred stock
9. Book value of debt
10. Total debt (long term debt and short-term debt)
11. Book value of asset
12. Market value of asset
13. Interest incurred
14. Fractional ownership of shareholders
15. Fractional ownership of managers
16. Restructuring charge
17. Abnormal return
18. Owners' equity
19. EBITDA
20. Expenses
21. Revenue
22. Net profit before interest and taxes (NPIT)
23. Fixed assets
24. Current assets
25. Current liabilities
26. Market Value

Section G: Industry Types and Standard Industrial Code (SIC)

Nine industry types specified by New FTSE/DJ Industry Classification Benchmark (ICB) and Zephyr are undertaken to pool the sample. The sample excludes the firms engaged in financial activities (ICB 8000) and its super-sectors, sectors and sub-sectors.

The following Table presents the financial sector activities excluded from both the samples and control samples

Note: All delisted firms are excluded from the samples and control sample

8000 Financials	8300 Banks	8350 Banks	8355 Banks	Banks providing a broad range of financial services, including retail banking, loans and money transmissions.
	8500 Insurance	8530 Nonlife Insurance	8532 Full Line Insurance	Insurance companies with life, health, property & casualty and reinsurance interests, no one of which predominates.
			8534 Insurance Brokers	Insurance brokers and agencies.
			8536 Property & Casualty Insurance	Companies engaged principally in accident, fire, automotive, marine, malpractice and other classes of nonlife insurance.
			8538 Reinsurance	Companies engaged principally in reinsurance.
		8570 Life Insurance	8575 Life Insurance	Companies engaged principally in life and health insurance.
8700 Financial Services	8730 Real Estate		8733 Real Estate Holding & Development	Companies that invest directly or indirectly in real estate through development, management or ownership, including property agencies. Excludes real estate investment trusts and similar entities, which are classified as Real Estate Investment Trusts.
			8737 Real Estate Investment Trusts	Real estate investment trusts or corporations (REITs) and listed property trusts (LPTs.)
		8770 General Financial	8771 Asset Managers	Companies that provide custodial, trustee and other related fiduciary services. Includes mutual fund management companies.
			8773 Consumer Finance	Credit card companies and providers of personal finance services such as personal loans and check cashing companies.
			8775 Specialty Finance	Companies engaged in financial activities not specified elsewhere. Includes companies not classified under Equity Investment Instruments or Nonequity Investment Instruments engaged primarily in owning stakes in a diversified range of companies.
			8777 Investment Services	Companies providing a range of specialized financial services, including securities brokers and dealers, online brokers and security or commodity exchanges.
			8779 Mortgage Finance	Companies that provide mortgages, mortgage insurance and other related services.
	8980 Equity Investment Instruments		8985 Equity Investment Instruments	Corporate closed-ended investment entities identified under distinguishing legislation, such as investment trusts and venture capital trusts.
	8990 Nonequity Investment Instruments		8995 Nonequity Investment Instruments	Noncorporate, open-ended investment instruments such as open-ended investment companies and funds, unit trusts, ETFs, currency funds and split capital trusts.

Section H: Descriptive Statistics for the Samples

Merger, Acquisition and Share Repurchase

Table 4.8: Descriptive Statistics
Merger, Acquisition and Share Repurchase Events: Entire Sample Period

Variables	Mean ⁱ (N=1896)	Mean ⁱⁱ (N=1896)	Median ⁱ (N=1896)	Median ⁱⁱ (N=1896)	Std. Dev ⁱ (N=1896)	Skewness ⁱ (N=1896)	Kurtosis ⁱ (N=1896)	Percentiles ⁱ			t-statistics for tests of mean differences	Z-statistics from the Wilcoxon two-sample test
								25%	50%	75%		
OPM	.1168	.3515	.0656	.8653	.1810	3.485	12.170	.0301	.0656	.1251	.725 ^a	-7.249 ^a
ROE	.1934	1.1343	.1156	.0857	1.3591	3.512	44.303	.0523	.1156	.2155	-1.196 ^b	1.247 ^a
ATRN	2.6010	.3549	.7758	.2465	5.3744	3.983	17.294	.3452	.7758	2.3173	-6.378 ^a	-9.111 ^a
ROA	.2759	.0965	.0963	.0259	.7189	6.301	50.780	.0112	.0963	.1844	-.780 ^a	.734 ^a
PMARG	.0114	.0976	.0376	.0336	.4010	-8.039	87.260	.0147	.0376	.0866	-3.502 ^a	-8.811 ^a
GROW	.1144	4.3038	.0365	.1769	.1729	1.906	2.083	.0261	.0365	.0712	-1.225 ^b	7.060 ^b
LEV	.8038	.2447	.2790	.1250	5.0657	8.648	12.334	.1272	.2790	.5956	-3.553 ^c	10.882 ^b
SIZE	3.3859	5.1036	1.3794	1.4246	6.9542	3.616	12.618	.8951	1.3794	2.3377	3.628 ^a	-6.417 ^a
RISK	.3620	1.0423	.0946	.0470	1.1418	4.047	17.870	.0598	.0946	.1538	3.320 ^b	-.905 ^b
VOLATILITY	.3257	.02874	.3033	.0083	.3751	1.578	3.332	.0773	.3033	.3332	-1.844 ^a	1.486 ^a
ASYM	.4626	.05154	.2860	.0233	.9588	6.228	44.463	.1336	.2860	.4077	2.939 ^b	5.688 ^a
OWN	21.8061	14.0253	18.2900	6.8650	15.485	1.668	4.139	11.9125	18.2900	27.3475	2.667 ^a	-2.854 ^a
ABRETUN	.3726	-.1629	.4400	.7800	25.967	2.411	13.089	-3.7800	.4400	1.4000	7.560 ^c	10.538 ^b
CFMAR	.4617	1.0242	.3105	.2964	.4303	1.784	3.679	.2045	.3105	.5813	4.654 ^a	7.285 ^a
EX/RE	.3212	.1951	.1463	.0662	.3528	.975	-.562	.0547	.1463	.6403	1.099 ^a	-8.631 ^a
ROCE	.1080	.2823	.0605	.1249	.1289	2.446	7.616	.0318	.0605	.1363	-.058 ^a	2.134 ^a
S/MV	.9651	3.9239	.7749	1.0216	.9807	2.448	13.049	.2430	.7749	1.4874	1.684 ^a	-11.749 ^a

i: Restructuring sample.

ii: Non-restructured matched criteria sample.

N: Number of observations.

a, b, c: indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

Merger and Acquisition

Table 4.9: Descriptive Statistics
Merger and Acquisition Events: Entire Sample Period

Variables	Mean ⁱ (N=1488)	Mean ⁱⁱ (N=1488)	Median ⁱ (N=1488)	Median ⁱⁱ (N=1488)	Std. Dev ⁱ (N=1488)	Skewness ⁱ (N=1488)	Kurtosis ⁱ (N=1488)	Percentiles ⁱ		t-statistics for tests of mean differences	Z-statistics from the Wilcoxon two-sample test
								25%	75%		
OPM	.1471	.1758	.0890	.0970	.2978	.299	4.263	.0370	.0890	-5.096 ^b	-10.318 ^b
ROE	.2347	.4420	.1216	.1177	.3572	4.449	24.554	.0542	.1216	-5.085 ^a	9.214 ^a
ATRN	.4268	.9161	.2474	.1830	.4817	1.626	3.140	.0680	.2474	-6.668 ^a	-7.340 ^a
ROA	.1864	2.7838	.1032	.0906	.2663	1.646	3.255	.0387	.1032	-2.920 ^c	4.319 ^c
PMARG	.1926	.2189	.0732	.0568	.7144	17.353	34.648	.0275	.0732	-6.179 ^a	9.798 ^a
GROW	.3703	.7372	.3970	.5415	.3029	1.187	3.295	.0887	.3970	-4.202 ^a	2.360 ^a
LEV	.2930	.4003	.1958	.3054	.2856	.989	-.204	.0584	.1958	-3.337 ^b	-10.360 ^a
SIZE	.6138	1.0836	.4856	1.0956	.4812	.924	1.056	.1864	.4856	1.654 ^a	-2.682 ^a
RISK	.2728	2.8033	.1565	.1170	.2671	1.283	.467	.0844	.1565	-2.808 ^b	8.616 ^b
VOLATILITY	-.0200	.1034	.0009	.0467	.2949	-14.667	23.693	.0000	.0009	2.661 ^a	-3.771 ^a
ASYM	.0635	.1222	.0074	.0433	.2480	7.562	64.881	.0006	.0074	.882 ^b	1.413 ^a
OWN	25.6281	23.5583	23.2300	22.8500	15.1262	1.659	4.454	16.4850	23.2300	2.370 ^c	-1.622 ^a
ABRETUN	-2.0212	1.9502	1.8200	1.6754	12.7459	-4.054	16.435	-1.9900	1.8200	4.142 ^a	9.563 ^c
CFMAR	.4133	.7257	.0575	.2858	1.3233	6.764	59.781	.0158	.0575	7.792 ^b	-3.439 ^a
EX/RE	.3589	.5473	.2337	.2070	.3831	1.951	4.163	.1207	.2337	5.618 ^b	5.781 ^a
ROCE	.2303	.2366	.1263	.1156	.3201	2.804	8.861	.0569	.1263	-1.306 ^a	-4.51 ^a
S/MV	1.1394	.6481	.9277	.4343	1.0676	2.000	7.471	.2933	.9277	-8.412 ^a	-8.940 ^a

i: Restructuring sample.

ii: Non-restructured matched criteria sample.

N: Number of observations.

a, b, c: indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

Share Repurchase

Table 4.10: Descriptive Statistics
Share Repurchase Events: Entire Sample Period

Variables	Mean ⁱ (N=408)	Mean ⁱⁱ (N=408)	Median ⁱ (N=408)	Median ⁱⁱ (N=408)	Std. Dev ⁱ (N=408)	Skewness ⁱ (N=408)	Kurtosis ⁱ (N=408)	Percentiles ⁱ			t-statistics for tests of mean differences	Z-statistics from the Wilcoxon two-sample test
								25%	50%	75%		
OPM	.1425	.2526	.0468	.1476	1.0259	5.126	36.214	.0024	.0468	.1244	4.049 ^a	-2.609 ^a
ROE	.1935	.3244	.1784	.2735	.1715	.818	.067	.0333	.1784	.3155	.536 ^a	.534 ^b
ATRN	.2157	.2030	.0762	.0850	.3226	1.784	1.579	.0329	.0762	.1690	2.658 ^a	-2.071 ^a
ROA	-.0152	.2152	.0544	.1282	.4050	-2.915	17.269	.0129	.0544	.0981	3.601 ^a	1.514 ^a
PMARG	.4383	.1637	.1088	.1030	.9090	3.515	14.400	.0344	.1088	.2272	2.878 ^a	-3.256 ^c
GROW	.1543	.3672	.0715	.1569	.2020	1.564	.927	.0215	.0715	.1686	-2.956 ^a	-4.378 ^a
LEV	1.5717	2.3716	.2599	.1611	8.0242	6.826	54.562	.0569	.2599	.3910	-2.516 ^a	9.490 ^a
SIZE	7.9391	6.7102	.8943	.6587	51.6049	10.912	12.993	.2229	.8943	2.6613	-2.250 ^b	2.201 ^b
RISK	.6088	.3529	.1394	.2554	2.2671	8.253	77.243	.0423	.1394	.3432	5.606 ^a	4.460 ^a
VOLATILITY	.0168	.0075	.0083	.0028	.0193	1.609	2.371	.0032	.0083	.0270	-1.116 ^a	.358 ^b
ASYM	-.0339	.0445	.0056	.0188	.1652	-3.377	10.157	.0013	.0056	.0155	5.663 ^a	-5.113 ^a
OWN	18.0350	20.4735	13.7600	17.1800	15.9823	1.664	3.350	6.6125	13.7600	26.0650	-2.988 ^a	2.865 ^c
ABRETUN	.9019	1.6225	.8300	1.9630	.5262	.976	-.253	.4400	.8300	1.0500	1.105 ^a	9.117 ^a
CFMAR	.1413	2.3871	.0569	.2869	.1713	1.548	2.029	.0152	.0569	.2510	2.187 ^a	-2.326 ^a
EX/RE	.2663	.2074	.1898	.1684	.2919	1.259	.653	.0148	.1898	.3458	4.801 ^a	-4.500 ^a
ROCE	.2234	.2465	.0837	.1271	.2836	1.740	1.894	.0442	.0837	.2811	-2.166 ^a	1.331 ^b
S/MV	.6087	2.9464	.1732	1.0285	2.5443	8.231	69.897	.1005	.1732	.4281	-2.879 ^a	-2.369 ^a

i: Restructuring sample.

ii: Non-restructured matched criteria sample.

N: Number of observations.

a, b, c: indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

Other Restructuring Events

Table 4.11: Descriptive Statistics
Other Restructuring Events: Entire Sample Period

Variables	Mean ⁱ (N=1692)	Mean ⁱⁱ (N=1692)	Median ⁱ (N=1692)	Median ⁱⁱ (N=1692)	Std. Dev ⁱ (N=1692)	Skewness ⁱ (N=1692)	Kurtosis ⁱ (N=1692)	Percentiles ⁱ			t-statistics for tests of mean differences	Z-statistics from the Wilcoxon two-sample test
								25%	50%	75%		
OPM	.2784	.5143	.0817	.0865	1.1317	10.587	15.283	.0365	.0817	.1884	1.339 ^b	-14.819 ^a
ROE	-4.9337	1.0806	.1008	.1512	83.4109	-16.193	26.748	.0560	.1008	.2108	.953 ^c	-1.897 ^a
ATRN	1.3345	1.8192	.2546	.2389	4.1361	5.963	40.935	.0463	.2546	.7488	-15.547 ^b	-14.283 ^a
ROA	2.8398	3.4797	.0760	.0872	24.7323	14.960	29.156	.0142	.0760	.1660	1.889 ^a	-19.787 ^a
PMARG	.2531	.5611	.0581	.0654	1.6702	25.766	83.390	.0267	.0581	.1222	4.284 ^a	-9.019 ^a
GROW	14.8085	16.9267	.5210	.5309	295.5797	34.999	14.245	.1785	.5210	.6067	4.780 ^a	4.234 ^a
LEV	10.4056	8.9705	.1971	.1611	102.8493	12.225	16.963	.0592	.1971	.5022	-7.272 ^a	-18.540 ^a
SIZE	15.4180	14.2970	1.0443	.9858	167.8744	18.300	37.659	.3847	1.0443	2.1203	3.960 ^a	-6.083 ^b
RISK	1.1126	1.9460	.1054	.1146	9.8716	23.196	69.126	.0490	.1054	.1854	3.120 ^a	-16.306 ^b
VOLATILITY	.1214	.0521	.0460	.0070	.1902	2.431	6.383	.0117	.0460	.1289	-1.974 ^a	-2.323 ^a
ASYM	.1271	.1406	.0502	.0581	.2137	3.908	25.019	.0148	.0502	.1357	3.330 ^a	-1.235 ^a
OWN	20.2287	20.2954	17.3700	16.0500	15.9274	1.500	3.777	7.4900	17.3700	29.1500	.383 ^a	-7.53 ^a
ABRETUN	.4576	1.0979	.8300	1.4000	18.9542	2.721	23.548	-2.180	.8300	1.8200	7.169 ^b	-8.097 ^a
CFMAR	13.2342	18.3290	.2867	.2967	173.9237	15.325	23.560	.1649	.2867	.5299	4.364 ^a	12.320 ^a
EX/RE	.3481	.5720	.1861	.2180	.8920	27.658	28.174	.0903	.1861	.4151	1.874 ^a	-14.780 ^a
ROCE	.2372	.1871	.1426	.1248	.3338	6.587	92.440	.0611	.1426	.2892	2.524 ^a	-4.425 ^a
S/MV	7.3572	11.5753	.9378	1.9397	82.1482	28.093	40.422	.1626	.9378	3.1395	1.339 ^a	-9.123 ^a

i: Restructuring sample.

ii: Non-restructured matched criteria sample.

N: Number of observations.

a, b, c: indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.



Appendix-5

Logit Estimate Tables and Cited Footnotes

Section A: Logit Results documented in Chapter 5

Table 5.3: Estimate of Performance Measures for Year 1999

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.659 ^a	.178	13.671	1	1.934
OPM	1.090 ^a	.521	4.372	1	.336
ROE	.304 ^a	.103	8.638	1	.738
ATRN	.282 ^a	.050	31.538	1	.754
ROA	.315 ^a	.115	7.468	1	.730
PMARG	2.334 ^a	.687	11.547	1	.097
GROW	.316 ^a	.113	7.761	1	.729
LEV	.249 ^a	.090	7.596	1	.779
SIZE	.088 ^a	.033	6.900	1	1.092
RISK(β)	-.344 ^a	.166	4.295	1	.709
OWN	.014 ^a	.006	6.298	1	1.014
Goodness-of-fit test			χ^2	df	
Omnibus model Test			266.680 ^a	10	
Hosmer & Lemeshow Test			87.725 ^d	8	
Diagnostic tests					
Percentage correctly classified			78.6 ^a		
Cox and Snell R ²			.279		
Nagelkerke R ² (Max rescaled R ²)			.372		
-2 Log likelihood			861.764		
Kolgomorov-Smirnov					
Logit residuals			11.759 ^a		
Studentized residuals			3.723 ^a		
Standardised residuals			4.171 ^a		
Ljung-Box Q statistics					
Q ² (2)			.782		
Q ² (6)			.872		

N: 1008 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.345

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.4: Estimate of Value Measures for Year 1999

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.161 ^a	.190	.718	1	1.175
ROE	.419 ^a	.100	17.468	1	.658
ABRETUN	.029 ^a	.006	22.954	1	1.030
CFMAR	1.359 ^a	.250	29.501	1	3.893
EX/RE	1.756 ^a	.280	39.413	1	5.792
ROCE	.784 ^a	.268	8.536	1	.457
S/MV	-.831 ^a	.111	56.429	1	.436
Goodness-of-fit test			χ^2	df	
Omnibus model Test			221.051 ^a	6	
Hosmer & Lemeshow Test			16.542 ^d	8	
Diagnostic tests					
Percentage correctly classified			72.2 ^a		
Cox and Snell R ²			.261		
Nagelkerke R ² (Max rescaled R ²)			.350		
-2 Log likelihood			781.256		
Kolmogorov-Smirnov					
Logit residuals			5.234 ^a		
Studentized residuals			3.341 ^a		
Standardised residuals			2.159 ^a		
Ljung-Box Q statistics					
Q ² (2)			.543		
Q ² (6)			.743		

N: 1008 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.587

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.5: Estimate of Performance Measures for Year 2000

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.719 ^a	.255	7.931	1	2.052
OPM	3.364 ^a	.450	56.002	1	.035
ROE	1.051 ^a	.326	10.424	1	2.861
ATRN	.883 ^a	.155	32.388	1	.413
ROA	2.461 ^a	.489	25.368	1	1.171
PMARG	.151 ^a	.055	7.458	1	.860
GROW	1.363 ^a	.269	25.636	1	.256
LEV	.989 ^a	.297	11.109	1	2.689
SIZE	-.933 ^a	.154	36.864	1	.393
RISK(β)	-1.889 ^a	.409	21.320	1	6.614
OWN	.009 ^c	.005	2.868	1	1.009

Goodness-of-fit test	χ^2	df
Omnibus model Test	315.568 ^a	10
Hosmer & Lemeshow Test	34.667 ^d	8

Diagnostic tests	
Percentage correctly classified	77.7 ^a
Cox and Snell R ²	.290
Nagelkerke R ² (Max rescaled R ²)	.387
-2 Log likelihood	959.819
Kolgomorov-Smirnov	
Logit residuals	14.760 ^a
Studentized residuals	4.231 ^a
Standardised residuals	7.964 ^a
Ljung-Box Q statistics	
Q ² (2)	.368
Q ² (6)	.721

N: 1152 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.374

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.6: Estimate of Value Measures for Year 2000

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	1.055 ^a	.175	36.501	1	.348
ROE	1.630 ^a	.339	23.151	1	5.105
ABRETUN	.054 ^a	.010	30.206	1	1.055
CFMAR	1.272 ^a	.248	26.290	1	3.568
EX/RE	1.594 ^a	.248	41.301	1	4.926
ROCE	.359 ^a	.174	4.240	1	.698
S/MV	-.328 ^a	.082	15.874	1	.721
Goodness-of-fit test			χ^2	df	
Omnibus model Test			252.158 ^a	6	
Hosmer & Lemeshow Test			42.175 ^d	8	
Diagnostic tests					
Percentage correctly classified			69.9 ^a		
Cox and Snell R ²			.240		
Nagelkerke R ² (Max rescaled R ²)			.320		
-2 Log likelihood			1021.845		
Kolmogorov-Smirnov					
Logit residuals			5.634 ^a		
Studentized residuals			5.261 ^a		
Standardised residuals			4.267 ^a		
Ljung-Box Q statistics					
Q ² (2)			.456		
Q ² (6)			.887		

N: 1152 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.255

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.7: Estimate of Performance Measures for Year 2001

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.584	.682	.733	1	1.793
OPM	3.537 ^a	.791	19.984	1	3.437
ROE	2.355 ^a	.894	6.944	1	1.054
ATRN	3.100 ^a	1.241	6.238	1	2.219
ROA	2.000 ^a	.966	4.283	1	7.388
PMARG	8.614 ^a	3.068	7.884	1	5.511
GROW	-2.338 ^a	.790	8.766	1	.096
LEV	-1.173 ^a	.379	9.576	1	.309
SIZE	-2.830 ^a	.745	14.418	1	.059
RISK(β)	-4.699 ^a	1.312	12.816	1	1.098
OWN	.034 ^a	.010	10.445	1	.967

Goodness-of-fit test	χ^2	df
Omnibus model Test	168.216 ^a	10
Hosmer & Lemeshow Test	13.275 ^d	8

Diagnostic tests	
Percentage correctly classified	85.0 ^a
Cox and Snell R ²	.484
Nagelkerke R ² (Max rescaled R ²)	.648
-2 Log likelihood	181.632
Kolmogorov-Smirnov	
Logit residuals	3.159 ^a
Studentized residuals	1.231 ^a
Standardised residuals	1.513 ^a
Ljung-Box Q statistics	
Q ² (2)	.568
Q ² (6)	.876

N: 696 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.103

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.8: Estimate of Value Measures for Year 2001

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.310 ^a	.348	.796	1	.733
ROE	.697 ^a	.552	1.590	1	2.007
ABRETUN	.026 ^a	.012	4.886	1	1.026
CFMAR	1.282 ^a	.432	8.816	1	3.605
EX/RE	2.483 ^a	.537	21.379	1	1.198
ROCE	1.825 ^a	.599	9.273	1	.161
S/MV	-1.441 ^a	.561	6.596	1	.237

Goodness-of-fit test	χ^2	df
Omnibus model Test	75.171 ^a	6
Hosmer & Lemeshow Test	10.930 ^d	8

Diagnostic tests	
Percentage correctly classified	68.5 ^a
Cox and Snell R ²	.223
Nagelkerke R ² (Max rescaled R ²)	.297
-2 Log likelihood	337.891
Kolgomorov-Smirnov	
Logit residuals	3.205 ^a
Studentized residuals	2.905 ^a
Standardised residuals	2.363 ^a
Ljung-Box Q statistics	
Q ² (2)	.426
Q ² (6)	.687

N: 696 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.206

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.9: Estimate of Performance Measures for Year 2002

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	2.777 ^a	.759	13.390	1	.062
OPM	2.446 ^a	.967	6.395	1	1.155
ROE	1.746 ^a	.813	4.609	1	5.734
ATRN	2.623 ^a	.784	11.179	1	1.377
ROA	9.689 ^a	3.694	6.879	1	1.613
PMARG	1.717 ^a	.503	11.638	1	5.566
GROW	-.533 ^a	.205	6.755	1	.587
LEV	-6.018 ^a	1.234	23.791	1	.002
SIZE	.561 ^a	.182	9.466	1	1.753
RISK(β)	-.360 ^b	.178	4.085	1	1.433
OWN	.038 ^a	.017	4.883	1	1.039
Goodness-of-fit test			χ^2	df	
Omnibus model Test			228.477 ^a	10	
Hosmer & Lemeshow Test			14.461 ^d	8	
Diagnostic tests					
Percentage correctly classified			87.7 ^a		
Cox and Snell R ²			.585		
Nagelkerke R ² (Max rescaled R ²)			.780		
-2 Log likelihood			856.824		
Kolmogorov-Smirnov					
Logit residuals			7.823 ^a		
Studentized residuals			2.667 ^a		
Standardised residuals			4.654 ^a		
Ljung-Box Q statistics					
Q ² (2)			.476		
Q ² (6)			.876		

N: 336 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.271

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.10: Estimate of Value Measures for Year 2002

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.820 ^a	.379	4.690	1	2.271
ROE	1.267 ^a	.498	6.474	1	3.550
ABRETUN	.580 ^a	.145	16.026	1	.560
CFMAR	.145 ^a	.060	5.747	1	1.156
EX/RE	2.318 ^a	.584	15.773	1	1.016
ROCE	2.249 ^a	.758	8.809	1	.106
S/MV	-.261 ^a	.061	18.274	1	.770
Goodness-of-fit test			χ^2	df	
Omnibus model coefficients			108.330 ^a	6	
Hosmer & Lemeshow			17.671 ^d	8	
Diagnostic tests					
Percentage correctly classified			74.4 ^a		
Cox and Snell R ²			.339		
Nagelkerke R ² (Max rescaled R ²)			.452		
-2 Log likelihood			254.864		
Kolmogorov-Smirnov					
Logit residuals			5.158 ^a		
Studentized residuals			1.647 ^a		
Standardised residuals			1.687 ^a		
Ljung-Box Q statistics					
Q ² (2)			.341		
Q ² (6)			.543		

N: 336 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.466

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.11: Estimate of Performance Measures for Year 2003

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.273 ^a	.245	1.240	1	.761
OPM	.656 ^a	.241	7.423	1	1.927
ROE	.654 ^a	.264	6.153	1	1.923
ATRN	-.078 ^a	.029	7.204	1	.925
ROA	2.520 ^b	1.359	3.436	1	.080
PMARG	3.218 ^a	.867	13.775	1	.040
GROW	-.739 ^a	.315	5.485	1	.478
LEV	.165 ^a	.063	6.879	1	.848
SIZE	.112 ^a	.038	8.758	1	1.119
RISK(β)	-2.798 ^a	1.357	4.253	1	1.642
OWN	.007	.007	.984	1	.007

Goodness-of-fit test	χ^2	df
Omnibus model Test	160.553 ^a	10
Hosmer & Lemeshow Test	23.175 ^d	8

Diagnostic tests	
Percentage correctly classified	74.4 ^a
Cox and Snell R ²	.294
Nagelkerke R ² (Max rescaled R ²)	.392
-2 Log likelihood	478.527
Kolmogorov-Smirnov	
Logit residuals	5.441 ^a
Studentized residuals	3.847 ^a
Standardised residuals	2.830 ^a
Ljung-Box Q statistics	
Q ² (2)	.569
Q ² (6)	.876

N: 600 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.903

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.12: Estimate of Value Measures for Year 2003

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	1.611 ^a	.254	40.130	1	.200
ROE	.735 ^a	.229	10.297	1	2.085
ABRETUN	.596 ^a	.102	33.856	1	1.814
CFMAR	.526 ^a	.107	24.336	1	1.692
EX/RE	-.435 ^b	.228	3.637	1	.648
ROCE	1.433 ^a	.395	13.160	1	4.192
S/MV	.006 ^a	.002	7.919	1	1.006
Goodness-of-fit test			χ^2	df	
Omnibus model Test			157.185 ^a	6	
Hosmer & Lemeshow Test			33.477 ^d	8	
Diagnostic tests					
Percentage correctly classified			73.5 ^a		
Cox and Snell R ²			.289		
Nagelkerke R ² (Max rescaled R ²)			.385		
-2 Log likelihood			481.895		
Kolmogorov-Smirnov					
Logit residuals			11.040		
Studentized residuals			2.950		
Standardised residuals			10.902		
Ljung-Box Q statistics					
Q ² (2)			.432		
Q ² (6)			.589		

N: 600 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.651

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.13: Estimate of Performance Measures for Combine Year

Predictors	β	SE	Wald's		e^β (odds ratio)
			χ^2	df	
Constant	.188 ^c	.106	3.146	1	1.207
OPM	.009 ^c	.043	.048	1	.991
ROE	.068 ^a	.049	1.896	1	.934
ATRAN	.118 ^a	.018	42.768	1	.889
ROA	.054 ^a	.022	6.066	1	.947
PMARG	.167 ^a	.051	10.629	1	.846
GROW	-.311 ^a	.081	14.694	1	.732
LEV	.132 ^a	.030	19.004	1	.876
SIZE	.047 ^a	.011	17.739	1	1.048
RISK(β)	-.106 ^a	.040	7.159	1	1.112
OWN	.007 ^a	.002	9.485	1	1.007
YR(1)	.103 ^a	.122	2.433	4	1.003
YR(2)	.094 ^a	.104	.828	1	.910
YR(3)	.036 ^c	.152	.056	1	1.037
YR(4)	.187 ^a	.154	1.462	1	.830
YR(5)	.018 ^c	.127	.021	1	.982
Goodness-of-fit test			χ^2	df	
Omnibus model Test			253.426 ^a	14	
Hosmer & Lemeshow Test			54.701 ^d	8	
Diagnostic tests					
Percentage correctly classified			61.7 ^a		
Cox and Snell R ²			.089		
Nagelkerke R ² (Max rescaled R ²)			.119		
-2 Log likelihood			3501.883		
Kolmogorov-Smirnov					
Logit residuals			22.041 ^a		
Studentized residuals			13.058 ^a		
Standardised residuals			10.233 ^a		
Ljung-Box Q statistics					
Q ² (2)			.653		
Q ² (6)			.987		

N: 3792 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.446

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.14: Estimate of Value Measures for Year 1999- 2003

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.088 ^a	.090	.946	1	.916
ROE	.059 ^a	.054	1.211	1	.943
ABRETUN	.024 ^a	.004	39.429	1	1.024
CFMAR	.722 ^a	.080	18.039	1	2.059
EX/RE	.060 ^a	.040	2.263	1	1.062
ROCE	-.082 ^a	.112	.543	1	.921
S/MV	.005 ^a	.002	8.250	1	1.005
YR(1)	.427 ^a	.121	22.981	4	.886
YR(2)	.241 ^a	.103	5.461	1	.786
YR(3)	.177 ^a	.144	1.497	1	.838
YR(4)	.408 ^a	.154	7.071	1	.665
YR(5)	.606 ^a	.132	20.990	1	.546
Goodness-of-fit test			χ^2	df	
Omnibus model Test			276.746 ^a	10	
Hosmer & Lemeshow Test			53.524 ^d	8	
Diagnostic tests					
Percentage correctly classified			62.2 ^a		
Cox and Snell R ²			.098		
Nagelkerke R ² (Max rescaled R ²)			.131		
-2 Log likelihood			3422.017		
Kolmogorov-Smirnov					
Logit residuals			26.331 ^a		
Studentized residuals			12.989 ^a		
Standardised residuals			26.286 ^a		
Ljung-Box Q statistics					
Q ² (2)			.732		
Q ² (6)			.892		

N: 3792 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.583

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.15: Estimate of Performance Measures for Combine Year

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.206	.115	3.226	1	.876
OPM	.034 ^a	.051	.443	1	1.142
ROE	.026 ^a	.047	.321	1	1.067
ATRN	.174 ^a	.022	6.708	1	.877
ROA	.047 ^a	.023	4.134	1	.998
PMARG	.154 ^a	.050	9.343	1	.946
GROW	.238 ^a	.080	8.821	1	.922
LEV	-.112	.027	17.483	1	.942
SIZE	.044 ^a	.011	14.923	1	1.068
RISK(β)	-1.130 ^a	.045	8.346	1	1.243
OWN	.000	.000	17.922	1	1.000
YR(1)	.232 ^a	.203	10.411	4	1.009
YR(2)	.213 ^a	.131	2.637	1	1.045
YR(3)	.048 ^a	.125	.151	1	1.216
YR(4)	.113 ^a	.166	.465	1	1.549
YR(5)	.387 ^a	.173	4.981	1	.954

Goodness-of-fit test	χ^2	df
Omnibus model Test	298.445 ^a	14
Hosmer & Lemeshow Test	57.724 ^d	8

Diagnostic tests

Percentage correctly classified	66.7 ^a
Cox and Snell R ²	.106
Nagelkerke R ² (Max rescaled R ²)	.141
-2 Log likelihood	3321.805
Kolmogorov-Smirnov	
Logit residuals	16.976 ^a
Studentized residuals	8.776 ^a
Standardised residuals	12.319 ^a
Ljung-Box Q statistics	
Q ² (2)	1.092
Q ² (6)	.907

N: 2796 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.981

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.16: Estimate of Value Measures for Combine Year

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.699	.102	13.761	1	.497
ROE	.052 ^a	.052	1.010	1	.949
ABRETUN	.025 ^a	.004	10.113	1	1.025
CFMAR	.731 ^a	.081	11.135	1	2.078
EX/RE	.050	.037	1.805	1	1.052
ROCE	-.064	.113	.319	1	.938
S/MV	.005 ^a	.002	8.297	1	1.005
YR(1)	.305 ^a	.118	10.454	4	1.457
YR(2)	.320 ^a	.135	5.599	1	1.378
YR(3)	.363 ^a	.126	8.286	1	1.438
YR(4)	.429 ^a	.163	6.944	1	1.535
YR(5)	.194 ^a	.169	1.313	1	1.214
Goodness-of-fit test			χ^2	df	
Omnibus model Test			276.871 ^a	10	
Hosmer & Lemeshow Test			121.709 ^d	8	
Diagnostic tests					
Percentage correctly classified			64.2 ^a		
Cox and Snell R ²			.110		
Nagelkerke R ² (Max rescaled R ²)			.134		
-2 Log likelihood			3297.573		
Kolmogorov-Smirnov					
Logit residuals			7.872 ^a		
Studentized residuals			9.619 ^a		
Standardised residuals			8.515 ^a		
Ljung-Box Q statistics					
Q ² (2)			.876		
Q ² (6)			.901		

N: 2796 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.887

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.17: Estimate of Performance Measures for Combine Year

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	3.103 ^a	.865	13.974	1	.039
OPM	3.103 ^a	1.226	6.403	1	2.267
ROE	2.403 ^a	.978	6.038	1	1.054
ATRN	3.020 ^a	.872	11.988	1	2.490
ROA	9.164 ^a	3.846	5.676	1	4.339
PMARG	2.042 ^b	.564	13.113	1	7.708
GROW	.397 ^a	.224	3.146	1	.673
LEV	-6.109 ^a	1.370	19.874	1	.002
SIZE	.465 ^a	.145	10.194	1	1.591
RISK(β)	-.446 ^a	.203	4.834	1	1.562
OWN	.023 ^b	.018	1.717	1	1.023
YR(1)	.442 ^a	.233	12.332	4	.443
YR(2)	.673 ^a	.171	8.345	1	.332
YR(3)	.1081 ^a	.108	8.675	1	.451
YR(4)	.902 ^a	.221	8.765	1	.328
YR(5)	.887 ^a	.293	7.980	1	.402

Goodness-of-fit test

	χ^2	df
Omnibus model Test	203.684 ^a	14
Hosmer & Lemeshow Test	54.633 ^d	8

Diagnostic tests

Percentage correctly classified	89.2 ^a
Cox and Snell R ²	.584
Nagelkerke R ² (Max rescaled R ²)	.783
-2 Log likelihood	114.549
Kolmogorov-Smirnov	
Logit residuals	8.934 ^a
Studentized residuals	9.019 ^a
Standardised residuals	8.870 ^a
Ljung-Box Q statistics	
Q ² (2)	.651
Q ² (6)	.608

N: 816 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.332

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.18: Estimate of Value Measures for Combine Year

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.725 ^c	.414	3.071	1	2.065
ROE	1.339 ^a	.571	5.498	1	3.814
ABRETUN	.675 ^a	.165	16.769	1	.509
CFMAR	.137 ^a	.056	6.066	1	1.147
EX/RE	2.644 ^a	.608	18.890	1	4.076
ROCE	2.834 ^a	.900	9.928	1	.059
S/MV	-.256	.064	15.783	1	.774
YR(1)	.362 ^a	.121	6.709	4	1.076
YR(2)	.109 ^a	.089	4.887	1	1.234
YR(3)	.211 ^a	.102	5.432	1	.897
YR(4)	.187 ^a	.116	5.008	1	1.098
YR(5)	.276 ^a	.187	6.098	1	1.123
Goodness-of-fit test			χ^2	df	
Omnibus model Test			98.117 ^a	10	
Hosmer & Lemeshow Test			19.104 ^d	8	
Diagnostic tests					
Percentage correctly classified			79.1 ^a		
Cox and Snell R ²			.342		
Nagelkerke R ² (Max rescaled R ²)			.459		
-2 Log likelihood			222.214		
Kolmogorov-Smirnov					
Logit residuals			7.552 ^a		
Studentized residuals			8.098 ^a		
Standardised residuals			7.544 ^a		
Ljung-Box Q statistics					
Q ² (2)			.654		
Q ² (6)			.525		

N: 816 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.334

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.19: Estimate of Performance Measures for Year 1999

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.391 ^a	.107	13.311	1	1.479
OPM	1.195 ^a	.184	42.292	1	.303
ROE	.192 ^a	.058	10.893	1	.825
ATRN	-.297 ^a	.039	58.310	1	.743
ROA	3.588 ^a	1.215	8.718	1	.028
PMARG	-.028	.078	.126	1	.973
GROW	.021 ^c	.012	2.876	1	1.021
LEV	.426 ^a	.090	22.611	1	.653
SIZE	.103 ^a	.039	6.900	1	1.109
RISK(β)	-3.154 ^a	1.198	6.933	1	3.420
OWN	.007 ^b	.004	3.492	1	1.007

Goodness-of-fit test	χ^2	df
Omnibus model Test	457.073 ^a	10
Hosmer & Lemeshow Test	86.823 ^d	8

Diagnostic tests	
Percentage correctly classified	67.3 ^a
Cox and Snell R ²	.251
Nagelkerke R ² (Max rescaled R ²)	.335
-2 Log likelihood	1731.743
Kolmogorov-Smirnov	
Logit residuals	18.834 ^a
Studentized residuals	6.583 ^a
Standardised residuals	8.399 ^a
Ljung-Box Q statistics	
Q ² (2)	.657
Q ² (6)	.911

N: 816 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.988

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.20: Estimate of Value Measures for Year 1999

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.013	.061	.042	1	.988
ROE	.309 ^a	.065	22.491	1	.734
ABRETUN	.018 ^a	.004	26.757	1	1.018
CFMAR	.114 ^a	.033	12.139	1	1.120
EX/RE	.011 ^b	.038	.080	1	1.011
ROCE	.089 ^c	.054	2.752	1	1.093
S/MV	-.003 ^a	.001	7.139	1	.997

Goodness-of-fit test	χ^2	df
Omnibus model Test	156.080 ^a	6
Hosmer & Lemeshow Test	122.476 ^d	8

Diagnostic tests

Percentage correctly classified	68.1 ^a
Cox and Snell R ²	.094
Nagelkerke R ² (Max rescaled R ²)	.125
-2 Log likelihood	2032.737
Kolgomorov-Smirnov	
Logit residuals	19.863 ^a
Studentized residuals	9.418 ^a
Standardised residuals	14.690 ^a
Ljung-Box Q statistics	
Q ² (2)	.441
Q ² (6)	.780

N: 816 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.683

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.21: Estimate of Performance Measures for Year 2000

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.295 ^a	.101	8.593	1	1.343
OPM	.307 ^a	.094	10.664	1	.736
ROE	.121 ^a	.047	6.699	1	1.129
ATRN	-.126 ^a	.020	39.741	1	.881
ROA	-2.722 ^a	.901	9.127	1	.066
PMARG	.184 ^a	.081	5.089	1	1.201
GROW	.011 ^a	.004	6.547	1	1.011
LEV	.011 ^a	.005	5.008	1	.989
SIZE	.008 ^a	.003	7.980	1	1.008
RISK(β)	-2.711 ^a	.901	9.048	1	15.044
OWN	.003	.004	.554	1	1.003

Goodness-of-fit test	χ^2	df
Omnibus model Test	167.135 ^a	10
Hosmer & Lemeshow Test	68.913 ^d	8

Diagnostic tests	
Percentage correctly classified	62.2 ^a
Cox and Snell R ²	.118
Nagelkerke R ² (Max rescaled R ²)	.159
-2 Log likelihood	1640.140
Kolmogorov-Smirnov	
Logit residuals	12.229 ^a
Studentized residuals	8.984 ^a
Standardised residuals	7.784 ^a
Ljung-Box Q statistics	
Q ² (2)	.583
Q ² (6)	1.023

N: 696 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.337

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.22: Estimate of Value Measures for Year 2000

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.169 ^a	.082	4.254	1	.844
ROE	.042 ^c	.026	2.722	1	1.043
ABRETUN	.016 ^a	.005	12.706	1	1.016
CFMAR	.629 ^a	.103	37.359	1	1.875
EX/RE	-.121 ^c	.080	2.309	1	.129
ROCE	.105 ^b	.060	3.013	1	1.110
S/MV	.000	.000	1.130	1	.007

Goodness-of-fit test	χ^2	df
Omnibus model Test	176.882 ^a	6
Hosmer & Lemeshow Test	58.413 ^d	8

Diagnostic tests	
Percentage correctly classified	61.6 ^a
Cox and Snell R ²	.124
Nagelkerke R ² (Max rescaled R ²)	.167
-2 Log likelihood	1629.342
Kolmogorov-Smirnov	
Logit residuals	18.461 ^a
Studentized residuals	8.827 ^a
Standardised residuals	18.445 ^a
Ljung-Box Q statistics	
Q ² (2)	.404
Q ² (6)	.779

N: 696 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.535

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.23: Estimate of Performance Measures for Year 2001

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.001 ^c	.127	.000	1	.999
OPM	.692 ^a	.169	16.713	1	.500
ROE	.017 ^a	.015	1.213	1	1.017
ATRN	-.229 ^a	.051	20.248	1	.795
ROA	-.340	.977	.121	1	.712
PMARG	.730 ^a	.183	15.961	1	2.076
GROW	.029 ^a	.007	17.085	1	1.030
LEV	.421 ^a	.082	26.345	1	.656
SIZE	.177 ^a	.044	16.298	1	1.193
RISK(β)	-1.111 ^a	.971	1.308	1	3.038
OWN	.000	.004	.003	1	.060

Goodness-of-fit test	χ^2	df
Omnibus model Test	234.075 ^a	10
Hosmer & Lemeshow Test	35.599 ^d	8

Diagnostic tests	
Percentage correctly classified	62.1 ^a
Cox and Snell R ²	.211
Nagelkerke R ² (Max rescaled R ²)	.283
-2 Log likelihood	1119.567
Kolmogorov-Smirnov	
Logit residuals	10.942 ^a
Studentized residuals	5.358 ^a
Standardised residuals	3.830 ^a
Ljung-Box Q statistics	
Q ² (2)	.601
Q ² (6)	.988

N: 648 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.479

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.24: Estimate of Value Measures for Year 2001

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.171 ^a	.084	4.156	1	.843
ROE	.022 ^a	.018	1.499	1	1.022
ABRETUN	-.011 ^a	.004	8.223	1	.989
CFMAR	.238 ^a	.048	24.911	1	1.268
EX/RE	.063 ^a	.050	1.598	1	1.065
ROCE	.066 ^a	.057	1.371	1	1.069
S/MV	.001	.000	2.605	1	.001

Goodness-of-fit test		Wald's χ^2	df
Omnibus model Test		138.596 ^a	6
Hosmer & Lemeshow Test		55.579 ^d	8

Diagnostic tests		
Percentage correctly classified		65.3 ^a
Cox and Snell R ²		.131
Nagelkerke R ² (Max rescaled R ²)		.175
-2 Log likelihood		1215.046
Kolgomorov-Smirnov		
Logit residuals		15.638 ^a
Studentized residuals		7.955 ^a
Standardised residuals		10.155 ^a
Ljung-Box Q statistics		
Q ² (2)		.553
Q ² (6)		.760

N: 648 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.407

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.25: Estimate of Performance Measures for Year 2002

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.136 ^a	.140	.944	1	.872
OPM	.664 ^a	.198	11.277	1	.515
ROE	.042 ^b	.024	3.009	1	1.043
ATRN	-.178 ^a	.050	12.896	1	.837
ROA	-.776	.687	1.277	1	.460
PMARG	.926 ^a	.227	16.657	1	2.525
GROW	.009 ^a	.004	5.983	1	1.009
LEV	.173 ^a	.058	8.888	1	.841
SIZE	.029 ^a	.014	3.964	1	1.029
RISK(β)	-.667 ^b	.714	.872	1	1.949
OWN	.001 ^a	.005	.024	1	1.001

Goodness-of-fit test	χ^2	df
Omnibus model Test	127.249 ^a	10
Hosmer & Lemeshow Test	33.190 ^d	8

Diagnostic tests	
Percentage correctly classified	68.2 ^a
Cox and Snell R ²	.163
Nagelkerke R ² (Max rescaled R ²)	.218
-2 Log likelihood	856.824
Kolmogorov-Smirnov	
Logit residuals	5.946 ^a
Studentized residuals	5.508 ^a
Standardised residuals	5.027 ^a
Ljung-Box Q statistics	
Q ² (2)	.441
Q ² (6)	.709

N: 432 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.692

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.26: Estimate of Value Measures for Year 2002

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.447 ^a	.096	21.580	1	.640
ROE	.054 ^a	.027	3.896	1	1.056
ABRETUN	.011 ^a	.004	7.784	1	.989
CFMAR	.127 ^a	.034	14.069	1	1.135
EX/RE	-.043 ^c	.055	.618	1	.958
ROCE	-.140 ^a	.150	.879	1	.869
S/MV	.000 ^a	.000	3.935	1	1.000

Goodness-of-fit test	χ^2	df
Omnibus model Test	74.684 ^a	6
Hosmer & Lemeshow Test	105.512 ^d	8

Diagnostic tests

Percentage correctly classified	63.0 ^a
Cox and Snell R ²	.099
Nagelkerke R ² (Max rescaled R ²)	.133
-2 Log likelihood	909.389
Kolmogorov-Smirnov	
Logit residuals	5.886 ^a
Studentized residuals	8.003 ^a
Standardised residuals	7.524 ^a
Ljung-Box Q statistics	
Q ² (2)	.557
Q ² (6)	.713

N: 432 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.765

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.27: Estimate of Performance Measures for Year 2003

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.226 ^b	.126	3.233	1	.798
OPM	.070 ^a	.071	.976	1	.932
ROE	.018	.020	.785	1	1.018
ATRN	-.136 ^a	.027	25.260	1	.873
ROA	-2.136 ^a	1.312	2.650	1	.118
PMARG	.013 ^a	.056	.055	1	1.013
GROW	.047 ^a	.011	17.313	1	1.048
LEV	.332 ^a	.058	33.035	1	.717
SIZE	.203 ^a	.033	37.023	1	1.225
RISK(β)	-2.449 ^a	1.315	3.470	1	11.575
OWN	.004 ^b	.004	.895	1	1.004

Goodness-of-fit test	χ^2	df
Omnibus model Test	300.196 ^a	10
Hosmer & Lemeshow Test	77.704 ^d	8

Diagnostic tests	
Percentage correctly classified	70.9 ^a
Cox and Snell R ²	.247
Nagelkerke R ² (Max rescaled R ²)	.330
-2 Log likelihood	1158.243
Kolgomorov-Smirnov	
Logit residuals	16.422 ^a
Studentized residuals	6.162 ^a
Standardised residuals	16.276 ^a
Ljung-Box Q statistics	
Q ² (2)	.886
Q ² (6)	1.011

N: 792 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.416

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.28: Estimate of Value Measures for Year 2003

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.505 ^a	.107	22.135	1	.604
ROE	.241 ^a	.054	19.827	1	1.272
ABRETUN	.460 ^a	.073	39.928	1	1.584
CFMAR	.011 ^a	.012	.837	1	1.011
EX/RE	.033 ^b	.043	.594	1	1.034
ROCE	.001 ^a	.000	1.838	1	1.001
S/MV	-.159 ^a	.216	.540	1	.853
Goodness-of-fit test			χ^2	df	
Omnibus model Test			169.680 ^a	6	
Hosmer & Lemeshow Test			125.206 ^d	8	
Diagnostic tests					
Percentage correctly classified			72.5 ^a		
Cox and Snell R ²			.148		
Nagelkerke R ² (Max rescaled R ²)			.198		
-2 Log likelihood			1288.758		
Kolmogorov-Smirnov					
Logit residuals			16.605 ^a		
Studentized residuals			7.005 ^a		
Standardised residuals			16.406 ^a		
Ljung-Box Q statistics					
Q ² (2)			.398		
Q ² (6)			.712		

N: 792 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.612

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.29: Estimate of Performance Measures for Combine Year

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.208 ^a	.057	13.424	1	1.231
OPM	.183 ^a	.034	29.829	1	.083
ROE	.900	.000	.536	1	1.000
ATRN	-.148 ^a	.012	149.460	1	.862
ROA	-1.397 ^a	.253	30.558	1	.247
PMARG	.158 ^a	.036	19.895	1	1.172
GROW	.005 ^a	.001	15.283	1	1.005
LEV	.024 ^a	.007	12.409	1	.977
SIZE	.008 ^a	.002	18.111	1	1.008
RISK(β)	-1.379 ^a	.253	29.648	1	3.970
OWN	.074 ^a	.000	.658	1	1.000
YR(1)	.432 ^a	.098	48.382	4	1.232
YR(2)	.260 ^a	.079	10.879	1	1.297
YR(3)	.056 ^a	.086	.434	1	1.058
YR(4)	.397 ^a	.095	17.532	1	.672
YR(5)	.148 ^c	.085	3.038	1	1.160

Goodness-of-fit test	χ^2	df
Omnibus model Test	722.677 ^a	14
Hosmer & Lemeshow Test	111.026 ^d	8

Diagnostic tests

Percentage correctly classified	61.0 ^a
Cox and Snell R ²	.119
Nagelkerke R ² (Max rescaled R ²)	.159
-2 Log likelihood	7143.538
Kolmogorov-Smirnov	
Logit residuals	19.297 ^a
Studentized residuals	19.260 ^a
Standardised residuals	17.232 ^a
Ljung-Box Q statistics	
Q ² (2)	.884
Q ² (6)	1.273

N: 3384 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.256

Note: All estimation parameters are same as reported in the note of Table 5.1.

Table 5.30: Estimate of Value Measures for Combine Year

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.021 ^a	.059	.127	1	.979
ROE	.000 ^a	.000	.176	1	1.000
ABRETUN	.003 ^a	.001	3.727	1	1.003
CFMAR	.268 ^a	.026	7.452	1	1.307
EX/RE	.037 ^a	.019	3.761	1	1.038
ROCE	.068 ^a	.025	7.244	1	1.071
S/MV	.000 ^a	.000	7.726	1	1.000
YR(1)	.335 ^a	.087	4.198	4	1.004
YR(2)	.232 ^a	.077	9.160	1	1.262
YR(3)	.017	.085	.038	1	1.017
YR(4)	.438 ^a	.095	2.310	1	.646
YR(5)	.012 ^b	.083	.022	1	.988

Goodness-of-fit test	χ^2	df
Omnibus model Test	484.419 ^a	7
Hosmer & Lemeshow Test	137.728 ^d	8

Diagnostic tests	
Percentage correctly classified	62.5 ^a
Cox and Snell R ²	.082
Nagelkerke R ² (Max rescaled R ²)	.109
-2 Log likelihood	7380.550
Kolmogorov-Smirnov	
Logit residuals	37.872 ^a
Studentized residuals	19.619 ^a
Standardised residuals	31.515 ^a
Ljung-Box Q statistics	
Q ² (2)	.883
Q ² (6)	1.002

N: 3384 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.862

Note: All estimation parameters are same as reported in the note of Table 5.1.

Section B: Footnotes Cited in Chapter 5

Footnote 35: Similar to our approach, studies undertaken by Ravenscraft and Scherer (1987), Healy et al. (1990) and Atiase et al. (1999) have looked into the post measures of restructurings relative to non-restructuring samples. Ingham et al. (1992) surveying CEOs of 146 large UK companies undertaken merger and acquisition activities found that 77% agreed that performance has increased in the short term, while 68% confirmed that the performance has improved in the long term.

Footnote 37: The Proportional Chance Model (PCM). The model is based on following equation.

$$pc = \left[\left(\frac{n_1}{N} \right)^2 + \left(\frac{n_2}{N} \right)^2 \right]$$

Where

n_1 = Number of observations classified with 1

n_2 = Number of observation classified with 0

N = Total number of observations

$$t = \frac{x - \pi}{\sqrt{\frac{\pi(1-\pi)}{N}}}$$

Where

x denotes the percentage correctly classified

π denotes the probability of a chance classification

N denotes the total number of cases.

Footnote 38: Hosmer and Lemeshow chi-square

$$\hat{C} = \sum_{k=1}^g \frac{(o_k - n'_k \bar{\pi}_k)^2}{n'_k \bar{\pi}_k (1 - \bar{\pi}_k)}$$

Where, n'_k is the total number of subjects in the k^{th} group, c_k denotes the numbers of covariate patterns in the k^{th} decile,

$$o_k = \sum_{j=1}^{c_k} y_j \text{ is the number of responses among the } c_k \text{ covariate pattern, and } \bar{\pi}_k = \sum_{j=1}^{c_k} \frac{m_j \hat{\pi}_j}{n'_k}$$

is the average estimate probability.

Footnote 39: Lack of fit in time series autoregressive model can be detected by identifying the autocorrelation in residuals (Box and Pierce, 1970). The Box-Pierce test statistic is:

$$Q_A = T \sum_{k=1}^s r_k^2$$

where

T = number of observations

s = length of coefficients to test autocorrelation

r_k = autocorrelation coefficient (for lag k)

Q_A = Box-Pierce Test statistic

But the Box-Pierce test was inadequate to indicate autocorrelation in small samples.

Box and Ljung (1978) modified the overall testing technique. The Ljung-Box statistic is adequate for all sample sizes including small ones.

The Ljung-Box test statistic is calculated as:

$$Q = T(T+2) \sum_{k=1}^s r_k^2 / (T-k)$$

Where the sample value of Q exceeds the critical value of a chi-squared distribution with s degrees of freedom, then at least one value of r is statistically different from zero at the specified significance

level. The Null Hypothesis is that none of the autocorrelation coefficients up to lag s is different from zero.

Footnote 40: Twenty-four studies reporting positive returns:

Halpern (1973); Langetieg (1978); Firth (1980); Bradley, Desai, and Kim (1982); Bradey, Desai, and Kim (1983); Malatesta (1983); Varaiya (1985); Bradley, Desai, and Kim (1988); Lang, Stulz, and Walkling (1989); Franks, Harris, and Titman (1991); Servaes (1991); Bannerjee and Owers (1992); Healy, Palepu, and Ruback (1992); Kaplan and Weisbach (1992); Berkovitch and Narayanan (1993); Smith and Kim (1994); Leeth and Borg (2000); Mulherin and Boone (2000); Mulherin (2000); Houston et al. (2001); Fan and Goyal (2002); Kuipers, Miller, and Patel (2003); Gupta and Misra (1998); and Beitel et al. (2002).

Variable	Mean	Std. Dev.	Minimum	Maximum
RET	1.24	1.58	-1.18	4.62
SIZE	1.08	1.33	-1.18	4.62
BV/M	1.28	1.14	0.00	4.75
IND	1.28	1.14	0.00	4.75
INDUSTRY	1.28	1.14	0.00	4.75
LEV	1.28	1.14	0.00	4.75
AGE	1.28	1.14	0.00	4.75
SIZE	1.28	1.14	0.00	4.75
LEV	1.28	1.14	0.00	4.75
AGE	1.28	1.14	0.00	4.75

Statistic	Value
Ljung-Box Q(10)	20.81
Ljung-Box Q(20)	41.62

Diagnostic Test	Value
Portmanteau test	20.81
Box-Pierce test	20.81
Ljung-Box Q(10)	20.81
Ljung-Box Q(20)	41.62
Ljung-Box Q(30)	62.43
Ljung-Box Q(40)	83.24
Ljung-Box Q(50)	104.05
Ljung-Box Q(60)	124.86
Ljung-Box Q(70)	145.67
Ljung-Box Q(80)	166.48
Ljung-Box Q(90)	187.29
Ljung-Box Q(100)	208.10

Note: All diagnostic tests are significant at the 1%, 5%, and 10% levels.
 Ljung-Box Q(10) = 20.81, Ljung-Box Q(20) = 41.62, Ljung-Box Q(30) = 62.43, Ljung-Box Q(40) = 83.24, Ljung-Box Q(50) = 104.05, Ljung-Box Q(60) = 124.86, Ljung-Box Q(70) = 145.67, Ljung-Box Q(80) = 166.48, Ljung-Box Q(90) = 187.29, Ljung-Box Q(100) = 208.10.
 All diagnostic tests are significant at the 1%, 5%, and 10% levels.



Appendix-6

Logit Estimate Tables: Chapter 6

Table 6.2: Performance Measures of Merger, Acquisition and Share Repurchase for Year 1999

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.520 ^a	.191	7.402	1	1.682
OPM	1.524 ^a	.498	9.347	1	.218
ROE	.305 ^a	.105	8.439	1	.737
ATRN	.280 ^a	.051	30.693	1	.755
ROA	.328 ^b	.116	8.047	1	.720
PMARG	2.198 ^a	.670	10.768	1	.111
GROW	.299 ^a	.111	7.223	1	.742
LEV	.230 ^c	.084	7.434	1	.795
SIZE	.036 ^a	.011	9.995	1	1.037
VOLATILITY	.983 ^a	3.261	3.951	1	6.539
ASYM	.282	.359	.618	1	1.326
OWN	.014 ^a	.006	6.626	1	1.014

Goodness-of-fit test	χ^2	df
Omnibus model Test	268.058 ^a	11
Hosmer & Lemeshow Test	64.109 ^d	8

Diagnostic tests

Percentage correctly classified	70.1 ^a
Cox and Snell R ²	.281
Nagelkerke R ² (Max rescaled R ²)	.374
-2 Log likelihood	860.380
Kolgomorov-Smirnov	
Logit residuals	12.862 ^a
Studentized residuals	3.526 ^a
Standardised residuals	4.894 ^a
Ljung-Box Q statistics	
Q ² (2)	.782
Q ² (6)	.875

N: 1008 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.223

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.3: Performance Measures of Merger, Acquisition and Share Repurchase for Year 2000

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	1.006 ^a	.267	14.163	1	2.735
OPM	3.445 ^a	.454	57.475	1	.032
ROE	1.209 ^a	.335	12.990	1	3.350
ATRN	-.940 ^a	.158	35.419	1	.391
ROA	3.367 ^a	.496	46.000	1	2.898
PMARG	.167 ^a	.055	9.089	1	.846
GROW	1.475 ^a	.273	29.077	1	.229
LEV	1.102 ^a	.297	13.814	1	3.011
SIZE	1.010 ^a	.158	40.998	1	.364
VOLATILITY	1.003 ^a	.457	4.816	1	.367
ASYM	.484 ^a	.331	12.820	1	.267
OWN	.011 ^a	.005	4.297	1	1.011
Goodness-of-fit test			χ^2	df	
Omnibus model Test			323.109 ^a	11	
Hosmer & Lemeshow Test			32.890 ^d	8	
Diagnostic tests					
Percentage correctly classified			78.0 ^a		
Cox and Snell R ²			.297		
Nagelkerke R ² (Max rescaled R ²)			.395		
-2 Log likelihood			951.778		
Kolgomorov-Smirnov					
Logit residuals			15.043 ^a		
Studentized residuals			4.120 ^a		
Standardised residuals			9.734 ^a		
Ljung-Box Q statistics					
Q ² (2)			.746		
Q ² (6)			.861		

N: 1152 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.144

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.4: Performance Measures of Merger, Acquisition and Share Repurchase for Year 2001

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.751 ^a	.702	1.147	1	2.120
OPM	3.288 ^a	.767	18.364	1	6.782
ROE	.551 ^a	.878	.395	1	1.736
ATRN	2.427 ^c	1.090	4.957	1	1.329
ROA	4.410 ^a	1.003	19.339	1	8.223
PMARG	7.990 ^a	2.815	8.058	1	2.950
GROW	2.957 ^a	.840	12.388	1	.052
LEV	-.829 ^c	.402	4.244	1	.436
SIZE	-2.308 ^a	.723	10.180	1	.099
VOLATILITY	1.198 ^a	2.106	8.662	1	.002
ASYM	.701 ^a	4.041	13.871	1	.041
OWN	-.024 ^a	.010	5.325	1	.976
Goodness-of-fit test			χ^2	df	
Omnibus model Test			171.469 ^a	11	
Hosmer & Lemeshow Test			6.913 ^d	8	
Diagnostic tests					
Percentage correctly classified			83.5 ^a		
Cox and Snell R ²			.491		
Nagelkerke R ² (Max rescaled R ²)			.656		
-2 Log likelihood			178.379		
Kolgomorov-Smirnov					
Logit residuals			2.920 ^a		
Studentized residuals			1.117 ^a		
Standardised residuals			1.663 ^a		
Ljung-Box Q statistics					
Q ² (2)			.492		
Q ² (6)			.632		

N: 696 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.546

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.5: Performance Measures of Merger, Acquisition and Share Repurchase for Year 2002

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	2.580 ^a	.716	12.997	1	.076
OPM	3.003 ^a	1.136	6.985	1	2.142
ROE	1.717 ^b	.860	3.981	1	5.566
ATRN	2.378 ^a	.715	11.064	1	1.787
ROA	5.803 ^a	2.993	3.759	1	3.313
PMARG	1.786 ^a	.474	14.186	1	5.967
GROW	-.437 ^c	.250	3.053	1	.646
LEV	-6.007 ^a	1.222	24.174	1	.002
SIZE	.540 ^a	.174	9.639	1	1.716
VOLATILITY	1.371 ^a	3.213	.013	1	.045
ASYM	.835 ^c	1.418	3.997	1	.032
OWN	.024 ^a	.017	2.007	1	1.024
Goodness-of-fit test			χ^2	df	
Omnibus model Test			230.800 ^a	11	
Hosmer & Lemeshow Test			13.776 ^d	8	
Diagnostic tests					
Percentage correctly classified			87.3 ^a		
Cox and Snell R ²			.588		
Nagelkerke R ² (Max rescaled R ²)			.785		
-2 Log likelihood			129.636		
Kolmogorov-Smirnov					
Logit residuals			8.009 ^a		
Studentized residuals			2.056 ^a		
Standardised residuals			5.673 ^a		
Ljung-Box Q statistics					
Q ² (2)			.463		
Q ² (6)			.598		

N: 336 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.808

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.6: Performance Measures of Merger, Acquisition and Share Repurchase for Year 2003

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.330 ^a	.265	1.556	1	.719
OPM	.721 ^a	.238	9.206	1	2.058
ROE	.515 ^a	.266	3.745	1	1.673
ATRN	.091 ^a	.033	7.635	1	.913
ROA	-.012 ^b	.014	.824	1	.988
PMARG	3.068 ^a	.829	13.708	1	.047
GROW	.619 ^c	.315	3.851	1	.539
LEV	.235 ^a	.078	9.178	1	.790
SIZE	.187 ^a	.049	14.603	1	1.206
VOLATILITY	1.781 ^c	.582	1.799	1	.458
ASYM	.451 ^a	.898	14.779	1	3.152
OWN	.009	.007	1.835	1	1.009
Goodness-of-fit test			χ^2	df	
Omnibus model Test			150.639 ^a	11	
Hosmer & Lemeshow Test			16.698 ^d	8	
Diagnostic tests					
Percentage correctly classified			74.4 ^a		
Cox and Snell R ²			.279		
Nagelkerke R ² (Max rescaled R ²)			.372		
-2 Log likelihood			488.441		
Kolgomorov-Smirnov					
Logit residuals			8.682 ^a		
Studentized residuals			3.393 ^a		
Standardised residuals			3.085 ^a		
Ljung-Box Q statistics					
Q ² (2)			.770		
Q ² (6)			.856		

N: 600 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.603

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.7: Estimate of Performance Measures for Combined Years

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.230 ^c	.131	3.087	1	1.259
OPM	.007 ^a	.046	.022	1	.993
ROE	.088 ^a	.051	3.019	1	.916
ATRN	.124 ^a	.018	49.102	1	.883
ROA	.029 ^a	.010	7.663	1	.972
PMARG	.166 ^a	.051	10.697	1	.847
GROW	.295 ^a	.080	13.681	1	.744
LEV	.139 ^a	.030	22.236	1	.870
SIZE	.060 ^a	.010	33.755	1	1.061
VOLATILITY	1.826 ^a	.284	8.457	1	.438
ASYM	.510 ^a	.191	33.694	1	3.034
OWN	.008 ^a	.002	11.270	1	1.008
YR(1)	.232 ^a	.175	4.704	4	.1007
YR(2)	.241 ^a	.136	3.155	1	.786
YR(3)	.156 ^a	.125	1.551	1	.856
YR(4)	.027 ^b	.167	.026	1	.973
YR(5)	.262 ^a	.170	2.375	1	.770
Goodness-of-fit test			χ^2	df	
Omnibus model test			290.150 ^a	15	
Hosmer & Lemeshow test			16.681 ^d	8	
Diagnostic tests					
Percentage correctly classified			60.6 ^a		
Cox and Snell R ²			.102		
Nagelkerke R ² (Max rescaled R ²)			.135		
-2 Log likelihood			3465.159		
Kolgomorov-Smirnov					
Logit residuals			19.173 ^a		
Studentized residuals			11.733 ^a		
Standardised residuals			9.883 ^a		
Ljung-Box Q statistics					
Q ² (2)			.898		
Q ² (6)			.987		

N: 3792 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.830

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.8: Estimate of Performance Measures for Combined Years

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.812 ^a	.249	.453	1	.444
OPM	.327 ^a	.133	5.034	1	.721
ROE	.719 ^a	.114	3.923	1	.487
ATRN	.260 ^a	.160	44.774	1	1.297
ROA	.130 ^a	.061	4.345	1	.878
PMARG	.923 ^a	.230	3.309	1	2.518
GROW	.315 ^a	.095	5.353	1	.730
LEV	.096 ^a	.037	19.410	1	1.101
SIZE	.104 ^a	.244	12.592	1	.901
VOLATILITY	-.408 ^a	.234	5.753	1	.665
ASYM	-.008 ^a	.004	9.226	1	1.008
OWN	.327 ^a	.271	.023	1	1.387
YR(1)	.032 ^a	.776	26.952	4	.889
YR(2)	.094 ^a	.662	24.413	1	1.098
YR(3)	1.400 ^a	.611	1.944	1	.459
YR(4)	-.232	.276	3.315	1	.793
YR(5)	.068 ^a	.206	.708	1	.934
Goodness-of-fit test			χ^2	df	
Omnibus model test			148.334 ^a	15	
Hosmer & Lemeshow test			16.334 ^d	8	
Diagnostic tests					
Percentage correctly classified			69.6 ^a		
Cox and Snell R ²			.219		
Nagelkerke R ² (Max rescaled R ²)			.292		
-2 Log likelihood			1321.224		
Kolgomorov-Smirnov					
Logit residuals			6.337 ^a		
Studentized residuals			7.453 ^a		
Standardised residuals			6.447 ^a		
Ljung-Box Q statistics					
Q ² (2)			.776		
Q ² (6)			.881		

N: 2976 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.913

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.9: Estimate of Performance Measures for Combined Years

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.982	.257	14.654	1	.374
OPM	.269 ^a	.128	4.433	1	.764
ROE	-.670	.112	35.800	1	.512
ATRN	.167 ^a	.165	1.024	1	1.182
ROA	.213 ^a	.088	5.817	1	.808
PMARG	.959 ^a	.234	16.807	1	2.610
GROW	-.221	.090	5.988	1	.802
LEV	.069 ^a	.038	3.338	1	1.072
SIZE	-.100 ^a	.244	.167	1	.905
VOLATILITY	-.386 ^a	.233	2.752	1	.680
ASYM	.007 ^a	.004	2.609	1	1.007
OWN	.270 ^a	.270	19.968	1	1.310
YR(1)	.442 ^a	.287	1.003	4	.874
YR(2)	.076	.179	.179	1	1.079
YR(3)	1.469 ^a	.857	.000	1	.721
YR(4)	-1.357	.357	14.417	1	.257
YR(5)	.008 ^a	.208	.002	1	.992
Goodness-of-fit test			χ^2	df	
Omnibus model test			189.378 ^a	15	
Hosmer & Lemeshow test			18.678 ^d	8	
Diagnostic tests					
Percentage correctly classified			69.9 ^a		
Cox and Snell R ²			.317		
Nagelkerke R ² (Max rescaled R ²)			.398		
-2 Log likelihood			1345.436		
Kolgomorov-Smirnov					
Logit residuals			5.987 ^a		
Studentized residuals			6.882 ^a		
Standardised residuals			7.331 ^a		
Ljung-Box Q statistics					
Q ² (2)			.670		
Q ² (6)			.771		

N: 816 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.887

Note: All estimation parameters are same as reported in the note of Table 6.1.

6.10: Performance Measures of Other Restructurings for Year 1999

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.278 ^a	.120	5.390	1	1.320
OPM	1.040 ^a	.180	33.461	1	.354
ROE	.206 ^a	.060	11.725	1	.814
ATRN	.307 ^a	.041	56.897	1	.735
ROA	.539 ^a	.145	13.874	1	.583
PMARG	.029 ^c	.079	.133	1	.972
GROW	.019 ^c	.012	2.521	1	1.020
LEV	.450 ^a	.091	24.490	1	.638
SIZE	.144 ^a	.038	14.180	1	1.155
VOLATILITY	1.564 ^c	.269	4.393	1	.007
ASYM	.388 ^c	.226	2.950	1	.005
OWN	.007 ^a	.004	4.019	1	1.007
Goodness-of-fit test			χ^2	df	
Omnibus model Test			453.428 ^a	11	
Hosmer & Lemeshow Test			69.849 ^d	8	
Diagnostic tests					
Percentage correctly classified			68.4 ^a		
Cox and Snell R ²			.250		
Nagelkerke R ² (Max rescaled R ²)			.333		
-2 Log likelihood			1735.532		
Kolmogorov-Smirnov					
Logit residuals			18.303 ^a		
Studentized residuals			6.435 ^a		
Standardised residuals			7.617 ^a		
Ljung-Box Q statistics					
Q ² (2)			.858		
Q ² (6)			.902		

N: 816 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.261

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.11: Performance Measures of Other Restructurings for Year 2000

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.697 ^a	.108	4.147	1	2.007
OPM	.287 ^a	.089	10.340	1	.751
ROE	.110 ^a	.048	5.197	1	1.116
ATRN	.135 ^a	.022	3.537	1	.874
ROA	.014 ^c	.009	2.324	1	.986
PMARG	.166 ^a	.078	4.572	1	1.181
GROW	.010 ^a	.004	6.164	1	1.010
LEV	.012 ^a	.005	5.606	1	.989
SIZE	.009 ^a	.003	9.296	1	1.009
VOLATILITY	-.916 ^a	.704	1.693	1	2.498
ASYM	-8.082 ^a	1.177	4.768	1	.000
OWN	.000 ^c	.004	.009	1	1.000

Goodness-of-fit test	χ^2	df
Omnibus model Test	210.693 ^a	11
Hosmer & Lemeshow Test	82.525 ^d	8

Diagnostic tests	
Percentage correctly classified	67.1 ^a
Cox and Snell R ²	.246
Nagelkerke R ² (Max rescaled R ²)	.397
-2 Log likelihood	1596.583
Kolgomorov-Smirnov	
Logit residuals	18.022 ^a
Studentized residuals	9.509 ^a
Standardised residuals	10.026 ^a
Ljung-Box Q statistics	
Q ² (2)	.883
Q ² (6)	.986

N: 696 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.318

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.12: Performance Measures of Other Restructurings for Year 2001

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.220 ^a	.137	2.559	1	.803
OPM	.736 ^a	.170	18.661	1	.479
ROE	.017 ^c	.015	1.328	1	1.017
ATRN	.241 ^a	.054	19.652	1	.786
ROA	.808 ^a	.219	13.616	1	2.244
PMARG	.788 ^a	.186	18.024	1	2.200
GROW	.032 ^a	.007	19.814	1	1.033
LEV	.451 ^a	.082	29.968	1	.637
SIZE	.171 ^a	.042	16.503	1	1.186
VOLATILITY	1.122 ^c	.691	.031	1	.029
ASYM	-2.374 ^a	.525	20.445	1	1.738
OWN	.001 ^a	.004	.064	1	1.001

Goodness-of-fit test	χ^2	df
Omnibus model Test	253.582 ^a	11
Hosmer & Lemeshow Test	19.955 ^d	8

Diagnostic tests	
Percentage correctly classified	68.7 ^a
Cox and Snell R ²	.226
Nagelkerke R ² (Max rescaled R ²)	.303
-2 Log likelihood	1100.060
Kolgomorov-Smirnov	
Logit residuals	11.805 ^a
Studentized residuals	4.911 ^a
Standardised residuals	3.414 ^a
Ljung-Box Q statistics	
Q ² (2)	.789
Q ² (6)	.898

N: 648 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.175

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.13: Performance Measures of Other Restructurings for Year 2002

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.379 ^a	.166	5.197	1	1.461
OPM	.575 ^a	.194	8.800	1	.563
ROE	.050 ^c	.029	3.023	1	1.051
ATRN	.150 ^a	.050	9.106	1	.860
ROA	.103 ^a	.039	6.861	1	.902
PMARG	.853 ^a	.256	11.132	1	2.347
GROW	.007 ^b	.004	3.767	1	1.007
LEV	-.122 ^a	.051	5.766	1	.885
SIZE	.027 ^a	.010	6.689	1	1.027
VOLATILITY	-2.372 ^a	.897	5.463	1	.002
ASYM	-1.571 ^a	.590	7.094	1	4.810
OWN	.300	.005	.000	1	1.000

Goodness-of-fit test	χ^2	df
Omnibus model Test	221.884 ^a	11
Hosmer & Lemeshow Test	65.817 ^d	8

Diagnostic tests	
Percentage correctly classified	76.7 ^a
Cox and Snell R ²	.266
Nagelkerke R ² (Max rescaled R ²)	.357
-2 Log likelihood	762.189
Kolmogorov-Smirnov	
Logit residuals	8.158 ^a
Studentized residuals	4.253 ^a
Standardised residuals	2.683 ^a
Ljung-Box Q statistics	
Q ² (2)	.791
Q ² (6)	.899

N: 432 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.325

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.14: Performance Measures of Other Restructurings for Year 2003

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.090 ^a	.117	.582	1	.914
OPM	.030 ^a	.055	.298	1	.970
ROE	.022 ^a	.023	.966	1	1.023
ATR _N	.123 ^a	.025	3.807	1	.884
ROA	.018 ^a	.008	5.114	1	.982
PMARG	.082 ^c	.063	1.673	1	1.085
GROW	.041 ^a	.011	3.683	1	1.042
LEV	.031 ^a	.017	3.436	1	.969
SIZE	.009 ^c	.003	11.626	1	1.009
VOLATILITY	-1.347 ^a	.684	3.875	1	3.847
ASYM	-1.480 ^a	.347	8.197	1	4.392
OWN	.003	.004	.620	1	1.003
Goodness-of-fit test			χ^2	df	
Omnibus model Test			179.127 ^a	11	
Hosmer & Lemeshow Test			29.374 ^d	8	
Diagnostic tests					
Percentage correctly classified			66.4 ^a		
Cox and Snell R ²			.156		
Nagelkerke R ² (Max rescaled R ²)			.208		
-2 Log likelihood			1279.265		
Kolgomorov-Smirnov					
Logit residuals			16.569 ^a		
Studentized residuals			7.087 ^a		
Standardised residuals			16.222 ^a		
Ljung-Box Q statistics					
Q ² (2)			.891		
Q ² (6)			.902		

N: 792 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.876

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.15: Estimate of Performance Measures for Combined Years

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.322 ^a	.071	20.621	1	1.382
OPM	.153 ^a	.032	23.174	1	.859
ROE	.000	.000	.513	1	1.000
ATRN	.160 ^a	.013	15.155	1	.852
ROA	.028 ^a	.007	14.641	1	.972
PMARG	.143 ^a	.034	17.924	1	1.154
GROW	.005 ^a	.001	15.487	1	1.005
LEV	.024 ^a	.007	12.729	1	.976
SIZE	.011 ^a	.002	27.424	1	1.011
VOLATILITY	-.314 ^b	.174	3.265	1	.730
ASYM	-.719 ^a	.143	25.340	1	2.052
OWN	.340 ^a	.000	.372	1	1.000
YR(1)	.482 ^a	.076	5.755	4	.796
YR(2)	.155	.086	3.250	1	.856
YR(3)	.212 ^a	.089	5.677	1	1.236
YR(4)	.054	.094	.326	1	.948
YR(5)	.475 ^a	.104	2.948	1	.622
Goodness-of-fit test			χ^2	df	
Omnibus model test			671.446 ^a	15	
Hosmer & Lemeshow test			59.063 ^d	8	
Diagnostic tests					
Percentage correctly classified			61.4 ^a		
Cox and Snell R ²			.111		
Nagelkerke R ² (Max rescaled R ²)			.149		
-2 Log likelihood			7194.751		
Kolgomorov-Smirnov					
Logit residuals			18.874 ^a		
Studentized residuals			19.850 ^a		
Standardised residuals			17.736 ^a		
Ljung-Box Q statistics					
Q ² (2)			.901		
Q ² (6)			.984		

N: 3384 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.876

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 17: Value Measures of Merger, Acquisition and Share Repurchase for Year 1999

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.057 ^a	.213	.071	1	.945
ROE	.420 ^b	.101	17.206	1	.657
ABRETUN	.030 ^a	.006	23.910	1	1.030
CFMAR	1.347 ^a	.252	28.544	1	3.844
EX/RE	1.873 ^c	.288	42.356	1	6.507
ROCE	.756	.270	7.849	1	.470
S/MV	.816 ^a	.111	53.904	1	.442
VOLATILITY	-5.159 ^a	3.291	2.458	1	4.022
ASYM	.430 ^a	.374	1.320	1	1.537
Goodness-of-fit test			χ^2	df	
Omnibus model Test			227.643 ^a	8	
Hosmer & Lemeshow Test			7.987 ^d	8	
Diagnostic tests					
Percentage correctly classified			73.0 ^a		
Cox and Snell R ²			.287		
Nagelkerke R ² (Max rescaled R ²)			.392		
-2 Log likelihood			772.821		
Kolgomorov-Smirnov					
Logit residuals			4.511 ^a		
Studentized residuals			4.291 ^a		
Standardised residuals			3.470 ^a		
Ljung-Box Q statistics					
Q ² (2)			.540		
Q ² (6)			.621		

N: 1008 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.409

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.18: Value Measures of Merger, Acquisition and Share Repurchase for Year 2000

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	1.046 ^a	.188	31.035	1	.352
ROE	1.675 ^a	.340	24.288	1	5.337
ABRETUN	.054 ^a	.009	32.113	1	1.055
CFMAR	1.253 ^a	.253	24.498	1	3.500
EX/RE	1.674 ^a	.254	43.432	1	5.335
ROCE	.377 ^a	.179	4.420	1	.686
S/MV	-.402 ^a	.087	21.147	1	.669
VOLATILITY	-.667 ^a	.433	2.375	1	.513
ASYM	1.062 ^a	.309	11.818	1	2.893
Goodness-of-fit test			χ^2	df	
Omnibus model Test			238.765 ^a	8	
Hosmer & Lemeshow Test			37.811 ^d	8	
Diagnostic tests					
Percentage correctly classified			71.4 ^a		
Cox and Snell R ²			.267		
Nagelkerke R ² (Max rescaled R ²)			.362		
-2 Log likelihood			990.520		
Kolgomorov-Smirnov					
Logit residuals			3.765 ^a		
Studentized residuals			3.651 ^a		
Standardised residuals			3.463 ^a		
Ljung-Box Q statistics					
Q ² (2)			.367		
Q ² (6)			.531		

N: 1152 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.403

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.19: Value Measures of Merger, Acquisition and Share Repurchase for Year 2001

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.755 ^a	.451	2.801	1	.470
ROE	.721 ^a	.667	1.169	1	.486
ABRETUN	.034 ^a	.013	6.878	1	1.035
CFMAR	1.662 ^a	.568	8.570	1	5.271
EX/RE	3.307 ^a	.626	7.913	1	2.314
ROCE	1.807 ^a	.665	7.377	1	.164
S/MV	-1.722 ^a	.632	7.425	1	.179
VOLATILITY	-3.385 ^a	1.346	6.322	1	.034
ASYM	1.943 ^a	2.712	6.440	1	.164
Goodness-of-fit test			χ^2	df	
Omnibus model Test			140.343 ^a	8	
Hosmer & Lemeshow Test			8.537 ^d	8	
Diagnostic tests					
Percentage correctly classified			76.5 ^a		
Cox and Snell R ²			.377		
Nagelkerke R ² (Max rescaled R ²)			.503		
-2 Log likelihood			272.442		
Kolmogorov-Smirnov					
Logit residuals			4.225 ^a		
Studentized residuals			4.023 ^a		
Standardised residuals			2.877 ^a		
Ljung-Box Q statistics					
Q ² (2)			.512		
Q ² (6)			.582		

N: 696 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.383

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.20: Value Measures of Merger, Acquisition and Share Repurchase for Year 2002

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.225 ^a	.431	.272	1	1.252
ROE	1.404 ^a	.580	5.863	1	4.073
ABRETUN	.681 ^a	.153	19.751	1	.506
CFMAR	.160 ^a	.061	6.973	1	1.173
EX/RE	2.641 ^a	.615	18.433	1	4.024
ROCE	-2.937 ^a	.872	11.348	1	.053
S/MV	-.279 ^a	.067	17.586	1	.756
VOLATILITY	3.635 ^a	2.094	3.014	1	3.916
ASYM	3.107 ^a	1.057	8.643	1	2.356
Goodness-of-fit test			χ^2	df	
Omnibus model Test			135.162 ^a	8	
Hosmer & Lemeshow Test			7.423 ^d	8	
Diagnostic tests					
Percentage correctly classified			80.8 ^a		
Cox and Snell R ²			.403		
Nagelkerke R ² (Max rescaled R ²)			.537		
-2 Log likelihood			228.024		
Kolmogorov-Smirnov					
Logit residuals			5.423 ^a		
Studentized residuals			5.008 ^a		
Standardised residuals			3.412 ^a		
Ljung-Box Q statistics					
Q ² (2)			.518		
Q ² (6)			.608		

N: 336 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.469

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.21: Value Measures of Merger, Acquisition and Share Repurchase for Year 2003

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	1.853 ^a	.301	37.784	1	.157
ROE	.766 ^a	.238	10.398	1	2.151
ABRETUN	.614 ^a	.105	33.918	1	1.847
CFMAR	.445 ^a	.103	18.571	1	1.560
EX/RE	.554 ^a	.254	4.777	1	.574
ROCE	1.567 ^a	.415	14.243	1	4.793
S/MV	.006 ^a	.002	7.259	1	1.006
VOLATILITY	-.142 ^b	.580	.060	1	.868
ASYM	3.480 ^a	.961	13.104	1	2.472
Goodness-of-fit test			χ^2	df	
Omnibus model Test			175.691 ^a	8	
Hosmer & Lemeshow Test			22.312 ^d	8	
Diagnostic tests					
Percentage correctly classified			78.3 ^a		
Cox and Snell R ²			.327		
Nagelkerke R ² (Max rescaled R ²)			.422		
-2 Log likelihood			463.645		
Kolmogorov-Smirnov					
Logit residuals			5.669 ^a		
Studentized residuals			5.432 ^a		
Standardised residuals			2.995 ^a		
Ljung-Box Q statistics					
Q ² (2)			.503		
Q ² (6)			.487		

N: 600 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.604

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.22: Estimate of Value Measures for Combined Years

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.708 ^a	.130	29.624	1	.492
ROE	.075 ^b	.054	1.945	1	.927
ABRETUN	.024 ^a	.004	41.314	1	1.025
CFMAR	.701 ^a	.081	34.975	1	2.015
EX/RE	.067 ^a	.041	2.646	1	1.069
ROCE	.058 ^a	.113	.263	1	.944
S/MV	.005 ^a	.002	7.849	1	1.005
VOLATILITY	-.505 ^a	.287	3.101	1	.604
ASYM	1.242 ^a	.205	36.780	1	3.462
YR(1)	.508 ^a	.203	12.776	4	1.887
YR(2)	.436 ^a	.142	9.428	1	1.546
YR(3)	.304 ^b	.128	5.671	1	1.355
YR(4)	.308 ^a	.164	5.464	1	1.468
YR(5)	.084 ^c	.173	.238	1	1.088
Goodness-of-fit test			χ^2	df	
Omnibus model test			330.447 ^a	12	
Hosmer & Lemeshow test			39.221	8	
Diagnostic tests					
Percentage correctly classified			73.1 ^a		
Cox and Snell R ²			.212		
Nagelkerke R ² (Max rescaled R ²)			.251		
-2 Log likelihood			1789.678		
Kolmogorov-Smirnov					
Logit residuals			7.443 ^a		
Studentized residuals			7.098 ^a		
Standardised residuals			7.125 ^a		
Ljung-Box Q statistics					
Q ² (2)			.689		
Q ² (6)			.887		

N: 3792 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.761

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.23: Estimate of Value Measures for Combined Years

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.744 ^a	.134	30.587	1	.475
ROE	.142 ^a	.060	5.604	1	.868
ABRETUN	.021 ^a	.004	26.745	1	1.021
CFMAR	.640 ^c	.082	60.950	1	1.897
EX/RE	.023 ^a	.034	.476	1	1.024
ROCE	-.089 ^a	.120	.552	1	.915
S/MV	.005 ^a	.002	7.801	1	1.005
VOLATILITY	-.337 ^b	.328	1.051	1	1.400
ASYM	-1.021 ^a	.251	16.537	1	2.776
YR(1)	.502 ^a	.120	57.136	4	1.654
YR(2)	.542 ^a	.144	14.122	1	1.719
YR(3)	.264 ^a	.137	3.706	1	1.303
YR(4)	1.051 ^a	.230	20.907	1	.350
YR(5)	.142 ^a	.173	.681	1	1.153
Goodness-of-fit test			χ^2	df	
Omnibus model test			222.533 ^a	12	
Hosmer & Lemeshow test			26.647	8	
Diagnostic tests					
Percentage correctly classified			76.6 ^a		
Cox and Snell R ²			.234		
Nagelkerke R ² (Max rescaled R ²)			.287		
-2 Log likelihood			1788.993		
Kolmogorov-Smirnov					
Logit residuals			7.665 ^a		
Studentized residuals			6.511 ^a		
Standardised residuals			6.662 ^a		
Ljung-Box Q statistics					
Q ² (2)			.654		
Q ² (6)			.688		

N: 2976 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.593

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.24: Estimate of Value Measures for Combined Years

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.875 ^a	.138	9.502	1	.472
ROE	.194 ^a	.064	9.045	1	.824
ABRETUN	.022 ^a	.004	7.542	1	1.022
CFMAR	.609 ^a	.087	9.214	1	1.838
EX/RE	.014 ^a	.034	.179	1	1.014
ROCE	-.013 ^a	.122	.011	1	.987
S/MV	.005 ^a	.002	8.315	1	1.005
VOLATILITY	-.273 ^a	.337	.655	1	1.314
ASYM	.844	.264	10.215	1	2.327
YR(1)	.662 ^a	.185	9.005	4	1.682
YR(2)	.583 ^a	.146	6.004	1	1.792
YR(3)	.304	.138	4.819	1	1.355
YR(4)	.964 ^a	.232	7.286	1	.381
YR(5)	.376 ^a	.475	5.599	1	2.258
Goodness-of-fit test			χ^2	df	
Omnibus model test			248.421 ^a	12	
Hosmer & Lemeshow test			27.120 ^d	8	
Diagnostic tests					
Percentage correctly classified			68.7 ^a		
Cox and Snell R ²			.175		
Nagelkerke R ² (Max rescaled R ²)			.233		
-2 Log likelihood			1422.567		
Kolmogorov-Smirnov					
Logit residuals			5.443 ^a		
Studentized residuals			5.667 ^a		
Standardised residuals			4.998 ^a		
Ljung-Box Q statistics					
Q ² (2)			.633		
Q ² (6)			.602		

N: 816 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.591

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.25: Value Measures of Other Restructurings for Year 1999

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.165 ^a	.080	4.284	1	.848
ROE	.316 ^a	.066	22.739	1	.729
ABRETUN	.018 ^a	.004	26.848	1	1.019
CFMAR	.117 ^a	.033	12.646	1	1.124
EX/RE	.010 ^b	.038	.064	1	1.010
ROCE	.102 ^a	.054	3.489	1	1.107
S/MV	-.003 ^a	.001	6.678	1	.997
VOLATILITY	-.890 ^a	.251	12.593	1	2.436
ASYM	-.246 ^c	.206	1.432	1	1.279
Goodness-of-fit test			χ^2	df	
Omnibus model Test			171.740 ^a	8	
Hosmer & Lemeshow Test			17.123 ^d	8	
Diagnostic tests					
Percentage correctly classified			72.8 ^a		
Cox and Snell R ²			.317		
Nagelkerke R ² (Max rescaled R ²)			.401		
-2 Log likelihood			201.765		
Kolmogorov-Smirnov					
Logit residuals			6.403 ^a		
Studentized residuals			6.071 ^a		
Standardised residuals			5.672 ^a		
Ljung-Box Q statistics					
Q ² (2)			.406		
Q ² (6)			.532		

N: 816 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.203

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.26: Value Measures of Other Restructurings for Year 2000

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.051 ^a	.092	.307	1	1.052
ROE	.035 ^a	.024	2.053	1	1.035
ABRETUN	.015 ^a	.005	11.442	1	1.016
CFMAR	.601 ^a	.103	13.790	1	1.824
EX/RE	.075 ^a	.068	1.242	1	1.078
ROCE	.108 ^c	.060	3.258	1	1.114
S/MV	.002 ^a	.000	.906	1	1.000
VOLATILITY	-1.422 ^a	.696	4.171	1	4.145
ASYM	.381 ^a	.183	8.960	1	.001

Goodness-of-fit test	χ^2	df
Omnibus model Test	236.760 ^a	8
Hosmer & Lemeshow Test	17.227 ^d	8

Diagnostic tests	
Percentage correctly classified	68.9 ^a
Cox and Snell R ²	.376
Nagelkerke R ² (Max rescaled R ²)	.412
-2 Log likelihood	4321.665
Kolgomorov-Smirnov	
Logit residuals	5.901 ^a
Studentized residuals	5.312 ^a
Standardised residuals	5.020 ^a
Ljung-Box Q statistics	
Q ² (2)	.551
Q ² (6)	.487

N: 696 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.206

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.27: Value Measures of Other Restructurings for Year 2001

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.546 ^a	.106	26.795	1	.579
ROE	.023 ^a	.018	1.614	1	1.023
ABRETUN	.012 ^b	.004	10.171	1	.988
CFMAR	.265 ^a	.049	29.560	1	1.303
EX/RE	.073 ^a	.052	1.962	1	1.076
ROCE	.075 ^a	.056	1.775	1	1.078
S/MV	.001 ^a	.000	2.632	1	1.001
VOLATILITY	-.457 ^c	.555	.677	1	1.579
ASYM	2.774 ^b	.494	31.559	1	0.018

Goodness-of-fit test	χ^2	df
Omnibus model Test	181.450 ^a	8
Hosmer & Lemeshow Test	15.723 ^d	8

Diagnostic tests	
Percentage correctly classified	68.7 ^a
Cox and Snell R ²	.298
Nagelkerke R ² (Max rescaled R ²)	.388
-2 Log likelihood	876.204
Kolmogorov-Smirnov	
Logit residuals	5.062 ^a
Studentized residuals	4.883 ^a
Standardised residuals	5.014 ^a
Ljung-Box Q statistics	
Q ² (2)	.542
Q ² (6)	.590

N: 648 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.113

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.28: Value Measures of Other Restructurings for Year 2002

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.113 ^a	.126	.808	1	1.120
ROE	.060 ^a	.031	3.800	1	1.062
ABRETUN	.016 ^a	.005	10.670	1	.985
CFMAR	.112 ^a	.034	11.170	1	1.119
EX/RE	-.075 ^b	.048	2.419	1	.928
ROCE	.042 ^a	.179	.054	1	1.043
S/MV	.000 ^c	.000	6.103	1	1.000
VOLATILITY	-6.418 ^a	.832	9.544	1	.002
ASYM	1.321 ^a	.507	6.788	1	.747
Goodness-of-fit test			χ^2	df	
Omnibus model Test			189.385 ^a	8	
Hosmer & Lemeshow Test			19.703 ^d	8	
Diagnostic tests					
Percentage correctly classified			78.3 ^a		
Cox and Snell R ²			.301		
Nagelkerke R ² (Max rescaled R ²)			.421		
-2 Log likelihood			497.123		
Kolgomorov-Smirnov					
Logit residuals			3.872 ^a		
Studentized residuals			4.054 ^a		
Standardised residuals			4.207 ^a		
Ljung-Box Q statistics					
Q ² (2)			.429		
Q ² (6)			.592		

N: 432 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.276

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.29: Value Measures of Other Restructurings for Year 2003

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.951 ^a	.129	5.420	1	.386
ROE	.012 ^a	.013	.896	1	1.012
ABRETUN	.302 ^b	.057	12.394	1	1.352
CFMAR	.542 ^a	.077	9.337	1	1.720
EX/RE	.011 ^a	.033	.117	1	1.011
ROCE	-.054 ^b	.221	.059	1	.948
S/MV	.006 ^a	.002	1.636	1	1.000
VOLATILITY	-1.579 ^c	.722	4.777	1	4.849
ASYM	1.856 ^b	.391	2.530	1	.400

Goodness-of-fit test	χ^2	df
Omnibus model Test	174.804 ^a	8
Hosmer & Lemeshow Test	26.775 ^d	8

Diagnostic tests	
Percentage correctly classified	74.9 ^a
Cox and Snell R ²	.301
Nagelkerke R ² (Max rescaled R ²)	.436
-2 Log likelihood	658.720
Kolgomorov-Smirnov	
Logit residuals	5.762 ^a
Studentized residuals	5.008 ^a
Standardised residuals	5.761 ^a
Ljung-Box Q statistics	
Q ² (2)	.469
Q ² (6)	.571

N: 792 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.603

Note: All estimation parameters are same as reported in the note of Table 6.1.

Table 6.30: Estimate of Value Measures for Combined Years

Predictors	β	SE	Wald's χ^2	df	e^β (odds ratio)
Constant	.258 ^a	.070	13.481	1	.772
ROE	.007 ^a	.057	.105	1	1.000
ABRETUN	.002 ^a	.001	2.925	1	1.002
CFMAR	.264 ^a	.026	14.884	1	1.302
EX/RE	.039 ^a	.020	3.777	1	1.040
ROCE	.071 ^a	.026	7.445	1	1.073
S/MV	.000 ^a	.000	8.519	1	1.000
VOLATILITY	-.175 ^c	.172	1.030	1	.840
ASYM	.701 ^a	.142	24.415	1	2.016
YR(1)	.412 ^a	.075	12.003	4	1.004
YR(2)	.041 ^a	.085	.240	1	.959
YR(3)	.310 ^b	.087	12.643	1	1.364
YR(4)	.045 ^a	.094	.234	1	1.046
YR(5)	.394 ^a	.104	14.397	1	.675

Goodness-of-fit test	χ^2	df
Omnibus model test	289.43 ^a	12
Hosmer & Lemeshow test	67.221 ^d	8

Diagnostic tests

Percentage correctly classified	63.1 ^a
Cox and Snell R ²	.162
Nagelkerke R ² (Max rescaled R ²)	.209
-2 Log likelihood	1903.768
Kolmogorov-Smirnov	
Logit residuals	6.907 ^a
Studentized residuals	7.004 ^a
Standardised residuals	6.887 ^a
Ljung-Box Q statistics	
Q ² (2)	.665
Q ² (6)	.769

N: 3384 (Number of Observations).

a, b, c. indicate that the appropriate test statistics are significant at 1%, 5% and 10% levels respectively.

d. sig. = 0.423

Note: All estimation parameters are same as reported in the note of Table 6.1.

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- Abarbanell, J., Bushee, B. and Raedy, J. (1998) 'The Effects of Institutional Investor Preferences on Ownership Changes and Stock Prices around Corporate Spin-offs', *University of California-Berkely, Working Paper Series*.
- Abarbanell, J. S., Bushee, B. J. and Raedy, J. S. (2003) 'Institutional Investor Preferences and Price Pressure: The Case of Corporate Spin-Offs', *Journal of Business*, Vol. 76, No. 2, pp. 233-261.
- Abernathy, W.J. and Wayne, K. (1974) 'The Limits of the Learning Curve', *Harvard Business Review*, Vol. 52, No. 5, pp. 109-119.
- Abrahams, J. (1999) 'The Mission Statement Book: 301 Corporate Mission Statements from America's Top Companies', 2nd Edition, Berkeley, CA: 10-Speed Press.
- Adolph, G., Buchanan, I. J., Hornery, B., Jackson, Jones, J., Kihlstedt, T., Neilson, G. and Quarls, H. (2001) 'Merger Integration: Delivering on the Promise,' Company report. New York NY: Booz-Allen & Hamilton.
- Aggarwal, R., and Samwick, A. (2003) 'Why Do Managers Diversify their Firms? Agency Reconsidered', *Journal of Finance*, Vol. 58, pp. 71-118.
- Agrawal, A. and Jaffe, J. (2000) 'The Post Merger Performance Puzzle', *Advances in Mergers and Acquisitions*, Vol.1, pp. 119-156.
- Agrawal, A., Jaffe, J., and Mandelker, G.N. (1992) 'The Post-Merger Performance of Acquiring Firms: A Re-examination of an Anomaly', *Journal of Finance*, Vol. 47, Issue 4, pp. 1605-1621.
- Agrawal, A., Gershon N. and Mandelker, G. N. (1987) 'Managerial Incentives and Corporate Investment and Financing Decisions', *Journal of Finance*, Vol. 42, No. 4, pp. 823-837.

- Agresti, A. (1984) *Analysis of Ordinal Categorical Data*, New York: John Wiley & Sons, Inc.
- Agresti, A. (1990) *Categorical Data Analysis*, New York: John Wiley & Sons, Inc.
- Ahn, S. and Denis, D. (2001) 'Internal Capital Markets and Investment Policy: Evidence from Corporate Spin-offs', *Working Paper Series*, SSRN.
- Aitchison, J. and Silvey, S.D. (1957) 'The Generalization of Probit Analysis to the Case of Multiple Responses', *Biometrika*, Vol. 44, pp. 131-140.
- Aktas, N, Bodt, E, De., and Cousin, J. G. (2007) 'Event Studies with a Contaminated Estimation Period', *Journal of Corporate Finance*, Vol. 13, Issue 1, pp. 129-145.
- Albert, A. and Anderson, J.A. (1984) 'On the Existence of Maximum Likelihood Estimates in Logit Regression Models', *Biometrika*, Vol. 71, pp. 1-10.
- Alchian, A. (1969) 'Corporate Management and Property Rights', in Henry Manne, Edited: *Economic Policy and the Regulation of Corporate Securities*, American Enterprise Institute, Washington D.C.
- Alexander, G., Benson, P., and Kampmeyer, J.K. (1984) 'Investigating the Valuation Effects of Announcements of Voluntary Corporate Sell-offs', *Journal of Finance*, Vol. 39, pp. 503-517.
- Alexandrou, G. and Sudarsanam, S. (2001) 'Shareholder Wealth Experience of Buyers in Corporate Divestitures: Impact of Business Strategy, Growth opportunities and Bargaining Power', *Working Paper Series*, Cranfield University.
- Allan S. A. and Simon S. M. Y. (2004) 'Executive Compensation and Earnings Persistence', *Journal of Business Ethics*, Vol. 50, pp. 369-382.
- Allen, J. and McConnell, J. (1998) 'Equity Carve-outs and Managerial Discretion', *Journal of Finance*, Vol. 53, No. 1, pp. 163-186.
- Allen, J. and Phillips, G. (2000) 'Corporate Equity Ownership, Strategic Alliances, and Product Market Relationships', *Journal of Finance*, Vol. 55, No. 6, pp. 2791-2816.

- Allen, J. (1998) 'Capital Markets and Corporate Structure: The Equity Carve-outs of Thermo Electron', *Journal of Financial Economics*, Vol. 48, pp. 99-124.
- Allen, J., Lummer, S., McConnell, J., and Reed D. (1995) 'Can Takeover Losses Explain Spin-off Gains?', *Journal of Financial and Quantitative Analysis*, Vol. 30, No. 4, pp. 465-485.
- Allen, J.W. and McConnell, J. (1998) 'Equity Carve-outs and Managerial Discretion', *Journal of Finance*, Vol. 53, pp. 163-186.
- Allen, J.W. (2001) 'Private Information and Spin-off Performance', *Journal of Business*, Vol. 74, Issue 2, pp. 281-306.
- Allen, W.H. (1989) 'Mergers, Acquisitions and Alternative Corporate Strategies', Hill Samuel & Company Limited. Published in association with the CBI Initiative.
- Allison, P.D. (1982) 'Discrete-Time Methods for the Analysis of Event Histories,' in *Sociological Methods and Research*, 15th Edition. S. Leinhardt, San Francisco: Jossey-Bass, pp. 61 -98.
- Altman, E.I. (1968) 'Financial Ratios, Discriminant Analysis and Prediction of Corporate Bankruptcy', *Journal of Finance*, Vol. 23, pp. 589-609.
- Altman, E.I. (2000) 'Predicting Financial Distress of Companies: Revising the Z-score and Zeta models', *Recent papers*, Edward I Altman's home page. <http://pages.stern.nyu.edu/~ealtman/papers.html>.
- Amihud, Y. and Lev, B. (1981) 'Risk Reduction as a Managerial Motive for Conglomerate Mergers', *Rand Journal of Economics*, Vol. 12, pp. 605-618.
- Amihud, Y., Kamin, J. and Ronen, J. (1979) 'Revenue vs. Profit Maximization: Differences in Behaviour by the Type-of-control and by Market Power', *Southern Economic Journal*, Vol. 45, pp. 838-846.
- Anderson, R. and Sundaresan, S. (1996) 'Design and Valuation of Debt Contracts', *Review of Financial Studies*, Vol. 9, pp. 37-68.

- Andrade, G. and Kaplan, S. (1998) 'How costly is Financial (not economic) Distress? Evidence from Highly Leveraged Transactions that became Distressed', *Journal of Finance*, Vol. 53, No. 5, pp. 1443-1493.
- Andrews, W. and Dowling, M. (1998) 'Explaining Performance Changes in Newly Privatized Firms', *Journal of Management Studies*, Vol. 35, No. 5, pp. 601-618.
- Ang, J., and Cheng, Y. (2003) 'Direct Evidence on the Market-Driven Acquisitions Theory', *Working Paper Series*, SSRN.
- Anslinger, P.L. and Copeland, T.E. (1996) 'Growth Through Acquisitions: A fresh Look', *Harvard Business Review*, January-February, pp. 126-135.
- Aprada, R. (1998) 'Agency Problems and Floating Cash Flows', 33rd Annual Meeting of the Argentine Economic Association, Mendoza, Argentina.
- Aprada, R. (1999) 'Capital Market and Corporate Governance in Argentina', paper presented in the International Meeting in Corporate Governance, September 1-2, Santiago, Chile.
- Aron, D. (1991) 'Using the Capital Market as a Monitor: Corporate Spin-offs in an Agency Framework', *Rand Journal of Economics*, Vol. 22, pp. 505-18.
- Ashford, J. R. (1959) 'An Approach to the Analysis of Data for Semi-Quantal Responses in Biology Response', *Biometrics*, Vol. 15, pp. 573 -81.
- Asquith, P. (1983) 'Merger Bids, Uncertainty, and Stockholder Returns', *Journal of Financial Economics*, Vol. 11, No. 1, pp. 51-83.
- Asquith, P. and Mullins, D. W. (1986) 'Equity Issues and Offering Dilution', *Journal of Financial Economics*, Vol. 15, pp. 61-89.
- Asquith, P., Bruner, R. and D. Mullins, Jr. (1987) 'Merger Returns and the Form of Financing', *Proceedings of the Seminar on the Analysis of Security Prices* Vol. 34, No. 1, May, pp. 115-146.
- Asquith, P., Bruner, R. and D. Mullins, Jr. (1983) 'The Gains to Bidding Firms From Merger', *Journal of Financial Economics*, Vol. 11, No. 1, pp. 121-139.

- Atiase, D., Platt, D. and Tse, S. (1999) 'Operational restructuring Charges and Post Restructure Performance: The Potential Effects of Write-off Amounts on Measured Performance', *Working Paper Series*, University of Texas at Austin.
- Auerbach, A.J. and Reishus, D. (1988) 'The Impact of Taxation on Mergers and Acquisitions', In Alan J. Auerbach Edited. '*Mergers and Acquisitions*', The University of Chicago Press, Chicago and London.
- Aydemir, A. C., Gallmeyer, M. F. and Holliefield, B. (2006) 'Financial Leverage Does not Cause the Leverage Effect', *AFA 2007 Chicago Meetings Paper*, SSRN.
- Aydogan, K. and Muradoglu, G. (1998) 'Do Markets Learn from Experience? Price Reaction to Stock Dividends in the Turkish market', *Applied Financial Economics*, Vol. 8, February, pp. 41-49.
- Bae, C.S. and Simet, D. (1988) 'A Comparative Analysis of Leveraged Recapitalization versus Leveraged Buy-out as a Takeover Defense', *Review of Financial Economics*, Vol. 7, no. 2, pp.157-172.
- B Boone, A.L. and Mulherin, J.H. (2002) 'Corporate Restructuring and Corporate Auctions', *Working Paper Series*, November, College of William and Mary.
- Bagwell, S. and Zechner, J. (1993) 'Influence Costs and Capital Structure', *Journal of Finance*, Vol. 48, pp. 975-1008.
- Bahree, B. (1999) 'Oil Mergers Often Don't Live Up to the Hype', *Wall Street Journal*, July 23, pp. A10.
- Bajaj, M., Y-S. Chan and Dasgupta, S. (1998) 'The Relationship Between Ownership, Financing Decisions and Firm Performance: A Signalling Model', *International Economic Review*, Vol. 39, No. 3, pp. 723-44.
- Baker, G. P. and Smith, G.D. (1998) 'The New Financial Capitalists', Cambridge: Cambridge University Press.
- Barabba, V. and Zaltman, G. (1991) 'Hearing the Voice of the Market', NY: McGraw-Hill.

- Barber, B.M. and Lyon, J. D. (1996) 'Detecting Abnormal Operating Performance: The empirical power and Specification of test statistics', *Journal of Financial Economics*, Vol. 41, pp. 359-399.
- Barberis, N., Boycko, A., Shleifer, A. and Tsukanova, N. (1996) 'How Does Privatisation Work: Evidence from Russian Shops', *Journal of Political Economy*, Issue 104, pp. 764-790.
- Barnea, A., Haugen, R. and Senbet, L. (1985) 'Agency Problems and Financial Contracting', New Jersey, Prentice-Hall.
- Barney, J. (1995) 'Looking Inside for Competitive Advantage', *The Academy of Management Executive*, Vol. 9, No. 4, pp. 49-61.
- Bartolucci, A. A. and Fraser, M.D. (1977) 'Comparative Step-Up and Composite Test for Selecting Prognostic Indicator Associated with Survival', *Biometrika*, Vol. 19, pp. 437-448.
- Bates, B. (2002) 'Inherency, Strategy and Academic Debate', *Rostrum*, December 30.
- Bathel, J., Porter, J. and Opler, T. (1998) 'Block Share Purchases and Corporate Performance', *Journal of Finance*, Vol. 53, No. 2, pp. 605-634.
- Beatty, A. (1994) 'An Empirical analysis of the Corporate Control, Tax and Incentive Motivations for Adopting Leveraged Employee Stock Ownership Plans', *Managerial and Decision Economics*, Vol. 15, pp. 299-315.
- Beatty, A. (1995) 'The Cash Flow and Informational Effects of Employee Stock Plans', *Journal of Financial Economics*, Vol. 38, pp. 211-240.
- Beaver, W. (1966) 'Financial Ratios as Predictor of Failure', *Empirical Research in Accounting: Selected Studies, Supplement to the Journal of Accounting Research*, (Autumn), pp. 91-101.
- Bebchuk, L. and Guzman, A. (1999) 'An Economic Analysis of Transnational Bankruptcies', *Journal of Law and Economics*, Vol. 17, pp. 775-808.

- Beckett, S. (1986) 'Corporate Mergers and the Business Cycle', *Federal Reserve Bank of St. Louis Economic Review*, pp. 13-26.
- Begg, P.F.C. (1985) 'Corporate Acquisitions and Mergers: A Practical Guide to the Legal, Financial and Administrative Implication', Graham and Trotman: London.
- Begley, J., Ming, J. and Watts, S. (1996) 'Bankruptcy Classification Errors in the 1980s: An Empirical Analysis of Altman's and Ohlson's Models', *Review of Accounting Studies*, March, pp. 267-284.
- Beitel, P., Schiereck, D. and Wahrenburg, M. (2002) 'Explaining the M&A-success in European Bank Mergers and Acquisitions', *Working Paper Series*, University of Witten/Herdecke, Germany.
- Belsley, D.A., Kuh, E. and Welsch, R.E. (1980) 'Regression Diagnostics Identifying Influential Data and Sources of Collinearity', New York: John.
- Berger, P.G. and Ofek, E. (1995) 'Diversification's Effect on Firm Value', *Journal of Financial Economics*, Vol. 37, No. 1, pp. 39-65.
- Berger, P.G. and Ofek, E. (1999) 'Causes and Effects of Corporate Refocusing Programs', *Review of Financial Studies*, Vol. 12, No. 2, pp. 311-345.
- Berger, P.G. and Ofek, E. (1995) 'Diversification's Effect on Firm Value', *Journal of Financial Economics*, Vol. 37, pp. 39-65.
- Berkovitch, E and Khanna, N (1991) 'A Theory of Acquisition Markets: Mergers versus Tender Offers, and Golden Parachutes', *Review of Financial Studies*, Vol. 4, No. 1, pp. 149-174.
- Berkovitch, E. and Narayanan, M.P. (1993) 'Motives for Takeovers: An Empirical Investigation', *Journal of Financial and Quantitative Analysis*, Vol. 28, No. 3, pp. 347-362.
- Berkson, J. (1944) 'Application of the Logit Function to Bio-assay', *Journal of the American Statistical Association*, Vol. 39, Sept., pp. 357-365.

- Berry, M. A., Gallinger, G. W. and Henderson Jr., G. V. (1990) 'Using daily Stock Returns in Event Studies and the Choice of Parametric versus nonparametric Test Statistics', *Journal of Business and Economics*, Vol. 29, pp. 125-165.
- Best, R.W., Best, R.J. and Agapos, A.M. (1998) 'Earnings Forecasts and the Information Contained in Spin-off Announcements', *The Financial Review*, Vol. 33, pp. 53-67.
- Bethel J.E. and Liebeskind, J. (1993) 'The Effects of Ownership Structure on Corporate Restructuring', *Strategic Management Journal*, Issue 14, pp. 15-31.
- Bhattacharyya, S. and Singh, R. (1999) 'The Resolution of Bankruptcy by Auction: Allocating the Residual Right of Design', *Journal of Financial Economics*, Vol. 54, No. 3, pp. 269-294.
- Billett, M. and Mauer, D. (2000) 'Diversification and the Value of Internal Capital Markets: The Case of Tracking Stock', *Journal of Banking and Finance*, Vol. 24, pp. 1457-1490.
- Billett, M. and Vijh, A (2002) 'The Wealth Effects of Tracking Stock Restructurings', *Working Paper Series*, University of Iowa.
- Billett, M., King, T. and Mauer, D. (2004) 'Bondholder Wealth Effects in Mergers and Acquisitions: News Evidence from the 1980s and 1990s', *Journal of Finance*, Vol. 59, No. 6, pp. 3011-3017.
- Blackwell, D.W., Marr, M.W. and Spivey, M.F. (1990) 'Plant-closing Decisions and the Market Value of the Firm', *Journal of Financial Economics*, Vol. 26, pp. 277-288.
- Bleakley, F. (1995) 'New Write-Offs Mostly Please Investors', *Wall Street Journal*, December 21, Column 1.
- Bliss, T. R. (1997) 'Corporate Spin-Offs: Three Empirical Essays on CEO Compensation, Earnings Predictability, and Implied Volatility', PhD Thesis, Indian University, USA.

- Bloomfield, R., Libby, R. and Nelson, M. W. (2000) 'Underreactions, Overreactions and Moderated Confidence', *Journal of Financial Markets*, Vol. 3, pp. 113-137.
- Blommerstein, H. J. (1998) 'The New Financial Landscape', in Balling M, Hennessy E, Obrien R (Edited), *Corporate Governance, Financial Markets and Global Convergence*. Kluwer Publishers, London
- Bluestone, B. and Harrison, B. (1982) 'The Industrialization of America', New York: Basic Books.
- Bollerslev, T. (1986). 'Generalized Autoregressive Conditional Heteroskedasticity', *Journal of Econometrics*, Vol. 31, pp. 307-327.
- Bollerslev, T., Chou, R. and Kroner, K. (1992) 'ARCH modelling in Finance', *Journal of Econometrics*, Vol. 52, pp. 5-59.
- Boone, A. L. and Mulherin, J. H. (2001) 'Valuing the Process of Corporate Restructuring', NBER *Working Paper Series*, JEL classification G34.
- Bothwell, J.L., Coolet, T.F. and Hall, T. E. (1984) 'A New View of Market Structure Performance', *Journal of Industrial Economics*, Vol. 32, pp. 397-417.
- Bowman, E.H. and Singh, H. (1993) 'Corporate Restructuring: Reconfiguring the Firm', *Strategic Management Journal*, Vol.14, Summer Issue, pp. 5-14.
- Boycko, M, Shleifer, A. and Vishny, R. (1996) 'A Theory of Privatisation', *Economic Journal*, Issue 106, pp. 309-319.
- Bradley, M. (1980) 'Interfirm Tender Offers and the Market for Corporate Control', *Journal of Business*, Vol. 53, No. 4, pp. 345-376.
- Bradley, M., Desai, A. and Kim, E.H. (1982) 'Specialized Resources and Competition in the Market for Corporate Control', *Working Paper Series*, Ann Arbor MI, University of Michigan.

- Bradley, M., Desai, A. and Kim, E.H. (1983) 'The Rationale Behind Interfirm Tender Offers: Information or Synergy?', *Journal of Financial Economics*, Vol. 11, No. 1-4, pp. 183-206.
- Bradley, M., Desai, A. and Kim, E.H. (1988) 'Synergistic Gains from Corporate Acquisitions and Their Division Between the Stockholders of Target and Acquiring Firms', *Journal of Financial Economics*, Vol. 21, No. 1, pp. 3-40.
- Brealey, R. and Myers, S. (1996) 'Principles of Corporate Finance', 5th Edition, New York: McGraw-Hill.
- Brealey, R. and Mayers, S.C. (2003) 'Principles of Corporate Finance', 7th Edition, Tata McGraw-Hill, NY.
- Breslow, N.E. (1982), 'Covariance Adjustment of Relative-Risk Estimates in Matched Studies', *Biometrics*, Vol. 38, pp. 661 -672.
- Brickley, J. A. and VanDrunen, L. D. (1990) 'Internal Corporate Restructurings: An Empirical Analysis', *Journal of Accounting and Economics*, Vol. 12, pp. 251-280.
- Brooks, C. (2002) 'Introductory Econometric for Finance', Cambridge University Press.
- Brown, D.T. and Ryngaert, M.(1991) 'The Mode of Acquisition in Takeovers: Taxes and Asymmetric Information', *Journal of Finance*, Vol. 56, pp. 653-669.
- Brown, D.T., James, C.M. and Mooradian, R.M.(1993) 'The Information Content of Distressed Restructurings Involving Public and Private Debt Claims', *Journal of Financial Economics*, Vol. 33, pp. 93-118.
- Brown, E (1999) 'Long-Run Performance Analysis of a New Sample of UK IPOs', *Working Paper*, University of Edinburgh.
- Brown, S. J. and Warner, J. B. (1980) 'Measuring Security Price Performance', *Journal of Financial Economics*, Vol. 8, pp. 205-258.

- Brown, S. J. and Warner, J. B. (1985) 'Using Daily Stock Returns: The Case of Event Studies', *Journal of Financial Economics*, Vol. 14, Issue 3, pp. 3-31.
- Bruner, R. (1988) 'The Use of Excess Cash and Debt Capacity as a Motive for Merger', *Journal of Financial and Quantitative Analysis*, Vol. 23, No. 2, pp. 199-217.
- Bruner, R. and Brownlee, E. (1990) 'Leveraged ESOPs, Wealth Transfers, and Shareholder Neutrality: The Case of Polaroid', *Financial Management*, Vol. 19, No. 1, pp. 59-74.
- Bruner, R. F. (2004) 'Where M &A Pays and Where it Strays', *Journal of Applied Corporate Finance*, Fall 2004, pp. 63-76.
- Bruner, R. F. (2004) 'Applied Mergers and Acquisitions', Hoboken NJ: John Wiley and Sons, 2004.
- Bruner, R. (1999) 'An Analysis of Value Destruction and Recovery in the Alliance and Proposed Merger of Volvo and Renault', *Journal of Financial Economics*, No. 1, January, pp. 125-166.
- Bruner, R., and Eades, K.M. (1992) 'The Crash of the Revco LBO: The Hypothesis of Inadequate Capital', *Financial Management*, Vol. 21, No. 1, pp. 35-49.
- Bruner, R., Glauber, R. and Mullins, D. (1979) 'UV Industries Inc.', *Harvard Business School Case Services*, Catalogue Number 9-280-072.
- Bruner, R. F. and Palacios, M. (2004) 'Valuing Control and Marketability', Batten Institute, *Working Paper Series*, May.
- Burton, M.B., Lonie, A.A. and Power, D.M. (1999) 'The Stock Market Reaction to Investment Announcements: The Case of Individual Capital Expenditure Projects', *Journal of Business Finance and Accounting*, Vol. 26, Issue 5-6, pp. 681-708.

- Bruton, G. D., Keels, J. K. and Scifres, E. L. (2002) 'Corporate Restructuring and Performance: An Agency Perspective on the Complete Buyout Cycle', *Journal of Business research*, Vol. 55, pp. 709-724.
- Buchel, B. (2000) 'Framework of Joint Venture Development: Theory-building through Qualitative Research', *Journal of Management Studies*, Vol. 37, No. 5, pp. 637-661.
- Bull, I. (1989) 'Performance of Leveraged Buy-outs: An Empirical Analysis', *Journal of Business Venturing*, Vol. 4, pp. 263-279.
- Burgelman, R. and Grove, A. (1996) 'Strategic Dissonance', *California Management Review*, Vol. 38, No. 2, pp. 8-28.
- Burke, R.J and Copper, C.L. (2000) 'The Organisation in Crisis: Downsizing, Restructuring, and Privatisation', Oxford, Malden, Mass: Blackwell.
- Burzawa, S. (2000) 'ESOPs in Transition: Two Companies Discuss Issues their ESOPs Faced Over Time', *Employee Benefit Plan Review*, Vol. 55, No. 1, pp. 46-49.
- Butz, D. (1994) 'How Do Large Minority Shareholders Wield Control', *Managerial and Decision Economics*, Vol.15, No. 4, pp. 291-299.
- Byrd, J. and Hickman, K. (1992) 'Do Outside Directors Monitor Managers? Evidence from Tender Offer Bids', *Journal of Financial Economics*, Vol. 32, No. 2, pp. 195-214.
- Callahan, J. and MacKenzie, S. (1999) 'Metrics for Strategic Alliance Control', *R&D Management*, Vol. 29, No. 4, pp. 365-377.
- Campa, J. and Kedia, S. (2002) 'Explaining the Diversification Discount', *Journal of Finance*, Vol. 57, pp. 1731-1762.

- Carline, N., Linn, S. and Yadav, P. (2002) 'The Impact of Firm-Specific and Deal-Specific Factors on the Real Gains in Corporate Mergers and Acquisitions: An Empirical Analysis', University of Oklahoma *Working Paper Series*, February.
- Carow, K. (2001) 'Citicorp-Travelers Group merger: Challenging barriers between banking and insurance', *Journal of Banking and Finance*, Vol. 25, pp. 1553-1571.
- Carr, C. (1999) 'Globalization, Strategic Alliances, Acquisitions, and Technology Transfer. Lessons from ICL/Fujitsu and Rover/Honda and BMW', *R&D Management*, Vol. 29, No. 4, pp. 405-421.
- Carter, M. E. (1998) 'Does Operating Performance Improve after Corporate Restructurings?', *Working Paper Series*, Sloan School of Management, MIT.
- Caves, R. (1989) 'Mergers, Takeovers, and Economic Efficiency', *International Journal of Industrial Organization*, Vol. 7, No.1, pp. 151-174.
- Chalmers, K. G., Godfrey, J. M. and Navissi, F. (2007) 'The Systematic Risk Effect of Hybrid Securities' Classifications', *Working Paper Series*, Monash University.
- Chan, S.H., Kensinger, J.W., Keown, A.J. and Martin J.D. (1997) 'Do strategic alliances create value?', *Journal of Financial Economics*, Vol. 46, pp. 199-221.
- Chan, W.S. (2001) 'Stock Price Reaction to News and No-news: Drift and Reversal after Headlines', MIT PhD Seminar presentation, MIT.
- Chandler, Al, D. (1977) 'The Visible hand', Cambridge MA: Belknap Press.
- Chaney, P.K., Hogan, C.E. and Jeter, D.C. (1999) 'The Effect of Reporting Restructuring Charges on Analysts' Forecast Revisions and Errors', *Journal of Accounting and Economics*, Vol. 27, June, pp. 261- 284.

- Chang, S. (1990) 'Employee Stock Ownership Plans and Shareholder Wealth: An Empirical Investigation', *Financial Management*, Vol.19, pp. 29-38.
- Chaplinsky, S. and Niehaus, G. (1990) 'The Tax and Distributional Effects of Leveraged ESOPs', *Financial Management*, Vol. 19, pp. 29-38.
- Chari, A., Chen, W. and Dominguez, K. M. E. (2009) 'Foreign Ownership and Firm Performance: Emerging Market Acquisitions in the United States', *National Bureau of Economic Research*, Working Paper No. W14786.
- Chatterjee, R. and Meeks, G. (1996) 'The Financial Effects of Takeover: Accounting Rates of Return and Accounting Regulation', *Journal of Business Finance and Accounting*, Vol. 23, No. 5/6, pp. 851-868.
- Chatterjee, S., and Lubatkin, M. (1990) 'Corporate Mergers, Stockholder Diversification, and Changes in Systematic Risk', *Strategic Management Journal*, May/June, pp. 255-326.
- Chatterjee, S., Lubatkin, M. and Schoenecker, T. (1992) 'Vertical Strategies and Market Structure: A Systematic Risk Analysis', *Organization Science*, Vol. 3, No. 1, pp. 138-156.
- Chatterjee, S., Dhillon, U.S. and Ramirez, G.G. (1995) 'Coercive Tender and Exchange Offers in Distressed High-yield Restructurings: An Empirical Analysis', *Journal of Financial Economics*, Vol. 38, pp. 333-360.
- Chaudhuri, S. and Tabrizi, B. (1999) 'Capturing the Real Value in High-Tech Acquisitions', *Harvard Business Review*, No. 5, September/October, pp. 15-21.
- Chemmanur, T. and Paeglis, I. (2001) 'Why Issue Tracking Stock', Unpublished *Working Paper Series*.
- Chen, H., Hu, M.Y. and Shieh, J.C. (1991) 'The Wealth Effect of International Joint Ventures: The Case of U.S. Investment in China', *Financial Management*, Vol. 20, pp. 31-41.

- Chen, S., Ho K., Lee, C. and Yeo, G. (2000) 'Investment Opportunities, Free Cash Flow and Market Reaction to International Joint Ventures', *Journal of Banking and Finance*, Vol. 24, No. 11, pp. 1747-1765.
- Chen, Z. and Ross, T. (2000) 'Strategic Alliances, Shared Facilities, and Entry Deterrence', *Rand Journal of Economics*, Vol. 31, No. 2, pp. 326-344.
- Chew, D. (1999) 'The New Corporate Finance: Where Theory Meets Practice', Edited, Burr Ridge IL: Irwin McGraw-Hill.
- Chiang, T. C. and Doong, S. (2001). 'Empirical Analysis of Stock Returns and Volatility: Evidence from Seven Asian Stock Markets Based on TAR-GARCH Model', *Review of Quantitative Finance and Accounting*, Vol. 17, pp. 301-318.
- Chris, V., Veld-Merkoulova, Y. V. (2008) 'An Empirical Analysis of the Stockholder-Bondholder Conflict in Corporate Spin-offs', *Financial Management*, Spring Issue, pp. 127-158.
- Christian, A., Betzer, A. and Weir, C. (2007) 'Shareholder Wealth Gains through Better Corporate Governance-The case of European LBO-transactions', *Financial Markets and Portfolio Management*, Vol. 21, No. 4, pp. 403-424.
- Chowdhury, I. and Chowdhury, P. (2001) 'A Theory of Joint Venture Life-cycles', *International Journal of Industrial Organization*, Vol. 19, pp. 319-343.
- Churchill, N.C. and Mullins, J.W. (2001) 'How Fast can your Company Afford to Grow?', *Harvard Business Review*, May, pp. 135-143.
- Clarke, K. and Ofek, E. (1994) 'Mergers as a Means of Restructuring Distressed Firms: An Empirical Analysis', *Journal of Financial and Quantitative Analysis*, Vol. 29, No. 4. (Dec.), pp. 541-565.
- Coase, R. (1937) 'The Nature of the Firm', *Economica*, Vol. 4, pp. 386-405.

- Collett, D. (1991) 'Modelling Binary Data', London: Chapman and Hall.
- Comment, R. and Jarrell, G. (1995) 'Corporate Focus and Stock Returns', *Journal of Financial Economics*, Vol. 37, No.1, pp. 67-87.
- Comment, R. and Jarrell, G. (1991) 'The Relative Signalling Power of Dutch Auction and Fixed Price Self-tender Offers and Open Market Share Repurchases', *Journal of Finance*, Vol. 30, pp. 253-272.
- Cook, R.D. and Weisberg, S. (1982) 'Residuals and Influence in Regression', New York: Chapman and Hall.
- Cook Jr., V. J. (2007) 'The Value/Revenue Ratio: A Semi-Long-Wave Marketing/Accounting Metric', *A.B. Freeman School of Business Working Paper*, SSRN.
- Copeland, T.E, Lemgruber, E.F. and Mayer, D. (1987) 'Corporate Spin-offs: Multiple Announcement and Ex-date Abnormal Performance', *Modern Finance and Industrial Economics: Paper in honour of J. Fred Weston*, T.E.Copeland (Edited) Basil Blackwell Inc., pp.114-137.
- Copeland, T.E. and Lee, W.H. (1991) 'Exchange Offers and Stock Swaps-New Evidence', *Financial Management*, Vol. 20, pp. 34-48.
- Copeland, T., Koller, T. and Murrin, J. (2000) 'Valuation: Measuring and Managing the Value of Companies', John Wiley, 3rd Edition.
- Cornell, B. and Shapiro, A.C. (1987) 'Corporate Stakeholders and Corporate Finance', *Financial Management*, No.3, Spring, pp. 5-14.
- Cornett, M.M. and Travlos, N.G. (1989) 'Information Effects Associated with Debt-for-Equity and Equity-for-Debt Exchange Offers', *Journal of Finance*, Vol.44, pp. 451-468.

- Cosh, A. and Guest, P. (2001) 'The Long Run Performance of Hostile Takeovers: UK Evidence', ESRC Centre for business research, University of Cambridge, *Working Paper Series*, No. 215.
- Cox, D.R. and Snell, E.J. (1989) 'The Analysis of Binary Data', 2nd Edition, London: Chapman and Hall.
- Crutchley, C. and Hansen, R. (1989) 'A Test of the Agency Theory of Managerial Ownership, Corporate Leverage and Corporate Dividends', *Financial Management*, Vol.18, pp. 36-46.
- Crutchley, C.E., Guo, E. and Hansen, R.S. (1991) 'Stockholder benefits from Japanese-US joint ventures', *Financial Management*, Vol. 20, pp. 22-30.
- Cusatis, P., Miles, J. and Woolridge, J. (1993) 'Restructuring Through Spin-offs: The Stock Market Evidence', *Journal of Financial Economics*, Vol. 33, pp. 293-313.
- D'Souza, J. and Jacob, J. (2000) 'Why Firms Issue Targeted Stock?', *Journal of Financial Economics*, Vol. 56, pp. 459-483.
- Daley, L., Mehrotra, V. and Sivakumar, R. (1997) 'Corporate Focus and Value Creation: Evidence from Spin-offs', *Journal of Financial Economics*, Vol. 45, No. 2, pp. 257-281.
- Das, T. and Teng, B. (1999) 'Managing Risks in Strategic Alliances', *The Academy of Management Executive*, Vol. 13, No. 4, pp. 50-62.
- Dasgupta, S., Goyal, V. and Tan, G. (2000) 'Active Asset Markets, Divestitures, and Divisional Cross-subsidization', Hong Kong University of Science and Technology, *Working Paper Series*.

- Datta, D. K. and Puia, G. (1995) 'Cross-border Acquisitions: An Examination of the Influence of Relatedness and Cultural Fit on Shareholder Value Creation in U.S. Acquiring Firms', *Management International Review*, Vol. 35, pp. 337-346.
- Datta, D.K., Pinches, G.E. and Narayanan, V.K. (1992) 'Factors Influencing Wealth Creation from Mergers and Acquisitions: A Meta-Analysis', *Strategic Management Journal*, Vol.13, No. 1, pp. 67-86.
- Davidson, K. (1989) 'Evolution of a New Industry', *Journal of Business Strategy*, Vol.10, Jan-Feb, pp. 54-56.
- Davis, A. and Leblond, M. (2002) 'A Spin-off Analysis: Evidence from New and Old Economies', Queen's University, *Working Paper Series*.
- Deakin, E.B. (1972) 'A Discriminant Analysis of Predictors of Business Failure', *Journal of Accounting Research*, March, pp.167-179.
- Dechow, P., Huson, M. and Sloan, R. (1994) 'The Effect of Restructuring Charges on Executives' Cash Compensation', *Accounting Review*, Vol.69, pp.138-156.
- DeLong, E.R., DeLong, D.M. and Clarke-Pearson, D.L. (1988), 'Comparing the Areas Under Two or More Correlated Receiver Operating Characteristic Curves: a Nonparametric Approach', *Biometrics*, Vol. 44, pp. 837 -845.
- DeLong, G. (2003) 'Does Long-Term Performance of Mergers Match Market Expectations? Evidence from the US Banking Industry', *Financial Management*, Summer, pp. 5-25.
- DeLong, G. (2001) 'Stockholder Gains from Focusing versus Diversifying Bank Mergers', *Journal of Financial Economics*, Vol. 59, No. 2, pp. 221-252.
- DePamphilis, D. M. (2007) 'Mergers, Acquisitions, and Other Restructuring Activities', 4th Edition, Elsevier Inc. MA.

- Denis, D., Denis, D. and Sarin, A. (1997) 'Agency Problems, Equity Ownership, and Corporate Diversification', *Journal of Finance*, Vol. 52, pp. 135-160.
- Denis, D., Denis, D. and Yost, K. (2002) 'Global Diversification, Industrial Diversification, and Firm Value', *Journal of Finance*, Vol. 57, pp. 1951-1979.
- Denis, D.J. and Kruse, T.A. (2000) 'Managerial Discipline and Corporate Restructuring following Performance Decline', *Journal of Financial Economics*, Vol. 55, pp. 391-424.
- Denis, D.J., Denis, D.K. and Sarin, A. (1994) 'The Information Content of Dividend Changes: Cash Flow Signalling, Overinvestment, and Dividend Clienteles', *Journal of Financial and Quantitative Analysis*, Vol. 29, pp. 567-588.
- Dennis, D. and McConnell, J. (1986) 'Corporate Mergers and Security Returns', *Journal of Financial Economics*, Vol. 16, No. 2, pp. 143-187.
- Desai, H. and Jain, P. (1999) 'Firm Performance and Focus: Long-run Stock Market Performance following Spin-offs', *Journal of Financial Economics*, Vol. 54, No. 1, pp. 75-101.
- Desai, M., Foley, C.F. and Hines, J.R. (2002) 'International Joint Ventures and the Boundaries of the Firm', Harvard University, *NOM Research Paper no. 02-29*, downloaded from SSRN.
- Dhillon, U. and Ramirez, G. (1994) 'Employee Stock Ownership and Corporate Control: An Empirical Study', *Quarterly Journal of Business and Economics*, Vol. 18, pp. 9-26.
- Dickerson, A., H. Gibson and Tsakalotos, E. (1997) 'The Impact of Acquisitions on Company Performance: Evidence From a Large Panel of U.K. Firms', *Oxford Economic Papers*, Vol. 49, No. 3, pp. 344-361.

- Dittmar, A. (2000) 'Why Do Firms Repurchase Stock', *Journal of Business*, Vol. 73, pp. 331-355.
- Dittmar, A. and Shivdasani, A. (2001) 'Divestitures and Divisional investment policies', *Working Paper Series*, Indian University and University of North Carolina.
- Dodd, P. (1980) 'Merger Proposals, Management Discretion and Stockholder Wealth', *Journal of Financial Economics*, Vol. 8, No. 2, pp. 105-138.
- Dodd, P. and Ruback, R. (1977) 'Tender Offers and Stockholder Returns: An Empirical Analysis', *Journal of Financial Economics*, Vol.5, No. 3, pp. 351-374.
- Donaldson, G. (1990) 'Voluntary Restructuring', *Journal of Financial Economics*, Vol. 27, pp. 117-141.
- Donaldson, G. (1994) 'Corporate Restructuring: Managing the Change Process from Within', Harvard Business School Press, ISBN: 0-87584-339-5.
- Dong, M., Hirshleifer, D., Richardson, S. and Teoh, S. (2003) 'Does Investor Misvaluation Drive the Takeover Market?', *Working Paper Series*, SSRN.
- Doukas, J. A., Kim, C. and Pantzalis, C. (2000) 'Security Analysis, Agency Costs and Company Characteristic', *Financial Analyst Journal*, Vol. 56, Issue 6, pp. 54-63.
- Doukas, J. A., McKnight, P. J. and Pantzalis, C. (2002) 'Security Analysis, Agency Costs and UK Firm Characteristics', JEL Classification: G24, G34, January 14.
- Doukas, J., Holmen, M. and Travlos, N. (2001) 'Corporate Diversification and Firm Performance: Evidence from Swedish acquisitions', *Working Paper Series*, SSRN.

- Doz, Y. and Hamel, G. (1998) 'Alliance Advantage: The Art of Creating Value through Partnering', Boston, MA: Harvard Business School Press.
- Easterwood, J.C, Seth, A., Singer, R.F. (1989) 'The Impact of Leveraged Buy-outs on Strategic Direction', *California Management Review*, Vol.32, pp. 30-43.
- Eberhart, A., Altman, E. and Aggarwal, R. (1999) 'The Equity Performance of Firms Emerging From Bankruptcy', *Journal of Finance*, Vol. 54, No. 5, pp. 1855-1868.
- Eckbo, B.E. (1983) 'Horizontal Mergers, Collusion, and Stockholder Wealth', *Journal of Financial Economics*, Vol. 11, No. 1-4, pp. 241-274.
- Eckbo, B.E. (1992) 'Mergers and the Value of Antitrust Deterrence', *Journal of Finance*, Vol. 47, No. 3, pp. 1005-1030.
- Eckbo, E. and Thorburn, K. (2000) 'Gains to Bidder Firms Revisited: Domestic and Foreign Acquisitions in Canada', *Journal of Financial and Quantitative Analysis*, Vol. 35, No. 1, pp. 1-25.
- Elder, J. and Westra, P. (2000) 'The Reaction of Security Prices to Tracking Stock Announcements', *Journal of Economics and Finance*, Vol. 24, No. 1, pp. 36-55.
- Elton, E. J. and Gruber, M. J. (1972) 'Earnings Estimates and Accuracy of Exceptional Data', *Journal of Management Science*, Vol. 18, pp. 409-424.
- Engle, R. F. (1982). 'Autoregressive Conditional Heteroskedasticity With Estimates of the Variance of UK Inflation', *Econometrica*, Vol. 50, No.4, pp. 987-1007.
- Engle, R.F. and Ng, Viktor. (1993) 'Measuring and Testing the Impact of News on Volatility', *Journal of Finance*, Vol. 48, pp. 1749-1778.

- Erickson, M. and Wang, S. (2000) 'The Effect of Transaction Structure on Price: Evidence from Subsidiary Sales', *Journal of Accounting & Economics*, Vol. 30, No. 1, pp. 59-97.
- Espenlaub, S., Gregory, A., and Tonks, I. (1998) 'Testing the Robustness of Long Term Underperformance of UK Initial Public Offerings', LSE Financial Markets Group discussion paper 285.
- Evans, J. and Green, C. (2000) 'Marketing Strategy, Constituent Influence, and Resource Allocation: An Application of the Mile and Snow Typology to Closely held Firms in Chapter 11 bankruptcy', *Journal of Business Research*, Vol. 50, No. 2, pp. 225-231.
- Fama, E.F. and French, K. R. (2002) 'Testing Trade-Off and Pecking Order Predictions about Dividends and Debt', *Review of Financial Studies*, Vol. 15, pp. 1-33.
- Fama E. F. and Jensen M. (1983) 'Separation of Ownership and Control', *Journal of Law and Economics*, Issue 26, pp. 301-326.
- Fan, J. and Goyal, V. (2002) 'On the Patterns and Wealth Effects of Vertical Mergers', Hong Kong University of Science & Technology *Working Paper Series*, January.
- Fauver, L., Houston, J.F., and Naranjo, A. (2002) 'Capital Market Development, Integration, Legal Systems, and the Value of Corporate Diversification: A Cross-country Analysis', *Working Paper Series*, SSRN.
- Feldman, S. J. (2005) 'Principles of Private Firm Valuation', John Wiley & Sons, ISBN-10: 047148721X.
- Fenn, G. W. and Liang, N. (2001) 'Corporate Payout Policy and Managerial Stock Incentives', *Journal of Financial Economics*, Vol. 60, pp. 45-72.

- Feroz, E. H., Johnston, J., Reck, J. and Wilson, E. R. (2006) 'The Incremental Value Relevance of Firm Specific Risk Measures in Pricing Junk IPOs', *Review of Accounting and Finance*, Vol. 5, No. 3, pp. 251-267.
- Ferris, S. and Park, K. (2001) 'How Different is the Long-Run Performance of Mergers in the Telecommunications Industry?', University of Missouri *Working Paper Series*, March.
- Ferris, S.P., Sen, N., Lim, C.Y. and Yeo, G.H.H. (2002) 'Corporate Focus versus Diversification: The Role of Growth Opportunities and Cash Flow', *Journal of International Financial Markets, Institutions and Money*, Vol. 12, pp. 231-252.
- Finnerty, J.E., Owers, J.E. and Rogers, R.C. (1986) 'The Valuation Impact of Joint Ventures', *Management International Review*, Vol. 26, pp. 14-26.
- Firth, M. (1980) 'Takeovers, Shareholder Returns, and the Theory of the Firm', *Quarterly Journal of Economics*, Vol. 94, No. 2, pp. 235-60.
- Fisher, A.B. (1994) 'How to Make a Merger Work', *Fortune*, No. 2, January 24, pp. 66-69.
- Fishman, M. (1989) 'Pre-emptive Bidding and the Role of Acquisitions', *Journal of Finance*, Vol. 44, pp. 41-58.
- Flack, V. F. and Chang, P. C. (1987) 'Frequency of Selecting Noise Variables in Subset Regression Analysis: A Simulation Study', *American Statistician*, Vol. 41, pp. 84-86.
- Flanagan, D. (1966) 'Announcements of Purely Related and Purely Unrelated Mergers and Shareholder Returns: Reconciling the Relatedness Paradox', *Journal of Management*, Vol. 22, pp. 823-846.

Fleiss, J.L. (1981) 'Statistical Methods for Rates and Proportions', 2nd Edition, New York: John Wiley & Sons, Inc.

Floreani, A. and Rigamonti, S. (2001) 'Mergers and Shareholders' Wealth in the Insurance Industry', *Working Paper Series*, Universita Cattolica del S. Cuore, March.

Fluck, S. and Lynch A. (1999) 'Why Do Firms Merge and then Divest? A Theory of Financial Synergies', *Journal of Business*, Vol. 72, No. 3, pp. 319-346.

Fox, I. and Marcus, A.(1992) 'The Causes and Consequences of Leveraged Management Buy-outs', *Academy of Management Review*, Vol. 17, pp. 62-85.

Frankel, M. E. S. (2005) 'Mergers and Acquisitions Basics: The Key Steps of Acquisitions, Divestitures, and Investments', John Wiley & Sons, Inc.

Franko, L.G. (1989) 'Global Corporate Competition: Who is Winning, Who is Losing and the R&D Factors as One Reason Why', *Strategic Management Journal*, Vol. 10, pp. 449-474.

Franks, J. and Harris, R. (1989) 'Share Holder Wealth Effect of Corporate Takeover: The UK Experience', *Journal of Financial Economics*, Vol.23, pp. 225-250.

Franks, J., Harris, R. and Titman, S.(1991) 'The Postmerger Share-Price Performance of Acquiring Firms', *Journal of Financial Economics*, Vol. 29, No. 1, pp. 81-96.

Franks, J., Harris, R. and Mayer, C. (1988) 'Means of Payment in Takeovers: Results for the United kingdom and United States, In: Alan Auerbach, Edited, Corporate takeovers: Causes and Consequences' *National Bureau of Economic Research*, University of Chicago press, IL.

- Frederikslust RAI van and Veldhuizen A van. (1996) 'Bescherming van Nederlandse beursfondsen in Europees perspectief', *Holland/Belgium Management Review*, Issue 48, pp. 80-86.
- Freeman, D.H., Jr. (1987) 'Applied Categorical Data Analysis', New York: Marcel Dekker, Inc.
- Freiman, H. (1990) 'Understanding the Economics of Leveraged ESOPs', *Financial Analysts Journal*, Vol. 46, pp. 51-55.
- Friedman, J. (2000) 'Dictionary of Business Terms', 3rd Edition, Barron's Educational Series: Hauppauge, NY.
- Frierman, M. and P.V. Viswanath, (1994) 'Agency Problems of Debts, Convertible Securities, and Deviations from Absolute Priority in Bankruptcy', *Journal of Law and Economics*. Vol. 37, pp. 455-476.
- Frijns JMG, Mensonides J, Schreurs RJ. (1995) 'Institutionele Beleggers en Corporate Governance', *De Naamlooze Vennootschap*, Issue 73, pp. 265-270.
- Froud, J., Haslam, C., Johal, S. and Williams, K.(2000) 'Restructuring for Shareholder Value and its Implication for Labour', *Cambridge Journal of Economics*, Vol. 24, pp. 771-797.
- Fuller, K., Netter, J. and Stegemoller, M. (2002) 'What Do Returns to Acquiring Firms Tell Us? Evidence from Firms that make Many Acquisitions', *Journal of Finance*, Vol. 57, No. 4, pp. 1763-1793.
- Fulmer, J. G. Jr., Moon, J. E., Gavin, T. A. and Erwin, M. J.(1984) 'A Bankruptcy Classification Model For Small Firms', *Journal of Commercial Bank Lending*, July , pp. 25-37.
- Furnival, G.M. and Wilson, R.W. (1974), 'Regressions by Leaps and Bounds', *Technometrics*, Vol.16, pp. 499 -511.

- Gadiesh, O., Ormiston, C., Rovit, S. and Critchlow, J. (2001) 'The 'Why' and 'How' of Merger success', *European Business Journal*, Vol. 13, Issue 4, pp. 187-198.
- Galpin, T. J. and Herndon, M. (2007) 'The Complete Guide to Mergers and Acquisitions: Process Tools to Support M&A Integration at Every Level', Jossey-Bass Business and Management Series.
- Gaughan, P. A. (2007) 'Mergers, Acquisitions, and Corporate Restructuring', John Wiley and Sons Inc., NY.
- Gelauff, G. M. and Broeder, C, den. (1996) 'Governance of Stakeholder Relationships: The German and Dutch Experience', *Onderzoeksmemorandum CPB*, pp. 127-129.
- Gertner, R., Powers, E. and Scharfstein, D. (2002) 'Learning about Internal Capital Markets from Corporate Spin-offs', *Journal of Finance*, Vol. 57, No. 6, pp. 2479-2506.
- Ghosh, A. (2001) 'Does Operating Performance Really Improve following Corporate Acquisitions?', *Journal of Corporate Finance*, Vol. 7, No. 2, pp. 151-178.
- Ghosh, A. (2002) 'Increasing Market Share as a Rational for Corporate Acquisitions,' Baruch College, *Working Paper Series*, May.
- Gibbs, P.A. (1993) 'Determinants of Corporate Restructuring: The Relative Importance of Corporate Governance, Takeover Threat and Free Cash Flow', *Strategic Management Journal*, Vol.14, pp. 51-68.
- Gil, M. and Gonzalez de la Fe, P. (1999) 'Strategic Alliances, Organizational Learning, and New Product Development: The Cases of Rover and Seat', *R&D Management*, Vol. 29, No. 4, pp. 391-404.
- Gilbert, L.R., Menon, K. and Schwartz, K.B. (1990) 'Predicting Bankruptcy for Firms in Financial Distress', *Journal of Business Finance and Accounting*, Spring, pp. 161-171.

- Gilson, S. C. (2001) 'Creating Value through Corporate Restructuring: Case Studies in Bankruptcies, Buyouts, and Breakups', John Wiley & Sons, Inc. NY. ISBN: 0-471-40559-0.
- Gilson, S.C., Healy, P.M., Noe, C. F. and Palepu, K. G. (2001) 'Analyst Specialisation and Conglomerate Stock Break-ups', *Journal of Accounting Research*, Vol. 39, Issue 3, pp. 565-574.
- Gleick, J. C. (1998): *Making a New Science* New York, NY: Penguin Books.
- Glosten, L. R., Jagannathan, R. and Runkle, D. E. (1993) 'On the Relation between the Expected Value and the Volatility of the Nominal Excess Return on Stocks', *The Journal of Finance*, Vol. 48, No. 5, pp. 1779-1801.
- Goergen, M., and Renneboog, L. (2003) 'Shareholder Wealth Effects of European domestic and Cross-Border Takeover Bids,' European Corporate Governance Institute, *Finance Working Paper Series* no. 08/2003.
- Golbe, D. and White, L. (1993) 'Catch a Wave: The Time Series Behaviour of Mergers', *Review of Economics and Statistics*, Vol. 75, pp. 493-499.
- Golbe, D. and White, L. (1988) 'Mergers and Acquisitions in the U.S. Economy: An Aggregate and Historical Overview', In A. Auerbach, Edited. *Mergers and Acquisitions*, University of Chicago Press, pp. 25-47.
- Gombola, M. J. and Ketz, J. E. (1983) 'Financial Ratio Patterns in Retail and Manufacturing Organisations', *Financial Management*, Vol.11, Summer, pp. 45-56.
- Gordon, L. A. and Pound, J. (1993) 'Information, Ownership Structure, and Shareholder Voting: Evidence from Shareholder-Sponsored Corporate Governance Proposals', *Journal of Finance*, Vol. 48, Issue 2, pp. 697-718.

- Gort, M. (1969) 'An Economic Disturbance Theory of Mergers', *Quarterly Journal of Economics*, Vol. 83, pp. 624-642.
- Gowrisankaran, G. and Holmes, J. H. (2004) 'Mergers and the Evolution of Industry Concentration: Results from the Dominant-Firm Model', *RAND Journal of Economics*, Vol. 35, No. 3, pp. 561-582.
- Graham, J., Lemmon, M. and Wolf, J. (2002) 'Does Corporate Diversification Destroy Value?', *Journal of Finance*, Vol. 57, pp. 695-720.
- Gregory, A. (1997) 'An Examination of the Long Run Performance of U.K. Acquiring Firms', *Journal of Business Finance & Accounting*, Vol.24, No. 7/8, pp. 971-1002.
- Griffiths, W. E. and Pope, P. J. (1987). 'Small Sample Properties of Probit models', *Journal of the American statistical Association*, Vol. 82, pp. 929-937.
- Grubb, T. M. and Robert B. L. (2000) 'Capitalize on Merger Chaos', New York: Free Press.
- Gupta, A. and Misra, L. (2002) 'Regulatory Change, Profitability, and Managerial Motives in Financial Mergers', Bentley College, *Working Paper Series*.
- Gupta, P. P., Kennedy, D. B. and Weaver, S. C. (2009) 'Corporate Governance and Firm Value: Evidence from Canadian Capital Markets', *Journal of Corporate Ownership and Control*, Vol. 6, No. 3, Forthcoming.
- Haley, U.C.V. (2000) 'Corporate governance and Restructuring in East Asia: An Overview', *Seoul Journal of Economics*, Vol. 13, Issue 3, pp. 225-251.
- Hall, P.D. (19987) 'The Management Factors in Acquisition Performance', *Leadership and Organisation Development Journal*, Vol.3, pp. 23-30.

- Halpern, P. (1983) 'Corporate Acquisitions: A theory of Special Cases? A Review of Event Studies Applied to Acquisitions', *Journal of Finance*, Vol. 38, Issue 2, pp. 297-317.
- Hambrick, D. and Crozier, L. (1985) 'Stumblers and Stars in the Management of Rapid Growth', *Journal of Business Venturing*, Vol. 1, No. 1, pp. 31-45.
- Hanley, J.A. and McNeil, B.J. (1982), 'The Meaning and Use of the Area under a Receiver Operating Characteristic (ROC) Curve', *Radiology*, Vol.14, No. 3, pp. 29 -36.
- Hanna, D. (1999) 'Analysts' Earnings Forecasts and the Recognition of Special Items', *Working Paper Series*, University of Chicago.
- Hanushek, E. A. (1977) 'Models with Discrete Dependent Variables', *Statistical Methods for Social Scientists*, New York Academy Press.
- Harford, J. (1999) 'Corporate Cash Reserves and Acquisitions', *Journal of Finance*, Vol. 54, No. 6, pp. 1969-1997.
- Harhoff, D., Stahl, K. and Woywode, M. (1998) 'Legal Form, Growth and Exit of West German firms - Empirical Results for Manufacturing, Construction, Trade and Service Industries', *Journal of Industrial Economics*, Vol. 46, No. 4, pp. 453-488.
- Harrell, F.E. (1986) 'The Logit Procedure', *SUGI Supplemental Library Guide*, Version 5th Edition, Cary, NC: SAS Institute Inc.
- Harrigan, K. (1984) 'Formulating Vertical Integration Strategies', *Academy of Management Review*, Vol. 9, No. 9, pp. 638-652.
- Harrigan, K. (1985) 'Managing for Joint Venture Success', New York: Praeger.

- Harris, M. and Raviv, A. (1996) 'The Capital Budgeting Process: Incentives and Information', *Journal of Finance*, Vol. 51, pp. 1139-1174.
- Harrison, J.S. and St. John, C.H. (1994) 'Strategic Management of Organizations and Stakeholders: Theory and Cases St. Paul', MN: West Publishing.
- Hass, J. (1996) 'Directional Fiduciary Duties in a Tracking Stock Equity Structure: The Need for a Duty of Fairness', *Michigan Law Review*, Vol. 94, pp. 2089-2177.
- Hauch, W. W. and Donner, A. (1977) 'Wald's Test as Applied to Hypotheses in Logit Analysis', *Journal of American Statistical Association*, Vol. 72, pp. 851-853.
- Haushalter, D. and Mikkelsen, W. (2001) 'An Investigation of the Gains from Specialized Equity: Tracking Stock and Minority Carve-outs', University of Oregon *Working Paper Series*.
- Hax, A. and Majluf, N. (1984) 'Strategic Management: An Integrative Perspective', Englewood Cliffs NJ: Prentice-Hall.
- Haynes, M., Thompson, S. and Wright, M. (2002) 'The Impact of Divestment on Firm Performance: Empirical Evidence from a Panel of UK Companies', *Journal of Industrial Economics*, Vol. 50, No. 2, pp. 173-196.
- Healy, P. M. and Papelu, K.G. (1993) 'The Effect of Firm's Financial Disclosure Strategies on Stock Prices', *Accounting Horizon*, March, pp. 1-11.
- Healy, P., Palepu, K. and Ruback, R. (1992) 'Does Corporate Performance Improve after Mergers', *Journal of Financial Economics*, Vol. 31, No. 2, pp. 135-175.
- Healy, P., Palepu, K. and Ruback, R. (1997) 'Which Takeovers are Profitable: Strategic or Financial?', *Sloan Management Review*, Vol. 38, No. 4, pp. 45-57.

- Hearth, D. and Zaima, J.K. (1986) 'Divestiture Uncertainty and Shareholder Wealth: Evidence from the U.S.A.', *Journal of Business Finance & Accounting*, Vol. 21, pp. 71-85.
- Heitman, E. and Zahra, S.A. (1993) 'Examining the US Experience to Discover Successful Corporate Restructuring', *Industrial Management*, January-February Issue, pp. 7-10.
- Helfat, C. E. and Teece, D. J. (1987) 'Vertical Integration and Risk Reduction', *Journal of Law, Economics, and Organization*, Vol. 3, No. 1, pp. 47-68.
- Hellerman, M. and Jones, B. (2000) 'The Would've, Could've, and Should've of Spin-offs', *Journal of Business Strategy*, Vol. 21, No. 4, pp. 10-14.
- Hennessy, D. (2000) 'Corporate Spin-offs, Bankruptcy, Investment, and the Value of Debt Insurance', *Mathematics and Economics*, Vol. 27, pp. 229-235.
- Herman, E. and Lowenstein, L. (1988) 'The Efficiency Effect of Hostile Takeovers' In J.C. Coffee, Jr.; L. Lowenstein and S. Rose-Ackerman; Edited, *Knights, Raiders and Targets*, pp. 211-240. New York: Oxford University Press.
- Heron, R., and Lie, E. (2002) 'Operating Performance and the Method of Payment in Takeovers', *Journal of Financial and Quantitative Analysis*, Vol. 37, pp. 137-155.
- Hietala, P., Kaplan, S. and Robinson, D. (2002) 'What is the Price of Hubris? Using Takeover Battles to Infer Overpayments and Synergies', *NBER Working Paper Series* no W9264, October.
- Higson, C. and Elliot, J. (1998) 'Post-takeover Returns: The UK Evidence', *Journal of Empirical Finance*, Vol. 5, pp. 27-46.

- Hill, C. and Snell, S. (1988) 'External Control, Corporate Strategy, and Firm Performance in Research Intensive Industries', *Strategic Management Journal*, Vol. 9, pp. 577-590.
- Hite, G. and Owers, J. (1983) 'Security Price Reactions around Corporate Spin-off Announcements', *Journal of Financial Economics*, Vol.12, pp. 409-436.
- Hite, G., Owers J. and Rogers, R. (1987) 'The Market for Inter-firm Asset Sales: Partial Selloffs and Total Liquidations', *Journal of Financial Economics*, Vol. 18, pp. 229-252.
- Hite, G.L. and Vetsuypens, M.R. (1989) 'Management Buyouts of Divisions and Shareholder Wealth', *Journal of Finance*, Vol. 8, pp. 1123-1189.
- Hitt, M. A, Hoskisson, R.E. and Ireland, R.D. (1990) 'Mergers and Acquisitions and Managerial Commitment to Innovation', *Strategic Management Journal*, Vol.11, Special Issue, pp. 29-47.
- Hitt, M. A., Nixon, R. D., Hoskisson, R. E. and Kochhar, R., (1999) 'Corporate Entrepreneurship and Cross-functional Fertilization: Activation, Process and Disintegration of a New Product Design Team', *Entrepreneurship: Theory & Practice*, Vol. 23, pp. 145-167.
- Hitt, M. A., Levitas, E. and Borza, A. (2000) 'Partner Selection in Emerging and Developed Market Contexts: Resource-based and Organizational Learning Perspective', *Academy of Management Journal*, Vol. 43, No. 3, pp. 449-467.
- Hitt: M.A., Ireland R.D. and Hoskisson, R.E. (1995) 'Strategic Management: Competitiveness and Globalization', St. Paul, MN: West Publishing.
- Hogan K. and Olson, G. (2001) 'A Comparison of Equity Carve-outs and Original Initial Public Offers: The Differential Impact of Information Asymmetry related Variables and Underpricing', St. Joseph's University *Working Paper Series*.

- Holmstrom, B. and Kaplan, S. (2001) 'Corporate Governance and Merger Activity in the U.S.: Making sense of the 1980s and 1990s', *NBER Working Paper Series*.
- Holthausen, R.W. and Larcker, D.F. (1996) 'The Financial Performance of Reverse Leveraged Buy-outs', *Journal of Financial Economics*, Vol.42, pp. 293-332.
- Hong, H. and Stein, J.C. (1999) 'A Unified Theory of Underreaction, Momentum Trading and Overreaction in Asset Markets', *Journal of Finance*, Vol. 54, pp. 2143-2184.
- Hoskisson, R., Johnson, R. and Moesel, D. (1994) 'Divestment Intensity of Restructuring Firms: Effects of Governance, Strategy and Performance', *Academy of Management Journal*, Vol. 37, pp. 1207-1251.
- Hoskisson, R.E. and Turk, T.A. (1992) 'Corporate Restructuring: Governance and Control Limits of the Internal Capital Market', *Academy of Management Review*, Vol.15, pp. 459-475.
- Hosmer, D. W. and Lemeshow, S. (2000) 'Applied Logit Regression', John Wiley & Sons.
- Houston, J., James, C. and Ryngaert, M. (2001) 'Where Do Merger Gains come from? Bank Mergers from the Perspective of Insiders and Outsiders', *Journal of Financial Economics*, Vol. 60, No. 2/3, pp. 285-331.
- Howe, K., He, J. and Kao, G. (1992) 'One Time Cash Flow Announcements and Free Cash Flow Theory: Share Repurchases and Special Dividends', *Journal of Finance*, Vol. 47, pp. 1963-1976.
- Howton, S. and Perfect, S. (1998) 'The Market Reaction to Straight Debt Issues: the Effects of Free Cash Flows', Eastern Financial Association Thirty-Fourth Annual Meeting, Williamsburg, Virginia, April 22-25, 1998.

- Huang, Y. and Walkling, R. (1987) 'Target Abnormal Returns Associated with Acquisition Announcements: Payment, Acquisition Form, and Managerial Resistance', *Journal of Financial Economics*, Vol. 19, No. 2, pp. 329-350.
- Hubbard, G. and Palia, D. (1999) 'A Re-examination of the Conglomerate Merger Wave in the 1960s: An Internal Capital Markets View', *Journal of Finance*, Vol. 54, pp. 1131-1152.
- Hulburt, H., Miles, J. and Woolridge, R. (2000) 'Value Creation from Equity Carve-outs', *Financial management*, Spring, pp. 83-100.
- Hung, Y. and Walkling, R. A. (1987) 'Target Abnormal Returns Associated with Acquisition Announcements: Payment, Acquisition from Managerial Resistance', *Journal of Financial Economics*, Vol.19, pp. 329-349.
- Huston, E. and Stevenson, S. (2008) 'Asymmetry in REIT Returns', *Journal of Real Estate Portfolio Management*, April-June, pp. 12-27.
- Hyland, D. and Diltz, J. (2002) 'Why Firms Diversify: An Empirical Examination', *Financial Management*, Spring, pp. 51-81.
- Ibbotson, R.G., and Ritter, J.R. (1997) 'Initial Public Offerings' in Jarrow, R.A., Maksimovic, V., and Ziemba, W.T. (Edited), *Handbooks in Operations Research and Management Science*, Elsevier Science, pp. 993-1017.
- Ikenberry, D., Lakonishok, J. and Vermaelen, T. (1995) 'Market Underreaction to Open Market Share Repurchases', *Journal of Financial Economics*, Vol. 39, pp. 181-208.
- Ingham, H., Kran, I. and Lovestam, A. (1992) 'Mergers and Profitability: A Managerial Success Story?', *Journal of Management Studies*, Vol. 29, No. 2, pp. 195-209.

- Inkpen, A. (2000) 'Learning through joint ventures: A Framework of Knowledge Acquisition', *Journal of Management Studies*, Vol. 37, No. 7, pp. 1019-1043.
- Jain, P. (1985) 'The Effect of Voluntary Sell-off Announcements on Shareholder Wealth', *Journal of Finance*, Vol. 40, pp. 209-224.
- James, C.(1996) 'Bank debt restructuring and the composition of exchange offers in financial distress', *Journal of Finance*, Vol. 51, Issue 2, pp. 711-727.
- Jarrell, G. and Poulsen, A. (1989) 'The Returns to Acquiring Firms in Tender Offers: Evidence from Three Decades', *Financial Management*, Vol.18, No. 3, pp. 12-19.
- Jarrell, G. and Bradley, M. (1980) 'The Economic Effects of Federal and State Regulations of Cash Tender Offers', *Journal of Law and Economics*, Vol. 23, No. 2, pp. 371-407.
- Jarrell, G. Brickley, J. and Netter, J. (1980) 'The Market for Corporate Control: The Empirical Evidence Since 1980', *Journal of Economic Perspectives*, Vol. 2, No. 2, pp. 49-68.
- Jarrell, S. (1991) 'Do Takeovers Generate Value? Evidence on the Capital Market's Ability to Assess Takeovers', February, Thesis: Southern Methodist University.
- Jayarama, N., Khorana, A. and Nelling, E. (2002) 'An Analysis of the Determinants and Shareholders Wealth Effects of Mutual Fund Mergers', *Journal of Finance*, Vol. 57, No. 3, pp. 1521-1551.
- Jayaratne, J. and Shapiro, C. (2000) 'Simulating Partial Asset Divestitures to 'fix' Mergers', *International Journal of Economics of Business*, Vol. 7, No. 2, pp. 179-200.

- Jennings, D.E. (1986) 'Judging Inference Adequacy in Logit Regression', *Journal of American Statistical Association*, Vol. 72, pp. 851-853.
- Jensen M. C. (1986) 'Agency Costs of Free Cash Flow, Corporate Finance and Takeovers', *American Economics Review*, Issue 76, pp. 323-329.
- Jensen M. C. (1989) 'Active Investors, LBO's and the Privatization of Bankruptcy', *Journal of Applied Corporate Finance*, Issue 2, pp. 35-44.
- Jensen, M. C. (1988) 'Takeovers: Their Causes and Consequences', *Journal of Economic Perspectives*, Vol. 2, Winter, pp. 21- 48.
- Jensen, M. C. (1993) 'The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems', *Journal of Finance*, Vol. 48, pp. 831-880.
- Jensen, M. C. and Chew, D. (1997) 'US Corporate Lessons from the 1980s'. In: *Investment Management*, P. Bernstein and A. Damodaran (Edited). John Wiley, New York.
- Jensen, M. and Ruback, R. S. (1983) 'The Market for Corporate Control: The Scientific Evidence', *Journal of Financial Economics*, Vol. 11, No. 1-4, pp. 5-50.
- Jensen, M.C. and Meckling, W.H. (1976) 'Theory of the Firm: Managerial Behaviour, Agency Costs, and Ownership Structure', *Journal of Financial Economics*, Vol. 4, pp. 305-360.
- Jensen, M.C. (1987) 'The Free Cash Flow Theory of Takeover: A Financial Perspective on Mergers and Acquisitions and the Economy', ' *The Merger Boom*', Proceedings of a Conference sponsored by Federal Reserve Bank of Boston, pp. 102-143.
- Jensen, M.C.(1989) 'Eclipse of Public Corporation', *Harvard Business Review*, Sep-Oct. Issue, pp. 61-74.

- John G. Matsusaka, J. G. (1993) 'Takeover Motives during the Conglomerate Merger Wave', *Rand Journal of Economics*, Vol. 24, Issue 3, pp. 357-379.
- John, T. A. (1986) 'Mergers and Investment Incentives', *Journal of Financial and Quantitative Analysis*, Vol. 21, December, pp. 393-413.
- John, T. A. (1991) 'Corporate Restructuring and Incentive Effects of Leverage and Taxes', *Managerial and Decision Economics*, Vol. 12, No. 6, Special Issue: Corporate Structure and Control (Dec. 1991), pp. 461-472.
- John, K. and Ofek, E. (1995) 'Asset Sales and Increase in Focus', *Journal of Financial Economics*, Vol. 37, pp. 105-126.
- Johnson, R. A. (1996) 'Antecedents and Outcomes of Corporate Restructuring', *Journal of Management*, Vol. 22, pp. 439-483.
- Johnson, J. A., Brown, R., Johnson, D. A. (1994) 'The Market Reaction to Voluntary Corporate Spin-offs: Revisited', *Quarterly Journal of Business and Economics*, Vol. 33, pp. 44-59.
- Johnson, S., Klein, D. and Thibodeaux, V. (1996) 'The Effects of Spin-offs on Corporate Investment and Performance', *Journal of Financial Research*, Vol. 19, pp. 293-307.
- Johnson, S.A. and Houston M.B. (2000) 'A Re-examination of the Motives and Gains in Joint Ventures', *Journal of Financial and Quantitative Analysis*, Vol. 35, No. 1, pp. 67-86.
- Jones, E. and Danbolt, J. (2005) 'Empirical Evidence on the Determinants of the Stock Market Reaction to Product and Market Diversification Announcements', *Applied Financial Economics*, Vol. 15, No. 9, pp. 623-629.
- Joseph, C.Y and Tang, M. (1992) 'International Joint Ventures: Theoretical Considerations', *Managerial and Decision Economics*, Vol. 13, No. 4., Jul - Aug, pp. 331-342.

- Jovanovic, B. and Braguinsky, S. (2004) 'Bidder Discounts and Target Premia in Takeovers', *American Economic Review*, Vol. 94, No. 1, pp. 46-56.
- Jovanovic, B. and Rousseau, P. (2002) 'Mergers as Reallocation.' NBER *Working Paper Series*: 9279.
- Kaplan, S. (1989) 'The Effects of Management Buyouts on Operating Performance and Value', *Journal of Financial Economics*, Vol. 24, No. 2, pp. 217-254.
- Kahneman D. and Tversky, A. (1979) 'Prospect Theory: An Analysis of Decision Under Risk', *Econometrica*, March, pp. 263-291.
- Kaiser, K. and Stouraitis, A. (2001) 'Reversing Corporate Diversification and the Use of the Proceeds from Asset Sales: The Case of Thorn EMI', *Financial Management*, Vol. 4, pp. 63-102.
- Kale, P., Singh, H. and Perlmutter, H. (2000) 'Learning and Protection of Proprietary Assets in Strategic Alliances: Building Relational Capital', *Strategic Management Journal*, Vol. 21, pp. 217-237.
- Kang J and Shivdasani A. (1997) 'Corporate Restructuring during Performance Declines in Japan', *Journal of Financial Economics*, Issue 46, pp. 29-65.
- Kaplan, S and Weisbach, M. (1992) 'The Success of Acquisitions: Evidence from Divestitures', *Journal of Finance*, Vol. 47, No. 1, pp. 107-138.
- Kaplan, S. N. (2006) 'Mergers and Acquisitions: A Financial Economics Perspective', Prepared for the Antitrust Modernisation Commission Economist's Roundtable on Merger Enforcement, January 19.
- Kaplan, S. (1989) 'The Effect of Management Buy-outs on Operating Performance and Value', *Journal of Financial Economics*, Vol.24, pp. 107-138.

- Kaplan, S. (1989) 'Campeau's Acquisition of Federated: Value Destroyed or Value Added', *Journal of Financial Economics*, Vol. 25, No. 2, pp. 191-212.
- Kaplan, S., Mitchell, M. and Wruck, K. (1997) 'A Clinical Exploration of Value Creation and Destruction in Acquisitions: Organizational Design, Incentives, and Internal Capital Markets', *Working Paper Series*, Chicago IL: Centre for Research in Security Prices, March 1997.
- Kelly, J., Cook, C. and Spitzer, D. (1999) 'Unlocking Shareholder Value: The Keys to Success,' New York: KMPG LLP, November, 1999.
- Kenc, T. (2000) 'Discussion of Optimal Entrepreneurial Financial Contracting', *Journal of Business Finance and Accounting*, Vol. 27, pp. 1375-1378.
- Kennedy, R. (2000) 'The Effect of Bankruptcy Filings on Rivals' Operating Performance: Evidence from 51 Large Bankruptcies', *International Journal of the Economics of Business*, Vol. 7, No. 1, pp. 5-25.
- Khanna, T. and Palepu, K. (1997) 'Why Focused Strategies may be Wrong for Emerging Markets', *Harvard Business Review*, July-August, pp. 41-51.
- Khanna, T. and Palepu, K. (2000) 'Is Group Affiliation Profitable in Emerging Markets? An Analysis of Diversified Indian Business Groups', *Journal of Finance*, Vol. 55, pp. 867-891.
- Kieschnick, R.L. (1998) 'Free Cash Flow and Stockholder Gains in Going Private Transactions Revisited', *Journal of Business Finance*, Vol. 25, Issue 1/2, pp. 187-202.
- Kim, E.H. and Schatzberg, J.D. (1987) 'Voluntary Corporate Liquidations', *Journal of Financial Economics*, Vol. 19, pp. 311-328.
- Kim, H. and McConnell, J. (1977) 'Corporate Mergers and Co-insurance of Corporate Debt', *Journal of Finance*, Vol. 32, May, pp. 349-65.

- Kim, Y. and McElreath, R. (2001) 'Managing Operating Expense: A case study of the Automobile Industry', *Multinational Business Review*, Vol. 9, No. 1, pp. 21-26.
- Klein, A. (1986) 'The Timing and Substance of Divestiture Announcements: Individual, Simultaneous and Cumulative Effects', *Journal of Finance*, Vol. 41, pp. 685-696.
- Klein, P. (2001) 'Were the Acquisitive Conglomerates Inefficient?', *Rand Journal of Economics*, Vol. 32, No.4, pp. 745-761.
- Klein, R. and Beranek, D. (1991) 'The Two Stages of An Equity Carve-out and the Price Response of Parent and Subsidiary Stock', *Managerial and Decision Economics*, Vol. 12, December, pp. 449-460.
- Koh., J. and Venkataraman, N. (1991) 'Joint Venture Formation and Stock Market Reaction: An Assessment in the Information Technology Sector', *Academy of Management Journal*, Vol. 34, pp. 869-892.
- Kohers, N. and Kohers, T. (2001) 'Takeovers of Technology Firms: Expectations vs. Reality', *Financial Management*, Autumn, pp. 35-54.
- Koke, J. (2002) 'Determinants of Acquisition and Failure: Evidence from Corporate Germany', *Structural Change and Economic Dynamics*, Vol. 13, No. 4, pp. 457-484.
- Krishnaswami, S. and Subramaniam, V. (1999) 'Information Asymmetry, Valuation, and the Corporate Spin-off Decision', *Journal of Financial Economics*, Vol. 53, pp. 73-112.
- Krishnamurti, C. and Vishwanath, S. R. (2008) 'Mergers, Acquisitions and Corporate Restructuring', SAGE Publications Inc. USA.

- Kross, W.J., Park, T. and Ro, B. (1998) 'The Impact of Operational Restructuring Announcements on Stock Price, Risk and Trading Volume', *Working Paper Series*, Prudue University.
- Kruse, D.L. (1992) 'Profit Sharing and Productivity: Microeconomic Evidence from the United States', *Economic Journal*, Vol. 102, Issue. 410. pp. 24-36.
- Kruse, T. (2002) 'Asset Liquidity and the Determinants of Asset Sales by Poorly Performing Firms', *Financial Management*, Vol. 4, pp. 107-129.
- Kruse, T., Park, H., Park, K. and Suzuki, K. (2002) 'The Value of Corporate Diversification: Evidence from Post-Merger Performance in Japan', *Working Paper Series*, University of Arkansas.
- Kuipers, D., Miller, D. and Patel, A. (2003) 'The Legal Environment and Corporate Valuation: Evidence from Cross- Border Mergers', Texas Tech University *Working Paper Series*, January.
- Kummer D and Hoffmeister, R. (1978) 'Valuation Consequences of Cash Tender Offers', *Journal of Finance*, Vol. 33, No. 2, pp. 505-516.
- Kusewitt, Jr., J. B.(1985) 'An Exploratory Study of Strategic Acquisition Factors Relating to Performance', *Strategic Management Journal*, Vol. 6, Issue 2, pp. 151-169.
- Lai, J. and Sudarsanam S. (1997) 'Corporate Restructuring in Response to Performance Decline: Impact of Ownership, Governance and Lenders', *European Finance Review*, Vol. 1, pp. 197-233.
- Lajoux, A.R. and Weston, J.F. (1998) 'Do Deals Deliver on Postmerger Performance?', *Journal of Mergers & Acquisitions*, No. 2, September-October, pp. 34-38.

- Lakonishok, J. and Vermaelen, T.(1990) 'Anomalous Price Behaviour around Repurchase Tender Offers', *Journal of Finance*, Vol. 45, pp. 455-477.
- Lambrecht, B. (2002) 'The Timing of Takeovers Under Uncertainty: A Real Options Approach', University of Cambridge, *Working Paper Series*, April.
- Lamont, O. (1997) 'Cash Flow and Investment: Evidence from Internal Capital Markets', *Journal of Finance*, Vol. 52, pp. 83-110.
- Lamont, O. and Polk, C. (2001) 'The Diversification Discount: Cash Flows versus Returns', *Journal of Finance*, Vol. 56, pp. 1693-1721.
- Lamoreaux, N. R. (1985) 'The Great Merger Movement in American Business: 1895-1904', Cambridge: Cambridge University Press.
- Lang, L. Poulsen A. and Stulz, R. (1995) 'Asset sales, Firm Performance and the Agency Costs of Managerial Discretion', *Journal of Financial Economics*, Issue 37, pp. 3-37.
- Lang, L. and Litzenberger, R. (1989) 'Dividend Announcements: Cash Flow Signalling versus Free Cash Flow Hypothesis?', *Journal of Financial Economics*, Vol. 24, pp. 181-191.
- Lang, L., Stulz, R. and Walkling, R. (1991) 'A Test of the Free Cash Flow Hypothesis: The Case of Bidder Returns', *Journal of Financial Economics*, Vol. 29, No. 2, pp. 315-335.
- Lang, L., Stulz, R. and Walkling, R. (1989) 'Managerial Performance, Tobin's Q, and the Gains from Successful Tender Offers', *Journal of Financial Economics*, Vol. 24, No. 1, pp. 137-154.
- Langetieg, T. (1978) 'An Application of a Three-Factor Performance Index to Measure Stockholders Gains from Merger', *Journal of Financial Economics*, Vol. 6, No. 4, pp. 365-384.

- Lawless, J.F. and Singhal, K. (1978) 'Efficient Screening of Non-normal Regression Models', *Biometrics*, Vol. 34, pp. 318-327.
- Lee, I. And Wyatt, S.B. (1990) 'The Effects of International Joint Ventures on Shareholder Wealth', *Financial Review*, Vol. 25, pp. 641-649.
- Leeth, J. and Borg, J.R. (2000) 'The Impact of Takeovers on Shareholder Wealth During the 1920s Merger Wave', *Journal of Financial and Quantitative Analysis*, Vol. 35, No. 2, pp. 217-238.
- Lehn, K. and Poulsen, A. (1989) 'Free Cash Flow and Stockholder Gains in Going Private Transactions', *Journal of Finance*, Vol. 44, Issue 3, pp. 771-787.
- Lerner, J., Shane, H. and Tsai, A. (2003) 'Do Equity Financing Cycles Matter? Evidence from Biotechnology Alliances', *Journal of Financial Economics*, Vol. 67, pp. 411-446.
- Leroy, H., Manigart, S. and Meuleman, M. (2009) 'The Planned Decision to Transfer an Entrepreneurial Company', Working Paper Series of Faculty of Economics and Business Administration, Ghent University, paper 09/577 and Working Paper Series of Vlerick Leuven-Gent Management School, paper 2009/13.
- Lev, B. (1974) 'Financial Statement Analysis: A New Approach', Englewood Cliffs, N.J.: Prentice-Hall.
- Levinsohn, A. (2000) 'Tracking Stock', *Strategic Finance*, Vol. 82, No. 3, pp. 62-67.
- Levis, M. (1993) 'The Long-Run Performance of Initial Public Offerings', *Financial Management*, Vol. 22, pp. 26-41.
- Levis, M. (1995) 'Seasoned Equity Offerings and the Short and Long-run Performance of IPOs in the UK', *European Financial Management*, Vol. 1, No. 2, pp. 125-146.

- Levy, H. and Sarnat, H. (1970) 'Diversification, Portfolio Analysis, and the Uneasy Case for Conglomerate Mergers', *Journal of Finance*, Vol. 25, pp. 795-802.
- Lewellen, W. (1971) 'A Pure Financial Rationale for the Conglomerate Merger', *Journal of Finance*, Vol. 26, pp. 521-537.
- Lichtenberg, F. and Siegel, D. (1990) 'The Effects of Leveraged Buy-outs on Productivity and Related Aspects of Firm Behaviour', *Journal of Financial Economics*, Vol. 27, pp. 165-94.
- Linke, C. (1982) 'Estimating Growth Expectations for AT &T: A Survey Approach', In earnings regulation under inflation, Washington DC, *Institute for the study of regulation*.
- Linn, S. and Switzer, J. (2001) 'Are Cash Acquisitions Associated with Better Post combination Operating Performance than Stock Acquisitions?', *Journal of Banking and Finance*, Vol. 25, pp. 1098-1113.
- Lins, K. and Servaes, H. (1999) 'International Evidence on the Value of Corporate Diversification', *Journal of Finance*, Vol. 54, pp. 2215-2239.
- Lins, K. and Servaes, H. (2002) 'Is Corporate Diversification Beneficial in Emerging Markets?', *Financial Management*, Vol. 13, pp. 5-31.
- Lippincott, B. (1998) 'The Effect of Restructuring on Earnings Expectation and Firm Value: An Empirical Investigation', PhD thesis, University of Missouri-Columbia.
- Lloyd, W. P., Modani, N. K. and Hand, J. H. (1987) 'The Effects of the Degree of Ownership Control on Firm Diversification, Market Value and Merger Activity', *Journal of Business Research*, Vol. 15, No. 4, pp. 303-312.

- Lo, A. W. (1986) 'Logit Vs. Discriminant analysis: A Specification Test and Application to Corporate Bankruptcies', *Journal of Econometrics*, Vol. 31, March, pp. 151-178.
- Loderer C. and Martin, K. (1990) 'Corporate Acquisitions by Listed Firms: The Experience of a Comprehensive Sample', *Financial Management*, Vol.19, No. 4, pp. 17-33.
- Loderer C. and Martin, K. (1992) 'Post-acquisition Performance of Acquiring Firms', *Financial Management*, Vol. 21, No. 3, pp. 69-79.
- Logue, D. E., Seward J. K. and Walsh, J. P. (1996) 'Rearranging Residual Claims: A Case of Targeted Stock', *Financial Management*, Vol. 25, pp. 43 – 61.
- Long, W. and Ravenscraft, D. (1993) 'LBOs, Debt and R&D Intensity', *Strategic Management Journal*, Vol. 14, pp 119-135.
- Lopez, T. J. and Clement, M. B.(2000) 'Evidence on the Effect of Multiple Corporate Restructurings on Analysts' Earnings Forecasts: Do Analysts Learn from Prior Restructuring Events?', *SSRN Working Paper Series*, April.
- Lopez, T. J., Regier, P.R. and Holeder-Webb, L. (2001) 'Do Restructurings Improve Operating Performance?', *SSRN Working Paper Series*, January.
- Loree, D., Chen, C. and Guisinger, S. (2000) 'International Acquisitions: Do Financial Analysts Take Note?', *Journal of World Business*, Vol. 35, pp. 279-300.
- Loughran, T. and Vijh, A. (1997) 'Do Long-Term Shareholders Benefit From Corporate Acquisitions?', *Journal of Finance*, Vol. 52, No. 5, pp. 1765-1790.
- Louis, H. (2001) 'The Causes of Post-Merger Underperformance: Evidence from Successful and Unsuccessful Bidders', *Pennsylvania State University Working Paper Series*.

- Lubatkin, M. (1987) 'Merger Strategies and Stockholder Value', *Strategic Management Journal*, Vol. 8, Issue 1, pp. 39-53.
- Lubatkin, M. H. and Chatterjee, S. (1990) 'Corporate Mergers, Stockholder Diversification and Changes in Systematic Risk', *Strategic Management Journal*, Vol. 11, No. 4, pp. 255-268.
- Lubatkin, M. and O'Neill, H. (1987) 'Merger Strategies and Capital Market Risk', *Academy of Management Journal*, Vol. 30, pp. 665-684.
- Lubatkin, M. H. and Rogers, R. (1989) 'Diversification, Systematic Risk and Shareholder Return: The Capital Market Extension of Rumelt's Study', *Academy of Management Journal*, Vol. 32, No. 2, pp. 454-465.
- Lubatkin, M., Srinivasan, N. and Merchant, H. (1997) 'Merger Strategies and Shareholder Value During Times of Relaxed Antitrust Enforcement: The Case of Large Mergers During the 1980s', *Journal of Management*, Vol. 23, pp. 46-59.
- Lynch, H. (1971) 'Financial Performance of Conglomerates', Boston Press: Harvard Business School.
- Lyrroudi, K., Lazaridis, J. and Subeniotis, D. (1999) 'Impact of International Mergers and Acquisitions on Shareholder's Wealth: A European Perspective', *Journal of Financial Management and Analysis*, Vol. 12, No. 1, pp. 1-14.
- Maddala, G.S. (1983) 'Limited Dependent and Qualitative Variables in Econometrics', Cambridge University Press.
- Maddala, G.S. (2001) 'A Perspective on the Use of Limited-Dependent and Qualitative Variables Models in Accounting Research', *Accounting Review*, Vol. 66, No. 4, pp. 788-807.

- Madura, J. and Nixon, T.D. (2002) 'The Long Term Performance of Parent and Units following Equity Carve-outs', *Applied Financial Economics*, Vol. 12, pp. 171-181.
- Magenheim, E. B. and Mueller, D.C. (1988) 'Are Acquiring Firm Shareholders Better off after An Acquisition?', In: Coffe, J. Jr., Lowenstein, L. and Rose-Auckerman, S., Edited, *Knights, Raiders and Targets*, Oxford university press, pp. 171-193.
- Makino, S. and Neupert, K. (2000) 'National Culture, Transaction Costs, and the Choice between Joint Venture and Wholly Owned Subsidiary', *Journal of International Business Studies*, vol. 31, No. 4, pp. 705-713.
- Makol, W. P. (2001) 'Corporate Restructuring Strategies: Recent Lessons', Asian Regional Seminar on Financial Reform and Stability, Hyderabad, India.
- Maksimovic, V. and Phillips, G. (2001) 'The Market for Corporate Assets: Who Engages in Mergers and Asset Sales and Are There Efficiency Gains?', *Journal of Finance*, Vol. 56, No. 6, pp. 2019-2065.
- Malatesta, P. (1983) 'The Wealth Effect of Merger Activity and the Objective Functions of Merging Firms', *Journal of Financial Economics*, Vol. 11, No. 1-4, pp. 155-181.
- Mandelker, G. (1974) 'Risk and Return: The Case of Merging Firms', *Journal of Financial Economics*, Vol. 1, No. 4, pp. 303-335.
- Mann, S. V. and Sicherman, N. W. (1991) 'The Agency Costs of Free Cash Flow: Acquisition Activity and Equity Issues', *Journal of Business*, Vol. 64, Issue 2, pp. 213-227.
- Manne, H.G. (1965) 'Mergers and the Market for Corporate Control', *Journal of Political Economy*, Vol. 73, pp110-119.

- Mansi, S. and Reeb, D. (2002) 'Corporate Diversification: What Get Discounted?', *Journal of Finance*, Vol. 57, No. 5, pp. 2167-2183.
- Maquieria, C., Megginson, W. and Nail, L. (1998) 'Wealth Creation versus Wealth Redistributions in Pure Stock-for-Stock Mergers', *Journal of Financial Economics*, Vol. 48, No. 1, pp. 3-33.
- Markham, J.(1995) 'Survey of the Evidence and Findings on Mergers' In *Business Concentration and Price Policy*, Princeton University Press.
- Markides, C. (1995) 'Diversification, Restructuring and Economic Performance', *Strategic Management Journal*, Vol. 16, No. 2, pp. 101-118.
- Markides, C. (1998) 'Strategic Innovation in Established Companies', *Sloan Management Review*, Vol. 39, No. 3, pp. 31-42.
- Markides, C. and Singh, H. (1997) 'Corporate Restructuring: A Symptom of Poor Governance or a Solution to Past Managerial Mistakes?', *European Management Journal*, Vol.15, No. 3, pp. 213-219.
- Markides, C.C. and Berg, N. A.(1992) 'Good and Bad divestment: The Stock Market Verdict', *Long Range Planning*, Vol. 25, No. 2, pp. 10-15.
- Marwick, P. (1992) 'Management Buy-out Statistics', KPMG Corporate Finance, London, Oct-Dec.
- Masulis, R.W. (1980) 'The Effects of Capital Structure Change on Security Prices: A Study of Exchange Offers', *Journal of Financial Economics*, Vol. 8, pp. 139-178.
- Masulis, R.W.(1983) 'The Impact of Capital Structure Change on Firm Value: Some Estimates', *Journal of Finance*, Vol. 38, pp. 107-126.

- Mata, J. and Portugal, P. (2000) 'Closure and Divestiture by Foreign Entrants: The Impact of Entry and Post-entry Strategies', *Strategic Management Journal*, Vol. 21, pp. 549-562.
- Matsusaka, J. G. (1993) 'Target Profits and Managerial Discipline during the Conglomerate Merger Wave', *Journal of Industrial Economics*, Vol. 42, No. 2, pp. 179-189.
- Maydew, E., Schipper, K., and Vincent L. (1999) 'The Impact of Taxes on the Choice of Divestiture Method', *Journal of Accounting and Economics*, Vol. 28, pp. 115-150.
- Mayer, C. (1997) 'Comments on Corporate Restructuring in Response to Performance Decline: Impact of Ownership, Governance and Lenders', *European Finance Review*, Vol. 1, pp. 235-237.
- Mazouz, K., Joseph, J. L. and Palliere, C. (2008) 'Stock Index Reaction to Large Price Changes: Evidence from Major Asian Stock Indexes', *Pacific-Basin Finance Journal*, Vol. 17, Issue 4, pp. 444-459.
- McConnell J. and Nantell, T. (1985) 'Corporate Combinations and Common Stock Returns: The Case of Joint Ventures', *Journal of Finance*, Vol. 15, pp. 519-536.
- McConnell, J., and Servaes, H. (1990) 'Additional Evidence on Equity Ownership Structure, and Firm Performance', *Journal of Financial Economics*, Vol. 27, pp. 595-612.
- McConnell, J., Ozbilgin, M. and Wahal, S. (2001) 'Spin-offs, *ex ante*' *Journal of Business*, Vol. 74, Issue 2, pp. 245-280.
- McCullagh, P. and Nelder, J.A. (1989) 'Generalized Linear Models', London: Chapman Hall.
- McFadden, D. (1973) 'Conditional Logit Analysis of Qualitative Choice Behaviour', *Frontiers in Econometrics*, Edited. P. Zarembka, Academic Press.

- McNeil, C. and Moore, W. (2001) 'Spin-off Wealth Effects and the Dismantling of Internal Capital Markets', *Working Paper Series*, IUM.
- Meeks, G. (1977) 'Disappointing Marriage: A Study of the Gains from Merger', Cambridge University Press, Cambridge.
- Megginson, W., Morgan, A. and Nail, L. (2002) 'The Determinants of Positive Long Term Performance in Strategic Mergers: Corporate Focus and Cash', *Working Paper Series*, University of Alabama, August.
- Megginson, W., Morgan, A. and Nail, L. (2001) 'Changes in Corporate Focus, Ownership Structure, and Long-Run Merger Returns', *Working Paper Series*, SSRN.
- Mehran, H. (1995) 'Executive Compensation Structure, Ownership, and Firm Performance', *Journal of Financial Economics*, Vol. 38, Issue 2, pp. 163-184.
- Melicher, R., Ledolter, J. and D'Antonio, L. (1983) 'A Time Series Analysis of Aggregate Merger Activity', *Review of Economics and Statistics*, Vol. 65, pp. 423-430.
- Michaely, R. and Shaw, W. (1995) 'The Choice of Going Public: Spin-offs versus Carve-outs', *Financial Management*, Vol. 3, pp. 5-21.
- Miles, J. and Rosenfeld, J. (1983) 'An Empirical Analysis of the Effects of Spin-off Announcements on Shareholder Wealth', *Journal of Finance*, Vol. 38, pp. 1597-1606.
- Miller, M. and Modigliani, F. (1961) 'Dividend Policy, Growth and the Valuation of Shares', *Journal of Business*, Vol. 34, pp. 411-433.
- Misra, S. D. (2009) 'Determinants of Target Firms in a Takeover', *International Research Journal of Finance and Economics*, Issue 29, pp. 234-259.

- Mitchell, M. and Mulherin, J.H. (1996) 'The Impact of Industry Shocks on Takeover and Restructuring Activity', *Journal of Financial Economics*, Vol. 41, pp. 193-229.
- Mitchell, M.L. and Stafford, E. (2000) 'Managerial Decisions and Long-Term Stock Price Performance', *Journal of Business*, Vol. 73, No. 3, pp. 287-329.
- Mitton, G. (1982) 'The Anatomy of High Leveraged Buy-outs: Roadmap for Transition from Manager to Entrepreneur', *Frontiers of entrepreneurial research*, Wellesley, MA: Babson centre for entrepreneurial studies.
- Modigliani, F. and Miller, M. H. (1958), 'The Cost of Capital, Corporation Finance and the Theory of Investment', *American Economic Review*, Issue 48, No. 3, pp. 261-297.
- Moeller, S., Schlingemann, F. and Stulz, R. (2003) 'Do Shareholders of Acquiring Firms Gain from Acquisitions?' Ohio State University *Working Paper Series*, February.
- Moeller, S., Schlingemann, F. and Stulz, R. (2004) 'Firm Size and the Gains from Acquisition', *Journal of Financial Economics*, Vol. 73, pp. 201-228.
- Moeller, S., Schlingemann, F. and Stulz, R. (2003) 'Wealth Destruction on a Massive Scale? A Study of Acquiring-Firm Returns in the Recent Merger Wave', Ohio State University *Working Paper Series*, August.
- Moerland, P. W. (1995) 'Corporate Governance en marktwerking', *De Naamlooze Vennootschap*, Vol. 73, pp. 247-251.
- Morck, R. and Yeung, B. (1997) 'Why Investors Sometimes Value Size and Diversification: The Internalization Theory of Synergy', University of Alberta, Institute for Financial Research *Working Paper Series* No. 5-97.

- Morck, R., Shleifer, A. and Vishny, R. (1988) 'Management Ownership and Market Valuation: An Empirical Analysis', *Journal of Financial Economics*, Vol. 20, pp. 293-315.
- Morck, R., Shleifer, A. and Vishny, R. (1990) 'Do Managerial Objectives Drive Bad Acquisitions?', *Journal of Finance*, Vol. 45, No. 1, pp. 31-48.
- Mueller, D. (1985) 'Mergers and Market Share', *Review of Economics and Statistics*, Vol. 67, No. 2, pp. 259-267.
- Mulherin, H. (2000) 'Incomplete Acquisitions and Organizational Efficiency', *Working Paper Series* State College, PA: Penn State.
- Mulherin, J. and Boone, A. (2000) 'Comparing Acquisitions and Divestitures', *Journal of Corporate Finance*, Vol. 6, pp. 117-139.
- Muscarella, C. and Vetsuypens, M. (1990) 'Efficiency and Organizational Structure: A Study of Reverse LBOs', *Journal of Finance*, Vol. 45, No. 5, pp. 1389-1413.
- Musulis, R. W. and Korwar, A. N. (1986) 'Seasoned Equity Offerings, An Empirical Investigation', *Journal of Financial Economics*, Vol. 15, pp. 91-118.
- Myers, S. and Majluf, N. (1984) 'Corporate Financing and Investment Decisions when Firms have Information that Investors do not have', *Journal of Financial Economics*, Vol. 13, pp. 187-221.
- Nagelkerke, N. J. D. (1991) 'A Note on General definition of the Coefficient of Determination', *Biometrika*, Vol. 78, No. 3, pp. 691-692.
- Nail, L., Megginson, W. and Maquiera, C. (1998) 'How Stock-swap Mergers Affect Shareholder and Bondholder Wealth: More Evidence of the Value of Corporate 'Focus'', *Journal of Applied Corporate Finance*, Vol. 11, No. 3, pp. 153-172.

- Nanada, V. (1991) 'On the Good News in the Equity Carve-outs', *Journal of Finance*, Vol. 46, Issue 5, pp. 1717-1737.
- Nanda, V. and Narayanan, M. (1999) 'Disentangling Value: Financing needs, Firm Scope, and Divestitures', *Journal of Financial Intermediation*, Vol. 8, No. 3, pp. 174-204.
- Nandelstadh, A. V. and Sandvall, T. (2001) 'Analyst Forecast Error and Firm Characteristics', *Working Paper Series*, NBER.
- Nelder, J.A. and Wedderburn, R.W.M. (1972) 'Generalized Linear Models', *Journal of the Royal Statistical Society*, Series A, No. 53, No. 3, pp. 370-384.
- Nelson, D. N. (1991). 'Conditional Heteroskedasticity in Asset Returns: A New Approach', *Econometrica*, Vol. 59, pp. 347-370.
- Newton, C. (2001) 'Strategic Alliances: Collaborate or Evaporate', *Journal of Financial Planning*, Vol. 14, No. 3, pp. 72-80.
- Nohel, T. and Tarhan, V. (1998). 'Share Repurchases and Firm Performance: New Evidence on the Agency Costs of Free Cash Flow', *Journal of Financial Economics*, Vol. 49, pp. 187-222.
- O'Brien M Robert (2007) 'A Caution Regarding Rules of Thumb for Variance Inflation Factors', *Journal of Quality and Quantity*, Vol. 41, No. 5, pp. 673-690.
- Ofek E. (1993) 'Capital Structure and Firm Response to Poor Performance: An Empirical Analysis', *Journal of Financial Economics*, No. 34, pp. 3-30.
- Ohlson, J.A. (1980) 'Financial Ratios and the Probabilistic Prediction of Bankruptcy', *Journal of Accounting Research*, Spring, pp. 109-131.

- Opler, T. (1992) 'Operating Performance in Leveraged Buy-outs: Evidence From 1985-1989', *Financial Management*, Vol. 21, No. 1, pp. 27-34.
- Oswald, D. and Young, S. (2002) 'Boom Times for Buy-backs', *Accountancy*, Vol. 130, Oct., pp. 52-53.
- Oswald, D. and Young, S. (2004) 'What Role Taxes and Regulation? A Second Look at Open Market Buy-back Activity in the UK', *Journal of Business Finance and Accounting*, Vol. 31, pp. 257-292.
- Paeglis, I. (2002) '*Three Essays in Corporate Restructuring*', PhD Thesis, The Carroll Graduate School of Management, Boston College, USA.
- Pagan, A. (1996) 'The Econometrics of Financial Markets', *Journal of Empirical Finance*, Vol.3, pp. 15-102.
- Palepu, K. G. (1986) 'Predicting Takeover Targets: A Methodological and Empirical Analysis', *Journal of Accounting and Economics*, Vol. 8, March, pp. 3-35.
- Papelu, K. G. (1990) 'Consequences of Leveraged Buy-outs' *Journal of Financial Economics*, Vol. 27, pp. 247-262.
- Parrino, J.D. and Harris, R.S. (2001) 'Business Linkages and Post-merger Operating Performance', *Working Paper Series*, Charlottesville VA: Darden Graduate School of Business, University of Virginia.
- Parrino, J. D. and Harris, R.S. (1999) 'Takeovers, Management Replacement, and Post-Acquisition Operating Performance: Some Evidence from the 1980s', *Journal of Applied Corporate Finance*, Vol. 11, No. 4, pp. 88-97.
- Peavy, J.W. (1984) 'Modern Finance Theory, Corporate Strategy, and Public Policy: Another Perspective', *Academy of Management Review*, Vol. 9, pp. 152-157.

- Peel, M. J. (1995) 'The Impact of Corporate Restructuring: Mergers, Divestments and MBOs', *Journal of Long Range Planning*, Vol. 28, Issue 2, pp92-1001.
- Peel, M. J. (1990) 'The Liquidation and Mergers Alternative: Theory and Evidence' Avebury, Aldershot, UK.
- Petersen, M. and Rajan R. (1997) 'Trade Credit: Theories and Evidence', *Review of Financial Studies*, Vol. 10, No. 3, pp. 661-691.
- Peterson, D. and Peterson, P.(1982) 'The Effect of Changing Expectations upon Stock Returns', *Journal of Finance and Quantitative Analysis*, Vol. 17, pp. 799-813.
- Pettit, B. (2000) 'The Long-Horizon Performance of Acquiring Firms: The French Evidence', *Working Paper Series* American Graduate School of International Management, November.
- Pierce, J.L., Rubinfeld, S.A., and Morgan, S. (1991) 'Employee Ownership: A Conceptual Model of Process and Effects', *Academy of Management Review*, Vol. 16, No. 1, pp. 121-144.
- Pinches, G., Eubank, A. A., Mingo, K. A. and Caruthers, J.K.(1975) 'The Hierarchical Classification of Financial Ratios', *Journal of Business Research*, October, pp. 295-310.
- Pinches, G., Mingo, K. S. and Caruthers, J.K. (1973) 'The Stability of Financial Ratio Patterns in Industrial Organisations', *Journal of Finance*, May, pp. 384-396.
- Platt, J.D. and Platt, M.B. (1990) 'Development of a Class of Stable Predictive Variables: The Case of Bankruptcy Prediction', *Journal of Business Finance and Accounting*, Spring 1990, pp. 15-31.
- Porter, M. (1980) 'Competitive Strategy: Techniques for Analyzing Industries and Competitors', New York: Free Press.

- Porter, M. (1985) 'Competitive Advantage: Creating and Sustaining Superior Performance', New York: Free Press.
- Porter, M. (1979) 'How Competitive Forces Shape Strategy', *Harvard Business Review*, Vol. 31, pp. 137-145.
- Porter, M. (1987) 'From Competitive Advantage to Corporate Strategy', *Harvard Business Review*, Vol. 65, Issue 3, pp. 43-59.
- Praet, A. (2008) 'Voluntary Firm Restructuring: Why Do Firms Sell or Liquidate their Subsidiaries?', HUB research paper 2008/47, Centre For Economics and Management, European University College Brussels, Belgium.
- Pregibon, D. (1981) 'Logit Regression Diagnostics', *Annals of Statistics*, Vol. 9, pp. 705 -724.
- Press, S.J. and Wilson, S. (1978) 'Choosing Between Logit Regression and Discriminant Analysis', *Journal of the American Statistical Association*, Vol. 73, pp. 699 -705.
- Prezas, A., Tarimcilar, M. and Vasudevan, G. (2000) 'The Pricing of Equity Carve-outs', *Financial Review*, Vol. 35, pp. 123-138.
- Rajan, R. G. and Zingales, L. (1995) 'What Do We Know about Capital Structure? Some Evidence from International Data', *Journal of Finance*, Vol. 50, pp. 1421-1460.
- Rajan, R., Servaes, H. and Zingales, L. (2000) 'The Cost of Diversity: The Diversification Discount and Inefficient Investment', *Journal of Finance*, Vol. 55, pp. 2537-2564.
- Rappaport, A. (1986) 'Creating Shareholder Value: The New Standard for Business Performance', The Free Press, New York, NY.

- Rau, R.P. and Vermaelen, T. (1998) 'Glamour, Value and the Post-Acquisition Performance of Acquiring Firms', *Journal of Financial Economics*, Vol. 49, No. 2, pp. 223-253.
- Rau, R.P. and Vermaelen, T. (2002) 'Regulation, Taxes and Share Repurchases in the UK', *Journal of Business*, Vol. 75, pp. 245-282.
- Ravenscraft, D. (1987) 'The 1980s Merger Wave: An Industrial Organization Perspective' In L. Brown and E. Rosengren, Edited, *The Merger Boom*, Boston (1987): Federal Reserve Bank of Boston.
- Ravenscraft, D. and Scherer, F.M. (1987) 'Life After Takeovers', *Journal of Industrial Economics*, Vol. 36, No. 2, pp. 147-156.
- Ravenscraft, D. and Scherer, F.M. (1987) 'Mergers, Sell-Offs, & Economic Efficiency', Washington D.C., The Brookings Institute.
- Rees, W. (1996) 'The Impact of Open Market Equity Repurchases on UK Equity Prices', *European Journal of Finance*, Vol. 2, pp. 353-370.
- Resende, M.(1999) 'Wave Behaviour of Mergers and Acquisitions in the U.K.: A Sectoral Study', *Oxford Bulletin of Economics and Statistics*, Vol. 61, pp. 85-94.
- Reuer, J. and Leiblein, M. (2000) 'Downside Risk Implication of Multinationality and International Joint Ventures', *Academy of Management Journal*, Vol. 43, No. 2, pp. 203-214.
- Rhodes-Kropf, M. and Viswanathan, S. (2000) 'Corporate Reorganizations and Non-Cash Auctions', *Journal of Finance*, Vol. 55, No. 4, pp. 1807-1854.
- Rhodes-Kropf, M., and Viswanathan, S. (2003) 'Market Valuation and Merger Waves', April, SSRN.

- Ritter, J. R. (1991) 'The Long Term Performance of IPO', *Journal of Finance*, Vol. 46, pp. 1717-1737.
- Roenfeldt, R.L., Sicherman, N.W. and Trifts, J.W. (1992) 'Division Management Buyouts of Unrelated Divisions without a Sales Price Reported', *Journal of Financial Research* (Winter), pp. 212-245.
- Roll, R. (1986) 'The Hubris Hypothesis of Corporate Takeovers', *Journal of Business*, Vol. 59, pp. 197-216.
- Rondinelli, D. and Black, S. (2000) 'Multinational Strategic Alliances and Acquisitions in Central and Eastern Europe: Partnerships in Privatization', *Academy of Management Executive*, Vol. 14, No. 4, pp. 85-98.
- Rosen, C. (1989) 'Employee Stock Ownership Plans: Myths, Magic and Measures', *Employee Relations Today*, Vol. 16, pp. 189-195.
- Rosenfeld, J. (1984) 'Additional Evidence on the Relation between Divestiture Announcements and Shareholder Wealth', *Journal of Finance*, Vol. 39, No. 5, pp. 1437-1448.
- Ross, S. A., Westerfield, R. W. and Jaffe, J. (2004) 'Corporate Finance', 7th Edition, Tata McGraw-Hill, NY.
- Ruback, R. (1982) 'The Conoco Takeover and Stockholder Returns', *Sloan Management Review*, Vol. 23, pp. 13-33.
- Rumelt, R. P. (1974) 'Strategy, Structure and Economic Performance', Boston: Division of Research, Harvard Business School.
- Rumelt, R. (1982) 'Diversification Strategy and Profitability', *Strategic Management Journal*, Vol. 3, No. 4, pp. 359-369.

- Salmon, F. (1999) 'Mega-mergers Bring a New Spate of Carve-outs', *Journal of Corporate Finance*, Vol. 31, pp. 10-11.
- Salter, M. and Weinhold, W. (1979) 'Diversification through Acquisition: Strategies for Creating Economic Value', New York: Free Press.
- Samuelson, W. and Rosenthal, L. (1986) 'Price Movements as Indicators of Tender Offer Success', *Journal of Finance*, Vol. 41, No. 2, pp. 481-499.
- Santner, T. J. and Duffy, E. D. (1986) 'A Note on A. Albert and J.A. Anderson's Conditions for the Existence of Maximum Likelihood Estimates in Logit Regression Models', *Biometrika*, Vol. 73, pp. 755 -758.
- Scanlon, K., Trifts, J. and Pettway, R. (1989) 'Impacts of Relative Size and Industrial Relatedness on Returns to Shareholders of Acquiring Firms', *Journal of Financial Research*, Vol. 12, pp. 103-129.
- Schary, M. A. (1991) 'The Probability of Exit', *RAND Journal of Economics*, Vol. 22, pp. 339-353.
- Scherer, F.M. (1988) 'Corporate Takeovers: The Efficiency Arguments', *Journal of Economic Perspectives*, Vol. 2, pp. 69-82.
- Schipper, K. and Thompson, R. (1983) 'Evidence on the Capitalized Value of Merger Activity for Acquiring Firms', *Journal of Financial Economics*, Vol.11, pp. 437-467.
- Schipper, K. and Smith, A. (1986) 'A Comparison of Equity Carve-outs and Seasoned Equity Offerings: Share Price Effects and Corporate Restructuring', *Journal of Financial Economics*, Vol. 15, pp. 153-186.
- Schipper, K. and Smith, A. (1983) 'Effects of Recontracting on Shareholder Wealth: The Case of Voluntary Spin-offs', *Journal of Financial Economics*, Vol. 15, pp. 153-186.

- Schipper, K. and Smith, A. (1989) 'Equity Carve-Outs' In *Corporate Restructuring and Executive Compensation*, edited by Stern J., Stewart, G., and Chew, D. Cambridge, MA: Ballinger.
- Schleifer, A. and Vishny, R. (2001) 'Stock Market Driven Acquisitions' University of Chicago *Working Paper Series*.
- Schlingemann, F.P., Stulz, R.M. and Walkling, R.A. (2002) 'Divestitures and the Liquidity of the Market for Corporate Assets', *Journal of Financial Economics*, Vol. 64, pp. 117-144.
- Schoar, A. (2002) 'Effects of Corporate Diversification on Productivity', *Journal of Finance*, Vol. 52, pp. 2379-2403.
- Schoenberg, R. and Reeves, R. (1999) 'What Determines Acquisition Activity Within an Industry?', *European Management Journal*, Vol. 17, pp. 93-98.
- Scholes, M. and Wolfson, M. (1990) 'Employee Stock Ownership Plans and Corporate Restructuring: Myths and Realities', *Financial Management*, Vol. 19, pp. 12-28.
- Schwert, G.W. (1996) 'Markup Pricing in Mergers and Acquisitions', *Journal of Financial Economics*, Vol. 41, No. 2, pp. 153-162.
- Scott, J. (1976) 'A Theory of Optimal Capital Structure', *The Bell Journal of Economics*, Vol. 7, Spring, pp. 33-54.
- Servaes, H.(1991) 'Tobin's Q and the Gains from Takeovers', *Journal of Finance*, Vol. 46, No. 1, pp. 409-419.
- Seth, A. (1990) 'Sources of Value Creation in Acquisitions: An Empirical Investigation', *Strategic Management Journal*, Vol. 11, No. 6, pp. 431-446.

- Shah, K. (1994) 'The Nature of Information Conveyed by Pure Capital Structure Changes', *Journal of Financial Economics*, Vol.36, pp. 89-126.
- Sharma, D. and Ho. J. (2002) 'The Impact of Acquisitions on Operating Performance: Some Australian Evidence', *Journal of Business Finance and Accounting*, Vol. 29, No. 1, pp. 155-200.
- Shleifer, A. and Vishny, R. (1988) 'Value Maximization and the Acquisition Process', *Journal of Economic Perspectives*, Vol. 2, pp. 7-20.
- Shleifer, A. and Vishny, R. (2001) 'Stock Market Driven Acquisitions', *Working Paper Series*. SSRN.
- Shleifer, A. and Vishny, R. (1997) 'A Survey of Corporate Governance', *Journal of Finance*, Vol. 52, pp. 737-783.
- Shoven, J.B. and Waldfogel, J. (1990) 'Debt, Taxes, and Corporate Restructuring', Washington, D.C. Brookings Institution.
- Shughart, W. and Tollison, R. (1984) 'The Random Character of Merger Activity', *Rand Journal of Economics*, Vol. 15, pp. 500-509.
- Shumway, T. G. (2001) 'Forecasting Bankruptcy More Accurately: A Simple Hazard Model', *Journal of Business*, Vol. 74, pp. 101-124.
- Sicherman M.W. and Pettway, R. H. (1987) 'Acquisition of Divested Assets and Shareholders' Wealth', *Journal of Finance*, Vol. 42, No. 5, pp. 1261-1273.
- Singh, H. (1990) 'Management Buy-outs: Distinguishing Characteristics and Operating Changes prior to Public Offering', *Strategic Management Journal*, Vol. 11, pp. 111-129.

- Singh, H. (1993) 'Challenges in Researching Corporate Restructuring', *Journal of Management studies*, Vol.30, pp. 1-16.
- Singh, H. and Montgomery, C. A. (1987) 'Corporate Acquisition Strategies and Economic Performance', *Strategic Management Journal*, Vol. 8, No. 4, pp. 377-386.
- Slovin, M., Sushka, M. and Ferraro, S. (1995) 'A Comparison of the Information Conveyed by Equity Carve-outs, Spin-offs, and Asset Sell-offs', *Journal of Financial Economics*, Vol. 37, pp. 89-104.
- Smart, D.L. and Hitt, M. A.(1994) 'A Mid Range Theory regarding the Antecedents of Restructuring Types: An Integration of Theory, Upper Echelon and Resource based Perspective', pp. 159-186 in P. Shrivastava, A. Huff and J.Dutton (Edited), *Advances in Strategic Management*, Vol.10, Greenwich, CT:JAI Press.
- Smart, S.C. and Waldfogel, J.(1994) 'Measuring the Effect of Restructuring on Corporate Performance: The Case of Management Buy-outs', *Review of Economics and Statistics*, Vol. 76, Issue 3, pp. 503-511.
- Smith, A. (1990) 'Corporate Ownership Structure and Performance: The Case of Management Buy-outs', *Journal of Financial Economics*, Vol. 27, pp. 143-164.
- Smith, R. and Kim, J. (1994) 'The Combined Effects of Free Cash Flow and Financial Slack on Bidder and Target Stock Returns', *Journal of Business*, Vol. 67, No. 2, pp. 281-310.
- Solibakke, P. B. (2002) 'Calculating Abnormal Returns in Event Studies: Controlling for Non-Synchronous Trading and Volatility Clustering in Thinly Traded Markets', *Managerial Finance*, Vol. 28, Issue 8, pp. 66-86.
- Springate, G.L.V. (1987) 'Predicting the Possibility of Failure in a Canadian firm', MBA Research project, Simon Fraser University, January.

- Stanley, K.L., Lewellen, W.G. and Schlarbaum, G. G. (1981) 'Further Evidence of the Value of Professional Investment Research', *Journal of Financial Research*, Vol. 4, pp. 1-9.
- Stevens, D. (1973) 'Financial Characteristics of Merged Firms: A Multivariate Analysis', *Journal of Financial and Quantitative Analysis*, Vol. 8, March, pp. 149-58.
- Steensma, H. and Lyles, M. (2000) 'Explaining IJV Survival in a Transitional Economy through Social Exchange and Knowledge-based Perspectives', *Strategic Management Journal*, Vol. 21, pp. 831-851.
- Stein, J. (1997) 'Internal Capital Markets and the Competition for Corporate Resources', *Journal of Finance*, Vol. 52, pp. 111-133.
- Stevenson, S (2006) 'The Abnormal Performance of UK Utility Privatisations', *Studies in Economics and Finance*, Vol. 23, Issue 3, pp. 164-184.
- Stewart, G. B. and Glassman, D.M. (1999) 'The Motives and Methods of Corporate Restructuring: Part I', in D. Chew, Edited, *The New Corporate Finance: Where Theory Meets Practice*, Burr Ridge IL: Irwin McGraw-Hill.
- Stigler, G. (1950) 'Monopoly and Oligopoly Power by Merger', *American Economic Review*, Vol. 40, pp. 23-34.
- Stillman, R. (1983) 'Examining Antitrust Policy toward Horizontal Mergers', *Journal of Financial Economics*, Vol. 11, No. 1-4, pp. 225-240.
- Sudarsanam, S. (2003) 'Creating Value from Mergers and Acquisitions: The Challenges: An Integrated and International Perspective', FT Prentice Hall.
- Sudarsanam, S. and Mahate, A. A. (2006) 'Are Friendly Acquisitions Too Bad for Shareholders and Managers? Long Term Value Creation and Top Management Turnover in Hostile and Friendly Acquirers', *British Journal of Management*, Vol. 17, pp. 7-30.

- Switzer, J. (1996) 'Evidence on Real Gains in Corporate Acquisitions', *Journal of Economics and Business*, Vol. 48, pp. 461-443.
- Taffler, R. J. (1984) 'Empirical Model for the Monitoring of UK Corporations', *Journal of Banking and Finance*, Vol. 8, pp. 199-227.
- Thompson, S. and Wright, M. (1995) 'Corporate Governance: The Role of Restructuring Transactions', *Economic Journal*, Vol. 105, Issue 430, pp. 690-703.
- Thompson, S., Wright, M. and Robbie, K. (1989) 'Management Buy-outs, Debt and Efficiency: Some Evidence from the UK' *Journal of Applied Corporate Finance*, Spring Issue 2, pp. 76-86.
- Thorburn, K. (2000) 'Bankruptcy Auctions: Costs, Debt Recovery, and Firm Survival', *Journal of Financial Economics*, Vol. 58, No. 3, pp. 337-368.
- Thorburn, K. S. and Eckbo, B. E. (2008) 'Corporate Restructuring: Breakups and LBOs', *Handbook of Corporate Finance: Empirical Corporate Finance*, Edited, B.E. Eckbo, Vol.2, Elsevier/North-Holland Handbook of Finance Series, 2008, pp. 431-496.
- Timme, S.G. and Eisemann, P.C. (1986) 'An Evaluation of Alternative Measures of Analysts' Forecasts Growth in the Constant Growth Model', *Working Paper Series: 3*, Centre for study of regulated industry, Georgia state university.
- Titman, S. and Wessels, R. (1988) 'The Determinants of Capital Structure Choice', *Journal of Finance*, Vol. 43, No. 1. (March, 1988), pp. 1-19.
- Tobin, J. (1969) 'An Equilibrium Approach to Monetary Theory', *Journal of Money, Credit and Banking*, Vol. 1, Issue 1, pp. 15-29.
- Town, R.J. (1992) 'Merger Waves and the Structure of Merger and Acquisition Time-Series', *Journal of Applied Econometrics*, Vol. 7, pp. 83-100.

- Travlos, N. G. (1987) 'Corporate Takeover Bids, Methods of Payment, and Bidding Firms' Stock Returns', *Journal of Finance*, Vol. 42, No. 4, pp. 943-963.
- Trifts, J.W., Sicherman, N.W., Roenfeldt, R.L., and de Cossio, F. (1990) 'Divestiture to Unit Managers and Shareholder Wealth', *Journal of Financial Research* (Summer), pp. 123-176.
- Trueman, B., Wong, M.H.F. and Zhang, X. (2000) 'The Eyeballs Have It: Searching for the Value in Internet Stocks', *Journal of Accounting Research*, Vol. 38, Supplement: Studies on Accounting Information and the Economics of the Firm, pp. 137-162.
- Tsagkanos, A., Georgopoulos, A. and Siriopoulos, C. (2006) 'Predicting Takeover Targets: New Evidence from a Small Open Economy', *International Research Journal of Finance and Economics*, Issue 4, pp. 124-147.
- Tudor, J. D. (2003) 'Zephyr: Blowing Global', *Searcher*, Vol. 11, Issue 10, pp. 46.
- Varaiya, N. and Ferris, K. (1987) 'Overpaying in Corporate Takeover: The Winner's Curse', *Financial Analysts Journal*, Vol. 43, No. 3, pp. 64-70.
- Varaiya, N. (1985) 'A Test of Roll's Hubris Hypothesis of Corporate Takeovers', *Working Paper Series*, Dallas TX: Southern Methodist University, School of Business, 1985.
- Veld, C. and Veld-Merkoulova, Y. (2002) 'Do Spin-offs Really Create Value? The European Case', *Working Paper Series* Tilburg University.
- Vijh, A. (1994) 'The Spin-off and Merger Ex-date Effects', *Journal of Finance*, Vol. 49, No. 2, pp. 581-609.
- Vijh, A. M. (1999) 'Long Term Return for Equity Carve-outs', *Journal of Financial Economics*, Vol. 51, pp. 273-308.

- Vijh, A. (2002) 'The Positive Announcement-period Returns of Equity Carve-outs: Asymmetric Information or Divestiture Gains?', *Journal of Business*, Vol. 75, No. 1, pp. 153-190.
- Walker, M. (2000) 'Corporate Takeovers, Strategic Objectives, and Acquiring-firm Shareholder Wealth', *Financial Management*, Vol. 29, No. 1, pp. 53-66.
- Walker, S.H. and Duncan, D.B. (1967) 'Estimation of the Probability of an Event as a Function of Several Independent Variables', *Biometrika*, Vol. 54, pp. 167 - 179.
- Walkling, R. A. (1985) 'Predicting Tender Offer Success: A Logit Analysis', *Journal of Financial and Quantitative Analysis*, Vol. 20, No. 4, pp. 461-478.
- Wansley, J., Lane, W. and Yang, H. (1983) 'Abnormal Returns to Acquired Firms by Type of Acquisition and Method of Payment', *Financial Management*, Vol. 12, No. 3, pp. 16-22.
- Weber, J (2000) 'Shareholder Wealth Effects of Pooling-of-Interests Accounting: Evidence from the SEC's Restriction on Share Repurchases Following Pooling Transactions', Sloan School of Management, MIT, *Working Paper*.
- Weech-Maldonado, R. (2002) 'Strategic Relatedness in Mergers and Financial Performance: The Case of the Health Maintenance Organization Industry in the United States', *Health Services Management Research*, Vol. 15, pp. 234-264.
- Weidenbaum, M. and Vogt, S. (1987) 'Takeovers and Stockholders: Winners and Losers', *California Management Review*, Vol. 29, No. 4, pp. 157-167.
- Weir, C., Laing, D. and McKnight, P.J. (2002) 'Internal and External Governance Mechanisms: Their Impact on the Performance of Large UK Public Companies', *Journal of Business Finance and Accounting*, Vol. 29, No. 5-6, pp. 579-587.

- Weisbach M. S. (1988) 'Outside Directors and CEO Turnover', *Journal of Financial Economics*, Vol. 20, pp. 431-460.
- Weston, J. (1953) 'The Role of Mergers in the Growth of Large Firms', Berkeley: University of California Press.
- Weston, J.F. (1970) 'The Nature and Significance of Conglomerate Firms', *St. John's Law Review*, Vol. 44, pp. 66-80.
- Weston, J.F. (1989) 'Divestitures: Mistakes or Learning', *Journal of Applied Corporate Finance*, Vol. 41, pp. 68-76.
- Weston, J.F. and Mansinghka, S.K. (1971) 'Tests of the Efficiency Performance of Conglomerate Firms', *Journal of Finance*, Vol. 26, No. 3, pp. 919-936.
- Weston, J.F., Smith, K.V. and Shrieves, R.E. (1972) 'Conglomerate Performance Using the Capital Asset Pricing Model', *Review of Economics and Statistics*, Vol. 21, No. 4, pp. 357-363.
- Weston, F., Chung, K. S. and Hoag, S. (1990) 'Study guide: Mergers, Restructuring, and Corporate Control', Prentice Hall, Englewood Cliffs, NJ: 07632.
- Weston, J. F., Siu, J. A. and Johnson, B. A. (2001) 'Takeovers, Restructuring and Corporate Governance', 3rd Edition, Prentice Hall: USA.
- Wheatley, C., Brown, R. and Johnson, G. (1997) 'Accounting Disclosure and Valuation Revisions around Voluntary Corporate Spin-offs', *Working Paper Series*, SSRN.
- Whited, T. (2001) 'Is it Inefficient Investment that Causes the Diversification Discount?', *Journal of Finance*, Vol. 56, pp. 1667-1691.

- Wier, P. (1983) 'The Costs of Antimerger Lawsuits: Evidence from the Stock Market', *Journal of Financial Economics*, Vol. 11, No. 1-4, pp. 207-225.
- Williams, D.A. (1982), 'Extra-Binomial Variation in Logit Linear Models', *Applied Statistics*, Vol. 31, pp. 144 -148.
- William, F. C., William, L. X., Leung, C. K. and Cheng, H. (1992) 'Do Chinese Stock Markets React to the Newspaper Recommendations?', *Journal of Business and Economics Research*, Vol. 1, No. 3, pp. 37-45.
- Woolridge, J.R. and Snow, C. (1990). 'Stock Market Reaction to Strategic Investment Decisions', *Strategic Management Journal*, Vol. 11, Issue 5, pp. 353-363.
- Womack, M. (1996) 'Do Brokerage Analysts' Recommendations have Investment Value?', *Journal of Finance*, Vol. 51, pp. 137-167.
- Wright, M., Chiplin, B. and Thompson, R. S. (1993) 'The Market for Corporate Control: Divestments and Buy-outs' in M. Bishop and J. Kay (Edited), *European Mergers and Merger Policy*, Oxford Press.
- Wright, M., Wilson, N., Robbie, K. and Ennew, C. (1994) 'An Analysis of Management Buy-out Failure', *Managerial Decision Economics*, Vol. 17, pp. 57-70.
- Wulf, J. (2004) 'Do CEOs in Mergers Trade Power for Premium?', *Journal of Law Economics, and Organization*, Vol. 20, pp. 41-60.
- Yook, K.C. (2000) 'Larger Return to Cash Acquisitions: Signalling Effect or Leverage Effect?', *Working Paper Series*, Baltimore MD: Johns Hopkins.
- You, V., Caves, R., Smith, M. and Henry, J. (1986) 'Mergers and Bidders' Wealth: Managerial and Strategic Factors,' in Lacy Glenn Thomas III, Edited, *The Economics of Strategic Planning: Essays in Honour of Joel Dean*, Lexington: Lexington Books, pp. 201-221.

Young, S. (2002) 'Why Do Firms' Buy-back their Shares? An Analysis of Open Market Share Re-acquisitions by the UK Firms', Seminar Paper presented in Cardiff Business School Finance and Accounting seminar, Nov 2002.

Zahra, S. (1995) 'Corporate Entrepreneurship and Financial Performance: The Case of Management Leveraged Buy-outs', *Journal of Business Venturing*, Vol. 10, No. 3, pp. 225-247.

Zakoian, J. (1994) 'Threshold Heteroskedastic Models', *Journal of Economic Dynamics and Control*, Vol. 18, No. 5, pp. 931-955.

Zuckerman, A. (2000) 'Revisiting divestiture', *Health Forum Journal*, Vol. 43, No. 6, pp. 53-54.

Zuta, S. (1999) 'Diversification Discount and Targeted Stock: Theory and Empirical Evidence', Unpublished *Working Paper Series*. University of Maryland.