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AN ANALYSIS OF CORPORATE RESTRUCTURING IN THE UK

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Dedication

This thesis is dedicated to my parents: **William Werema Magira** & **Christine Chacha Mang'era.**

ABSTRACT

This thesis examines the operating performance of a sample of UK non-financial firms that announced different forms of corporate restructuring during 1990-2000. Several issues related to restructuring and corporate governance have been examined and empirically tested around the year of restructuring. The findings of this thesis suggest that poor firm performance, high financial leverage and excessive diversification are the main determinants of corporate restructuring. Poor management, agency problems, competition and economic recession are the main causes of these problems. In addition, new evidence is provided on the role of internal and external control systems. It is apparent that these systems work together to ensure that managerial behaviour is consistent with the maximization of shareholder wealth.

The findings show that following restructuring there is an improvement in operating performance, financial leverage, labour productivity and firms are more focused. This suggests that restructuring is likely to result in the rectification of inadequate governance patterns, which in turn will create a more focused diversification strategy, increase strategic control, reduce reliance on bureaucratic control through reduced corporate staff, and increase the performance of the firm and shareholder wealth. In addition, a decision to refocus on core businesses may reflect management's termination of negative NPV projects. However, this increase in efficiency is not homogenous to all firms.

With reference to the market reaction to announcements of corporate restructuring, the findings show that the market reacts negatively to announcements of corporate layoffs, dividend cuts, and CEO turnover, but reacts positively to asset sales. Further analysis shows that, in general, it is difficult to generalize about whether restructuring is associated with positive or negative stock prices. This is because restructuring is a complex and multidimensional phenomenon and involves a lot of activities, some of which are interdependent and occur in tandem (Hall, 1994; and Peel, 1995). Secondly, with information disclosure, managers face the challenge of disclosing useful information to investors and analysts that they can use to value restructuring more accurately. However, managers are often limited in what they can disclose publicly because some of the information could benefit their firm's competitors. Information

problems arise when corporate managers have private information about their firm's investment opportunities (Myers and Majluf, 1984), and either cannot credibly convey that information to dispersed investors or can do so only by disclosing proprietary information to competitors (Healy and Palepu, 1995).

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List of Abbreviations Used

AAR	-	Average Abnormal Returns
ABHAR	-	Average buy-and-hold abnormal return
BHAR	-	Buy – and – hold abnormal return
CAP	-	Capital expenditure
CAPM	-	Capital Asset Pricing Model
CAR	-	Cumulative Abnormal Return
CEO	-	Chief Executive Officer
CTRL	-	Control variables
DEBT	-	Debt ratio
DR	-	Director's ownership
DSTRS	-	Financial distress
EBITDA	-	Earnings before interest, tax, depreciation and amortization
FT	-	Financial Times
FTSE	-	Financial Times Stock Exchange
HI	-	Herfindahl Index
HML	-	High minus low
ICOV	-	Interest coverage ratio
INST	-	Institutional holdings
LN (MV)	-	Natural logarithm of the market value of equity
NPV	-	Net Present Value
OPE	-	Operating profit per employee
ODR	-	Other director's ownership
R&D	-	Research and Development
ROA	-	Return on Assets
SEGS	-	Number of segments
SEMP	-	Sales per employee
SMB	-	Small minus big
TKV	-	Takeover approach

CHAPTER ONE: INTRODUCTION AND MOTIVATION

This thesis examines the operating performance over seven years around a year of announcements of corporate restructuring. The findings of this thesis suggest that poor operating performance, high financial leverage and excessive diversification are the main determinants of corporate restructuring. In addition, the market for corporate control plays an important role on the restructuring decision.

The findings in this thesis show that following corporate restructuring there is an improvement in operating performance, financial leverage and firms are more focused. This suggests that restructuring increases the firm's efficiency, investment opportunities and resources are efficiently relocated. However, the increase in efficiency following restructuring is not homogenous to all firms. With reference to the market reaction to announcements of corporate restructuring, the findings show that the market reacts negatively to announcements of corporate layoffs, dividend cuts, and Chief Executive Officer (CEO) turnover, but reacts positively to asset sales.

The remainder of the chapter is organized as follows: Section 1.1 provides an introduction to corporate restructuring. Section 1.2 presents the historical background of restructuring. Section 1.3 summarises corporate restructuring research in the UK. Section 1.4 covers issues investigated in this thesis. Section 1.5 briefly outlines the expected contribution and the scope of the thesis as well as the research strategy. Section 1.6 presents the organization of the thesis.

1.1 Introduction

According to Jensen and Meckling (1976), a firm is viewed as a collection of contracting relationships among individuals (a *nexus of contracts*). These contracts represent claims on the cash flows generated by the firm's assets and operations. Sometimes contracts are restructured through a process of negotiation; at other times firms unilaterally restructure their contracts. Economically, restructuring affects the level and timing of the firm's cash flows; it also affects how these cash flows are apportioned among the firm's claimholders. The list of claimholders who can be affected by restructuring is long; it includes shareholders, creditors, managers, employees, suppliers and customers.

The contractual relationship between these claimholders and the firm can either be explicit or implicit[1] (Gilson, 1998).

Following the above, corporate restructuring is therefore defined as the process by which firms change the contracting relationships among individuals. The phrase "corporate restructuring" is a broad one, encompassing a variety of actions, both financial and operational. Mergers and acquisitions, asset sales, management buyouts, dividend policy changes, refocusing, corporate layoffs, management turnover, plant closures, share repurchases and debt administration all fall under the general term of 'restructuring.'

The incentive to restructure often arises because the firm's market value falls significantly below its full potential or intrinsic value. Important causes of this 'value gap' include the following factors. First, for some firms, restructuring is a way to address losses in market value caused by poor performance or financial distress. Such losses may or may not be the fault of management. Management may have over-diversified into too many businesses or borrowed too aggressively. On the other hand, the firm's problems could be caused by an economic recession or adverse change in current exchange rates. Empirical evidence shows that voluntary or pre-emptive restructuring can, for some firms, generate more value than restructuring carried out under the threat of a hostile takeover or bankruptcy (Donaldson, 1994).

A second reason for firms restructuring is to take advantage of a new strategic or business opportunity. A firm may have been managing its business perfectly well, but to exploit the opportunity it must first restructure a contract with some claimholder. An obvious example is a company that has the opportunity to make a profitable investment in a new factory, but the capital expenditure would violate a bank loan covenant (Gilson, 2001). A third goal of restructuring is to correct a mistake in how investors value the firm. At any point in time, investors may significantly undervalue or overvalue the business. Managers may be unwilling to eliminate such discrepancies by publicly disclosing more information, since this could benefit their competitors. Valuation errors

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[1] An example of an implicit contract is an informal unwritten promise by a company to its workers that it will employ them on a long-term basis, or grant them regular annual wage increases.

could be quite large for diversified conglomerates, for example. Shareholders of these firms may understand only a subset of the firms' activities. A corporate spin-off or tracking stock issue can reduce the number of such errors by making the performance of the separate business divisions more transparent and easier to value (Gilson, 2001). Closing the value gap potentially benefits the entire firm's claimholders and stakeholders, provided they can agree on how to share the gains.

Agency theory and environment explanations offer more insights into why a firm should undertake restructuring. According to Jensen's (1986) free cash flow hypothesis, top management[2] in firms with free cash flow invest in over-diversification and organizational inefficiencies. Agency theorists argue that restructuring is a correction for over-expansion and over-diversification made by self-serving corporate managers when they increase the size and scope of firms without increasing their value (Jensen, 1986, 1991). According to agency theory, managers have incentives to expand and diversify even when doing so does not increase the market value of the firm, because their personal wealth is linked more to firm size and risk of bankruptcy than to firm performance (Amihud and Lev, 1981; and Jensen and Murphy, 1990). Consequently, restructuring will occur only when the threat of acquisition or activism by shareholders forces managers to reorganize (Shleifer and Vishny, 1986; and Jensen, 1991).[3]

The environmental explanation for restructuring suggests that it is a response to major changes in the business environment, such as relaxation in the enforcement of antitrust legislation, changes in tax laws, innovations in external capital markets, and changes in competition (Bhide, 1990; Bowman and Singh, 1990; and Shleifer and Vishny, 1990). Another environmental explanation for corporate restructuring is the bandwagon effect. According to this argument, a small number of firms may undertake restructuring (for whatever reason), and other firms follow suit as a result of managers' tendencies to mimic the actions of other managers (DiMaggio and Powell, 1983).

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[2] A top management is defined in this thesis as the set of individuals holding the titles of CEO, president, or chairman of the board (see also Berger and Ofek, 1999).

[3] Prior studies also document that corporate restructuring programmes often result from external control pressures (Berger and Ofek, 1999; and Denis *et al.*, 1997a).

Corporate restructuring can be undertaken by both poorly-performing and healthy firms and is a continuous process. Weston (1970) argues that an acquirer may sell a target for several reasons that do not involve poor performance. For example, an acquirer may sell a business in which it has improved performance or a business that no longer fits with the core strategy. In both cases, the shareholders' value can be increased. In addition, Brickley and Van Drunen (1990) also show that restructuring is normally carried out to obtain more gains that appear to come from information about investment opportunities and increases in efficiency.

Managers face many challenges in the process of restructuring. For example, a firm that wants to restructure because of financial distress faces three challenges. Restructuring can be done through out-of-court procedures, by merging into another firm or through formal legal proceedings. Another challenge facing managers in the process of restructuring is, for example, if they want to restructure equity. Should they either restructure through spin-offs, equity-outs, or by tracking stock offerings? Setting a timetable for layoffs also presents management with hard choices. Implementing the plan too quickly may result in too many people or the wrong people being laid off ("cutting muscle rather than fat"). On the other hand, prolonging the process and leaving people in uncertainty about their future can be devastating to the organization.

1.2 Historical background of corporate restructuring

Corporate restructuring is an area of great interest to corporate strategy, finance, and organizational scholars. Aspects of restructuring have been central to each field; for instance, the competitive implication of changes in the firm's business portfolio has been central to research in corporate strategy, while the effectiveness of organizational structure changes has been addressed in organization theory. Despite considerable research on aspects of restructuring, the effects, benefits, and costs of corporate restructuring on a firm are unclear. A plausible explanation for this lack of consensus is that restructuring is a complex and multidimensional phenomenon.

An interesting question on restructuring is whether it increases the firm's value or efficiency. Theories of incentives/monitoring costs, information/signalling, and transaction costs shed light on this question. Alchian and Demsetz (1972) suggest that

the essence of a firm is team production where the joint production of the firm's assets exceeds the feasible output of the assets in separate uses. In such a setting, the monitoring of inputs is important and is performed by the residual claimants of the firm, i.e. the shareholders. An important monitoring function is assessing the performance of the firm's management.

Jensen and Meckling (1976) offer a similar model of a firm that incorporates the interaction among managers, stockholders and bondholders. In their model, the monitoring and bonding costs of writing contracts among these interacting parties determine the optimal scale of the firm. This suggests that restructuring improves managerial incentives or, better, enables shareholders to monitor managerial performance; also, separating a corporation into different pieces can improve the efficiency of operations and thereby increase the combined value of assets.

Another body of research considers the importance of information in corporate valuation. Myers and Majluf (1984) point out that in the modern corporation, managers often know more about a firm's investment opportunities than outside investors do. In this setting of asymmetric information, management actions regarding financing or restructuring can convey information about firm value to investors. Nanda (1991) extends the model of Myers and Majluf (1984) to a particular form of restructuring - an equity carve-out. Nanda notes that equity carve-outs have two aspects. Carve-outs create a new public entity but also raise money for the parent. Nanda (1991) suggests that carve-outs also convey the further piece of information that the parent firm has chosen not to raise money by issuing its own shares. Nanda (1991) predicts that the announcement of an equity carve-out would convey positive information to the market about the parent firm's value. This evidence suggests that information revelation is a plausible source of wealth creation from restructuring.

In addition to addressing why restructuring has wealth implications, related theoretical research provides a framework to assess why restructuring takes place at all. Coase (1937) modelled the choice to a contract within a firm or across a market as a function of transaction costs. An implication of his model is that restructuring will occur when

change forces such as technology alter the relative costs of using the market vis-à-vis operating within a firm.

The preceding theories suggest that corporate restructuring increases efficiency and also creates value. Existing empirical evidence supports this observation. Kaplan (1989), Smith (1990) and Wruck (1990) show that restructuring carried out because of financial leverage leads to improvement in operating performance. In addition, Wruck (1990) shows that financial distress frees resources to move to higher–valued uses by forcing managers and directors to reduce capacity and to rethink operating policies and strategy decisions. Furthermore, Gilson (1989, 1990) documents changes in top management and boards of directors following financial distress. This evidence is consistent with the idea that leverage acts as a catalyst for organization change. Poor stock-price performance is not enough to remove incompetent managers, but financial distress provides a mechanism to initiate top-management changes. The preceding evidence suggests that apart from cost, financial distress can also result in beneficial outcomes.

Empirical evidence on corporate restructuring in the form of asset sales shows that following asset sales, firms are more focused, have lower financial leverage, and experience increases in operating performance (John *et al.*, 1992; John and Ofek, 1995; Markides, 1995; and Denis and Shome, 2005). Case studies of individual companies also show that asset sales increase the firm's efficiency. Kaiser and Stouraitis (2001) analysed Thorn EMI during 1992-1996, and show that restructuring of the company transformed a diversified conglomerate, trading at a diversification discount, into a focused company that creates a considerable value for shareholders.[4] [5] Evidence on corporate layoffs also shows that a decision to reduce the number of employees reverses a declining trend of poor performance (Chen *et al.*, 2001). Layoffs increase efficiency, a firm becomes more competitive, and in the long term the firm's productivity improves.

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[4] It should be noted that the corporate refocusing movement does not mean that all diversified firms have terminated their diversification strategy altogether. Markides (1994) shows that there exists an optimal level of diversification; and some firms might have over-diversified (above the optimal level), while others might be below their optimal diversification level. Assuming the profit-maximizing behaviour of these firms, the author finds that the "under-diversified" firms would increase the degree of their business diversity, while the "over-diversified" firms would decrease the degree of their business diversity.

[5] Donaldson (1990) also presented the same view for General Mills.

Several studies have examined corporate restructuring. However, these studies have been challenged in several ways. First, a serious problem with many of these studies is that they are not precise enough about what they mean by "restructuring", thus inconclusive generalizations are made. A researcher needs to look at different forms of restructuring separately if any generalizations are to be made (Markides, 1995).

The preceding argument is consistent with the work of Peel (1995), who shows that, in general, when one form of restructuring activity is increasing (decreasing) the other forms of restructuring transactions are also increasing (decreasing) in tandem. In addition, Hall (1994) finds that many corporate restructuring actions occur simultaneously, because they are sometimes performed more easily together. The author also argues that a change in ownership may be accompanied by the sale of lines of business to finance the purchase, or by the retirement of equity and issuance of debt to restructure the balance sheet. The findings by Hall (1994), Markides (1995) and Peel (1995) suggest that an analysis of one form of corporate restructuring does not offer conclusive findings on the effects of restructuring on the firm's performance.

Secondly, most of the evidence on corporate restructuring is based on studies conducted in the US. The literature on other markets has lagged behind corresponding US studies. For example, while the UK and US corporate environments are characterized by market-based institutions, important institutional[6] differences do exist (Antoniou *et al.*, 2002 and Hillier *et al.*, 2006). First, the ability of external shareholders in the US, particularly institutions, to co-ordinate effective corporate governance action is severely constrained by legal and regulatory restrictions, while far fewer restrictions are placed in the UK. Second, the US institutions are deterred from coalition practices. They are required to disclose formation of any shareholding group – formal or informal, owning 5% or more stock.[7] In contrast, UK institutions are not faced with such restrictions – they can form informal coalition,[8] and jointly monitor firms and/or

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[6] Examples of these institutions are: pension funds, insurance companies, banks, and investment companies.

[7] Black and Roe (1991) argue that financial institutions in the US face excess regulation which raises the cost of participation in corporate governance.

[8] This is mainly due to the fact that the nature of the City of London means that institutional shareholders are in physical close proximity to each other, which aids the formulation of informal coalition (Short and Keasey, 1999).

managers. In addition, UK institutions prefer the private 'behind the scenes' form of intervention – therefore, the degree of intervention by institutional shareholders is greater than what is reported in the public (Short and Keasey, 1999). In general, UK institutions are thought to be more active than their US counterparts (Black and Coffee, 1994). Third, the US corporate managements are largely protected from external corporate control mechanisms compared to the UK. Finally, the level of institutional ownership in the UK companies is considerably higher than it is in the US firms. Short and Keasey (1999) discover that the institutional ownership of US companies is two-thirds the level of that in the UK. Furthermore, the US has the largest percentage of shareholders in the form of households. These institutional differences motivated this study to examine the determinants and outcomes of corporate restructuring using the UK data.

Thirdly, while much of the research examines the consequences of restructuring, there is little evidence on what motivates managers to undertake restructuring. Finally, many previous studies on restructuring have a methodological bias. Most of these studies examine long run stock returns following the different restructuring events. Very few studies have examined operating performance following these forms of restructuring. Fama (1998) asserts that most studies on long run stock returns that follow different restructuring events are subjected to methodological problems covering the model and misspecification of significance tests. Following this challenge, one of the plausible solutions to this problem is for these studies to use accounting measures.

Consistent with the above argument, Brickley and Van Drunen (1990) posit that stock returns are not useful for examining the timing of any changes in performance following restructuring because, on average, in an efficient market the expected returns in the post-restructuring sample would be normal. The authors also show that earnings figures do not capitalize expected future cash flows and contain information about both anticipated and unanticipated performance. In addition, Franks *et al.* (2001) find that board turnover is more sensitive to earning losses than contemporaneous abnormal share price returns; also; management and shareholders regard earnings losses as a more serious sign of managerial failure than abnormal returns. In similar vein, Hermalin and Weisbach (2003) believe that accounting measures are better predictors of management

turnover than stock price performance. Earnings numbers therefore have the potential to provide additional insights into the performance of firms at various points in time, including after restructuring (Conyon and Florou, 2002).[9]

1.3 Corporate restructuring research in the UK

As noted earlier, the empirical research into UK corporate restructuring has lagged behind corresponding US studies. Despite the differences between the UK and the US corporate environments, the two markets share some fundamental similarities (Franks and Mayer, 1997), in terms of corporate legal environment, corporate ownership and so forth. The similarities, as well as the differences between the two markets, make the UK a good market for studying and expanding knowledge about different issues regarding corporate restructuring.

Lasfer *et al.* (1996), using UK data, examine the different market reactions of the stock market to announcements of assets sales of financially leveraged and healthy firms. The authors find significant positive excess returns at the time of sell-off announcements for financially leveraged firms and conclude that the main benefit from divestitures comes from the resolution of financial leverage. Afshar *et al.* (1992) and Clubb *et al.* (2002) also examine the market reactions to announcements of asset sales in the UK and encounter the same findings. This evidence is consistent with the argument that managerial decisions aim at the maximization of shareholder wealth.

Haynes *et al.* (2000, 2002) examine the determinants of corporate divestment and the impact of divestment on firm performance in the UK. The authors show that divestment is significantly positively related to leverage, firm size, change in management and diversification, but negatively related to concentration, among other factors. They fail to find a significant firm performance effect. They also document performance improvement in the post-divestment period. However, the study of Haynes *et al.* (2000, 2002) is focused on large companies.

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[9] It should be noted, however, that earnings figures have their own set of problems as measures of performance. In particular, they are subject, at least to some degree, to management control.

Benito and Young (2003), Dhanani (2005) and Vivian (2006) are recent UK studies that examine dividends. Benito and Young discern that financial characteristics: cash flow, leverage, investment opportunities, investment and company size are variables that account for dividend cuts among UK firms. Using a survey approach, Dhanani (2005) discovers findings that support dividend hypotheses relating to signalling and ownership structure. Using cross-sectional analysis, Vivian (2006) discerns that dividend growth is not positively associated with future earnings growth. This is entirely contrary to the view that dividends signal future earnings. In addition, Lonie *et al.* (1996) examine stock price responses to announcements of dividend changes, and find that the market reacts positively to firms that have increased dividends and earnings, and negatively to those that have decreased dividends and earnings. However, to the best of my knowledge, no published study in the UK has examined the performance consequences following dividend changes.

The studies of Collett (2002) and McKnight *et al.* (2002) are the only published studies in the UK that have examined stock price responses to announcements of layoffs. They reported the negative market reaction to announcements of layoffs. Nevertheless, no single published study in the UK has examined performance changes following corporate layoffs. Unlike asset sales, dividend cuts, and layoffs, there are relatively many studies in the UK that have examined top management changes. Dahya *et al.* (1998) examine the ownership structure, firm performance and top executive changes for a sample of 271 UK firms that announced top management changes during the 1989 to 1992 period. The authors find that the ownership structure of a firm plays an important role in determining the effectiveness of internal managerial control mechanisms.

The work of Dedman (2003) and Dedman and Lin (2002) are also UK studies that have examined top management changes. Dedman (2003) finds that firm performance, CEO ownership and institutional ownership are significantly related to the probability of forced top management changes. Dedman and Lin (2002) examine the shareholder wealth effects of CEO departures in the UK and find that the market reacts negatively to announcements of top management changes. Finally, Short and Keasey (1999) extend the US corporate governance research to the UK and find, among other things, that management should become entrenched at higher levels of ownership in the UK.

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From the preceding restructuring research in the UK, it is clear that the UK is a relatively unexplored market and further analysis is required to provide a greater insight into the effect of restructuring on the firm's performance. This thesis attempts to fill this gap.

1.4 Issues investigated in this Thesis

Following the above evidence and discussion, this thesis examines four main empirical issues concerning corporate restructuring programmes in the UK:[10]

1. What are the factors that motivate managers to undertake restructuring?
2. What is the market reaction to announcements of restructuring events?
3. What is the performance consequence of restructuring?
4. Are corporate managers willing / unwilling to undertake restructuring?

This section provides a brief summary of the above issues.

1.4.1 What are the factors that motivate managers to undertake restructuring?

Several studies have examined the determinants of restructuring. Many of these studies find poor performance to be the main determinant of restructuring. For example, there is a general consensus that there is an inverse relation between poor performance and the likelihood of the top management turnover (Warner *et al.*., 1988; Weisbach, 1988; Denis and Denis, 1995; and Huson *et al.*, 2004). In addition, DeAngelo (1990) finds that poor performance is the single factor that determines dividend cuts. Furthermore, studies on asset sales show that the need to refocus on core activities motivates corporate managers to restructure their assets sales (John and Ofek, 1995; Berger and Ofek, 1999; and Denis and Shome, 2005).

This thesis attempts to extend earlier efforts of this research and examines the determinants of corporate restructuring. Apart from operating performance, the thesis also examines other factors, such as financial leverage, excessive diversification, and the

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[10] In addition to these issues, each individual empirical chapter in this thesis examines its own specific issues.

market for corporate control activities. Unlike prior studies that examine these factors in a univariate analysis, this thesis, in addition to univariate analysis, also employs a multivariate analysis in order to capture the joint effects of these factors.

The thesis finds that poor performance, high financial leverage and excessive diversification constitute most of the determinants of corporate restructuring. There is also evidence that the active market for corporate control plays an important role in restructuring decisions.

1.4.2 What is the market reaction to announcements of restructuring events?

This thesis also examines the market reaction to announcements of different forms of restructuring. The important function of this analysis is that it helps to relay information signals of these events to the market. Following the market efficiency hypothesis, if the market perceives the information to be good news, stock prices will increase following this [good] information. However, if the market perceives the information to be bad news, then stock prices will fall.

The substantive literature on corporate restructuring has documented contradicting findings on the market reaction to announcements of different forms of restructuring. For example, whether the market reacts negatively or positively to announcements of CEO turnover is unclear. Weisbach (1988), Denis *et al.* (1995), and Huson *et al.* (2001) report positive abnormal share price returns to announcements of forced CEO turnover. By contrast, Warner *et al.* (1988) find no significant abnormal return for forced top management turnover. In the UK, Dahya *et al.* (1998) find positive abnormal returns for forced top executive changes and insignificantly negative returns for voluntary turnover announcements. Dedman and Lin (2002) find that the market reaction to CEO turnover is significantly negative for all turnover announcements.

In this thesis, I find that the market reacts, on the whole, in a negative fashion to announcements of restructuring, dividend cuts, corporate layoffs, and all CEO announcements turnover, but reacts positively to announcements of asset sales.

1.4.3 What is the performance consequence of restructuring?

If corporate managers undertake restructuring with the aim of maximizing shareholder wealth, as the theories of corporate finance assume, then there should be performance improvement following restructuring. However, theories are far from empirical evidence. Empirical evidence on asset sales, dividend cuts, and corporate layoffs shows that there is improved operating performance following these forms (John and Ofek, 1995; Chen *et al.*, 200; Denis and Shome, 2005; and Lie, 2005).

However, empirical findings on top management changes are mixed concerning whether there is performance improvement following CEO turnover. Dennis *et al.* (1995), Kang and Shivdasani (1995), and Huson *et al.* (2004) document improvement in operating performance following CEO turnover. The evidence on operating performance changes following CEO turnover in the UK, in general, shows no operating performance improvement following CEO turnover (Dahya *et al.*, 1998; and Dedman *et al.*, 2002).

This thesis establishes that there is a significant improvement in operating performance following restructuring. The improvement is very strong for those firms that undertake restructuring in the form of asset sales, dividend cuts, and forced CEO turnover. However, there is weak evidence that operating performance improves following layoffs. The evidence that does exist shows that labour productivity improves following layoffs.

Finally, whilst much of the substantive literature examines the performance consequences of restructuring, there is little evidence on financial leverage following restructuring. Denis and Shome (2005) show that following large scale asset sales there is an insignificant reduction in debt ratios. Grullon *et al.* (2002) and Lie (2005) show that firms that cut dividends have lower debt ratios than their industry peers over the years following dividend cuts. The findings of this thesis show that financial leverage improves following restructuring. However, this improvement is limited to those firms that undertake restructuring in the form of asset sales, dividend cuts, and forced CEO turnover.

1.4.4 Are corporate managers willing /unwilling to undertake restructuring?

Research shows that corporate managers do not undertake restructuring programmes willingly (Fama, 1980; Fama and Jensen, 1983; Franks *et al.*, 2001; and Denis and Kruse, 2005), among others. Harris and Raviv (1990) discern that, in general, managers do not always behave in the best interests of their investors and therefore need to be disciplined. This is consistent with the view that internal and external monitoring systems work together to ensure that managers' behaviour is consistent with the maximization of shareholder wealth.

This thesis attempts to extend earlier research and examines the incidence of external corporate control activity within corporate restructuring firms. Specifically, the thesis examines whether there was an incidence of a takeover approach and/or financial distress over the year prior to corporate restructuring. It is found that external monitoring systems play an important role in corporate restructuring. Thus, discipline from lenders, takeover threats and product markets are important factors in the decision to restructure the firm.

1.5 Expected contributions, scope of the study and research strategy

To investigate the factors that motivate managers to undertake restructuring and to consider whether restructuring increases a firm's efficiency, this thesis makes the following contribution to the body of evidence on restructuring. First, I focus on firms from a market that is relatively unexplored in the context of corporate restructuring. In a narrower sense, this is one of the first studies to examine restructuring outside the US market. The second contribution of this thesis is that I simultaneously examine different forms of restructuring. One of the limitations of previous studies on corporate restructuring is that they examine only one form of restructuring and arrive at a general conclusion that restructuring creates value. The evidence by Hall (1994) and Peel (1995) shows that firms in the process of restructuring undertake more than one form of restructuring simultaneously, and therefore before generalizations are made, a researcher needs to analyse these forms separately (Markides, 1995).

The third primary contribution of this thesis is that I directly examine the different factors that motivate managers to undertake restructuring. I use both univariate and

multivariate analyses to examine these factors over the period prior to announcements of restructuring. Many previous studies have examined some of these factors in a univariate setting. Very few studies have examined them in a multivariate setting. Fourthly, this thesis provides evidence as to whether restructuring increases a firm's efficiency. These findings have implications for the firm's investors, particularly shareholders, because if restructuring increases efficiency, it then shows that managers are taking decisions that are consistent with the maximization of shareholders' value. The fifth contribution of this study is that I examine the stock market reaction on days surrounding restructuring announcements. Examination of the market reaction on corporate restructuring offers more insights into information signals of restructuring to the market.

The scope of this study is limited to the examination of operating performance centred on the year of announcements of corporate restructuring events. Forms of corporate restructuring examined in this thesis are asset sales, dividend cuts, corporate layoffs and CEO turnover. However, there are other forms of corporate restructuring, such as share repurchases, mergers and acquisitions, management buyouts, takeovers, bankruptcy, debt restructuring and business break-ups. These are reserved for further research.

1.6 Organization of the Thesis

The remaining part of the thesis is organized as follows: Chapter 2 provides the literature review on corporate restructuring as a whole and the different forms of restructuring examined by this thesis. Chapter 3 provides a description of the nature and sources of data used in this thesis. Since this thesis examines different forms of restructuring, there is a description of the nature and sources of data for each of these forms. The chapter also contains a discussion of the methodologies used in this thesis and definitions of different variables.

Chapters 4 through 8 present a discussion of the empirical findings of this thesis. Specifically, chapter 4 covers asset sales, chapter 5 reports dividend cuts, chapter 6 accounts for corporate layoffs, chapter 7 covers CEO turnover, and chapter 8 reports the empirical findings of all four forms of corporate restructuring examined in this chapter. Finally, chapter 9 provides a summary of the key findings of the study and

draws conclusions in line with the objectives outlined in this chapter. The chapter also contains a discussion about some important implications of the findings, and highlights some potential areas for further research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on corporate restructuring as a whole and the different forms of restructuring that are examined in this thesis, namely, asset sales, dividend cuts, corporate layoffs and CEO turnover.

2.2 Corporate restructuring

In recent years, interest has centred upon efficient ways through which firms can respond to adverse economic conditions. The most general approach to this issue is to undertake restructuring which encompasses a variety of actions that are justified on financial, portfolio or organizational grounds (Bowman *et al.*, 1993).

The definition of corporate restructuring is influenced mostly by the work of Jensen and Meckling (1976). Jensen and Meckling argue that a company can be viewed as a collection of contracting relationships among individuals – a nexus of contracts. These contracts are what make it possible for the company to conduct business. The parties to these contracts include shareholders, creditors, managers, employees, suppliers and customers. Restructuring can be viewed as the process by which firms change these contracts. Following this definition, this thesis aims to answer the question: why should companies change these contracts by undertaking a restructuring process? Gilson (2001) formulates three reasons why companies restructure: (i) in response to poor performance (ii) to pursue strategic opportunities, and (iii) to correct valuation errors.

Firms undertake restructuring as a way to address losses in market value caused by poor performance or financial distress. Such losses may or may not be the fault of management. Management may have over-diversified into too many businesses or have borrowed too aggressively. On the other hand, the firm's problems could have been caused by an economic recession or adverse change in currency exchange rates (John *et al.*, 1992). John *et al.* (1992), Kang and Shivdasani (1997) and Denis and Kruse (2000) examine companies that restructure in response to poor performance or performance decline. Mostly, the findings of these studies show that there is an improvement in performance over the years following a performance decline. Secondly, firms restructure

in order to take advantage of new strategies or business opportunities. A well-performing firm might want to exploit such opportunities but to do so it must first restructure a contract with some claimholder. An example of this is a company that has the opportunity to make a profitable investment in a new factory, but that capital expenditure would violate a bank loan covenant.

Environmental changes can also explain why corporate managers should restructure their companies. Restructuring may be undertaken as a response to major changes in the business environment, such as relaxation in the enforcement of antitrust legislation, changes in tax laws, innovations in external capital markets and changes in competition (Bethel and Liebeskind, 1993).

Finally, a firm undertakes restructuring in order to correct a mistake in how investors value the firm. Investors rely on information collected from different sources to value the firm and in the process they may significantly over or undervalue the business. Managers may be unwilling to eliminate such discrepancies by publicly disclosing more information, since this could benefit their competitors. Valuation errors, for example, could be quite large for diversified firms. Shareholders of these firms may understand only a subset of the firms' activities. A corporate spin-off or tracking stock issue can reduce the number of such errors by making the performance of the separate business divisions more transparent and easier to value. In addition, corporate managers also undertake share repurchases, when, among other things, it is believed that the firm's shares are undervalued (Lie, 2005).

As the foregoing discussion makes clear, there are different forms of corporate restructuring. John *et al.* (1992) believe that companies respond to poor performance in different ways. They classify these responses into three broad groups: first, contraction policies (which represent policies that shrink the size of the firm or its control of resources) that include sell-offs, layoffs, plant closure, debt reduction and so on; second, expansion policies (which increase the size of the firm or its control over resources) that include diversification, acquisition, the issuance of new securities, entry into new markets, and so on; finally, change in marketing or pricing, change in production methods or management structure, and other responses. John *et al.* (1992) believe that

contraction policies are the predominant responses; for example, they find that asset sales represent 63% of the total observations of their sample.

Restructuring can also be explained from the agency theory point of view (Jensen, 1986). According to Jensen's (1986) free cash flow hypothesis, top management in firms with free cash flow (in excess of that required to fund all projects with positive net present values) invest in over-diversification and organizational inefficiencies. As the agency costs associated with the misuse of free cash flow increase, the threat of hostile takeover increases, forcing management to restructure the company.

The speed with which management responds to restructuring programmes depends on many factors and one of them is managerial ownership. As managerial ownership increases, there is a greater incentive for managers to act in ways that improve the firm's performance. This evidence, in other words, suggests that managers tend to undertake value-destroying projects when their incentives are less closely aligned with those of shareholders, and when their strategic decisions are less subject to shareholder oversight (Bethel and Liebeskind, 1993; Denis *et al.*, 1997a; and Berger and Ofek, 1999).

Extant literature on corporate restructuring empirically examines two hypotheses: first, why restructuring should take place, and secondly, whether restructuring creates value. In the previous chapter, it was explained that the reasons why restructuring takes place are many because it is a complex and multidimensional phenomenon. Nevertheless, much of the substantive literature posits that management undertakes restructuring in response to poor performance and financial distress (Kang and Shivdasani, 1997; Denis and Kruse, 2000; and Denis and Shome, 2005), among others. In addition, Ofek (1993), Kang and Shivdasani (1997), and Denis and Kruse (2000) find that firms that undertook restructuring in response to a substantial decline in operating performance undertake a number of restructuring activities, such as asset sales, plant closures, employee layoffs, dividend cuts, and debt restructuring. There is also evidence that restructuring involves several activities, some happening simultaneously (Hall, 1994; and Peel, 1995).

The literature provides support for the view that restructuring is done in order to correct over-expansion and over-diversification programmes undertaken by self-serving

managers, who at one point in time had free cash flow and had decided to use it for expansion and diversification against value-destroying projects (Gibbs, 1993; Bethel and Liebeskind, 1993; Jensen, 1986).[11] Diversification may benefit managers because it brings growth which increases power, prestige (Jensen, 1986; and Stulz, 1990) and compensation (Jensen and Murphy, 1990). Moreover, diversification reduces the risk of the manager's undiversified personal wealth portfolio (Amihud and Lev, 1981) and increases shareholders' dependence on their knowledge of the mix of businesses operated by the firm (Shleifer and Vishny, 1989). As a result, managers may pursue diversification even if doing so reduces shareholder wealth.

There is another school of thought which suggests that restructuring is carried out in response to major changes in the business environment, such as changes in tax law, innovations in external capital markets, and changes in competition (Bhide, 1990; Bowman and Singh, 1990; Shleifer and Vishny, 1990). Managers also undertake restructuring *pre-emptively* where they possibly anticipate a crisis, or they seek to take advantage of a strategic opportunity.

A branch of the literature also examines whether restructuring creates value. Gilson (2001) uses case studies to examine bankruptcies, buyouts and break-ups and shows that restructuring creates value. Brickley and Van Drunen (1990) investigate internal corporate restructuring and maintain that firms that alter their divisional configurations on average increase shareholder wealth and gains appear to come from information about investment opportunities and increases in efficiency. These findings suggest that gains derived from restructuring are associated with an increase in efficiency, investment opportunities, and resources are efficiently re-located.

The literature reviewed on corporate restructuring suggests that several studies have examined issues related to corporate restructuring. However, as noted in previous sections, there are issues which are not well understood and need further investigation. First, a serious problem of these studies is that they are not precise enough about what is meant by "corporate restructuring". Does corporate restructuring refer to a single

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[11] Managers value investment because their perquisites increase with investment, even when the firm invests in negative NPV projects.

event, say asset sales or multiple events? The present study proposes that corporate restructuring is a complex and multidimensional phenomenon, and therefore an examination of one restructuring event does not offer conclusive findings. To fill this gap, the study simultaneously examines four independent corporate restructuring events: asset sales, dividend cuts, corporate layoffs, and CEO turnover; and provides evidence related to the determinants and outcomes of corporate restructuring.

Secondly, the literature reviewed also shows that most of the evidence on corporate restructuring is based on studies conducted in the US. Given institutional differences between the US and the UK (as discussed in Chapter 1), the question to ask is does the existing evidence on restructuring hold for a different system of corporate governance; namely, the UK? The author of this study believes that examination of issues related to corporate restructuring on different markets will place previous findings within this area in perspective. To address this problem, the study examines the issues related to corporate restructuring using data from UK firms. Finally, while much of the research examines the consequences of restructuring, there is little evidence on what motivates corporate managers to undertake corporate restructuring. This study addresses this problem by using univariate and multivariate analyses to examine the determinants and outcomes of corporate restructuring.

Following the discussion in this section, it appears that a broader understanding of restructuring, with its causes and gains, is better explained when there is a separate analysis of different forms of restructuring. In the following sections, therefore, the literature on the four different forms of restructuring examined in this thesis is reviewed.

2.3 Asset sales

An asset sale is defined as the disposal by the selling firm of subsidiaries, divisions or other combinations of fixed assets of a firm through direct transfer of ownership from one corporate entity to another, in exchange for cash or equity. In an asset sale, the transferred subsidiary or division is absorbed within the organizational structure of the

buying firm (Weston *et al.*, 2004).[12] Several hypotheses have been proposed regarding why firms may choose to sell assets instead of some other form of corporate restructuring. The conventional view is that firms sell assets when either the buying firm has a better use for that asset or when the asset is interfering with the existing operations of the selling firm (Hite *et al.*, 1987). This proposition, which is based upon market efficiency, implicitly views managerial activity as being value-maximizing.

On the other hand, Shleifer and Vishny (1992) suggest that a firm that does not have enough cash to meet its interest payments, or is nearing that condition, has several options. It can reschedule its debt, it can raise cash by issuing new debt or equity or it can sell assets. Shleifer and Vishny (1992) find that all of these options are costly. Therefore, asset sales sometimes become the most attractive choice in order to avoid the problems that plague debt rescheduling and new security issues. First, proceeds from asset sales are typically used to repay debt. In fact, bond covenants often require that proceeds from the sale of assets be used to pay off debt (Smith and Warner, 1979). As a result, asset sales alleviate the asset substitution problem, since creditors receive cash promptly, rather than waiting and fully exposing themselves to the riskiness of the firm (Lang *et al.*, 1995).

Second, because proceeds from asset sales are not only a substitute for fresh credit but also reduce creditors' exposure, creditors do not have to worry as much about the quality of the management or of its projects. Hence, the asymmetric information problem which plagues new security issues and debt rescheduling is also less severe. A key advantage of asset sales over other ways of obtaining cash or credit in financial distress is that the informational asymmetries are likely to be much smaller when dealing with informed industry insiders.

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[12] This discussion does not cover the other forms of divestiture: equity carve-out and spin-off. An equity carve-out is defined as the offering of a full or partial interest in a subsidiary to the investment public. This creates a new, publicly-traded company with partial or complete autonomy from the parent firm. A spin-off is defined as a pro rata distribution of shares in a subsidiary to the existing shareholders of the parent. In other words, a spin-off is a stock dividend in a subsidiary. No cash is generated under the spin-off, and a new, publicly-traded company that is completely separate from the former parent firm is created through the spin-off.

Third, because control over the assets is turned over to the buyers when assets are sold, these buyers, unlike the buyers of new securities, do not have to worry as much about agency problems in the management of assets. Fourth, when asset sales generate substantial proceeds and some debt is repaid, the need for extracting concessions from many dispersed creditors is eliminated. Also, the number of creditors, and therefore the number of conflicts between creditors, usually falls. In this way also, asset sales might be preferred to rescheduling. Finally, when a firm sells assets that are valuable, although these do not generate a current cash flow, it can relieve its debt burden without sacrificing its current income, or its ability to service other debt in the near future. Such assets might include businesses that are temporarily losing money, as well as growth businesses.

In some cases, then, asset sales can lessen conflicts between creditors, reduce the asset substitution problem, control agency costs, and alleviate the informational asymmetry between the firm and outsiders, all without sacrificing the firm's ability to survive in the future. Denis and Shome (2005) examine large asset downsizings and suggest that they are most often accomplished by selling assets. Denis and Shome find that the decision to downsize is negatively related to operating performance and positively related to financial leverage and level of diversification. They further suggest that following downsizings, firms are more focused, have lower debt ratios and experience increases in operating performance. This would suggest that large downsizings are efficient responses to declining business fortunes.

Companies also sell their assets in response to excessive diversification. According to Jensen's (1986) free cash flow hypothesis, top management in firms with free cash flow invest in over-diversification and organizational inefficiencies. Agency theorists argue that restructuring through asset sales is a correction for over-expansion and over-diversification made by self-serving corporate managers when they increase the size and scope of firms without increasing their value (Jensen, 1986, 1991). In addition, John and Ofek (1995) find that asset sales lead to an improvement in the operating performance

of the seller's remaining assets in each of the 3 years following the asset sale and this improvement in performance occurs primarily in the firms that increase their focus.[13]

Recent research has also argued that asset sales, and corporate restructuring in general, may arise as a result of a reduction in agency conflicts between company managers and shareholders. In particular, this hypothesis rests upon asset sales occurring in response to some form of managerial disciplinary event. Outside of such an event, managers will be reluctant to sell assets owing to the private benefits that accrue from presiding over a larger firm (Jensen, 1986; and Stulz, 1990). In addition, Weisbach (1995) suggests that managers will be reluctant to dispose of poorly performing assets that they had previously invested in. Such a sale would provide a signal of the low quality of the managers to the market.[14] Finally, Makismovic and Phillips (2001) used plant level data for manufacturing firms to analyse the productivity effects of asset transfers between corporations and find an increase in productivity following asset transfers. Makismovic and Phillips then conclude that the market for corporate assets facilitates the redeployment of assets from firms with a lower ability to exploit them to firms with a higher ability. These results are consistent with a neoclassical model of profit maximization.

As the foregoing discussion suggests, there are many reasons and benefits for managers to sell assets. The next question to ask is whether asset sales create value. In other words, is the decision to engage in an asset sale a positive NPV project? Much of the previous research provides evidence related to these queries. The findings come mostly from event studies at the time of the announcement of the asset sale. The general consensus is that the asset sale announcement is associated with positive abnormal stock returns (Jain, 1985; Klein, 1986; Hite *et al.*, 1987; and Lasfer *et al.*, 1996). This finding suggests that asset sales create wealth for shareholders.

There are plausible reasons for the asset sale announcement to be associated with the positive stock return. First, asset sales are associated with the movement of resources to

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[13] See Denis *et al.* (1997a) and Berger and Ofek (1999) for more details on diversification.
[14] Weisbach (1995) also points out that newly appointed managers may have a strong incentive to dispose of such assets. Any accounting write-downs on the disposal of poorly performing assets will lower the benchmark against which future performance is evaluated, potentially increasing the size of any future performance-related compensation payments.

higher valued uses (Hite *et al.*, 1987). Secondly, the asset sale provides funds that management uses to repay debt and therefore reduces the likelihood of bankruptcy (Lasfer *et al.*, 1996). Highly-levered firms may find it too expensive to have further equity or debt issues and, as a result, other sources of financing must be pursued (Shleifer and Vishny, 1992; and Lang *et al.*, 1995). Thirdly, asset sales increase the firm's focus on core activities and therefore the firm's resources are efficiently allocated (John and Ofek, 1995; Denis *et al.*, 1997a; and Berger and Ofek, 1999).

Finally, concerning the use of proceeds from asset sales, Lang *et al.* (1995) find that the market reacts positively to announcements of firms that announced a distribution of proceeds, but reacts negatively to those announcements associated with the reinvestment of asset sales' proceeds. This evidence is consistent with Jensen's (1986) free cash hypothesis, which states that top management in firms with free cash flow invest in value-destroying projects. The distribution of proceeds from asset sales is therefore perceived by the market as one way of reducing free cash flow available to managers.

Following the literature reviewed on asset sales, it appears that relative to the UK, there are a considerable number of studies that have examined issues related to asset sales in the US (John and Ofek, 1995; Berger and Ofek, 1999; and Denis and Shome, 2005), among others. This study extends the US based literature in two important ways: First, the analysis is extended to the UK where there are important differences as compared to the US, the governance systems. Secondly, there are also important differences between the US and the UK on the issues related to asset sales. In Chapter 1, institutional differences between the US and the UK were discussed. In this section differences between the US and the UK on issues related to asset sales are discussed.

Unlike US markets, where spin-offs and equity carve outs comprise a larger fraction of overall asset downsizings, disposals represent the predominant form of asset divestments by UK firms (Afshar *et al.*, 1992). This study is interested in the role of the UK institutional framework for motivating asset disposals. Secondly, Berger and Ofek (1999) and Denis and Shome (2005) discern the role played by markets for corporate controls, product market competition, and markets for managerial labour in corporate

downsizing decisions by US firms. However, such findings do not necessarily apply to the UK. Finally, since asset sales are commonly used as a means of refocusing on core operating activities, different levels of corporate diversification across US and UK would lead to different levels and valuation effects between the countries. It is believed that in 1992, 38% of UK firms were diversified compared with 26% of US firms at the same point in time (Lins and Servaes, 1999). As such, a higher level of refocusing of asset sales in the sample of this thesis is expected, especially as managers and investors become more aware of the value losses from corporate diversification.[15]

The preceding discussion suggests the existing evidence on assets sales from US firms might not also apply to UK firms. In the UK, this study is perhaps closest in spirit to that of Lee and Lin (2004), who examine disclosure of intended use of sell-off proceeds and long-run return performance for UK firms. They examine 655 announcements that disclose the intended use of sell-off proceeds over the period 1993-1997. There is overlap between their sample period and mine. It is also possible that the firms they examined are the same firms this study examines because they use the same source of data as my study. Nevertheless, the focus of this study is broader than that of Lee and Lin (2004). First, Lee and Lin (2004) focus on the intended use of sell-off proceeds. In addition to the intended use of sell-off proceeds, the present study also examines the reasons for sell-offs. Secondly, whilst Lee and Lin investigate the long-run return performance, this study examines both long-run return and operating performance following sell-offs. Finally, Lee and Lin (2004) do not explicitly examine the causes and outcomes of sell-off decisions for the UK firms, the present study does. In a more narrow sense, this is one of the first studies in the UK to examine operating performance following asset sales.

2.4 Dividend cuts

The theory of dividend policy goes back to 1956 when John Lintner conducted a classic series of interviews with corporate managers about their dividend policies; he asserts that firms tend to increase dividends only when there is a high probability that cash flow in the future would be sufficient to support the higher rate of payment. This argument implies that if management's expectations of future earnings affect their decision about

[15] See Hillier *et al.* (2006) for more discussions on asset sales and the UK institutional framework.

current dividend payouts, then changes in dividends convey information to the market about future earnings. This notion is labelled as "the information content of dividends" (Bhattacharya, 1979, 1980; John and Williams, 1985; and Miller and Rock, 1985). The idea can be divided in two ways: first, dividends are used as an ex-ante signal of future cash flow, and, second, dividends provide information about earnings as a description of the sources and uses of funds. The latter argument suggests that the fact that dividends convey information does not necessary imply that they are being used as a signal.

The signalling hypotheses of dividend policy contain three important implications that have been tested empirically: (i) dividend changes should be followed by subsequent earnings changes in the same direction, (ii) unanticipated changes in dividends should be followed by revisions in the market's expectations of future earnings in the same direction as the dividend change, and (iii) unanticipated dividend changes should be accompanied by stock price changes in the same direction. However, despite the preceding evidence, the empirical evidence is far from conclusive. Watts (1973) and Gonedes (1978) find that unexpected dividend changes communicate no information beyond that reflected in other contemporaneous variables, such as earnings. In addition, Kalay (1980) believes that if managers cannot pay dividends because of a binding dividend constraint, this forced reduction is not at their discretion, and therefore dividend changes cannot convey information concerning their expectations about future earnings.

The preceding arguments suggest that dividend change information cannot help to predict the firm's future profitability. Subsequent studies (DeAngelo *et al.*, 1996; Benartzi *et al.*, 1997; and Grullon *et al.*, 2002) add credence to this argument. However, Nissim and Ziv (2001) find that, when seeking to control the earnings' levels at the end of the event year and other variables likely to affect future earnings, the earnings are abnormally high during the subsequent two years for firms that increase dividends, while subsequent earnings are normal for firms that decrease earnings. Grullon *et al.* (2005) ascertain that the Nissim and Ziv's (2001) findings are surprising and spurious. In addition, Vivian (2006) discerns that dividend growth is not positively associated with future earnings growth. This is entirely contrary to signaling hypotheses.

Why should dividend decisions not be able to predict the firm's future earnings? Lintner (1956) develops a model that suggests that the dividend depends in part on the firm's current earnings and in part on the dividend for the previous year, which in turn depends on that year's earnings and the dividend in the year before. This model implies that there is a direct relationship between dividend decisions and current earnings. The probability of an increase in the dividend rate should be greatest when current earnings have increased, and vice versa. Following the implication of Linter's (1956) model, Miller (1987) discovers that dividends are better described as lagging earnings, rather than as leading earnings. It can also be deduced from Lintner's (1956) model that there is no compelling evidence that corporate dividend decisions are made to signal future profitability.[16] Thus, although dividends are used to signal, there are concerns other than signalling that dominate corporate dividend policy.

The preceding argument can be interpreted in another way in that firms cut dividends in response to adverse economic conditions or after a long period of poor performance (Grullon *et al.*, 2005). This is consistent with Ofek (1993) who believes that firms cut dividends in response to poor performance. This evidence is also consistent with that of DeAngelo *et al.* (1990, 1992), Benartzi *et al.* (1997), Grullon *et al.* (2002), and Lie (2005), who find that a high incidence of poor performance precedes dividend cuts. Benito and Young (2003) also discover that financial characteristics are the variables that contribute to dividend cuts for UK firms.

Jensen (1989) argues that highly-leveraged firms will respond to a decline in firm value faster than their less-leveraged counterparts because a small decline in value can lead to default. In support of Jensen's (1989) argument, Ofek (1993) contends that leverage increases the probability of dividend cuts in poorly performing firms. Furthermore, DeAngelo *et al.* (1990) find that 97.5% of financially-distressed firms cut or omit their dividends. In addition, debt covenants may restrict dividend payments, as noted by Smith and Warner (1979). Thus, following the preceding argument, firms cut their dividends in response to high financial leverage.

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[16] Grullon *et al.* (2005) discern that firm profitability is not positively associated with past changes in dividends. They discovered that dividend changes are negatively correlated with future changes in ROA.

Another potential reason that might lead firms to cut dividends is that their investment opportunities are improving, thus they require more funds to invest in value-enhancing projects (Lie, 2005). This view is also consistent with the pecking order hypothesis (Myers, 1984; and Myers and Majluf, 1984), which suggests that firms prefer the use of internally generated funds rather than external finance. This preference could be a strategy of a firm's management to avoid the disciplining influence of the securities market.[17] It is also possible that a firm has borrowing constraints and finds it optimal to finance the project internally (Christie, 1994).

Firms can also cut dividends owing to a shortage of and/or a need to conserve cash flow. Lie (2005) finds that a too low cash flow motivates managers to cut dividends. This argument is consistent with the view that a dividend cut is a proactive strategy to alleviate future cash flow shortages. It is also possible that a firm currently faces a tight financial situation that prevents it from paying out any funds, probably because of the cumulative result of poor cash flow in recent periods. Grullon *et al.* (2002) also document incidence of a low cash ratio associated with dividend cuts for US firms.

Concerning the market reaction to announcements of dividend policy changes, the extant literature shows that the market reacts positively to dividend increase announcements, but negatively to dividend cuts announcements (Healy and Palepu, 1988; Michaely *et al.*, 1995; Eaton, 1999; and Lie, 2005). These results reflect the improving performance of firms that increase dividends, and the deteriorating performance of firms that cut their dividends.

The literature reviewed in this study shows that much of the prior research into dividend policy is, however, predominantly US based and UK firms are relatively under-researched. Despite similar market structures, country-specific differences in culture, information disclosure patterns, taxation, and ownership structure may influence corporate dividend policy in the two countries. Indeed UK companies have traditionally exhibited higher payout levels than their US counterparts (Antoniou *et al.*, 2002).

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[17]Donaldson (1961) believes that internal equity is preferred because firms want to avoid the flotation costs that usually accompany external finance.

In general, there are empirical issues which are not well understood outside the US market. First, if managers are extremely reluctant to cut dividends for fear of sending a negative signal, what then influences them to cut dividends? Second, if managers are reluctant to omit dividends altogether because a dividend omission would tarnish their reputations, why then omit dividends? Third, does a need for investment funds influence managers to cut dividends? Fourth, does the information content of dividend change help identify a firm's future profitability? Fifth, does firm performance improve following dividend cuts? Finally, what are the perceptions of investors to announcements of dividend cuts? The present study contributes to the existing literature by examining the determinants and outcomes of dividend cuts in the UK market. The present study contributes to the existing literature by examining the determinants and outcomes of dividend cuts in the UK market.

2.5 Corporate layoffs

Layoffs are defined as a termination of a significant number of employees from the payroll of an organization. There are a variety of reasons for managers to lay off their employees. First, firms exiting unrelated and unprofitable lines of business and selectively focusing on the core business might be forced to reduce the number of their employees in unrelated businesses. Second, when a firm realizes that its production is no longer at minimum cost, layoffs then possibly become economical in order to cut costs (Lin and Rozeff, 1993). This strategy is designed to make the firm compete more efficiently.

Third, lower machinery costs may lead a firm to build a more efficient plant, and in shifting the old production to the new facility they lay off workers and close the old plant in the process (Lin and Rozeff, 1993). Plant closures can also occur when a firm realizes that it has excess capacity, or that it can produce some of its products offshore. One of the indicators of excess capacity is a fall in demand for a firm's products or services. A plant closure strategy aims to bring the supply of the firms' products in line with demand (DeWitt, 1998; and Chalos and Chen, 2002). Fourth, managers undertake layoffs as a strategy or a plan that anticipates the direction of the competitive environment (Worrell *et al.*, 1991). This strategy aims at maintaining competitiveness, or correcting performance downturns before they become severe. Finally, managers lay off

their workers in order to ensure sufficient cash flow to service their debts. This occurs when firms are saddled with more debts and it is costly to raise funds from other sources, such as borrowing (Shleifer and Vishny, 1992), issuing new securities (Myers and Majluf, 1984), or selling assets (Schlingemann *et al.*, 2002).

Previous studies put the motives for layoffs into two main groups: reactive and proactive (Palmon *et al.*, 1997; Kashefi *et al.*, 2002; McKnight *et al.*, 2002; and Hahn *et al.*, 2004).[18] Reactive layoffs are defined as layoffs that are a direct response to financial distress and/or poor performance. Proactive layoffs are layoffs that are part of a strategy or a plan that anticipates the direction of the competitive environment (Worrell *et al.*, 1991). Therefore, all corporate layoffs that aim to turn around firms with poor performance - such as loss making, plant closure and falls in demand - fall into the reactive strategy group. On the other hand, layoffs that aim to maintain competitiveness or to correct performance downturn (such as cost cutting and reorganization) before they become too severe, fall into the proactive strategy group.

Layoff programmes represent a major attempt to change company cost structures. Typically, the company is recognizing a threat to its financial position, particularly its earnings, and is responding by trying to improve its cost/income ratio (Collett, 2002). This is consistent with the view that layoffs represent changes of sub-optimal contracts in response to changes in the external and internal environments (Jensen and Meckling, 1976). Theoretically, layoffs should have a positive impact on firm performance and survival (Jensen, 1993); however this may be deferred as a result of layoff payments (Collett, 2002). Nevertheless, in the UK a liberal regulatory and tax policy towards redundancy payments means that the negative financial effects should be short-term, provided the company suffers no further losses on the revenue side (Begg, 1991).

If managers act in the best interests of shareholders then they will make layoffs when the present value of the expected net cash savings from those layoffs exceeds the present value of the cash benefits from continuing to employ the staff. Thus, when layoffs are seen to produce positive net present values, one would expect a positive market reaction to the announcement. The market would presumably judge that

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[18] The assumption of this classification is that the announcement of layoffs is mutually exclusive.

reductions in costs should lead to productivity benefits or risk reductions, which would justify a share value higher than would otherwise be the case.

A company that holds output constant whilst cutting costs improves profits and increases shareholder value. This argument has been characterized as the "efficiency hypothesis" (Lin and Rozeff, 1993; and Elayan *et al.*, 1998). In addition, Cascio (1993) suggests that the anticipated economic benefits of layoffs should lead to lower expense ratios, enhanced profits, an increased return on investment, and higher stock prices. There is also another view that suggests that announcements of layoffs signal to the market that the company's investment or growth opportunities are not as good as previously thought; or they can also signal that a layoff firm's financial problems are real (Worrell *et al.*, 1991). This argument has been formalized as the "declining investment opportunities" hypotheses of layoffs (Lin and Rozeff, 1993; and Elayan *et al.*, 1998). The market is expected to react negatively to layoff announcements that signal the declining investment opportunities.

The hypothesis of implied changes in net operating cash flows (Smith, 1986) provides an alternative way of predicting the announcement period effects of layoffs. Smith argues that announcements that increase sources of funds or reduce uses of funds - such as increased financing, cuts in investment, and cuts in dividends are associated with negative stock returns. Hence, given that layoffs reduce operating costs (a use of funds); layoff announcements should therefore be associated with negative revaluations of stock prices.

There are several potential reasons for the increase in post-layoff performance. First, layoffs make the firm more efficient and competitive, and therefore, in the long run the firm's resources are efficiently utilized towards achieving the firm's goals. Second, layoffs maintain the firm's product scope, and provide a focus on productivity gains and cost reduction. Re-engineering processes, streamlining operations, and reducing redundant activities may improve productivity. Finally, layoffs reduce/remove middle-level managers, and allow for less bureaucracy and faster decision making. With fewer layers of middle managers to filter information, communication is smoother and more accurate, the entrepreneurs flourish and hence productivity improves (Cascio, 1993).

Despite a wide coverage of layoff announcements in the press, few studies examine the determinants and effect of layoffs on the firm's performance. Ang and Keys (2002) suggest different reasons for there being little literature on corporate layoffs relative to other forms of corporate restructuring. First, there is no readily available and reliable source that contains layoff announcements reported in a consistent manner. Thus, most of the data is collected manually, which, apart from being time- consuming, might lead to the omission of some of the observations.

Second, there is no established procedure for the public announcement of layoffs. For example, the timing of newspaper accounts and the actual carrying-out of corporate layoffs vary. Some revelations of employee layoffs occur on the same day that employees are dismissed, while other revelations are made years in advance of the planned layoffs, and some are even made after the fact. Third, the details of the layoff are sometimes vague, and phrases such as "thousands will be laid off" are used. The reason for the layoff and information on when the layoff is to occur, whether the layoff is temporary or permanent, and even the number of employees who are affected, may be obscure or even omitted. One must be careful to ascertain whether the quoted percentage of employees affected applies to one unit of the company, its domestic workforce only, or to its entire workforce worldwide.

Finally, huge layoffs associated with a massive restructuring may be announced and followed by multiple announcements of smaller layoffs over a longer period of time, some of which are a subset of the original planned cutback and others that are unexpected. Also, employers may have designed layoffs to occur in phases, instead of implementing large one-time layoffs as a way of avoiding legislation that requires a longer advance-notice period (Addison and Blackburn, 1994). Any or all of these concerns may be contributing factors as to why there are few large sample cross-sectional analyses of layoffs.

Many of the existing studies examine US firms (Worrell *et al.*, 1991; Lin and Rozeff, 1993; Palmon *et al.*, 1997; Elayan *et al.*, 1998; and Chen *et al.*, 2001). To the best of my knowledge, there are only two studies that have examined layoffs using the UK data:

Collett (2002) and McKnight *et al.* (2002). Both of these examine layoff announcements and shareholder wealth. Lee (1997) conducts a comparative analysis of layoff announcements in the US and Japan. There is a consistent finding that the market responds negatively to the announcement of layoffs (Worrell *et al.*, 1991; Lin and Rozeff, 1993; Elayan *et al.*, 1998; and Chen *et al.*, 2001). The main reason attributable to this behaviour is declining investment opportunities. This suggests that the layoff announcement signals that the company's investment or growth opportunities are not as good as previously thought, or that financial problems are real.

The literature reviewed on corporate layoffs shows that the evidence on issues related to layoffs in the UK is relatively scarce in comparison to the US. As discussed in Chapter 1 that there are institutional differences between the UK and the US, the existing evidence on corporate layoffs (which is mainly drawn from US firms) raises a concern as to whether this evidence is market-specific or not. To resolve this problem, the present study examines operating performance over seven years surrounding the year of announcements of layoffs using UK data. This investigation provides evidence on the determinants and outcomes of corporate layoffs.

2.6 CEO turnover

Boards of directors and blockholders undertake different corporate decisions in order to improve a firm's performance. However, the decision to replace a CEO is arguably among the most important decisions made by the board of directors. It has long-term implications for a firm's investment, operating, and financing decisions. The success or failure of a firm depends on many factors and one of them is management's ability to control factors of production and respond to environmental shocks. Since managers are human beings, they also have personal interests. Intuitively, a manager joins a company because of his personal interests and because they are compensated for their human capital, it is presumed that their personal interests should always be secondary to corporate objectives. Nevertheless, it is not always the case that managers take decisions which aim at maximizing shareholders' wealth.

There are two main ways to ensure that the behaviour of managers is consistent with the maximization of shareholders' wealth. One of these is to increase managerial

ownership. In such circumstances the fact that top executives are large shareholders in their own companies should help remove conflicts of interest and align the interests of managers and shareholders. Jensen and Meckling (1976) find that shareholdings by managers help to align their interests with shareholders, and have characterized this evidence as the "convergence of interests" hypothesis.[19] By contrast, Morck *et al.* (1989), Denis *et al.* (1997b), Dahya *et al.* (1998) and Franks *et al.* (2001) document that higher equity ownership insulates managers from internal monitoring efforts and makes it difficult to remove them if they are performing poorly. Morck *et al.* characterize this strong security of tenure which results from such stakeholding as "managerial entrenchment".

The preceding evidence suggests that because higher managerial ownership (or managerial entrenchment) insulates top managers from internal monitoring efforts, then this is likely to have an adverse impact on the value of the firm which will diminish shareholder wealth (Dahya *et al.*, 1998). Gibbs (1993) suggests that entrenched management is pressured into restructuring the corporation through the role of the market for corporate control. The second way of increasing management's commitment to the firm's objective is to rely on internal and external monitoring mechanisms to help ensure their behaviour is consistent with maximization of shareholders' wealth. Boards of directors normally carry out the internal monitoring systems. On the other hand, external controlling mechanisms include capital markets, legal/political/regulatory systems, product and factor markets, the market for corporate control and the managerial labour market.

Managers acquire powers over time that enables them to resist their dismissals. If a manager holds a substantial number of the firm's shares, as explained above, it would then be very difficult to remove him as a result of poor performance. In addition, behavioural theorists argue that board decisions are outcomes of an influence process managed by CEOs who dominate the board and proxy machinery and thereby ensure their continued rule (Gibbs, 1993; and Hermalin and Weisbach, 2003).

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[19] The hypothesis states that as managerial ownership in a firm increases, a firm's performance increases correspondingly, as managers are less inclined to divert resources away from value maximization.

As the preceding discussion makes clear, the internal control systems within companies are sometimes not so effective in disciplining poorly performing managers. These systems have two main faults: they react too late, and take too long to effect major change (Jensen, 1993). The weak internal control systems pave the way for external changes that are generally accomplished quickly (Fama, 1980; Jensen, 1993; and Conyon and Florou, 2002). In addition, Mikkelson and Partch (1997) find evidence that the relation between firm performance and CEO turnover is weaker during periods when the threat of takeover is low. This evidence suggests that top managers face reduced disciplinary pressure in periods where there is less takeover activity. It follows, therefore, that the market for corporate control provides a more efficient way of reallocating control of corporate resources (Jensen, 1993; and Dedman, 2003).

Empirical evidence as to whether the takeover activity can help remove poorly performing managers is mixed. Whilst Denis and Denis (1995) find that forced resignations are often caused by external factors, such as takeover attempts, Huson *et al.* (2001) do not find a relation between turnover rates and takeover activity. In the UK, Franks *et al.* (2001) find that legal barriers to large shareholdings and an infrequent use of anti-takeover provisions have created a market where takeovers and block shareholders have been found not to play an important role in managerial discipline. Previous studies also provide mixed results on the consequences of forced managerial replacement decisions. Dennis *et al.* (1995), Kang and Shivdasani (1995), and Huson *et al.* (2004) document improvement in operating performance following CEO turnover. The evidence on firm performance following CEO turnover in the UK, in general, shows that no operating performance improvement followed a CEO turnover (Dahya *et al.*, 1998 and Dedman *et al.*, 2002).

There are two theories that explain why should there be improved operating performance following CEO turnover: the scapegoat hypothesis[20] and improved management.[21] The improved management hypothesis states that forced management turnover tends to increase managerial quality and, therefore, an improvement in the expected firm performance. That is, if the departing top manager is accountable for the

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[20] See Khanna and Poulsen (1995) for more details.
[21] See Huson, Malatesta, and Parrino (2004) for more details.

firm's performance, a trend of declining performance should be reversed following CEO turnover (Huson *et al.*, 2004). On the other hand, the scapegoat hypothesis holds that poor performance arises from chance alone, rather than low managerial quality. In other words, according to Khanna and Poulsen (1995), poor performance results from bad luck, not bad management. Following the scapegoat hypothesis, if poor performance is the result of bad lack and not managerial problems, the improved operating performance following CEO turnover should be associated with mean reversion, rather than the increased quality of the incoming CEO (Huson *et al.*, 2004).

The last issue that previous studies have examined with regard to top management changes is the market reaction to announcements of CEO turnover, and these produce mixed results. Weisbach (1988), Denis *et al.* (1995) and Huson *et al.* (2001) report positive share price responses to announcements of forced CEO turnover. By contrast, Warner *et al.* (1988) find no significant abnormal return for forced top management changes. Borstadt (1985), Sant (1988) and Furtado (1985) find a negative price effect following CEO resignation announcements.[22] In the UK, Dahya *et al.* (1998) find positive abnormal returns for forced CEO turnover and insignificantly negative stock returns for voluntary turnover announcements. Dedman and Lin (2002) find that the market reaction to CEO turnover is significantly negative to all turnover announcements.

To summarise, the preceding literature shows that, unlike the other forms of corporate restructuring this thesis is examining, CEO turnover has been relatively widely examined. Nevertheless, there are several issues that are still unclear and need further investigation. First, whilst there is a general consensus that poor performance contributes mostly to CEO turnover, the other factors are not exhaustively investigated. It has been shown that an increase in financial distress leads to CEO turnover (Gilson, 1989), but this evidence is not well documented by much of the previous research on corporate governance. Second, inconsistency findings on (i) whether operating performance improves, following CEO turnover; (ii) whether takeover attempts influence a decision on CEO turnover; and (iii) whether the market reaction to announcements of CEO turnover is significant or not call for a further re-examination

[22] Cited in Furtado and Karan (1990)

of the effect of CEO turnover on the firm's performance. This study, which uses data from the UK, provides answers to the issues raised above.

2.7 Conclusion

This chapter reviews literature on corporate restructuring as a whole, and on asset sales, dividend cuts, layoffs and CEO turnover in detail. The literature reviewed above shows that the evidence regarding the effect of corporate restructuring on the firm's performance is unclear. First, most of the available evidence is drawn from US findings. Second, previous studies on corporate restructuring do not examine clearly what motivates managers to restructure their companies. Third, there is also incomplete evidence on the market reaction to announcements of restructuring. Finally, findings on the consequences of restructuring on the firm's performance are mixed. This thesis, therefore will attempt to fill these gaps. The next chapter provides a description of the nature and sources of data used in this thesis. It also discusses the methodology used for data analysis in this study.

CHAPTER THREE: DATA, METHODOLOGY AND VARIABLE DEFINITIONS

3.1 Introduction

This chapter provides a discussion of the data sample used in this thesis. It begins with a description of how the sample has been constructed, and then moves on to describe the methodology used for data analysis. The chapter also provides descriptions of the sample data of the four different forms of corporate restructuring examined in this thesis. Finally, the chapter provides definitions of the different variables used in this study.

The remainder of the chapter is organized as follows. Section 3.2 describes the nature and sources of data used in this study. The section covers description data for asset sales, dividend cuts, corporate layoffs, CEO turnover and the combined sample. Section 3.3 discusses the methodology used in this thesis. Section 3.4 provides definitions of different variables. Finally, section 3.5 provides a summary and conclusion.

3.2 Sample construction

The data used in this thesis tracks corporate announcements of different restructuring events for a sample of UK non-financial firms from 1990-2000. To be included in the sample a firm should have announced at least one of the following events: asset sales, dividend cuts, corporate layoffs and CEO turnover over the same period of time.

In the following sections, I provide descriptions of how I collected data of the different forms of corporate restructuring examined in this thesis.

3.2.1 Asset sales

The initial sample of 697 firm-observations was drawn from the FT Extel cards database and verified by Financial Times archive news articles. Details of asset sales were taken from official announcements made by companies to the London Stock Exchange. I arrive at the final sample according to the following criteria: first, a firm should be a UK non-financial listed company. Second, the firm should have traded for at least one year following the asset sale announcement. Third, the firm should have

made only one sell-off announcement in any one year. Fourth, the firm should disclose a selling price of a divested asset and the price should be a minimum of £5.0m. These requirements produced a final sample of 399 firm-observations from January 1, 1993 to December 31, 2000, and there are 253 individual companies. The choice of the time period is limited by the requirement that data from at least 3 years be available after and before the asset sale announcement period. Returns and accounting data are collected from Datastream.

Table 3-I, panel A presents descriptive statistics of sample firms in the 1993 to 2000 period. Panel B reports characteristics of sample firms by the selling price of the sold assets (£ millions); sample firms' equity values before (year-end) the asset sales (£ millions); and the ratio of the asset sale value to sample firms' equity values before the asset sale. The average value of the asset sale is £58.71 million and the median is £18.00 million[23]. In many cases the divested asset is a substantial part of the seller's total assets. On average, the value of the asset sold is 19.45% of the sample firms' equity value before the asset sale (the median is 6.0%).[24]

Table 3-I, panel C presents the distribution of stated reasons for the asset sales as given by the firm at the sell-off announcement. In general, the reasons are not mutually exclusive because several firms announce more than one explanation to the market. Consistent with previous studies in the UK and the US, poor performance (68.9%), a desire to refocus business operations (67.2%) and the need to improve the firm's financial condition (49.6%) are the primary reasons for the asset sales. In addition, 18.3% of the events are associated with no reason at all. The stated reasons for the asset sale are consistent with those of US firms (John and Ofek, 1995; and Denis and Shome, 2005).

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[23] Using data on UK firms, Clubb *et al.* (2002) have the mean selling price of £81m (median £25m). On US firms, John and Ofek (1995) have the mean selling price of $368m (median $236m).

[24] The corresponding figures from Clubb *et al.* (2002) and John and Ofek (1995) are 14% (5%) and 40% (15%) respectively.

Table 3-I, panel C also provides data on the sample firms by use of asset sale proceeds.[25] Debt repayment, the need for investment, and financing day-to-day activities are the most important uses of proceeds. Managers of 128 (or 32.1%) firm-events indicate that servicing debt was the main objective, followed by new investment, (55 (or 13.8%) events). Financing activities, (18 (or 4.5%) events) and extraordinary dividends, (4 (or 1.0%) events) are the other uses of sell-off funds. However, the majority, 239 (or 59.9%) events), provide no reasons for the use of proceeds.

3.2.2 Dividend cuts

The initial sample data of 650 events of dividend cuts is drawn from the FT Extel cards database and verified by Financial Times archive news articles. Details of dividend cuts were taken from official announcements made by companies to the London Stock Exchange. My use of annual rather than quarterly data is consistent with the focus of prior dividend studies (Watts, 1973; DeAngelo *et al.* (1992); and Grullon *et al.* 2002), among others. In addition, according to Watts (1973) and Lintner's (1956) survey of managers' views of dividend policy, it is revealed that dividends are uniformly considered in terms of annual periods.[26]

The final sample satisfied the following criteria: first, the firm should be a UK non-financial company and listed on the London Stock Exchange. Second, only one announcement per firm per year is included in the sample. Third, for a dividend decrease firm, the percentage change in dividends is between 12.5% and 99%. The lower bound of 12.5% ensures that only economically significant dividend changes are included, and the upper bound eliminates outliers.[27]

In addition, eliminating small dividend changes means that only unusual dividend changes are included. Fourth, for a dividend omission firm, I include those firms that omit the cash dividend for the first time, following a series of at least three consecutive cash dividend payments. Finally, other non-dividend distribution events such as stock splits, stock dividends, and so on, are excluded. These requirements produced a final

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[25] The total across all categories exceeds sample size because some firms mention multiple uses of proceeds.

[26] However, Lie (2005) believes that annual data conceal any deterioration in performance that occurs during the quarters immediately after the announcements.

[27] My sampling procedure is comparable to Grullon *et al.* (2002).

sample of 442 dividend-cut events by 386 firms during the period 1993-2000. This data includes 277 (or 62.7%) dividend-decrease and 165 (or 37.3%) dividend-omission events. Returns and accounting data of sample firms are collected from Datastream.

Table 3-2, panel A provides descriptive statistics of sample firms during the period 1993-2000. As would be expected, dividend-decreasing firms have more observations than omissions. This is probably caused by the view that managers prefer dividend decreases to omissions because omissions tarnish their reputations (DeAngelo *et al.*, 1990). Panel B reports cash dividends (per share) paid in the year prior to and the year of dividend change announcements.[28] In the year prior to dividend changes, the mean (median) cash dividend paid by the dividend-decreasing firms is £722p (£541p) per share. The corresponding values of the dividend-omitting firms are £315p (£150p) per share. The dividend-decreasing firms paid higher cash dividends than the dividend-omitting firms in the year prior to the dividend change. For dividend decreases, the mean (median) decline in dividends from year -1 to 0 is 49.0% (56.4%).

Finally, panel C of Table 3-2 reports the market value of equity, assets, sales and the number of employees over the year prior to dividend changes. The mean (median) market value (MV) of equity over the year prior to dividend changes of dividend decrease firms is £342.1m (£26.2m). The corresponding values of dividend omission firms are £49.51m (£12.09m). The mean (median) assets, sales, and number of employees for decrease firms are £606.7m (£595.6m), £561.0m (£803m), and £6,790 (£1,090), respectively. The corresponding values for dividend omission firms are £103.0m (£29.7m), £125m (£36.4m) and £1,720 (£520), respectively. In general, this data shows that dividend-omitting firms were generally firms that were smaller than the dividend-decreasing firms.[29]

3.2.3 Corporate layoffs

The data of 550 layoff events is drawn from a variety of sources, as no one comprehensive database was available. Primarily, I consulted newspaper databases and

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[28] There are no year 0 dividends for dividend-omitting firms.
[29] Lie (2004) also presents the same view.

the Extel Company Research database.[30] The variety of data sources ensured as wide a coverage of announcements as possible. These data sources gave many repeat observations; however, this ensured I had as many of the details of layoffs that it was possible to have access to.

The final sample satisfied the following criteria: first, the firm should be a UK non-financial listed company. Second, only one announcement per firm per year was included in the sample. Third, a layoff has to be for permanent employees. Finally, to avoid including small observations, the size of layoff should at least be 0.1% of layoffs divided by the total number of employees at the end of the year prior to layoffs, or as a percentage of layoffs, if given. These requirements produced a final sample of 322 layoff events by 175 firms from over the period 1990-2000.[31] The choice of the time period is limited by the requirement that at least 3 years of data be available before and after the layoff announcement period. I collected firms' returns and accounting data from Datastream.

Table 3-3, panel A presents descriptive statistics of sample firms. Panel B provides the size of layoffs and summary statistics for layoffs of the sample firms. The mean size of layoffs, which is the ratio of layoffs to total employees in the year prior to layoffs, or a percentage of layoffs if given, is 7.2% and the median is 4.1%. In addition, there are 369,617 total employees laid off, and the mean (median) is 1147 (450) redundancies per layoff announcement.[32]

Panel C of Table 3-3 reports the distribution of stated reasons for layoffs, as given by the firm at the layoff announcement. The most frequent reason for layoffs is restructuring (or rationalization or reorganization), (135 (or 41.9%) events) followed by plant closure, (87 (or 27.0%) events). The next most important stated reasons for layoff are poor performance, (67 (or 20.8%) events); fall in demand, (42 (or 13.0%) events)

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[30] The newspapers consulted were The Financial Times, The Herald, The Independent, The Observer, The Scotsman and The Sunday Times.

[31] It was explained in the previous chapter why the sample period of layoffs is greater than that of the other forms of restructuring examined in this thesis.

[32] Chen *et al.* (2001) had a mean (median) percentage of workforce turnover involved in layoff of 8.74% (4.55%) and the number of employees involved in layoff of 1701 (500). Neither of the two studies conducted in the UK, Collett (2002) and McKnight *et al.* (2002) provide this information.

and cost cutting, (42 or (13.0%) events). The other stated reasons for layoffs that have observations accounting for less than 10% of the total sample are merger and acquisition, takeover and events that are associated with no reason at all.[33] The stated reasons for layoffs of the sample firms of this study are consistent with those reported for US firms (DeWitt, 1997; Chen *et al.*, 2001; and Chalos *et al.*, 2002).

3.2.4 CEO turnover

The data used in this thesis is collected from all UK companies that announced CEO turnover over the period 1993-2000. Initially, I collected 1200 CEO turnover events from *The Financial Times*, reports from the *UK Regulatory News Service* provided by *FT Extel News Reports*, *McCarthy's News Information Service*, *Lexis-Nexis*, and annual company reports.

Consistent with other corporate restructuring forms examined by this thesis, the final sample satisfied the following three conditions: first, the firm should be a UK non-financial listed company. Second, only one announcement per firm per year was included in the sample. Third, the CEO should be the top officer of a company. These requirements produced a final sample of 705 CEO turnover events by 511 firms during the period 1993-2000. This data includes 394 (or 55.9%) forced CEO turnovers and 311 (or 44.1%) normal CEO turnover events. The choice of the time period is limited by the requirement that at least 3 years of data be available before and after the layoff announcement period. I collected firms' returns and accounting data from Datastream.

3.2.4.1 Identifying CEO turnover

To determine CEO turnover two means were used: first, with corporate announcements, companies over time announce a change of CEOs and sometimes give reasons why the CEO is leaving. Company announcements were obtained from *The Financial Times*, reports from the *UK Regulatory News Service* provided by *FT Extel News Reports*, *McCarthy's News Information Service* and *Lexis-Nexis*. Second, since not all companies publicly announce CEO departures, the names of top management are compared from year to year over the time period 1992- 2000. For each company, the

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[33] The total across all categories exceeds the sample size because some firms mentioned multiple reasons for layoffs.

top executive is identified as the individual with the title of CEO or Executive Chairman. If the name of the top executive changes between successive years, that is classified as a turnover in the top executive. The author does not count as turnover the event in which the position of Executive Chairman is split into the positions of CEO and chairman of the board.[34]

3.2.4.2 Identifying forced and normal CEO turnover

Turnover is further identified as being 'forced' and 'normal' through an examination of articles in *The Financial Times*, reports from the *UK Regulatory News Service* provided by *FT Extel News Reports*, *McCarthy's News Information Service* and *Lexis-Nexis*. Turnover is labelled 'forced' when a news article states the following: fired, resigned, policy disagreement, failed acquisition and shake-ups, or when an article indicates that the company was experiencing poor performance. On the other hand, the turnover is 'normal' when a news article states that the CEO is leaving because of retirement, sickness or when taking a position elsewhere.

Unlike previous studies, this study does not regard all retirements as normal changes. A thorough analysis of this type of change is undertaken, the firm's performance is examined and note is taken of the departing CEO's age. If the firm was experiencing poor performance and/or the age of the outgoing CEO is below 60 years,[35] this turnover is then classified as 'forced'. On the other hand, if a news article does not report the reason for departure at all and when the age of departing CEO is below 60 years, the study classifies this departure as 'forced'.

Table 3-4, panel A reports the distribution of a sample of UK non-financial firms that announced CEO turnover over the period 1993-2000. Panel B reports the ownership characteristics of sample firms. The table shows that the mean (median) CEO ownership of the whole sample is: 4.07% (0.20%); institutional holdings, 27.6% (25.85%); and other directors' ownership, 1.09% (0.40%). The corresponding values for forced and normal changes are: 2.56% (0.10%), 28.16% (27.3%) and 1.03% (0.40%);

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[34] The procedure of identifying the CEO turnover is closely related to that used by Conyon and Florou (2002) and Dahya *et al.* (2002).
[35] Influenced by Dahya *et al.* (2002)

and 5.91% (0.40%), 27.04% (25.60%), and 1.16% (0.60%), respectively. It is apparent from this data that 'forced' CEOs had fewer stakes than 'normal' CEOs.

3.2.5 Combined sample

The initial sample of 1805 corporate restructuring events is drawn from the four different forms of corporate restructuring: asset sales, dividend cuts, corporate layoffs and CEO turnover examined by this thesis, and as explained in previous sections. In this section I examine in detail the descriptive statistics of these firms combining together. First, in order to avoid double counting I identify events per firm per year. It is found that 1386 (or 76.8%) observations had one event per year; 344 (or 19.1%) two events; 71 (or 3.9%) three events; and 4 (or 0.2%) four events per year.[36] It is obvious from this categorization that the majority of observations examined in this thesis announced one event per year. Secondly, in order to include only one observation per year I form three sub-samples: one-event (1386 observations), two-event (171 observations), and three-event (23 observations) over the period 1993-2000. Thirdly, because of insufficient number of observations, I do not examine observations that had four events per year. Table 3-5, panel A reports distribution of sample firms by years and number of events per year. Panel B presents distribution of sample firms by different forms of corporate restructuring.

3.3 Methodology

The main methodological approach of this thesis is an event study that employs accounting-based measures of operating performance. I use operating performance, as opposed to stocks returns, as my performance metric, because share prices incorporate markets expectations of the value of restructuring following corporate restructuring. The operating performance or profitability is measured by return on assets (ROA). ROA is defined as the operating income before depreciation and amortization (EBITDA) scaled by the book value of total assets.

This measure of operating performance is preferable to return on equity, ROE, or other scaled-earnings variables in several dimensions. First, ROE is sensitive to changes in capital structure while ROA is not (since ROA is measured using EBITDA and not net

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[36] This sample excludes 62 layoff events during the period 1990-1992.

income). Second, the ROA is not affected by factors such as special items (that is, unusual and nonrecurring items reported before taxes), accounting for minority interest, and income taxes that usually obscure the ROE. Indeed, using simulation analysis Barber and Lyon (1996) show that ROA is the best available measure to detect abnormal operating performance under most circumstances. On the market reaction to announcements of restructuring events, the study uses the standard event study methodology. Finally, on long run stock returns following restructuring, the thesis uses the buy-and-hold strategy (the last two methods are discussed later in this chapter).

3.3.1 Operating performance

In this section, the methodology that employs accounting-based measures of performance is described.

3.3.1.1 Matched firm selection

To assess whether a firm is performing unusually well or poorly, there is a need to specify the performance to be expected in the absence of an event in order to provide a benchmark against which sample firms can be compared. In this study, two benchmarks were constructed and used: (i) the median industry, and (ii) control firms for measuring the expected operating performance. Industry-matching assumes that some of the cross-sectional variation in operating performance can be explained by an industry benchmark. On the other hand, the control firms help to control for mean reversion in earnings (Barber and Lyon, 1996).

3.3.1.2 Performance measurement: industry-adjusted

A firm's industry-adjusted performance is computed by subtracting the median performance of the industry comparison group from each firm's performance. More formally, P_{it} is denoted as the performance of firm i in year t. The industry comparison group for firm i in year t is PI_{it}. That is,

$$E(P_{it}) = PI_{it}: \tag{3.1}$$

where $E(.)$ is an expectation operator.

One drawback in using the level of an industry comparison group to measure expected performance (without any pre-event performance matching) is that it ignores the history of the firm relative to the benchmark. To circumvent this problem, a benchmark constructed on the basis of matching firms (which is explained below) is used.

3.3.1.3 Performance measurement: matching firms

To measure performance relative to matching firms, a matching firm is constructed on the basis of industry and pre-event performance. More specifically, a firm is selected as a control firm[37] if it is from the same industry (based on the FTSE Level 4 industry classification) and with ROA within +/- 10% of the sample firm's performance at the end of the year, prior to any announcement of restructuring activity. Where no match exists, control firms are selected on the basis of level 3 industrial codes. If there is still no match, level 2 industrial codes are used, and finally, if there is still no match, then industry is ignored and the sample firm is matched only on the basis of performance in the year prior to corporate restructuring.

In the event that the original control firm does not survive for the entire period over which performance is measured for the sample firm, then a second control firm is selected on the basis of the steps described above, and the performance is spliced from the year of delisting of the original control firm. This procedure is repeated until all firms are matched to a series of control firms with enough available data in order to compute the control group's adjusted performance for up to 3 years following restructuring.

3.3.1.4 Statistical tests for abnormal operating performance

The abnormal performance of firm i in year t, AP_{it}, is defined as realized performance, P_{it}, less expected performance, $E(P_{it})$:

$$AP_{it} = P_{it} - E(P_{it}) \tag{3.2}$$

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[37] Control firms are firms that are not sample firms. For example, when examining asset sales, the control firm is a non-asset sale firm, and so on. Also, for the combined sample, control firms are those firms that do not undertake any of the four forms of corporate restructuring this thesis examines.

where performance is measured using return on assets, and expected performance is based on industry medians and/or control firms. To test the null hypothesis, in which mean abnormal performance is equal to zero for a sample of size, n, a parametric test statistic is employed:

$$t = \frac{\overline{AP}}{\sigma(AP_{it})/\sqrt{n}} \tag{3.3}$$

where $\overline{AP}$ is the sample average and $\sigma(AP_{it})$ is the cross-sectional sample standard deviation of abnormal performance for the sample of n firms. This test statistic follows a *Student's t-distribution* under the null hypothesis if the sample is drawn randomly from a normal distribution.

A nonparametric *Wilcoxon signed-rank test* statistic is also considered. The *Wilcoxon signed-rank test*, a z-statistic, is computed for the hypothesis that the distributions of event security and non-event security medians are identical.

The z-statistic is calculated as:

$$z = {T - E(T)}/{\sigma_T} \tag{3.4}$$

where T is test statistic; $E(T) = \frac{n(n+1)}{4}$; and $\sigma_T = \sqrt{\frac{n(n+1)(2n+1)}{24}}$. Under the null hypothesis that the event and non-event security's performance is drawn from the same distribution, z follows a unit normal distribution.

3.3.1.5 Cross-sectional model

In addition to univariate analyses, this thesis also uses cross-sectional model to investigate the joint effects of different factors that potentially influence corporate managers to undertake corporate restructuring programmes. Mostly, these factors are examined in a multivariate setting. Logistic regressions are estimated to quantify the association between the potential factors affecting the restructuring decision and the probability of restructuring.

The general specification of the logistic regression model is:[38]

$$P(CR) = f(xb) = \exp(xb) \Big/ (1 + \exp(xb)) \tag{3.5}$$

where, $P(CR)$ is the probability of corporate restructuring, x is a vector of explanatory variables, and b is a parameter vector. The vector of variables includes: changes in operating performance, debt ratio, business focus, corporate control activities and firm size.[39] The method of maximum likelihood to estimate the log form specification of equation (3.5) is used:

$$\ln\left(\frac{P(CR)}{1-P(CR)}\right) = \beta_0 + \beta_1[ROA]_{-t,0} + \beta_2[DEBT]_{-1} + \beta_3[HI]_{-1} + \beta_4[CTRL]_{-1,0} + \beta_5[SIZE]_{-1} \tag{3.6}$$

where, the dependent variable is equal to 1 for the sample restructuring firms and 0 for control firms. $[ROA]_{-t,0}$ is change in operating performance from year $-t$ to year 0; $t = 3$, 2, or 1. $[DEBT]_{-1}$ is debt ratio in year -1. $[HI]_{-1}$ is the Herfindahl Index in year -1. $[CTRL]_{-1,0}$ is equal to 1 for firms with control activity in years -1 or 0, and zero otherwise. $[SIZE]_{-1}$ is firm size measured as the natural logarithm of the market value of a firm's equity in year -1.

Following the discussion of the factors likely to influence the decision to undertake corporate restructuring in Chapter 2, it is hypothesized that: $\beta_1 < 0$, $\beta_2 > 0$, $\beta_3 < 0$, $\beta_4 > 0$, and $\beta_5 > 0$.

3.3.2 Stock returns

This study also examines the market reaction to announcements of different corporate restructuring events that are examined in this thesis. A standard event study methodology is employed to determine the average abnormal returns (AARs) and cumulative abnormal returns (CARs) over the days surrounding the announcement of

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[38] See Denis and Shome (2005) for more details on this model.

[39] It should be noted that this is a general model and additional to these variables, each empirical chapter has its own individual variables as appropriate.

these events. In addition, to the market reaction to announcements of restructuring events, the study also examines in brief the long run return performance following announcements of these events; and uses the buy-and-hold strategy.

3.3.2.1 Short-term market reactions

This study uses the market adjusted model to measure abnormal returns. This model is preferred mainly because sample firms were drawn from all UK non-financial firms and therefore is assumed that *ex ante* expected returns are the same for all securities and therefore equal in any period to the expected market return. The model also takes into account the market-wide movements which occur at the same time that the sample security experienced the event. The market-adjusted returns model is also consistent with the Asset Pricing model if all securities have systematic risk of unity.

The choice of this model is also influenced by the work of Strong (1992), who believes that accuracy of event dates is likely to be more important than sophistication in modelling or statistical techniques. However, for robustness check, the abnormal returns are also computed using the market model as well as the mean adjusted model. If the results are not statistically different among these models, then the results of the market adjusted model are only reported, otherwise the results of all models are presented.

3.3.2.1.1 Share returns

Daily returns are calculated as follows:

$$R_{jt} = \log\left[\left(P_{jt} + D_{jt}\right) \Big/ P_{jt-1}\right] \tag{3.7}$$

where R_{jt} is the share return of firm j on day t; P_{jt} is the share price of firm j on day t; D_{jt} is the cash dividend paid of firm j on ex-dividend day t; P_{jt-1} is the share price of firm j on day $t-1$. The above variables are all based on a per share basis and are adjusted for capitalization.[40]

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[40] Share returns can also be calculated as discrete returns:

3.3.2.1.2 Market returns

Daily logarithmic market returns are calculated as follows:

$$R_{mt} = \log\left[FTAI_t / FTAI_{t-1} \right] \tag{3.9}$$

where $FTAI_t$ is the Financial Times All-Share index on day t.

3.3.2.1.3 Abnormal returns

The description of how to calculate the abnormal returns is drawn from the works by Brown and Warner (1980, 1985) and Strong (1992), among others. A security $j's$ abnormal performance in period t, AR_{jt}, is calculated as:

$$AR_{jt} = R_{jt} - E(R_{jt}) \tag{3.10}$$

where, R_{jt} is the actual share returns of firm j on day t and $E(R_{jt})$ is the expected (or normal) return corresponding to period t.

The average abnormal return for day t is defined as:

$$\overline{AR} = \frac{1}{N_t} \sum_{j=1}^{N_t} AR_{it} \tag{3.11}$$

where N is the number of firms.

The test statistic for event day t is given by:

$$R_{jt} = \frac{P_{jt} + D_{jt} - P_{jt-1}}{P_{jt-1}} \tag{3.8}$$

There are both theoretical and empirical reasons for preferring logarithmic returns. Theoretically, logarithmic returns are analytically more tractable when linking together sub-period returns to from returns over longer intervals (simply add up the sub-period returns). Empirically, logarithmic returns are more likely to be normally distributed and so conform to the assumptions of standard statistical techniques (Strong, 1992).

$$t = \overline{AR_t} \Big/ \sigma(AR_{jt}) \Big/ \sqrt{N} \tag{3.12}$$

where, $\overline{AR}$ is the average abnormal return and $\sigma(AR_{jt})$ is the cross-sectional sample standard deviation of abnormal returns for the sample of n firms. If $\overline{AR}$ is independent, identically distributed and normal, the test statistic is distributed $Student - t$ under the null hypothesis.

This is a fairly strong assumption. However, it does not affect my findings, since I also use the market model to compute a t-statistic that avoids that assumption. The t-statistic for the market model is computed as:

$$t = \overline{AR_t} \Big/ \hat{S}(\overline{AR_t}) \tag{3.13}$$

where,

$$\hat{S}(\overline{AR_t}) = \sqrt{\left(\sum_{t=-250}^{t=-11} (\overline{AR_t} - \overline{\overline{AR}})^2 \right) \Big/ 240} \tag{3.14}$$

$$\overline{\overline{AR}} = \frac{1}{N} \sum_{t=-250}^{t=-11} \overline{AR_t} \tag{3.15}$$

where N_t is the number of sample securities whose abnormal returns are available at day t. If the $\overline{AR_t}$ are independent, and identically distributed, and normal, the test statistic is distributed *Student-t* under the null hypothesis.[41] A 240-day estimation period (i.e., a period between day -250 and day -11) is used.[42] $\hat{\alpha}_j$ and $\hat{\beta}_j$ are estimated during the same estimation period. Using this approach avoids the cross-sectional independence assumption. However, the results are similar whether using the market model or market adjusted model. As a result, I stick with the market adjusted abnormal returns and t-statistics that use equation (3.12).

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[41] This test statistic is adopted from Brown and Warner (1985), pp 7-8.
[42] The number of observations used in practice has varied widely. For example, Brown and Warner (1985) used 238 observations, while Dedman and Lin (2002) used 150 observations.

To measure abnormal returns over a specific interval for firm j, the abnormal returns are summed to give the cumulative abnormal returns (CAR), that is:

$$CAR_i = \sum_{t=T_{1j}}^{T_{2j}} AR_{it} \tag{3.16}$$

where T_{1i} and T_{2i} are firm – specific event dates (e.g. the press and outcome dates). For a sample of N securities the mean cumulative abnormal returns is given by:

$$\overline{CAR_i} = \sum_{j=1}^{N} CAR_i / N \tag{3.17}$$

3.3.2.2 Long run stock returns

Following the argument on which method to use to measure long run stock returns following corporate events, it has been advised that the choice between CAR and BHAR approaches should largely depend upon the implicit trading strategy that is being assumed (Gompers and Lerner, 2003). The objective of this study is to assess the return to investors who buy-and-hold shares of restructuring firms. Consequently, the choice of BHARs over CARs here is also to reflect the assumed strategy. However, it is also important to point out that BHARs have also some problems; for example, they are normally positively skewed. On measures of expected returns, this study uses matching-based measures of expected returns as recommended in Barber and Lyon (1997). The authors argued that the use of a broad market index as a reference portfolio should be discouraged because of the biases it introduces to the abnormal performance. The use of matching firms rather than broader market index also helps in mitigating the biases in calculating BHARs, particularly the new listing and rebalances biases.

The buy-and-hold abnormal return is calculated as:

$$BHAR_{jt} = \prod_{t=a}^{b}(1+R_{jt}) - \prod_{t=a}^{b}(1+E(R_{jt})) \tag{3.18}$$

where, $BHAR_{jt}$ is the buy – and – hold abnormal return for firm j at time t. R_{it} is the return for observation firm j on month t. $E(R_{jt})$ is the expected or normal return for the event security.

The averages buy – and – hold abnormal return for a portfolio of n stocks is given by:

$$ABHAR_{\tau} = \frac{1}{n}\sum_{j=1}^{n} BHAR_{j\tau} \tag{3.19}$$

3.3.2.2.1 Tests of significance

The t-statistics for the ABHAR in period t across N securities is given as:

$$t_{ABHAR_{\tau}} = \frac{ABHAR_{\tau}.\sqrt{N}}{\sigma_{BHAR}} \tag{3.20}$$

where, N is the number of observations in period t, and $ABHAR_{\tau}$, and $\sigma_{(BHARs)}$ are the cross-sectional mean and standard deviation of the BHAR for the sample of N securities.

The fraction of the sample with negative BHAR is tested for significance as:

$$z = \frac{\hat{p} - p}{\sqrt{p(1-p)/N}} \tag{3.21}$$

which is approximately normal for Np and $N(1-p)$ greater than 5. $\hat{p}$ is the fraction of negative ABHARs estimated from the sample, p is 50%, and N is the number of observations.

The binomial sign test serves as a check of the robustness of the difference of means test. It determines whether the percentage of negative BHAR is significantly different from the expected percentage of negative returns (in this case 50%):

$$z = \frac{(x - np)}{\sqrt{(1-p)np}} \tag{3.22}$$

where, x is the number of negative BHAR observations; p is the expected fraction of negative BHAR (in this case, 50%); and n is the total number of non-zero BHAR observations.

One of the first studies to use the BHAR model is Ritter (1991), and thereafter the BHAR model is the most popular estimator of long-term abnormal performance. Barber and Lyon (1997) believe that the BHAR is the appropriate estimator because it 'precisely measures investor experience'. However, Barber and Lyon (1997) and Kothari and Warner (1997) provide simulation evidence showing that common estimation procedures can produce biased BHAR estimates. In particular, biases arise from new listings, rebalancing of benchmark portfolios, and skewness of multiyear abnormal returns. Ikenberry *et al.* (1995) propose that carefully constructing inferences via a bootstrapping procedure correct these problems.

Fama (1998) argues against the BHAR methodology because the systematic errors that arise with imperfect expected return proxies – the bad model problem – are compounded with long-horizon returns. In addition, Mitchell and Stafford (2000) point out that BHARs can give false impressions of the speed of price adjustment to an event. The reason is that BHARs can grow with the return horizon even when there is no abnormal return after the first period. By contrast, Lyon *et al.* (1999) and Loughran and Ritter (2000) prefer the BHAR methodology.

Fama (1998) believes that CAR performs well when used to estimate long run abnormal returns. Though not supporting the CAR model, Barber and Lyon (1997) did tests that show that inferences are less problematic for average monthly returns (that is, AARs and CARs). In a follow-up paper, Lyon *et al.* (1999) develop techniques for correcting some of the inference problems of BHARs. But they acknowledge that their improved methods for BHARs produce inferences no more reliable than simpler methods applied to monthly AARs or CARs. A main criticism of the CAR approach is that an average monthly return does not accurately measure the return to an investor who holds a security for a long post-event period. Long-term investor experience is better captured

by compounding short-term returns to obtain long-term buy-and-hold returns. Much of the recent literature tests BHARs (which is discussed below) for periods up to five years after an event.

Another method for calculating long run abnormal returns is *The Fama-French's (1993) three-factor model.* Fama and French (1993) develop the 'three-factor model' that explains the relationship between common stock returns and the market risk premium, size, and book-to-market ratio factors. For the event security j, the excess returns are regressed on the three factors known to affect cross-sectional returns:

$$R_{jt} - R_{ft} = \alpha_j + \beta_j (R_{mt} - R_{ft}) + s_j SMB_t + h_j HML_t + \varepsilon_{jt} \qquad (3.23)$$

where, R_{jt} is the simple monthly return on event security j. The α_j, β_j, s_j, and h_j, are the regression parameters and ε_{jt} is the error term. $R_{jt} - R_{ft}$ and $R_{mt} - R_{ft}$ are, respectively, the post-event monthly excess return on the event security and the market factor, where R_{mt} is the raw return on a broadly based market portfolio, such as the value-weighted FT-All Share Price index and R_{ft} is the one-, or three-month Treasury Bill rate. The size factor, SMB_t, is defined as the difference between return on a portfolio of small firms and return on a portfolio of big firms. The book-to-market factor, HML_t, is defined as the difference between the return on a portfolio of highest book-to-market ratio firms and the return on a portfolio of the lowest book-to-market ratio firms.

The use of Fama-French model alleviates the pre-data requirement problem in other models as the estimates of the model's variables uses portfolio of listed companies. The model is renowned for its risk control. One of the concerns of the Fama-French model is that the model requires a researcher to estimate the regression parameters based on pre event data similar to the implementation of the market model. This poses a problem of pre-event data requirement.

However, since the long run stock return performance following restructuring is not the main focus of my study, I do not explore these issues further.

3.4 Variable definitions

In this section variables that are used across all empirical chapters in this thesis are defined. Nevertheless, some variables are specifically used in certain empirical chapters and will be defined in their respective chapters as appropriate.

(i) Return on assets

Following Barber and Lyon (1996), return on assets (ROA) based on earnings before interest, tax, depreciation and amortization (EBITDA) in order to measure a firm's profitability is used. The return on assets is defined as the ratio of EBITDA to total assets. The abnormal change in return on assets is computed by subtracting the change in ROA of the industry median or control firms from that of the sample firms. The abnormal change in ROA is a measure of the firm-specific change in ROA and controls for any systematic change in profitability across similar firms.

(ii) Financial Leverage

Two variables are used to measure financial leverage: debt ratio and interest coverage ratio. According to Rajan and Zingales (1995), a more appropriate definition of financial leverage is provided by the ratio of debt (both short term and long term) to total assets. A measure of the firm's ability to meet its fixed payments (or financial distress) is interest coverage ratio (Rajan and Zingales, 1995). Interest coverage ratio is defined as the ratio of pre-tax profits and interest charges to interest charges. The abnormal or (matching firm) adjusted leverage is computed using the same criteria as that used to compute abnormal changes in ROA.

(iii) Business focus

Two measures are used to examine business focus. The first measure is the number of different lines of business the firm reports. The second measure used is the sales-based Herfindahl index, H. This index is calculated across n business segments as the sum of the squares of each segment i's sales, S_i, as a proportion of total assets:

$$H = \sum_{i=1}^{n} \left(\frac{S_i}{\sum_{i=1}^{n} S_i} \right)^2 \tag{3.31}$$

H takes values between zero and one. The closer H is to one, the more concentrated are the firm's sales within a few of its segments, and hence the more focused its operations.[43]

(iv) Labour productivity

Two measures are used to examine labour productivity: operating profit per employee and sales per employee. Operating profit per employee measures the contribution of an employee to the profitability of the firm. It is defined as the ratio of operating profit to a number of employees. Sales per employees measure the contribution of the employee to total sales. It is defined as the total annual sales divided by the total number of employees. The abnormal or (matching firm) adjusted labour productivity is computed using the same criteria as those used to compute abnormal changes in ROA.

(v) Market for corporate control activity

Following the previous studies (Fama, 1980; Fama and Jensen, 1983; Franks *et al.*, 2001; and Denis and Shome, 2005), there is a possibility that managers do not undertake restructuring willingly; sometimes there is a pressure from outside the firm. This is consistent with the view that internal and external monitoring systems work together to ensure that managers' behaviour is consistent with the maximization of shareholder wealth. To examine whether sample firms undertook restructuring because of external influence, two dummies are used: takeover pressure and financial distress. A dummy takes on a value of one if a firm experienced a takeover pressure and/or financial distress over the 12 months prior to restructuring, and has a value of zero otherwise.

To investigate whether there was an external influence to the restructuring decision and/or all other restructuring events this thesis examines, the *UK Regulatory News Service* provided by *FT Extel News Reports*, *The Financial Times* and *Acquisitions Monthly Journal* was searched over the years -1 and 0 for each sample, as were control firm and record

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[43] See Comment and Jarrell (1995) for more details

incidences of the following events: an actual or proposed takeover bid, a change in the identity of the chief executive officer,[44] and indications of financial distress. Financial distress is defined here as the inability of a firm to meet the fixed payment obligations on its debt. Within a given firm-year, a firm is financially distressed if it is in default on its debt, bankrupt, or is privately restructuring its debt to avoid bankruptcy (Gilson, 1989). However, it is difficult to ascertain under what conditions the firm is really financially distressed. For example, non-payment of interest charges is one of the signs of financial distress. Berger and Ofek (1999) also instance a decision to cut dividends as a sign of financial distress. In addition, in the UK, firms' loans are in the form of bank loans which are not all disclosed to the public. To avoid confusion on what financial distress really means, cases where there is public information that a firm reorganizes its capital and/or where it undertakes debt restructuring are investigated. A takeover attempt is defined here as any attempt to bid for a firm, whether successful or not.

3.5 Summary and conclusion

In this chapter, the main data source and methodologies used in assessing operating performance, the market reaction to announcements of restructuring and long run stock returns following various restructuring events were described. In the next chapters, 4 through 8, the thesis presents empirical results.

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[44] CEO turnover is defined here by Conyon and Florou (2002).

Table 3-1: Descriptive statistics for asset sales firms

This table reports descriptive statistics for a sample of 399 UK non-financial firms that announced asset sales during 1993-2000. Panel A reports the distribution of sample firms by years. Panel B reports the characteristics of sample firms by selling price of divested assets, firms' market value of equity over the financial year end prior to asset sales, and the ratio of sell-off value to a firm's market value of equity prior to asset sales. Panel C reports the stated reasons for asset sales and the uses of asset sale proceeds.

Panel A: Distribution of sample firms by years

Year	N	Fraction (%)	Year	N	Fraction (%)
1993	41	10.3	1998	75	18.8
1994	47	11.8	1999	27	6.8
1995	72	18.0	2000	79	19.8
1996	26	6.5	**Total**	**399**	**100.0**
1997	32	8.0			

Panel B: Selling price of divested assets, market value of equity, and ratio of sell-off value to market value of equity prior to sell-off

				Quartiles		
Characteristics	N	Mean	Median	1st	3rd	Std Dev.
Selling price of divested assets (£m)	399	58.71	18.00	9.05	48.80	113.18
Market value of equity (£m)	399	1929	399	111	1586	4590
Ratio of sell-off value to market value of equity prior to asset sales	399	0.1945	0.06	0.019	0.1885	0.3917

Panel C: Stated reasons for asset sales and uses of asset sale proceeds

Stated reasons for asset sales			Uses of asset sale proceeds		
Reason	N	%	Use	N	%
Loss making	275	68.9	Debt repayment	128	32.1
Focusing	268	67.2	Investment	55	13.8
Highly-leveraged	198	49.6	Financing	18	4.5
Reason not given	73	18.3	Pay to shareholders	4	1.0
			Use not given	239	59.9

Table 3-2: Descriptive statistics for dividend cuts firms

The table presents descriptive statistics for a sample of UK non-financial firms that announced dividend cuts during 1993-2000. Panel A shows a number of observations by years and dividend change type. Panel B reports the distribution of cash dividends paid in over the year -1 (year 0) of dividend change. Panel C reports the market value (MV) of equity, the total assets, sales and number of employees over the year –1.

Panel A: Number of observations by years and dividend change type: 1993-2000

Year	Whole sample		Dividend decreases		Dividend omissions	
	Number	Fraction (%)	Number	Fraction (%)	Number	Fraction (%)
1993	102	23.3	76	27.7	26	15.8
1994	34	7.7	21	7.6	13	7.9
1995	21	4.7	15	5.4	6	3.6
1996	33	7.4	21	7.6	12	7.3
1997	42	9.5	24	8.6	18	10.9
1998	60	13.5	38	13.7	22	13.3
1999	85	19.2	48	17.3	37	22.4
2000	65	14.7	34	12.2	31	18.8
Total	**442**	**100.0**	**277**	**100.0**	**165**	**100.0**

Panel B: Cash dividend paid in the year –1 (0) – numbers are in £p per share[a]

Variable	Decreases	Omissions
Mean	722 (368)	315
Median	541 (236)	150
25th percentile	311 (105)	69
75th percentile	922 (485)	350

[a] – no cash dividend in year 0 for dividend omission firms

Panel C: MV of equity, total assets, sales and number of employees over the year –1

Variable	Whole sample (N = 442)		Dividend decreases (N = 277)		Dividend omissions (N = 165)	
	Mean	Median	Mean	Median	Mean	Median
MV of equity (£m)	232.9	18.2	342.1	26.2	49.51	12.09
Assets (£million)	423.7	466.6	606.7	595.6	103.0	29.7
Sales (£million)	402.9	645.9	561.0	803.8	125.7	36.4
Number of employees (000s)	4.96	0.82	6.79	1.09	1.72	0.52

Table 3-3: Descriptive statistics for layoff firms

The table reports the descriptive statistics for a sample of 322 UK non-financial firms that announced layoffs during 1990-2000. Panel A reports the distribution of sample firms by years. Panel B reports the size of layoffs and the summary statistics for sample firms. The size of layoffs is defined as the ratio of layoffs divided by the number of employees at the financial year-end prior to layoffs, or a percentage of layoff, if given. Panel C reports the stated reasons for layoffs as collected from public announcements.

Panel A: Distribution of sample firms by years

Year	N	%	Year	N	%	Year	N	%	Year	N	%
1990	19	5.9	1993	25	7.8	1996	31	9.6	1999	35	10.9
1991	21	6.5	1994	26	8.1	1997	32	9.9	2000	37	11.5
1992	22	6.8	1995	37	11.5	1998	37	11.5	**Total**	**322**	**100**

Panel B: Sample firms' size of layoffs and summary statistics of layoffs

Size of Layoffs		Summary statistics	
Variable	Fraction	Variable	Fraction number
Mean	0.07198	Number of observations	322
Median	0.04100	Number of individual companies	175
Minimum	0.00100	Total number of layoffs	369617
Maximum	0.87000	Mean number of layoffs	1147
25th Percentile	0.01400	Median number of layoffs	450
75th Percentile	0.08825	Smallest	13
		Largest	40000

Panel C: Stated reasons for layoffs

Reason	N	%[a]	Reason	N	%
Reorganization	135	41.9	Poor performance	67	20.8
Plant closure	87	27.0	Mergers and Takeover	13	4.0
Fall in demand	42	13.0	No reason	17	5.3
Cost cutting	42	13.0			

[a] - the sum of ratios is more than 100% as several firms announced more than one reason for layoffs.

Table 3-4: Descriptive statistics for CEO turnover firms

This table reports the descriptive statistics for a sample of 705 UK non-financial firms that announced CEO turnover during 1993-2000. Panel A reports the distribution of sample firms by years. Panel B reports the ownership characteristics of sample firms. Ownership characteristics are taken from annual reports and corporate registers while other financial information is taken from Datastream. Financial information is reported over the year prior to CEO turnover

Panel A: Distribution of sample firms by years

Year	All changes		Non-routine changes		Normal changes	
	N	Fraction (%)	N	Fraction (%)	N	Fraction (%)
1993	94	13.3	41	10.4	53	17.0
1994	92	13.0	36	9.1	56	18.0
1995	104	14.8	39	9.9	65	20.9
1996	87	12.3	43	10.9	44	14.1
1997	104	14.8	59	15.0	45	14.5
1998	73	10.4	48	12.2	25	8.0
1999	72	10.2	58	14.7	14	4.5
2000	79	11.2	70	17.8	9	2.9
Total	**705**	**100.0**	**394**	**100.0**	**311**	**100.0**

Panel A: Ownership characteristics

Variable	Whole changes [N = 637]		Non-routine CEO [N = 349]		Normal CEO [N = 288]	
	Mean	Median	Mean	Median	Mean	Median
CEO ownership %	4.07	0.200	2.56	0.10	5.91	0.40
Institutional holdings %	27.6	25.85	28.16	27.3	27.04	25.60
Other directors' ownership %	1.09	0.40	1.03	0.40	1.16	0.60

Table 3-5: Descriptive statistics for restructuring firms

The table reports descriptive statistics for a sample of UK non-financial firms that announced different corporate restructuring events over the period 1993-2000. Panel A reports distribution of firms by years and number of events per year. Panel B presents distribution of sample firms by different forms of corporate restructuring as per number of events. One, two, three, and four events denote firms that announced one, two, three, and four events per year, respectively.

Panel A: Distribution of sample firms by years and number of events per year

Year	One Event	Two Events	Three Events	Four Events	Total	%
1993	194	60	9	0	**263**	14.6
1994	146	48	6	0	**200**	11.1
1995	170	50	15	0	**235**	13.0
1996	139	32	5	0	**176**	9.8
1997	168	32	6	4	**210**	11.6
1998	177	52	15	0	**244**	13.5
1999	189	36	6	0	**231**	12.8
2000	203	34	9	0	**246**	13.6
Total	**1386**	**344**	**71**	4	**1805**	**100.0**

Panel B: Distribution of sample firms by different forms of corporate restructuring

Event	One Event	Two Events	Three Events	Four Events	Total	%
Asset Sales	304	76	18	1	**399**	22.1
CEO	551	131	21	1	**704**	39.0
Dividend Cuts	351	75	15	1	**442**	24.5
Layoffs	180	62	17	1	**260**	14.4
Total	**1386**	**344**	**71**	4	**1805**	**100.0**

CHAPTER FOUR: ASSET SALES

4.1 Introduction

The reasons why firms may choose to sell assets instead of adopting some other forms of corporate restructuring are discussed in Chapter 2. In this chapter the determinants and outcomes of asset sale decisions are empirically investigated. The analysis in this study provides evidence related to three primary hypotheses: first, what factors motivate corporate managers to undertake asset sales? Second, what is the market reaction to announcements of asset sales? Finally, does a firm's efficiency improve following the asset sale?

The managers' motivations to undertake asset sales are addressed here in two ways. First, the managers' own explanations for their firm's asset sales, which have been taken from public announcements, are given. Second, a comparison is made of sample firms to a control group of companies in the same industry that provide ex-post evidence on the factors that influence the likelihood of asset sales. The results suggest that the most important factors in the decision to undertake asset sales are poor operating performance, high financial leverage, and a need to refocus on core activities. Asset sales proceeds were utilised to service debt obligations, new investments, and for day-to-day activities within the firm.

Following asset sales, a significant performance improvement in return on assets over the 3 years following an asset sale is shown. Further, evidence is found that firm performance improves when proceeds are used for servicing debt and for financing working capital requirements over the three years following the asset sale. However, consistent with the financing hypothesis of Lang *et al.* (1995), there is no evidence of increased performance when asset sale proceeds are used for further investment. Finally, a significant positive one-day reaction in abnormal share price returns is recorded in response to asset sale announcements. This is positively related to the level of operating performance subsequent to the sell-off. The study suggests that, for the UK at least, managers undertake sell-off decisions in the interest of company shareholders.

However, it is also apparent that managers may have been under pressure to sell assets as a result of discipline from lenders and from external labour and product markets.

The chapter proceeds as follows: Section 4.2 develops hypotheses to be tested in this chapter. Empirical results are presented in Section 4.3. Section 4.4 summarizes and concludes the chapter.

4.2 Development of hypotheses

In addition to the general hypotheses discussed in Chapter 1, this section briefly discusses the individual hypotheses to be tested in this chapter.

John *et al.* (1992) find that companies respond to performance declines by undertaking three different policies: contraction, expansion and change in marketing or pricing policies. Furthermore, John *et al.* observe that contraction policies are the predominant responses. In support of the latter evidence, John *et al.* (1992) find that asset sales represent 63% of total observations in their sample. In addition, Ofek (1993), Kang and Shivdasani (1997), and Denis and Kruse (2000) find that firms respond to performance declines by undertaking a number of restructuring activities including asset sales, among others. It is apparent from this evidence that the decision to sell assets is negatively related to previous operating performance. This is consistent with the findings of Denis and Shome (2005), who together report a high incidence of asset sales following poor performance.

The preceding discussion suggests that managers sell assets in response to performance declines. It is also suggested here that poor performance, or a need to improve performance, motivates managers to sell assets. Following this proposition, it is hypothesized that:

H_{+1}: Poor performance or a need to improve performance motivates managers to sell assets.

John *et al.* (1992) document that divestitures are a common response to poor product market performance, and Ofek (1993) finds that this response is particularly common if

the poor performance leads to financial distress. In addition, Jensen (1989) argues that highly-leveraged firms will respond faster to a decline in value than their less-leveraged counterparts because a small decline in value can lead to default. In support of Jensen's (1989) argument, Ofek (1993) claims that higher leverage significantly increases the probability that certain specific operational actions, such as asset restructuring and employee layoffs, will be taken when performance deteriorates.

A further line of research has reported that corporate divestment activity my be at least partly related to corporate financial distress, either at the level of the company as a whole and/or in respect of the divested subsidiary or line of business (Peel, 1995). For example, in a study of 436 divestments by large US corporations, Ravenscraft and Scherer (1987)[45] discovered that the key managerial rationale for divestments was the unsatisfactory profit performance of divested businesses. The authors document further that poor and declining profitability at the line of business or company level, or both characteristically preceded sell-off, and sell-off was, on average, a manifestation of financial distress.

The preceding discussion suggests that the probability of asset sales in a poorly-performing firm increases with the firm's leverage. One explanation of this observation is that firms are forced to sell assets or divest businesses to raise cash to meet debt repayments. This mostly happens when a highly-levered firm finds it difficult to raise additional funds through issuing new securities (Shleifer and Vishny, 1992). This is consistent with the view that management would like to repay the debt in order to avoid bankruptcy, which in turn could lead to management losing its perquisites (Gilson, 1989). In addition, theoretical evidence shows that creditors often insist on the divestiture of certain assets as a condition for restructuring firms with high financial leverage (Gilson, 1990).

The preceding argument suggests that firms sell assets in response to high financial leverage. It is therefore hypothesized here that:

$H_{4\text{-}2}$: High financial leverage leads to asset sales

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[45] Cited in Peel (1995)

Companies also sell their assets in response to excessive diversification. According to Jensen's (1986) free cash flow hypothesis, top management in firms with free cash flow invest in over-diversification and organizational inefficiencies. Agency theorists argue that restructuring through asset sales is a correction for over-expansion and over-diversification made by self-serving corporate managers when they had increased the size and scope of firms without increasing their value (Jensen, 1986, 1991).

Denis *et al.* (1997a) argues that corporate diversification has both benefits and costs for shareholders. Empirical evidence suggests that, on average, the costs of diversification outweigh the benefits. Berger and Ofek (1995), Servaes (1995), Denis *et al.* (1997a) and Berger and Ofek (1999) document significant value losses associated with corporate diversification strategies. In addition, Comment and Jarrell (1995) and John and Ofek (1995) identify a trend towards increased corporate focus in the 1980s for US firms and report that this increase in focus is associated with significant increases in shareholder value.

Furthermore, firms are quickest to refocus in response to immediate performance problems and, by implication, to inefficient cross-subsidization (Berger and Ofek, 1999). This observation is consistent with the view that internal capital markets, which are mostly associated with diversified firms, have proved to be inefficient. Following this discussion, it is argued here that corporate managers undertake asset sale programmes in order to correct over-diversification and to re-focus on core activities. Therefore:

$H_{4\text{-}3}$: A need to correct over-diversification and re-focusing on core businesses motivates managers to undertake asset sales.

It has been hypothesized that firms undertake asset sales in response to declining operating performance (hypothesis 4-1). The next question is: do such sales lead to improved performance? Motives for asset sales provide a hint as to whether there should be performance improvement following the asset sale. For example, if a subsidiary or division were experiencing poor operating performance, then by disposing of it the operating performance of remaining assets should be improved following the

sale (John and Ofek, 1995). In other cases, management sell assets following the 'lack of fit' between the parent and its subsidiary or division (Hite *et al.*, 1987). This trims operations to a narrower set of activities and eliminates diseconomies of decision management and decision control inherent in diverse lines of business. In the process, management efficiently allocates resources and ultimately firm performance improves following asset sales.

In general, the foregoing discussion suggests that the asset sale decision is based upon market efficiency, and implicitly views managerial activity as being value-maximizing. It follows, then, that if an asset sale is a value-maximizing programme, there should be performance improvement following the asset sale. This observation forms the basis for the following hypothesis:

$H_{4\text{-}4}$: There is an operating performance improvement following the asset sale.

It also follows that if a firm sells assets because of, among other things, high financial leverage, then it should be expected to lower its debt levels following asset sales. In support of this observation, Ofek (1993) documents that highly-leveraged firms are forced to sell their assets in order to service their debt obligations following poor performance. In additional, Denis and Shome (2005) find that their sample firms significantly reduce their debt ratios over the period following downsizing. Lee and Lin (2004) also discern that sell-offs firms lower their level of financial distress over the 2 years following the sell-off for UK firms. In general, this evidence suggests that the financial position of the firm improves following asset sales. Hence:

$H_{4\text{-}5}$: The financial position of a firm improves following the asset sale.

Following the hypothesis 4-3, if an asset sale aims to correct over-expansion and over-diversification programmes undertaken by self-serving managers, who at one point in time had free cash flow and decided to use it for expansion and diversification in value-destroying projects (Jensen, 1986; and Bethel *et al.*, 1993), then firms should be more focused following the asset sale. This observation is consistent with the findings of John and Ofek (1995), Markides (1995), Denis *et al.* (1997a) and Berger and Ofek (1999).

However, this issue has not been empirically tested relatively outside the US market. A study carried out in other markets, such as the UK would put the idea in perspective.

There are differences in institutional frameworks between the US and the UK. Unlike the US where corporate divestment can be achieved through other means such as spin-offs and equity carve-outs, sell-offs are the pre-dominant divestment approach for UK companies (Afshar *et al.*, 1992). Institutional stock ownership in the UK is also significantly higher than the US (Short and Keasey, 1999), potentially leading to higher activity since institutional shareholders are generally opposed to the use of defensive takeover measures (Black and Coffee, 1994). Using UK data, allows for useful comparisons to be made with prior US research, for example, is asset sale activity aims to reduce over-diversification? Following this discussion, it is thus conjectured here that there is a reduction in a firm's diversification following asset sales. Therefore:

$H_{4\text{-}6}$: Firms are more focused following the asset sale.

Several studies have examined market reactions to the announcements of asset sales. The general consensus is that the asset sale announcement is associated with positive abnormal returns on the asset sale announcement date (Jain, 1985; Hite *et al.*, 1987; Lasfer *et al.*, 1996; and Clubb *et al.*, 2002, among others). This finding suggests an asset sale is a value-maximizing programme. The positive share price response to the asset sale announcement is mostly associated with the reasons and use of asset sale proceeds. Managers may sell their assets in order to dispose of a poorly performing subsidiary or division and also to refocus on core activities. The market, therefore, views the asset sale announcement as a value-maximizing decision and hence there are positive market reactions.

In light of the above discussion, a positive market reaction to announcements of asset sales should thus be expected. Therefore:

$H_{4\text{-}7}$: An asset sale announcement is associated with a positive market share price reaction

Corporate managers sell assets mainly in response to one of three factors: poor performance, high financial leverage and excessive diversification. By selling a poorly performing subsidiary or division, firms increase the efficiency of remaining assets and also obtain proceeds for different uses (John and Ofek, 1995). Alexander et al (1984) and Jain (1995) find evidence that sell-off announcements are preceded by a period of significant negative returns for sellers, which suggests that the sellers, on average, performed poorly prior to their sell-off activities. If firms undertake sell-offs in order to reverse poor performance, then investors would perceive the asset sale as a way for the firm to take actions aimed at improving firm performance. It is therefore conjectured here that the market reacts positively to the asset sale announcement when is related to loss making.

$H_{4\text{-}8}$: The market reacts positively to announcements of asset sales related to loss making.

A sell-off is also undertaken in order to re-focus on core activities (John and Ofek, 1995 and Berger and Ofek, 1999). The decision is undertaken to reduce the scope of a firm's activities in order to concentrate on the "core" businesses. At any point in time a firm has a limit on the extent to which it can diversify. This limit is a function of the firm's resources and its external environment. Optimal diversification is a point where the marginal benefits of diversification are equal to marginal costs (Markides, 1995). Many firms have diversified beyond this limit for a variety of reasons. As a result, their profitability and market value have suffered. Thus, focusing restores value that has been dissipated through excess diversification[46].

The available evidence shows that firms operating in multiple lines of business tend to have lower values than a portfolio of similarly focused firms (Lang and Stulz, 1994; Berger and Ofek, 1995; and Servaes, 1996, among others). This evidence suggests that a firm sells its assets in order to reduce the degree of diversification. Because asset sales correct over-expansion and the over-diversification programmes undertaken by self-serving managers, one should expect a significant and positive market reaction to

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[46] See Markides (1995) for more details.

announcements of asset sales that are related to refocusing on core businesses. Therefore:

$H_{4\text{-}9}$: The market reacts positively to announcements of asset sales related to the reduction of excessive diversification.

Finally, the other reason for undertaking a sell-off is financial distress. To resolve a financial crisis, a financially distressed firm can take several actions, inter alia, asset sales (Ofek, 1993). Wruck (1990) documents three problems a financially distressed firm might face: first, it loses the right to make certain decisions without legal approval. Second, financial distress can reduce demand for the firm's product(s) and thus increases its production costs. Demand falls if the value of the product to consumers depends on the firm's future performance, and financial distress threatens the firm's ability to negotiate favourable input prices or credit runs. Third, management spends considerable time resolving financial distress.

The preceding evidence is consistent with the findings of Lasfer *et al.* (1996), who report that excess returns at the time of the sell-off announcement are significantly positive for financially distressed firms. Therefore, these higher returns appear to be an adjustment for the reduction in financial distress costs. Following these results, it is argued here that the benefit of asset sales comes from the resolution of financial distress. If the latter argument is true, one should expect significant and positive share price responses to announcements of asset sales that are related to the resolution of financial distress costs. Therefore:

$H_{4\text{-}10}$: The market reacts positively to announcements of asset sales related to the resolution of financial distress costs.

The last hypothesis is drawn from the study of Lang *et al.* (1995), who find that the stock market discounts asset sales' proceeds retained by the selling firms and that the average stock-price reaction to asset sales are positive only when the proceeds are paid out. The market may interpret the information that the use of proceeds from asset sales in order to refinance debt reflects the firm's future cash flow problems. On the other

hand, the market may also interpret news of proceeds to finance a new project as a signal of possible increases in future profitability, and be one that could potentially lead to increases in dividends and capital gains. Third, funds from the asset sale contribute to increased free cash flow of a firm. According to the free cash flow hypothesis (Jensen, 1986), investors will be concerned that the funds may not be used for a profitable investment, but will instead be invested in value-destroying projects that serve the private benefits of management. Finally, previous studies suggest that even with the funds used to finance investments, there will be differences in the market reaction between funds used for the company's internal projects, such as capital expenditure projects, and funds used to finance external projects, such as takeovers (Trueman, 1985; and Suzuki, 2000).

Given the preceding mixed evidence on how the market views the use of proceeds from asset sales, it is apparent that investors' perceptions of announcements of asset sales on the basis of the use of proceeds depends mainly on the information disclosed by corporate managers. However, managers are often limited in what they can disclose publicly because some of the information could benefit the firm's competitors (Gilson, 2001). This suggests that it is very difficult to predict investors' perceptions of announcements on the uses of asset sale proceeds. Following this observation, the following hypothesis is examined:

$H_{4\text{-}11}$: The market reacts significantly to announcements on the different uses of asset sales' proceeds.

4.3 Empirical results

4.3.1 Sample characteristics

To examine the above discussed hypotheses, I use a UK sample of corporate sell-off announcements over the period 1993-2000. The sample of 399 events was drawn from the FT Extel cards database and verified by Financial Times archive news articles. Details of asset sales were taken from official announcements made by companies to the London Stock Exchange. I include in the sample a UK non-financial listed company that have traded for at least one year following the asset sale announcement. In addition, the firm should have made only one sell-off announcement in any one year, and it

should disclose a selling price of a divested asset and the price should be a minimum of £5.0m. More details on sample firms used in this chapter are provided in Chapter 3.

4.3.2 Pre-asset sale operating performance

In this section the results on financial performance, market disciplinary activities and cross sectional analysis are reported.

4.3.2.1 Financial performance

Table 4-1 compares sample firms with control firms along a number of different dimensions underlying the sell-off decision. Since the control firm selection criterion is based upon the same pre-event performance, there is naturally an insignificant difference in return on assets (ROA) between the sample and control firms. However, the data indicate that firms that sell assets tend to have higher debt ratios. This is also supported by the interest coverage ratio, which shows that the sample firms had fewer ratios relative to control firms; the difference is significantly negative at the 1% level of significance. Table 4-1 also shows that sample firms operate in more lines of business than control firms, with a median of three lines compared with two for the control firms. In addition, the median Herfindahl index shows that sample firms were significantly less focused than control firms; the difference is significantly negative at the 1% level.

Collectively, the information in Table 4-1 suggests that firms that sold off assets during the period 1993-2000 were more diversified and had a higher leverage in relation to a control sample of firms. Thus, the findings to date suggest that an important role exists for corporate re-focusing and lender monitoring in asset sale decisions. These findings are broadly consistent with past empirical research by John and Ofek (1995), Lasfer *et al.* (1996), and Denis and Shome (2005) on the reasons for companies selling assets.

Table 4-2 reports the industry-adjusted changes in ROA for different periods in the 3 years prior to asset sales. The results generally show that sample firms exhibited a decline in ROA prior to an asset sale, which is statistically significant at the 5% level. An analysis of sample firms on the basis of the stated reasons for the asset sale shows that loss making, re-focusing and leveraged firms all experienced significantly negative ROA

in almost all the periods of the analysis. However, when one examines operating performance prior to asset sales in relation to the reported use of proceeds, the results are not so strong. Evidence is found of a decline in performance over the 3 years prior to the asset sale amongst companies that announced debt repayment as the intended use of asset sale proceeds. However, there is no significant evidence of poor performance amongst companies that intended to invest the proceeds or to use them for financing working capital requirements. In general, the results in Table 4-2 suggest that asset sales tend to be associated with a trend of declining performance that goes back at least 3 years, rather than just with poor performance in the year immediately preceding the asset sale.

Table 4-3 reports the industry-adjusted changes in debt ratio over the 3-year period prior to the asset sale year. Sample firms, in general, experienced a marginal increase in financial leverage in the period between year –3 and 0. The analysis of financial leverage on the basis of the stated reasons for sell-offs shows that loss making and re-focusing firms all experienced significantly positive financial leverage in almost all the 3-year periods prior to asset sales. As would be expected, the leveraged firms experienced significantly positive industry-adjusted changes in debt ratios in each of the 3 years prior to the asset sale. An analysis of the differences between samples disaggregated with regard to how asset sale proceeds were utilised leads to mixed conclusions. The debt repayment sub-sample exhibits significantly positive industry-adjusted changes in debt ratios in some of the periods prior to the asset sale. However, on the other hand, the investment and financing sub-samples experienced insignificantly negative industry-adjusted changes in debt ratios prior to the asset sale.

Table 4-4 reports results on the industry-adjusted changes in interest coverage ratio over the 3-year period prior to the asset sale year. The results are almost similar to those of the industry-adjusted changes in debt ratios (reported in Table 4-3). Together with debt ratios, these results, therefore, in general, suggest that firms that sold assets over the period 1993-2000 experienced financial leverage problems over the 3-year period prior to the asset sale year.

4.3.2.2 Restructuring, market disciplinary activities and asset sales

In this section, the market for corporate activities which sample firms undertook prior to asset sales and the different kinds of restructuring undertaken are investigated. Specifically, CEO turnover, dividend cuts and corporate layoffs are examined as being different forms of restructuring activities which an asset sale firm would undertake in response to poor performance. High financial leverage is also examined. Second, whilst corporate managers rarely admit external threats as reasons for asset sales, empirical evidence shows that the market for corporate control often plays an important role in firms' restructuring decisions.[47] On the market for corporate control, an investigation is conducted into whether sample firms were subjected to takeover pressures (actual or potential), and also into financial distress prior to asset sales. Chapter 3 explains how data on market disciplinary activities are collected in this thesis.

In Table 4-5 pre-asset sale restructuring and the market for corporate activities for asset sale firms and matched firms over the year preceding the asset sale are reported. About 23.6% of sample firms had CEO turnover, compared to 13.0% for control firms over the year preceding the asset sale. In addition, sell-off firms experienced more forced CEO changes than their control counterparts. This is consistent with the view that new managers may have been specifically appointed to reverse the poorly performing business strategy of their predecessors (Weisbach, 1995; and Haynes *et al.*, 2000).

It is interesting to note that both sets of firms experienced the same amount of dividend cuts in the year preceding the asset sale. It is also found that 16.5% of sell-off firms reduced their number of employees, compared with 3.8% for control firms. In general, the results on pre-asset sale restructuring activities suggest that firms undertake other activities in response to poor performance and high financial leverage. Concerning external threats, 11.8% of sample firms were subjected to takeover pressure compared to 3.0% for control firms. In addition, 4.3% of sell-off firms experienced financial distress, while the figure was 1.0% for control firms.

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[47] The incidence of top management turnover is significantly higher preceding asset sales carried out in response to over-diversification (Berger and Ofek, 1999); and asset sales (Haynes *et al.*, 2000; and Denis and Shome, 2005). Berger and Ofek (1999) and Denis *et al.* (1997a) find that sell-offs that increase the focus of their operations experience a marked disciplinary event in the year preceding the increase. Denis and Shome (2005) find that external threats pressurise managers into downsizing their assets in response to poor performance and financial leverage.

Taken as a whole, these findings suggest that the decision to undertake asset sales is also activated by lender monitoring and the market for corporate control activity. Thus, external and internal monitoring systems work together to ensure that corporate managers take decisions which are consistent with shareholder wealth maximization (Denis and Denis, 1993; Denis *et al.*, 1997a; Berger and Ofek, 1999; and Denis and Shome, 2005).

4.3.2.3 Cross-sectional analysis

The results so far show that operating performance, the desire to focus operations, the financial condition of the firm, and the market for corporate control all influence the decision to sell off assets. These factors are now examined within a multivariate setting and logistic regressions are carried out to assess the likelihood of a firm undertaking an asset sale. To investigate this, the firm's market value of equity to control for size effects is also included. The cross-sectional model which is described in Chapter 3 (equation (3.6)) is used. CEO turnover is added in this model.

In this model a dependent variable that takes on the value of one for asset sale firms and zero for control firms. CEO is a binary variable set equal to one where the company experienced a change in CEO in the year prior the asset sale, and zero otherwise.[48] All other variables are as discussed in equation (3.6).

The results of the logistic regressions are presented in Table 4-6. There are four models. The first two models differ in the way the firm's focus is measured. The first uses the Herfindahl index to measure the focus and the second model uses the number of business lines in which a firm operates. In addition, with regard to how the focus is measured, Models 3 and 4 contain information on CEO turnover, as well as the market for corporate control activity. Except for interest coverage ratio, which is insignificant in all four regressions, all other factors are significant and with the expected sign.

The decision to sell assets is negatively related to firm performance. This is consistent with the findings of Denis and Kruse (2000) and Denis and Shome (2005), who

[48] CEO turnover is defined here by Conyon and Florou (2002).

together report a high incidence of asset sales following poor performance. While Jensen (1993) is critical of product market discipline as being at best a blunt instrument in managerial discipline, it is apparent from the results that declining performance has been an important contributory factor in the sample firms' decisions to sell assets. However, these results may be reconciled with the argument of Jensen (1993) if poor performance has increased the expected costs of financial distress and the resulting lender monitoring from debt (Gilson, 1989; and Ofek, 1993).

It is also found in this study that the likelihood of asset sales increases the level of financial leverage in the firm. This is consistent with the view that management would like to repay the debt in order to avoid bankruptcy, which in turn could lead to management losing its perquisites (Gilson, 1989). In addition, theoretical evidence shows that creditors often insist on the divestiture of certain assets as a condition for restructuring firms with high financial leverage (Gilson, 1990). Ofek (1993) also shows that highly-leveraged firms are forced to sell their assets in order to service their debt obligations following poor performance. Furthermore, it is found that the decision to sell assets is negatively related to the level of business focus in the firm. This arises when asset sales provide a strategy that allows firms to re-focus on their core activities by selling off non-core business areas, perhaps to reduce previously poorly performing diversification strategies (Denis *et al.*, 1997a; and Berger and Ofek, 1999).

It can also be seen from Table 4-6 that the asset sale decision is positively related to the incidence of CEO turnover. This is consistent with the research done by Weisbach (1995), who finds that recently appointed CEOs are more willing to divest poorly performing business assets than the previous incumbent CEO. Finally, even after controlling (for) other factors, it appears that an asset sale is significantly more likely to occur with an external push from the control market. This finding, which is consistent with those of Denis and Shome (2005), is interesting because corporate managers rarely declare external threats as reasons for an asset sale.

In Table 4-7 logistic regressions results for sample firms by the stated reasons for asset sales and the uses of proceeds from asset sales are reported. The results are not so strong as those of the whole sample, although they show that poor performance, high

financial leverage and the need to refocus on core activities are the main reasons for undertaking asset sales. Except for the uses of asset sale proceeds sub-samples, where there were no observations of CEO turnover and external threats, there is evidence that CEO turnover and external threats play a significant role in asset sales related to loss making, financial leverage and refocusing.

Overall, the logistic results are consistent with the managers' statements that they undertake asset sales following poor performance, high leverage and excessive diversification. The findings with regard to CEO turnover also indicate that new managers may have been specifically appointed to reverse the poorly performing business strategy of their predecessors. The evidence on the external push from the market for corporate control activity suggests that external, as well as internal monitoring systems, work together to discipline the managers of the poorly performing firms.

Therefore, it is apparent that managers are motivated to sell assets by some combination of threats from the managerial labour market (Fama, 1980), lender monitoring (Harris and Raviv, 1990), corporate control activity (Jensen and Ruback, 1983) and product market competition (Hart, 1983).

4.3.3 Post-asset sale operating performance

In this section the results over the period following asset sales are presented.

4.3.3.1 Financial performance

Consistent with previous research (John and Ofek, 1995; and Denis and Shome, 2005), the performance of sample firms' remaining assets are measured by comparing operating returns in the asset sale year with those in subsequent years. The results are reported in Table 4-8. The firm performance increases in the 3-year period following the asset sale, thus reversing the poor performance in the years before the sale. The performance improvements are significantly positive in each of the 3 years after the sale. However, these results are restricted only to the sub-samples that indicate poor performance and high leverage as a motivation for the asset sale. It is apparent that

corporate re-focusing asset sales do not consistently lead to improvements in the operating performance of the firm's remaining assets.

Some evidence is also found of improvements in operating performance for firms that used asset sale proceeds for debt repayment and financing working capital requirements. In addition, firms that used asset sale proceeds for investment experienced a significantly negative operating performance over the year following the asset, and an insignificantly negative performance for the rest of the period.

The findings are mixed in relation to those of previous studies in this area. For asset sales in the US between 1986 and 1988, John and Ofek (1995) documented an improvement in the operating performance of the seller's remaining assets in each of the three years following an asset sale. However, both John and Ofek (1995) and Markides (1995) report that for US firms, refocusing divestment is associated with improved operating performance. Kang and Shivdasani (1997) produce similar results for Japanese firms following a large decline in operating performance. In the present study, it is found that re-focusing divestment announcements do not generally lead to an increase in operating performance.

These results also support the free cash flow hypothesis that views the use of proceeds for reinvestment as akin to undertaking value-destroying projects and thus serve the private benefits of the management (Jensen, 1986). These results are also comparable with those of Lang *et al.* (1995), who find that stock price returns upon the announcement of an asset sale are discounted when the proceeds are retained for future investment. This arises from the agency costs of managerial discretion (Stulz, 1990).

In Table 4-9 the results of the industry-adjusted changes in debt ratio following asset sales are reported. Generally, the results show that the sample firms experienced a very slight decline in debt ratios in the years following asset sales. For the stated uses of proceeds sub-samples, the industry-adjusted changes in debt ratios are significantly negative for the debt repayment sub-sample. The financing sub-sample experiences a marginal industry-adjusted change in debt ratios which decline over the 3 years post-asset sale. It is interesting to note that the investment sub-sample exhibits a significant

increase in industry-adjusted change in debt ratios over some of the 3 years post-asset sale. This suggests that, amongst these firms at least, asset sales are part of a wider process of raising finance for future investment.

In Table 4-10 the results of the industry-adjusted changes in interest coverage ratio over the years following the asset sale are reported. In general, the results are similar to industry-adjusted changes in debt ratios. There is a marginal improvement in interest coverage ratio for the sample firms in the years following asset sales. It is also found that, for the stated uses of proceeds sub-samples, the industry-adjusted changes in interest coverage ratio are significantly positive for the debt repayment sub-sample. The leverage results are consistent with the findings of Denis and Shome (2005), who show that asset-downsizing firms in the US have higher debt ratios than their industry counterparts in the years prior to asset sales. Denis and Shome also report an insignificant decline in debt ratios over the three years following asset sales.

4.3.3.2 Sensitivity check

It has been shown, in general, that there is performance improvement following an asset sale. Are these findings attributable to asset sales or simply due to a mean reversion in earnings? To investigate this, a sensitivity check is conducted by comparing the return on assets for control firms against those of sell-off firms. Barber and Lyon (1996) show that matching sample firms to firms with similar performance before an event help to control the mean-reversion tendency of a performance measure. Chapter 3 explains how control firms are constructed in this thesis. The results are presented in Table 4-11. The first column displays performance improvements over various time periods for the asset sale firms, with the second column displaying similar information for the control sample. The last column lists the p-values for a test of differences between samples. On average, the results show that the observed performance improvements are attributable to asset sales and not to mean reversion in earnings.

4.3.3.3 Changes in corporate focus following asset sales

I also investigate whether asset sales lead to a more focused business entity, and find that firms tend to become more focused over the year following the asset sale in relation to the year prior to asset sales (Table 4-12). Specifically, I report that the median lines of

business of sample firms decrease from 3.0 from the year -1 to 2.5 in the year +1. The median difference is significantly at the 1% level of significance. In addition, the median Herfindahl index increases from 0.62 in the year before the sale to 0.66 in the year afterwards, which is significant at the 1% level of significance. Thus, while re-focusing has not been found to correlate with improved operating performance, it is apparent that it still provides an important motivation for asset sales by UK companies.

4.3.4 Stock returns

In this section the results of abnormal stock returns for sample firms that announced a sale of assets during the period 1993-2000 are reported. In the first part, the results of abnormal stock returns surrounding the announcements of asset sales are given. Secondly, the results in relation to the operating performance and stock returns are presented. Finally, the results on long run stock returns following asset sales are reported.

4.3.4.1 Market response to asset sale announcements

Abnormal stock returns surrounding asset sale announcements are defined as the difference between firms' daily returns and daily returns on the FT All Shares index. The FT All Shares index is used as the proxy to the market portfolio.[49] The analysis is divided into three main areas: all asset sale announcements; the stated reasons for asset sales; and the uses of asset sale proceeds.

(a) All asset sale announcements

Average abnormal returns on a day of the asset sale announcements and mean cumulative abnormal returns in various periods surrounding the asset sale announcements are presented in Table 4-13, panel A. The mean cumulative abnormal returns in the period (-1, 1) are 0.75% (p-value = 0.001). These results suggest that the announcement of a corporate asset sale conveys positive information to the market. The positive market reaction suggests that investors perceive the asset sale as a way for the firm to take actions aimed at improving performance, in particular through the reduction of financial leverage or excessive diversification.

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[49] Abnormal returns were also computed using the market model and the mean adjusted methods. The results are not significantly different.

(b) Stated reasons for asset sales

Panel B of Table 4-13 reports results on the market reaction to announcements of asset sales on the basis of the different stated reasons for asset sales. The results of the sample firms by the stated reasons for the asset sale are similar across classifications. All sub-samples experience significantly positive abnormal returns in the periods surrounding the asset sale announcement.

These results are generally consistent with those of John and Ofek (1995) and Lasfer *et al.* (1996). However, unlike John and Ofek (1995), there is evidence that the positive abnormal returns are also associated with firms that sell assets in response to poor performance and high financial leverage. In addition, Lasfer *et al.* (1996), who examine UK asset sell-offs, report that significantly higher returns are associated with higher levels of debt, especially in the case of distressed firms. They conclude that in the UK the main benefit from divestitures comes from the resolution of financial distress. Unlike Lasfer *et al.* (1996), there is evidence that reversing a trend of declining performance and a reduction in excessive diversification are also benefits from divestitures for those UK firms that announced asset sales.

(c) Uses of asset sale proceeds

The abnormal stock returns for sample firms on the basis of the uses of asset sale proceeds are reported in panel C of Table 4-13. The market is seen to react positively to firms which state that they are using the proceeds to service debt, but there is little evidence that stock prices are significant upon the announcement of asset sales that are used to finance either investment or working capital requirements. The use of asset sale proceeds results of debt repayment and investment sub-samples are consistent with the financing hypothesis of Lang *et al.* (1995), which predicts that asset sale proceeds will be discounted by investors when retained by the selling firms, owing to the agency costs of managerial discretion (Jensen, 1986; and Stulz, 1990).

4.3.4.2 Relation between operating performance and stock returns

In addition to the abnormal stock returns surrounding asset sale announcements, this study also examines the cross-sectional determinants of the announcement period of the

abnormal stock price returns. John and Ofek (1995) argue that in an efficient capital market, the positive stock price reaction to an announcement of asset sales will reflect an increase in expected cash flows from the seller's remaining assets. Therefore, one would expect a positive correlation between the stock price reaction to the asset sale and subsequent changes in operating performance. In addition, Lasfer *et al.* (1996) find that the main benefit from asset sales by UK companies arises as a result of the resolution of financial distress. Therefore, the role of leverage following asset sales is examined. To examine this, I control for pre-asset sales performance, debt ratio and diversification; and, in addition, for post-divestiture diversification and the firm's size as being the natural logarithm of the market value of the selling firm's equity at the financial year-end prior to the sale.

The results are reported in Table 4-14. There are two models that differ on how diversification is measured. Model 1 measures diversification by using the Herfindahl index and Model 2 uses the number of segments in which firms operated. All variables except the market value of equity are adjusted for industry effects. The results show that stock price responses to asset sale announcements are positively correlated with subsequent improvements in operating performance. This arises where a positive stock price reaction reflects rational anticipation by investors of later improvements in operating performance. Furthermore, it is also found that the stock price reaction to asset sales is inversely related to the post-sale industry-adjusted change in the sample firm's debt ratio. It thus appears that the stock price reaction to asset sales by UK companies is positive and contingent upon lender monitoring as part of the process of resolving financial distress. Finally, and unexpectedly, I find a positive relation between the stock price reaction to asset sales and pre-sale industry-adjusted change in debt ratio. This suggests that managers do not disclose all firms' information to the public (Myers and Majluf, 1984).

4.3.4.3 Long run stock returns

As a final test, the long run stock returns following asset sales are examined in this section. In the previous section, it has been seen that the market reacts positively to asset sale announcements and that there is a positive relation between abnormal returns and post-asset sale operating performance. This raises the obvious question of whether

the initial market reactions are reversed over time. Using the buy-and-hold strategy,[50] the excess returns are measured following asset sales against the matching firms constructed on the basis of size and industry at the financial year-end prior to the sale.

The results are presented in Table 4-15. The firms' long run stock returns are insignificantly different from those of control firms over the year following the asset sale. However, over the 2nd and 3rd years, the sample firms under-performed when compared to the control firms. The underperformance is significant at the 5% level of significance. When sample firms are examined on the basis of the stated reasons for asset sales (panel B of Table 4-15), the observed underperformance is strong for leveraged and loss-making sub-samples; also the refocusing sub-sample does not under-perform when compared to control firms in years 1 and 2 following the sale. The significant underperformance for this sub-sample is observed in year 3.

Furthermore, the results of long run stock returns of the sample firms on the basis of use of asset sale proceeds are mixed (panel C of Table 4-15). The firms that used proceeds to repay debts under-performed in comparison to the control firms in years 2 and 3 post-sale. These results are consistent with those of Lee and Lin (2004). However, there is an insignificant underperformance for firms that used the proceeds for re-investment as well as for financing working capital needs. However, Lee and Lin (2004) document positive long-run return performance for the re-investment sub-sample. My findings suggest that a positive market reaction to the asset sale announcement lacks a permanent revaluation (Afshar *et al.*, 1992). It is apparent, therefore, that the market benefit of asset sales is short-lived. However, due to problems with the findings on long run stock returns following different corporate events, these results need to be interpreted with care.

Barber and Lyon (1997), Kothari and Warner (1997) and Lyon *et al.* (1999), among others, suggest that the findings of long - run stock returns of firms can be sensitive to the procedures used. However, the authors could not find a better methodology for examining the long run stock returns. Fama (1998) notes that tests of market efficiency

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[50] See Chapter 3 on this methodology

are always contaminated by a bad-model problem.[51] To the best of my knowledge, this is the first study to examine the long run stock returns following asset sales; therefore, I have at least provided a basis for future research.[52]

4.4 Summary and conclusion

The performance changes of 399 UK non-financial firms that announced asset sales over the period 1993-2000 are examined. This study is distinctive in three ways: first, data from a market that is relatively unexplored - the UK - is examined. Second, the sample firms' performance in the years prior to, and post-asset sale is appraised. An analysis of this type provides insights not only into the reasons why firms undertake asset sales, but also as to whether selling assets is an effective strategy. Third, focus is placed on firms that announced asset sales, for whatever reason. This departs from previous studies that examine asset sales on the basis of refocusing (Berger and Ofek, 1999; John and Ofek, 1995; and Markides, 1995); large asset downsizing (Haynes *et al.*, 2000, 2002; and Denis and Shome, 2005); financial distress (Lasfer, 1996); and in response to poor performance (Kang and Shivdasani, 1997; and Denis and Kruse, 2000).

Consistent with the findings of most previous studies, evidence is provided that asset sales are preceded by poor performance, high levels of financial leverage, low liquidity, and occur in relatively diversified firms. It is also apparent, however, that companies may have been forced to sell assets owing to pressure from lenders, and from external product, corporate and labour markets. Following asset sales, the operating performance of firms tends to improve. There is also a reduction in financial leverage, and firms become more focused.

There are several potential reasons for the increase in post-asset sale performance. One explanation is related to the factors underlying the asset sale itself. Asset sales reverse the trend of declining performance in firms and thus business operations are more likely to be rendered economically viable after a disposal of under-performing assets. Asset

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[51] See Fama (1998) for more details.

[52] Exceptional to this is the study by Lee and Lin (2004), who examine the long-run return performance following sell-off announcements of UK companies that apply the proceeds either for debt reduction or investment.

sales may also raise cash for servicing debt, which in turn reduces bankruptcy costs; and reducing the likelihood of bankruptcy brings about more investment opportunities. In addition, the threat caused by a failure to make debt service payments serves as an effective motivating force to make organizations more efficient (Jensen, 1986; and Stulz, 1990).

The findings in this chapter provide evidence that managers pursue asset restructuring strategy in response to discipline from lender monitoring, product and corporate markets, and markets for managerial labour. However, it is unclear whether managers under this 'forced sell-offs' receive reserve price for their assets. This is the nature of the problem further research in this area would consider in the future.

In the next Chapter the thesis investigates another form of corporate restructuring that relates to financial actions, dividend cuts. The decision to cut dividends affects both the value of claims and the cash flow distribution of the firm's owners.

Table 4-1: Descriptive statistics for sample versus control firms prior to asset sale year

The table reports the mean [median] for selected financial variables at the financial-end prior to asset sales for a sample of 399 UK non-financial firms that announced a sale of non-financial assets over the period 1993-2000. ROA is defined as earnings before interest, tax, depreciation, and amortization divided by total assets. Debt ratio is the ratio of total debt to total assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. The number of segments relates to the number of reported 3-digit SIC lines of business that sample firms operated in. The Herfindahl Index is calculated as the sum of segments' sales squared divided by total sales squared, where sales are defined as the 3-digit SIC level. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Variable (1)	Sample firms (2)	Control firms (3)	Difference (4) = (2) – (3)
Observations	399	399	399
ROA	0.1074 (0.000) [0.1250 (0.000)]	0.1118 (0.000) [0.1300 (0.000)]	-0.0044 (0.050) [0.000 (0.131)]
Debt ratio	0.2514 (0.000) [0.2250 (0.000)]	0.1777 (0.000) [0.1650 (0.000)]	0.0738 (0.000) [0.0600 (0.000)]
Interest coverage	7.22 (0.000) [4.940 (0.000)]	15.64 (0.000) [6.935 (0.000)]	-9.42 (0.027) [-1.665 (0.001)]
Number of segments	2.9396 (0.000) [3.000 (0.000)]	1.9917 (0.000) [2.000 (0.000)]	0.9800 (0.000) [1.000 (0.000)]
Herfindahl index	0.5943 (0.000) [0.5975 (0.000)]	0.7418 (0.000) [0.7503 (0.000)]	-0.1501 (0.000) [-0.1598 (0.000)]

Table 4-2: Changes in operating performance prior to asset sales

The table reports mean [median] changes in the industry-adjusted return on assets (ROA) prior to asset sales for a sample of 399 UK non-financial firms that announced a sale of a non-financial asset during the period 1993-2000. ROA is defined as earnings before interest, tax, depreciation and amortization (EBITDA), divided by total assets. The fractions of all changes that are positive are reported below the medians. Cumulative is defined as the difference between year 0 and the median of year –1, -2, and –3. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Windows	Whole sample [N = 391]	Loss making [N = 275]	Focusing [N = 265]	Leveraged [N = 198]
Δ-3 TO 0	-0.023 (0.232) [-0.010 (0.033)] 46.4	-0.045(0.094) [-0.031 (0.000)] 37.3	-0.010 (0.512) [-0.014 (0.011)] 43.1	-0.040 (0.005) [-0.032 (0.000)] 37.8
Δ-2 TO 0	-0.025 (0.114) [-0.009 (0.030)] 45.4	-0.049 (0.025) [-0.027 (0.000)] 33.9	-0.012 (0.207) [-0.010 (0.042)] 43.4	-0.035 (0.005) [-0.024 (0.000)] 35.9
Δ-1 TO 0	-0.008 (0.561) [-0.004 (0.293)] 45.2	-0.028 (0.154) [-0.026 (0.000)] 28.1	0.004 (0.691) [-0.004 (0.420)] 43.4	-0.034 (0.009) [-0.029 (0.000)] 31.5
Cumulative	-0.031 (0.049) [-0.011 (0.002)] 43.5	-0.056 (0.010) [-0.030 (0.000)] 30.2	-0.018 (0.037) [-0.012 (0.006)] 41.9	-0.045 (0.000) [-0.029 (0.000)] 32.3

(Continued)

Windows	Debt repayment [N = 128]	Investment [N = 55]	Financing [N =18]
Δ-3 TO 0	-0.035 (0.060) [-0.018 (0.044)] 43.2	0.061 (0.319) [0.012 (0.380)] 59.3	-0.009 (0.689) [-0.002 (0.862)] 50.0
Δ-2 TO 0	-0.023 (0.170) [-0.009 (0.325)] 46.9	0.026 (0.121) [0.007 (0.317)] 58.2	0.001 (0.967) [0.002 (0.794)] 55.6
Δ-1 TO 0	0.001 (0.953) [-0.005 (0.574)] 45.3	0.028 (0.082) [0.011 (0.140)] 58.2	0.001 (0.958) [0.003 (0.862)] 44.4
Cumulative	-0.032 (0.054) [-0.016 (0.022)] 41.4	0.017 (0.280) [0.007 (0.397)] 56.4	-0.008 (0.685) [-0.001 (1.000)] 55.6

Table 4-3: Changes in financial leverage prior to asset sales

The table reports mean [median] changes in industry-adjusted debt ratio prior to asset sales for a sample of 399 UK non-financial firms that announced a sale of a non-financial asset during the period 1993-2000. The debt ratio is defined as the ratio of total debt to total assets. The fractions of all changes that are positive are reported below the medians. Cumulative is defined as the difference between year 0 and the median of year –1, -2, and –3. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Windows	Whole sample [N = 393]	Loss making [N = 275]	Focusing [N = 266]	Leveraged [N = 198]
Δ-3 TO 0	0.016 (0.097) [0.013 (0.059)] 51.3	0.027 (0.026) [0.023 (0.004)] 54.4	0.028 (0.015) [0.019 (0.015)] 54.3	0.052 (0.001) [0.042 (0.000)] 61.4
Δ-2 TO 0	0.005 (0.553) [0.003 (0.548)] 51.3	0.013 (0.279) [0.012 (0.089)] 54.8	0.016 (0.115) [0.009 (0.174)] 53.6	0.043 (0.002) [0.035 (0.000)] 67.0
Δ-1 TO 0	0.009 (0.120) [0.002 (0.571)] 49.4	0.018 (0.017) [0.007 (0.158)] 49.8	0.013 (0.082) [0.006 (0.246)] 52.7	0.045 (0.000) [0.033 (0.000)] 66.8
Cumulative	0.010 (0.181) [0.005 (0.257)] 51.4	0.020 (0.049) [0.014 (0.024)] 54.2	0.021 (0.032) [0.012 (0.045)] 54.9	0.046 (0.000) [0.035 (0.000)] 66.2

(Continued)

Windows	Debt repayment [N = 128]	Investment [N = 55]	Financing [N = 18]
Δ-3 TO 0	0.053 (0.011) [0.042 (0.001)] 60.5	-0.007 (0.806) [-0.011 (0.426)] 41.5	-0.034 (0.210) [-0.040 (0.139)] 27.8
Δ-2 TO 0	0.041 (0.033) [0.029 (0.010)] 58.6	-0.020 (0.446) [-0.023 (0.066)] 41.8	-0.009 (0.682) [-0.015 (0.486)] 38.9
Δ-1 TO 0	0.016 (0.230) [0.007 (0.379)] 52.8	0.011 (0.515) [-0.004 (0.684)] 50.9	0.001 (0.931) [0.000 (0.965)] 50.0
Cumulative	0.040 (0.023) [0.026 (0.010)] 58.6	-0.009 (0.712) [-0.015 (0.213)] 43.6	-0.010 (0.594) [-0.020 (0.258)] 27.8

Table 4-4: Changes in interest coverage ratio prior to asset sales

The table reports mean [median] changes in industry-adjusted interest coverage ratio prior to asset sales for a sample of 399 UK non-financial firms that announced a sale of a non-financial asset during the period 1993-2000. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. The fractions of all changes that are positive are reported below the medians. Cumulative is defined as the difference between year 0 and the median of year –1, -2, and –3. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Windows	Whole sample [N = 386]	Loss making [N = 271]	Focusing [N = 266]	Leveraged [N = 196]
Δ-3 TO 0	-1.80 (0.322) [-0.733 (0.038)] 44.3	-4.87 (0.038) [-2.105 (0.000)] 36.1	-2.31 (0.263) [-0.730 (0.051)] 42.6	-3.13 (0.273) [-1.968 (0.000)] 38.5
Δ-2 TO 0	-2.28 (0.321) [-0.480 (0.121)] 45.6	-5.80 (0.061) [-1.760 (0.000)] 37.0	-1.36 (0.335) [-0.505 (0.110)] 43.7	-0.65 (0.724) [-1.605 (0.001)] 38.8
Δ-1 TO 0	1.40 (0.308) [-0.175 (0.503)] 45.8	-0.32 (0.857) [-1.260 (0.001)] 36.2	-1.00 (0.464) [-0.220 (0.467)] 44.8	0.38 (0.813) [-1.538 (0.000)] 33.8
Cumulative	-2.03 (0.368) [-0.600 (0.027)] 44.0	-5.24 (0.084) [-1.775 (0.000)] 35.1	-1.65 (0.221) [-0.625 (0.028)] 41.9	-0.40 (0.828) [-1.795 (0.000)] 35.2

(Continued)

Windows	Debt repayment [N = 128]	Investment [N = 55]	Financing [N = 18]
Δ-3 TO 0	-3.26 (0.008) [-1.930 (0.001)] 36.8	1.15 (0.714) [0.005 (1.000)] 48.1	-2.73 (0.483) [0.995 (0.459)] 61.1
Δ-2 TO 0	-2.30 (0.115) [-1.160 (0.030)] 40.4	-12.1 (0.369) [0.368 (0.627)] 49.1	-0.13 (0.941) [0.930 (0.433)] 72.2
Δ-1 TO 0	-0.62 (0.564) [-0.520 (0.265)] 44.8	0.55 (0.840) [-0.2325 (0.712)] 43.6	0.17 (0.896) [-0.050 (0.862)] 38.9
Cumulative	-1.82 (0.090) [-1.335 (0.004)] 37.1	-10.8 (0.405) [0.120 (0.850)] 45.5	-0.17 (0.920) [0.850 (0.446)] 66.7

Table 4-5: Pre-asset sales restructuring and corporate control activities

The table reports restructuring and corporate control activities undertaken by sample and control firms over a period of 12 months prior to asset sales for a sample of 399 UK non-financial firms during 1993-2000. Data on CEO turnover, dividend cuts and layoffs are collected as reported in Chapter 3. Takeover pressure is where the company experienced an actual or potential takeover threat. Financial distress is defined as a situation when a firm reorganizes its debt or undertakes debt restructuring.

	Sample firms		Control firms	
Activity	N	Fraction (%)	N	Fraction (%)
CEO turnover	94	23.6	52	13.0
- Forced changes	58	14.5	23	5.8
- Normal changes	36	9.0	29	7.3
Dividend cuts	31	7.8	31	7.8
Corporate layoffs	66	16.5	15	3.8
Takeover activities	47	11.8	12	3.0
Financial distress	17	4.3	4	1.0

Table 4-6: Logit regression results of the determinants of asset sales

The table reports the results of logistic regressions of the determinants of asset sales for a sample of 399 UK non-financial firms that announced the sale of a non-financial asset over the period 1993-2000. Asset sale is a binary dependent variable that takes on the value of one for asset sale firms, and zero for non-asset sale control firms. ROA is the ratio of earnings before interest, tax, depreciation and amortization, divided by total assets. DEBT is the ratio of total debt to total assets. Interest coverage ratio (ICOV) is the ratio of pre-tax profit and interest charges to interest charges. FOCUS relates to the number of reported 3-digit SIC lines of business (SGS) that sample firms operated in (Model (2) and Model (4)), and a Herfindahl index (HI) of revenue concentration (Model (1) and (3)). The HI is calculated as the sum of a segment's sales squared divided by total sales squared, where sales are defined at the 3-digit SIC level. Ln (MV) is the natural logarithm of the company's market value of equity. CEO is a binary variable set equal to one, where the company experienced a change in CEO over the year prior to the asset sale, and zero otherwise. Takeover pressure (TKV) is a binary variable set equal to one, where the company experienced a takeover threat over the 12 months prior to asset sales, and zero otherwise. Financial distress (DSTRS) is a binary variable set equal to one, where the company experienced a financial distress in the year prior to asset sales, and zero otherwise. All continuous variables are measured at the financial year-end prior to the asset sale. P-values for two-tailed tests of significance are reported in parenthesis.

$$\text{Asset Sale} = \alpha + \beta_1 ROA + \beta_2 DEBT + \beta_3 ICOV + \beta_4 FOCUS + \beta_5 \text{Ln (MV)} + \beta_6 CEO + \beta_7 TKV + \beta_8 DSTRS + \varepsilon$$

Variable	Model 1	Model 2	Model 3	Model 4
Constant	-2.121 (0.000)	-3.175 (0.000)	-2.271 (0.000)	-3.319 (0.000)
ROA	-1.630 (0.003)	-1.342 (0.027)	-1.378 (0.020)	-1.166 (0.071)
DEBT	1.928 (0.000)	1.982 (0.000)	1.792 (0.000)	1.787 (0.001)
ICOV	-0.000 (0.692)	-0.000 (0.680)	-0.001 (0.755)	-0.000 (0.745)
HI	-1.066 (0.000)		-1.077 (0.000)	
SGS		0.226 (0.001)		0.229 (0.001)
Ln (MV)	0.530 (0.000)	0.484 (0.000)	0.524 (0.000)	0.478 (0.000)
CEO			0.463 (0.044)	0.401 (0.084)
TKV			1.132 (0.003)	1.482 (0.001)
DSTRS			1.769 (0.012)	1.483 (0.040)
Log-likelihood	-420.5 (0.000)	-404.1 (0.000)	-408.5 (0.000)	-391.6 (0.000)
Observations	798	798	798	798

Table 4-7: Logit regression results on the basis of stated reasons and use of asset sale proceeds

The table reports the results of logistic regressions of the determinants of asset sales for a sample of 399 UK non-financial firms that announced asset sales during the period 1993-2000 on the basis of stated reasons for and uses of proceeds from asset sales. All variables are as defined in Table 4-6. A firm's diversification is measured by the Herfindahl index (results do not change significantly when diversification is measured by the number of reported lines of business). All continuous variables are measured at the financial year-end prior to the asset sale. P-values for two-tailed tests of significance are reported in parenthesis.

Variable	Stated reasons for asset sales			Uses of asset sales' proceeds		
	Loss making	Re-focusing	Leveraged	Debt repayment	Re-investment	Financing
Constant	-2.295 (0.000)	-2.412 (0.000)	-2.858 (0.000)	-1.233 (0.046)	-0.907 (0.384)	-3.996 (0.112)
ROA	-0.985 (0.090)	-1.759 (0.035)	-0.937 (0.357)	0.907 (0.499)	-3.041 (0.176)	11.80 (0.344)
DEBT	1.735 (0.003)	2.152 (0.001)	2.511 (0.001)	2.319 (0.008)	2.539 (0.088)	6.554 (0.198)
ICOV	-0.001 (0.829)	0.003 (0.540)	-0.010 (0.202)	-0.031 (0.115)	0.010 (0.163)	-0.224 (0.164)
FOCUS	-0.701 (0.043)	-1.602 (0.000)	-0.894 (0.042)	-1.478 (0.005)	-2.075 (0.024)	-3.616 (0.154)
Ln (MV)	0.478 (0.000)	0.577 (0.000)	0.586 (0.000)	0.364 (0.000)	0.451 (0.001)	0.886 (0.011)
CEO turnover	0.570 (0.032)	0.769 (0.010)	0.620 (0.059)	*	*	*
TKV	0.886 (0.049)	0.777 (0.124)	1.087 (0.061)	*	*	*
DSTRS	1.680 (0.048)	2.465 (0.036)	1.498 (0.087)	*	*	*
Log-likelihood	-291.1 (0.000)	-257.6 (0.000)	-190.7 (0.000)	-136.4 (0.000)	-56.5 (0.000)	-13.5 (0.000)
N	550	536	396	256	108	36

* - the same number of observations

Table 4-8: Changes in operating performance in the post-asset sale period

The table reports mean [median] changes in the industry-adjusted return on assets (ROA) following asset sales for a sample of 399 UK non-financial firms that announced the sale of a non-financial asset during the period 1993-2000. ROA is defined as earnings before interest, tax, depreciation and amortization (EBITDA), divided by total assets. The fractions of all changes that are positive are reported below the medians. Cumulative is defined as the difference between the median of year +1, +2, and +3; and year 0. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Windows	Whole sample [N = 369]	Loss making [N = 262]	Focusing [N = 246]	Leveraged [N = 190]
Δ0 TO +1	0.015 (0.473) [0.005 (0.189)] 53.7	0.032 (0.285) [0.019 (0.000)] 62.6	-0.002 (0.929) [0.008 (0.106)] 55.7	0.007 (0.776) [0.016 (0.007)] 62.6
Δ0 TO +2	0.021 (0.313) [0.004 (0.394)] 51.6	0.041 (0.156) [0.017 (0.006)] 58.8	0.020 (0.027) [0.008 (0.126)] 54.5	0.029 (0.062) [0.021 (0.005)] 58.0
Δ0 TO +3	0.012 (0.614) [0.006 (0.308)] 54.5	0.028 (0.390) [0.020 (0.002)] 62.1	0.002 (0.924) [0.009 (0.174)] 56.0	0.007 (0.786) [0.024 (0.007)] 62.0
Cumulative	0.029 (0.117) [0.007 (0.050)] 53.9	0.049 (0.059) [0.019 (0.000)] 61.8	0.020 (0.017) [0.009 (0.034)] 56.5	0.037 (0.005) [0.022 (0.000)] 61.1

(Continued)

Windows	Debt repayment [N = 119]	Investment [N = 55]	Financing [N = 18]
Δ0 TO +1	-0.003 (0.935) [0.013 (0.135)] 56.3	-0.116 (0.142) [-0.022 (0.047)] 41.2	0.002 (0.959) [0.007 (0.794)] 55.6
Δ0 TO +2	0.023 (0.262) [0.011 (0.292)] 56.3	-0.007 (0.722) [-0.010 (0.418)] 41.7	0.028 (0.133) [0.025 (0.130)] 64.7
Δ0 TO +3	0.024 (0.235) [0.019 (0.081)] 57.3	-0.016 (0.367) [0.002 (0.996)] 51.1	0.049 (0.065) [0.031 (0.093)] 62.5
Cumulative	0.034 (0.044) [0.014 (0.050)] 57.1	-0.026 (0.107) [-0.011 (0.199)] 45.1	0.036 (0.046) [0.032 (0.085)] 61.1

Table 4-9: Changes of debt ratio over the years following asset sales

The table reports mean [median] changes in the industry-adjusted debt ratio following asset sales for a sample of 399 UK non-financial firms that announced the sale of a non-financial asset during the period 1993-2000. Debt ratio is defined as the ratio of total debt to total assets. The fractions of all changes that are positive are reported below the medians. Cumulative is defined as the difference between the median of year +1, +2, and +3; and year 0. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Windows	Whole sample [N = 391]	Loss making [N = 275]	Focusing [N = 265]	Leveraged [N = 198]
Δ0 TO +1	0.007 (0.335) [-0.005 (0.207)] 41.0	0.006 (0.495) [-0.005 (0.256)] 40.5	0.010 (0.274) [-0.005 (0.391)] 41.7	0.004 (0.775) [-0.010 (0.107)] 38.9
Δ0 TO +2	0.015 (0.172) [0.000 (0.883)] 46.1	0.015 (0.290) [-0.005 (0.666)] 47.1	0.012 (0.314) [-0.005 (0.652)] 43.8	0.010 (0.587) [-0.015 (0.170)] 42.7
Δ0 TO +3	0.003 (0.810) [-0.005 (0.493)] 46.2	0.005 (0.753) [-0.005 (0.670)] 46.5	-0.006 (0.559) [-0.010 (0.309)] 44.8	-0.012 (0.556) [-0.020 (0.088)] 40.9
Cumulative	0.011 (0.260) [-0.003 (0.558)] 46.9	0.012 (0.361) [-0.003 (0.558)] 46.6	0.010 (0.315) [-0.004 (0.509)] 44.9	0.008 (0.624) [-0.012 (0.150)] 42.1

(Continued)

Windows	Debt repayment [N = 128]	Investment [N = 55]	Financing [N = 18]
Δ0 TO +1	-0.008 (0.676) [-0.025 (0.002)] 34.5	0.042 (0.076) [0.010 (0.300)] 52.9	-0.029 (0.101) [-0.030 (0.107)] 33.3
Δ0 TO +2	-0.002 (0.950) [-0.035 (0.004)] 35.1	0.054 (0.079) [0.020 (0.173)] 54.2	-0.009 (0.702) [-0.005 (0.776)] 47.1
Δ0 TO +3	-0.018 (0.565) [-0.035 (0.013)] 34.8	0.043 (0.134) [0.045 (0.043)] 58.1	-0.017 (0.574) [0.000 (0.938)] 43.8
Cumulative	-0.001 (0.985) [-0.031 (0.002)] 34.5	0.054 (0.058) [0.022 (0.108)] 56.9	-0.016 (0.400) [-0.010 (0.632)] 44.4

Table 4-10: Changes in interest coverage ratio over the years following asset sales

The table reports mean [median] changes in the industry-adjusted interest coverage ratio following asset sales for a sample of 399 UK non-financial firms that announced the sale of a non-financial asset during the period 1993-2000. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. The fractions of all changes that are positive are reported below the medians. Cumulative is defined as the difference between the median of year +1, +2, and +3; and year 0. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Windows	Whole sample [N = 391]	Loss making [N = 275]	Focusing [N = 265]	Leveraged [N = 198]
Δ0 TO +1	-2.33 (0.232) [0.205 (0.410)] 54.7	-2.83 (0.201) [0.585 (0.080)] 60.4	-0.63 (0.766) [0.465 (0.088)] 57.2	-0.05 (0.978) [0.665 (0.049)] 58.8
Δ0 TO +2	-1.06 (0.581) [0.170 (0.646)] 51.6	-1.75 (0.505) [0.428 (0.398)] 54.0	0.72 (0.570) [0.495 (0.243)] 53.4	0.72 (0.809) [0.775 (0.141)] 54.8
Δ0 TO +3	-0.37 (0.890) [0.030 (0.944)] 50.3	-2.12 (0.549) [0.340 (0.447)] 53.6	1.45 (0.642) [0.325 (0.473)] 50.7	-2.41 (0.512) [0.445 (0.401)] 51.5
Cumulative	-0.99 (0.506) [0.360 (0.187)] 54.2	-1.69 (0.402) [0.690 (0.051)] 58.0	1.49 (0.109) [0.650 (0.044)] 56.0	0.53 (0.771) [0.960 (0.016)] 58.0

(Continued)

Windows	Debt repayment [N = 128]	Investment [N = 55]	Financing [N = 18]
Δ0 TO +1	1.41 (0.099) [0.525 (0.203)] 58.3	-11.57 (0.179) [0.020 (0.984)] 57.1	0.28 (0.869) [0.685 (0.486)] 66.7
Δ0 TO +2	5.53 (0.085) [1.155 (0.071)] 56.3	-5.30 (0.413) [-0.235 (0.886)] 48.9	3.02 (0.113) [2.185 (0.368)] 52.9
Δ0 TO +3	1.43 (0.399) [1.645 (0.019)] 64.0	-4.58 (0.486) [-0.205 (0.802)] 43.5	6.96 (0.062) [2.825 (0.103)] 62.5
Cumulative	1.96 (0.026) [1.388 (0.007)] 62.0	-6.74 (0.290) [-0.020 (0.996)] 52.2	2.77 (0.080) [1.345 (0.187)] 62.5

Table 4-11: Control firm matched operating performance for sample firms by reasons of asset sale

The table reports on the operating performance for the sample firms by the stated reasons for the asset sale for a sample of 399 UK non-financial firms that announced the sale of a non-financial asset during the period 1993-2000. ROA is defined as earnings before interest, tax, depreciation, and amortization (EBITDA), divided by the book value of assets. The significance between sample and control firms is based on the *Wilcoxon signed rank test*, and p-values are reported in parenthesis.

Panel A: Return on assets (ROA) for loss making sub-sample

Time period	Sample firms median	Control firms median	p-value of differences
Observations	274	274	274
From year -1 to 0	-0.025 (0.000)	0.003 (0.418)	0.009
From year 0 to +1	0.020 (0.001)	0.002 (0.691)	0.011
From year 0 to +2	0.010 (0.054)	0.004 (0.397)	0.153
From year 0 to +3	0.010 (0.117)	-0.005 (0.370)	0.071

Panel B: Return on assets (ROA) for leveraged sub-sample

Observations	198	198	198
From year -1 to 0	-0.027 (0.000)	0.004 (0.213)	0.001
From year 0 to +1	0.017 (0.005)	0.003 (0.428)	0.259
From year 0 to +2	0.015 (0.033)	0.001 (0.792)	0.160
From year 0 to +3	0.014 (0.104)	-0.014 (0.054)	0.066

Panel C: Return on assets (ROA) for focusing sub-sample

Observations	265	265	265
From year -1 to 0	-0.003 (0.521)	0.004 (0.318)	0.331
From year 0 to +1	0.007 (0.107)	-0.003 (0.512)	0.155
From year 0 to +2	0.002 (0.752)	-0.007 (0.170)	0.263
From year 0 to +3	-0.003 (0.649)	-0.014 (0.021)	0.326

Table 4-12: Changes in sample firms' focus following asset sales

The table reports mean [median] changes in the sample firms' focus following asset sales for a sample of 399 UK non-financial firms that announced a sale of non-financial asset during the period 1993-2000. The number of segments relates to the number of reported 3-digit SIC lines of business that sample firms operated in. The Herfindahl index is calculated as the sum of segments' sales squared divided by total sales squared, where sales are defined as the 3-digit SIC level. The fractions of all changes that are positive are reported in the last column. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Descriptions	N	Mean	Median	% Positive
Number of lines of business				
Year -1	389	2.9897 (0.000)	3.000 (0.000)	
Year +1	374	2.8021 (0.000)	2.500 (0.000)	
Changes (-1 to +1)	361	-0.1967 (0.001)	-0.000 (0.001)	17.2%
Sales-based on Herfindahl index				
Year -1	389	0.6128 (0.000)	0.6152 (0.000)	
Year +1	374	0.6518 (0.000)	0.6558 (0.000)	
Changes (-1 to +1)	361	0.0387 (0.000)	0.0224 (0.000)	51.5%

Table 4-13: Abnormal returns around asset sale announcements

This table presents the abnormal returns surrounding asset sale announcements for a sample of 399 UK non-financial firms during the period 1993-2000. Panel A reports abnormal returns for the whole sample. Panel B presents the abnormal returns for sample firms by the stated reasons for the asset sale. Panel C reports the abnormal returns of sample firms on the basis of the use of asset sale proceeds. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Panel A: Whole sample

Statistic	CAR (-1,0)	AAR (0)	CAR (-1,1)
Mean %	0.499 (0.007)	1.125 (0.000)	0.745 (0.001)
Median %	0.262 (0.013)	0.515 (0.000)	0.376 (0.004)
% +Ve	56.0	57.9	53.8

Panel B: Reasons for asset sale

Statistic	Focus firms		Leveraged firms		Loss-making firms	
	AAR (0)	CAR (-1, 1)	AAR (0)	CAR (-1, 1)	AAR (0)	CAR (-1, 1)
Mean %	1.159 (0.000)	0.920 (0.002)	0.902 (0.005)	0.790 (0.013)	1.02 (0.000)	0.93 (0.001)
Median %	0.550 (0.000)	0.467 (0.006)	0.550 (0.003)	0.40 (0.031)	0.60 (0.000)	0.06 (0.000)
% +Ve	58.2	53.4	56.8	55.2	56.1	57.3

Panel C: Uses of asset sale proceeds

Statistic	Debt repayment (N = 126)		Investment (N = 55)		Financing (N = 18)	
	AAR (0)	CAR (-1, 1)	AAR (0)	CAR (-1, 1)	AAR (0)	CAR (-1, 1)
Mean %	1.276 (0.005)	1.060 (0.008)	0.90 (0.049)	0.584 (0.230)	0.87 (0.251)	-0.40 (0.558)
Median %	0.700 (0.003)	0.750 (0.003)	0.40 (0.195)	0.367 (0.285)	0.35 (0.523)	-0.42 (0.306)
% +Ve	57.1	59.5	52.7	60.0	50.0	33.3

Table 4-14: Relation between operating performance and stock returns

The table reports an OLS regression of the relation between the announcement period of abnormal stock price returns and the industry-adjusted financial characteristics for a sample of 399 UK non-financial firms that announced the sale of a non-financial asset during the period 1993-2000. Industry adjustments are made by deducting the median value for the relevant financial ratio of all firms operating in the same industry group from the value of the financial ratio for the sample firm. The pre-asset sale is a period that covers years -3 to 0 relative to the asset sale, and the post-asset sale period covers years 0 to +3 relative to the asset sale. IROApre and IROApost is an industry-adjusted ROA over three years prior to and following asset sales, respectively. IDEBT is an industry-adjusted debt ratio over the period prior to (pre) and following (post) asset sales. Focus is an industrial diversification measured by the Herfindahl Index (Model 1) and the number of segments in which firms operated (Model 2). *Ln (MV)* is the natural logarithm of the company's market value of equity, measured at the financial year-end prior to the asset sale announcement. Focus in Model 1 is measured by Herfindahl index, and by the number of segments in Model 2. P-values for two-tailed tests of significance are reported in parenthesis.

Model: $CAR_{(-1,1)} = \alpha + Ln\ (MV) + IROA_{pre} + IROA_{post} + IDB_{pre} + IDB_{post} + Focus_{pre} + Focus_{post} + \varepsilon$

Statistic	Model 1	Model 2
Constant	0.022 (0.003)	0.023 (0.002)
Ln (MV)	-0.002 (0.104)	-0.002 (0.081)
$IROA_{pre}$	0.010 (0.663)	0.008 (0.733)
$IROA_{post}$	0.049 (0.034)	0.051 (0.030)
$IDEBT_{pre}$	-0.044 (0.004)	-0.051 (0.002)
$IDEBT_{post}$	-0.051 (0.000)	-0.049 (0.000)
$Focus_{pre}$	-0.004 (0.672)	-0.001 (0.811)
$Focus_{post}$	-0.006 (0.410)	-0.001 (0.558)
R^2	11.3%	12.2%
F-value	5.76 (0.000)	6.14 (0.000)
Number of observations	317	317

Table 4-15: Long-run stock returns following asset sales

The table reports buy-and-hold abnormal returns (BHARs) for a sample of 399 UK non-financial firms over a period of 3 years following asset sales. Panel A reports BHARs of the whole sample. Panel B reports BHARs of sample firms by the stated reasons for the asset sale. Panel C presents BHARs of the sample firms on the basis of the different uses of asset sale proceeds. The BHARs are the differences between sample firms' and control firms' monthly returns. The control firms (or matching firms) are constructed on the basis of size and industry over the year prior to asset sales. The fractions of all changes that are positive are reported in the last row. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Panel A: Whole sample

Statistic	12-month	24-month	36-month
N	397	391	352
Mean (%)	-4.13 (0.214)	-11.69 (0.012)	-14.91 (0.011)
Median (%)	-4.34 (0.054)	-7.37 (0.064)	-11.45 (0.019)
% Positive	43.2	46.5	43.4

Panel B: Reasons for Asset Sales

Statistic	Focusing			Highly-Leveraged			Loss making		
	12-month	24-month	36-month	12-month	24-month	36-month	12-month	24-month	36-month
N	262	250	223	196	191	186	273	260	240
Mean (%)	-3.26 (0.445)	-7.36 (0.154)	-14.46 (0.023)	-10.26 (0.005)	-25.66 (0.000)	-32.06 (0.001)	-7.75 (0.066)	-16.41 (0.005)	-20.62 (0.005)
Median (%)	-2.75 (0.306)	-4.44 (0.365)	-12.15 (0.036)	-9.54 (0.002)	-19.54 (0.001)	-24.82 (0.001)	-5.97 (0.024)	-10.69 (0.025)	-15.04 (0.014)
% +Ve	45.9	49.3	43.7	39.1	39.6	38.6	42.0	45.3	42.7

Panel C: Uses of Asset Sales Proceeds

Statistic	Debt Repayment			Investment			Financing		
	12-month	24-month	36-month	12-month	24-month	36-month	12-month	24-month	36-month
N	126	122	117	54	50	46	17	16	14
Mean (%)	-11.27 (0.161)	-19.52 (0.034)	-27.9 (0.034)	5.83 (0.489)	-10.4 (0.416)	-2.10 (0.897)	1.30 (0.910)	-1.20 (0.941)	-10.1 (0.726)
Median (%)	-8.72 (0.038)	-13.38 (0.071)	-19.14 (0.032)	-4.24 (0.395)	-8.67 (0.495)	-6.08 (0.660)	-4.10 (0.601)	1.94 (0.862)	2.22 (0.965)
% +Ve	39.1	45.3	43.0	38.2	43.6	47.3	50.0	55.6	55.6

CHAPTER FIVE: DIVIDEND CUTS

5.1 Introduction

The previous chapter has investigated the determinants and outcomes of asset sale decisions. The findings in that chapter provide evidence that firms undertake sell-offs in response to poor performance, high financial leverage, and a need to refocus on core businesses; and uses sell-off proceeds for debt repayments, investment and financing daily activities. This chapter presents the empirical results of operating performance surrounding announcements of dividend cuts for a sample of UK non-financial firms that announced dividend cuts over the period 1993-2000. Dividend cuts are chosen mainly because the main objective for carrying-out this study is to examine operating performance following corporate restructuring. Evidence shows that companies undertake corporate restructuring in response to adverse economic conditions (John *et al.*, 1992; Ofek, 1993; Kang and Shivdasani, 1997; Denis and Kruse, 2000; and Gilson, 2001). Therefore, by investigating dividend cuts, factors that motivate managers to undertake corporate restructuring are further explored.

Substantive literature on dividend policy changes has relied primarily on two lines of reasoning to generate predictions about dividend behaviour: information asymmetry and agency conflicts. The information-asymmetry models argue that managers know more than investors about the firm's prospects and that dividends reveal some of that information to the market.[53] This implies that dividend change announcements should be positively related to stock price returns because a higher dividend level signals higher current or future earnings. Several studies report significant excess returns around the announcement of dividend changes: positive (negative) returns are associated with positive (negative) changes in dividends.[54] Information asymmetry also helps to explain the observed reluctance of managers to cut dividends. Lintner (1956) argues that managers are extremely reluctant to cut dividends for fear of sending a negative signal,

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[53] Bhattacharya (1979), John and Williams (1985) and Miller and Rock (1985) develop this line of reasoning.

[54] See Pettit (1972), Aharony and Swary (1980), Asquith and Mullins (1983), Healy and Palepu (1988), Michaely *et al.* (1995), and Eaton (1999), among others.

and reluctant to increase dividends for fear they will have to cut them in the future.[55] Subsequent empirical work has confirmed and extended his work.[56]

Previous studies that examine earnings around dividend changes offer mixed evidence on the information content of dividend change. Healy and Palepu (1988) find that firms that initiate dividends experience subsequent earnings increases and that firms that omit dividends experience contemporaneous earnings decreases, followed by earnings increases. By contrast, DeAngelo *et al.* (1996) find no evidence that earnings increase following dividend increases. In addition, Benartzi *et al.* (1997) and Grullon *et al.* (2002) find that firms that increase dividends experience increases in earnings during the same year, but no increases thereafter, while firms that decrease dividends experience decreases in earnings during the same year and increases thereafter. These studies, in general, suggest that the information content of dividend change or signalling hypotheses cannot help identify the firm's future profitability (see also Grullon *et al.* 2003).

A second line of dividend models has explored the effect of agency conflicts on dividend behaviour. Agency theories focus on the different incentives of managers and security holders and the role of dividends as a disciplinary mechanism. By reducing the amount of free cash flow, dividends force managers to submit to the discipline of the financial markets (Easterbrook, 1984; and Jensen, 1986). These theories predict that dividend increase announcements should be positively related to stock returns because a higher dividend level reduces managers' tendencies to waste free cash. In other words, the agency theories suggest that dividend reductions increase management's access to internally generated capital, and therefore the market perceives announcements of dividend cuts as the way for managers to use the firm's resources in pursuit of their personal objectives. Nevertheless, there is no consensus that managers cut dividends in order to use funds for investment opportunities. Grullon *et al.* (2002) find that dividend-decreasing firms increase their capital expenditures following dividend decreases. By

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[55] DeAngelo and DeAngelo (1990) also suggest that managers are reluctant to omit dividends altogether because dividend omissions tarnish their reputations in that they would be seen as the first managers who have failed to generate cash for stockholders.

[56] Fama and Babiak (1968) find empirical support for dividend smoothing and DeAngelo *et al.* (1992, 1996) document management's reluctance to cut dividends.

contrast, Lie (2005) reports normal and low capital expenditures prior and subsequent to announcements of both dividend decreases and omissions.

Evidence shows that managers are induced to act in shareholders' interests by some combination of strong internal governance systems, the discipline imposed by debt (Jensen, 1986), the market for corporate control (Jensen and Ruback, 1983), product market competition (Hart, 1983), and managerial labour market (Fama, 1980). This study addresses managers' motivations to cut dividends by comparing sample firms with the other firms in the same industry, and uses univariate and multivariate analyses to provide evidence on the factors that influence the likelihood of dividend cuts.

Consistent with most US findings, dividend cuts are preceded by a period of poor performance, liquidity problems and high financial leverage and, in turn, are followed by improvement in all these areas. It is also apparent that managers are forced to cut dividends. Furthermore, there is no evidence that management cut dividends in order to use funds for investment. Finally, there is a significant finding that announcements of dividend cuts are associated with negative stock price responses.

The chapter is organized as follows: Section 5.2 develops hypotheses to be tested in this chapter. The empirical results are presented in Section 5.3. Section 5.4 summarizes and concludes the chapter.

5.2 Development of hypotheses

In addition to the general hypotheses discussed in Chapter 1, this section briefly discusses the individual hypotheses to be tested in this chapter.

I build upon the work of Lintner (1956), who finds that a firm's bottom line income is the key determinant of dividend changes. Since Lintner (1956) primarily surveys healthy firms, his model is largely for dividend increases. If, however, one can extrapolate his finding to dividend decreases, it implies that low bottom line earnings drive dividend reductions. A dividend omission is an extreme case of dividend decreases and, therefore, extreme low bottom line earnings also drive dividend omissions. In addition, Ofek (1993) discerns that firms respond to poor performance with dividend cuts. Collectively,

dividend cuts are signals that a firm's earnings are inadequate to sustain the level of distributions previously established.

DeAngelo *et al.* (1992) find that poor performance is essentially a necessary condition for dividend reductions. In support of their arguments, the authors discovered that 50.9% of their sample firms which had losses reduced dividends versus 1% of firms without losses. Furthermore, Lie (2005) reports that dividend-cutting firms perform poorly before the announcement of dividend cuts. This evidence has never been investigated adequately in other markets outside the US. I, therefore, examine in this chapter whether poor performance influences managers to cut dividends. It is conjectured here that corporate managers cut dividends in response to poor performance.

$H_{5\text{-}1}$: Poor performance does not motivate managers to cut dividends

Jensen (1989) argues that highly-leveraged firms will respond faster to a decline in firm value than their less-leveraged counterparts, because a small decline in value can lead to default. In support of Jensen's (1989) argument, Ofek (1993) contends that leverage increases the probability of dividend cuts in poorly performing firms. In addition, debt covenants may lead to dividend cuts (Smith and Warner, 1979; and DeAngelo and DeAngelo, 1990). A financially-distressed firm is more likely to than a non-distressed firm to cut its dividend to preserve internal funds for regular operations.

Furthermore, Grullon *et al.* (2002) find a small but statistically significant increase in the leverage ratio for dividend-decreasing firms over the years prior to announcements of dividend decreases. Lie (2005) also reports that dividend-cutting firms have poor financial flexibility over the years prior to the announcement of dividend cuts. It is interesting to note that the evidence as to whether debt overhang can lead to dividend cuts for other markets outside the US is nonexistent. In this chapter, I extend the prior literature examines US firms, to investigate whether high financial leverage motivates managers to cut dividends using the UK data. I test the following null hypothesis:

$H_{5\text{-}2}$: High financial leverage does not lead to dividend cuts

Another potential reason that might lead to firms cutting dividends is that their investment opportunities are improving, thus they require more funds to invest in these value-enhancing projects (Lie, 2005). This view is also consistent with the pecking order hypothesis (Myers and Majluf, 1984; and Myers, 1984), which suggests that firms prefer the use of internally generated funds to that of external finance. This preference could be a strategy of a firm's management to avoid the disciplining influence of the securities market and/or because of borrowing constraints. However, Grullon *et al.* (2002) argue that, in general, firms tend to decrease dividends not because they want to increase their discretionary investments, but more because they have suffered an extreme earnings distress. In other words, decreasing dividends may not be entirely discretionary. Following the mixed evidence on whether a need for funds for investment opportunities can lead to dividend cuts, the following null hypothesis is tested:

$H_{5\text{-}3}$: A need to increase funds for investment opportunities does not lead to dividend cuts

Changes in the level of cash flow may influence managers to change their dividend policies. That is, a firm with excess/idle cash flow would be motivated to increase dividends in order to reduce idle cash flow. It is also true that following shortage and/or a need to conserve cash flow, firms are forced to cut their dividends. Lie (2005) finds that too low cash flow motivates managers to cut dividends. This argument is consistent with the view that a dividend cut is a proactive strategy to alleviate future cash flow shortages. It is also possible that a firm currently faces a tight financial situation that prevents it from paying out any funds, probably due to the cumulative result of poor cash flow in recent periods. Thus, a need for cash conservation and/or shortage of cash flow leads to dividend cuts. This argument forms the basis of the following null hypothesis:

$H_{5\text{-}4}$: A need for cash conservation and/or shortage of cash flow does not motivate managers to cut dividends

Much of the previous research suggests that the information content of dividend changes cannot help identify a firm's future earnings (Watts, 1973; DeAngelo *et al.*, 1996; Benartzi *et al.*, 1997; and Grullon *et al.*, 2002). This evidence is consistent with the view that the firm's future profitability depends on how effective managers use resources.

If managers pursue the corporate objective of maximizing shareholder wealth, one should expect firms that cut their dividends to efficiently use resources and be able to improve their profitability in the future. This reasoning suggests that if a dividend cut firm uses funds that would otherwise have been paid to shareholders to finance profitable investments, then there should be improvement in firm performance following announcements of dividend cuts. The firm performance improvement is also linked to the fact that dividend cutting firms recognize their financial difficulties and take the unpleasant actions necessary to return to profitability.

Grullon *et al.* (2002) and Lie (2005) document significant increases in operating performance over the period following dividend cuts for US firms. Healy and Palepu (1988) also document an improvement in operating performance over the year following dividend omission. However, the evidence as to whether firm performance improves following dividend cuts on other markets outside the US is nonexistent. Therefore, this chapter contributes to the existing literature by examining whether operating performance improves following dividend cuts for UK firms. I investigate the null following null hypothesis:

$H_{5\text{-}5}$: Operating performance does not improve following dividend cuts

The Pecking Order Theory of capital structure (Myers, 1984) states that firms prefer to finance new investments from retained earnings and raise debt capital only if the former is insufficient. If operating performance improves following dividend cuts as hypothesized above, I should expect a significant reduction for external finance over the same period. Rajan and Zingales (1995) and Antoniou *et al.* (2002) discover that financial leverage decreases with profitability. This suggests that profitability has a negative

influence on financial leverage (Myers and Majluf, 1984).[57] In addition, management will always want to reduce debt overhang mainly because of: first, to avoid bankruptcy costs which could lead to management losing its perquisites (Gilson, 1989; Jensen, 1989; and Wruck, 1990). Second, leverage constrains managerial discretion over financing and investment (Ahn *et al.*, 2006), and thus the firm risks bypassing valuable growth opportunities.

In addition, when managerial costs of financial distress are high, managers have incentives to reduce the likelihood of default by borrowing less, choosing less risky investment projects, and managing their firms more efficiently. Grullon *et al.* (2002) finds a significant decline in financial leverage following announcements of dividend decreases. However, the evidence from other markets outside the US is not sufficient. I therefore examine whether there is improvement in financial position following dividend cuts. I test the following null hypothesis:

$H_{5\text{-}6}$: There is no a reduction in financial leverage following dividend cuts

Investors' perceptions to announcements of dividend cuts can be placed into two themes. First, dividend cuts signal to the market that the firm's earnings are unfavourable. This is consistent with the information content of dividend changes. Second, since dividend reductions increase management's access to internally generated capital, the market perceives announcements of dividend cuts as the way for managers to use the firm's resources in pursuit of their private benefits (Easterbrook, 1994). Both of these themes predict that equity values will decline in response to announcements of dividend cuts. In addition, since dividend omissions represent a discontinuity in the dividend continuum (Christie, 1994), it is expected that the magnitude of the equity decline for dividend omissions will be larger than that of dividend decreases. This conjecture is proved here by testing the following null hypothesis:

$H_{5\text{-}7(a)}$: There is no significant stock price reaction to announcements of dividend cuts

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[57] Jensen (1986) predicts a positive one if the market for corporate control is effective and forces firms to commit paying out cash by levering up.

$H_{5\text{-}7(b)}$: There is no difference between market reaction to a dividend decrease announcement and that of an omission

Whilst the evidence on whether there is a significant drift following the announcement of dividend decreases is mixed, there are consistent findings that there is a significant drift following the announcement of dividend omissions. Benartzi *et al.* (1997) report an insignificant abnormal return following announcements of dividend decreases. By contrast, Eaton (1999) finds a significant negative abnormal return over the year following the announcement of dividend decreases. On the other hand, there are a substantial number of studies that have documented a significant abnormal return following dividend omission announcements (Michaely *et al.*, 1995; and Eaton, 1999), among others.

Finally, following the hypothesis 5-7, the market perceives announcements of dividend decreases as a transitory earnings problem with no permanent effect. This argument suggests that there should be no significant drift following dividend decreases. On the other hand, the market views dividend omissions as a permanent earnings problem that would never reverse in the future. This suggests that there should be a significant drift in the same direction following dividend omissions. These propositions are tested here through the following null hypotheses:

$H_{5\text{-}8(a)}$: There is a significant drift following dividend decreases.

$H_{5\text{-}8(b)}$: There is no significant drift in the same direction following dividend omissions.

5.3 Empirical results

5.3.1 Sample characteristics

To examine the above discussed hypotheses, a UK sample of firms that announced dividend cuts during the period 1993-2000 is used. The sample of 442 events was drawn from the FT Extel cards database and verified by Financial Times archive news articles. Details of dividend cuts were taken from official announcements made by companies to the London Stock Exchange. I include in the sample a UK non-financial company that has announced a dividend decrease or omission. In addition, only one announcement per firm per year is included in the sample. Finally, for a dividend decrease firm, the

percentage change in dividends is between 12.5% and 99%; and for a dividend omission firm, I include those firms that omit the cash dividend for the first time, following a series of at least three consecutive cash dividend payments. More details on sample firms used in this chapter are provided in Chapter 3.

5.3.2 Pre-dividend cut operating performance

This chapter reports results on the whole sample, dividend decreases and omissions sub-samples. However, the analysis of these results will focus mainly on dividend decreases and omissions. Because of the influence of outliers on most of the results presented in this chapter, the analysis will focus on medians (Barber and Lyon, 1996).

5.3.2.1 Financial performance

In Table 5-1 the median percentage changes in total assets, sales and the number of employees are examined. This test provides insights into the firm's size and scope of operations over the years prior to and post-dividend cut. Sample firms experienced a significant decline in the growth rates of assets, sales and the number of employees in the period between years -1 and 0, and the decline is very strong for firms that omitted their dividends. Over the years following dividend cuts, there is an insignificant increase in the growth rates of assets and sales for dividend omission firms; and a significant increase in sales for dividend decrease firms in the period between years 0 and 2, and 0 and 3.

It is interesting to note that both sets of firms experienced a significant reduction in the growth rate of the number of employees over each of the 3 years following dividend cuts. In general, these results suggest that sample firms were able to increase profitability and productivity with a reduced number of employees following dividend cuts.

In Table 5-2 sample firms are compared with control firms along a number of dimensions related to the factors that potentially motivate managers to cut dividends over the year prior to dividend cuts. As would be expected, since I match sample and control firms on the basis of ROA, there is no difference in this variable between the sample and control firms at the year-end prior to dividend cuts. I examine changes in

ROA surrounding dividend cut announcements further in the next section. On financial leverage, it is found that sample firms have a higher debt ratio than control firms. However, the difference is not as strong for dividend-omitting firms. In addition, it is found that both sets of firms have significantly lower interest coverage ratio than their control counterparts. The difference is significant at the 1% level.

Furthermore, dividend omission firms experienced significantly lower cash ratio than control firms over the year prior to dividend cuts. The difference is significantly negative at the 1% level. However, the cash ratio for dividend-decreasing firms is indistinguishable from that of control firms over the same period. This finding suggests that a low cash flow characterizes an omission firm. Finally, the capital expenditures of sample firms are not significantly different from those of control firms for both sets of firms. These results are inconsistent with the view that firms that cut dividends normally have improved investment opportunities and therefore cut dividends in order to finance these projects (Grullon *et al.*, 2002).

Table 5-3 reports industry-adjusted changes in ROA, debt ratio, interest coverage; and median changes in capital expenditures and cash of different periods over the 3 years prior to dividend cuts. The sample firms exhibited a significant decline in industry-adjusted changes in ROA over the 3 years prior to dividend cuts. The decline is significantly negative at the 1% level for both sets of firms. These results suggest that dividend cuts tend to be associated with a trend of poor performance going back at least 3 years prior to dividend cuts.

In addition, the firms experienced a significant increase in industry-adjusted changes in debt ratios in the period prior to the dividend cut. There is also a significant decline in industry-adjusted changes in interest coverage ratio over the 3 years pre-dividend cut for both sets of firms. These findings suggest that poor performance erodes a firm's cash flows, which in turn reduces the firm's ability to service its debt obligation. It is therefore apparent that managers cut dividends because of poor performance and high financial leverage (Smith and Warner, 1979; and Ofek, 1993). It is also possible that firms cut dividends because of debt covenants. DeAngelo and DeAngelo (1990) find that covenants significantly affect the dividend policies. Furthermore, panel B of Table

5-3 shows that sample firms experienced significantly negative changes in capital expenditures over the year prior to dividend cuts. This is in contrast to the changes from the year -3 to -1, where the firms had significantly positive changes in capital expenditures. Finally, the cash ratio results over the period prior to dividend cuts show that dividend decrease firms exhibited a significant decline in cash ratio and a marginal decline for dividend omission firms.

5.3.2.2 Market disciplinary activities and dividend cuts

It has been shown in the previous chapter that the market for corporate control often plays an important role in the firm's decision to restructure its assets. In this section consideration is given to whether the same forces also play a role in the firm's decision to cut dividends. Chapter 3 explains how data on market disciplinary activities are collected in this thesis.

In Table 5-4 the number and percentage of sample and control firms for which pre-dividend cut market disciplinary events are reported. About 9.1% and 7.7% of dividend-decreasing and omitting firms were subjected to takeover pressure, against 2.2% and 1.9% for control firms, respectively. The corresponding percentages of CEO turnover are 12.3% and 14.7% against 4.7% and 5.1% for control firms, respectively. The differences are significantly positive at the 5% or better for both sets of firms. However, several sample firms that were in the process of debt restructuring or capital reorganization in the year prior to dividend cuts are statistically indistinguishable from those of the control firms. In general, these results suggest that the decision to cut dividends is also associated with external monitoring systems.

5.3.2.3 Cross-sectional analysis

It has been shown that the decision to cut dividends is influenced by poor performance, liquidity problems, high financial leverage, and external disciplinary activities. In this section these factors are examined in a multivariate setting. Logit regressions are estimated to measure the relation between the potential factors that motivate managers to cut dividends and the likelihood of a dividend cut. The general model which is described in Chapter 3 (equation (3.6)) is used. In addition, to the variables described in

equation (3.6); three more variables are added: capital expenditure, cash and CEO turnover.

In this model the dependant variable is set equal to one for firms that cut dividends and zero for non-dividend cuts firms. Capital expenditure and cash are as described above. CEO turnover is a dummy variable set equal to one where the firm experiences the incidence of CEO turnover over the 12 months prior to the dividend cut announcement, and zero otherwise. All other variables are as discussed in equation (3.16)

The logic results are reported in Table 5-5. Two models are presented for each sub-sample. The first model estimates the determinants of dividend cuts, excluding disciplinary activities. This model intends to capture the effect of different financial variables that may determine the likelihood of a dividend cut. The second model includes all variables that are likely to influence managers to cut dividends.

It is found that the decision to cut dividends is negatively related to prior firm performance. This finding is consistent with those of DeAngelo *et al.* (1990) who report a high incidence of dividend reductions by firms with persistent losses. In addition, the likelihood of dividend decreases is increasing with the level of financial leverage in the firm. This finding is consistent with the view that highly-leveraged firms are likely to cut their dividends (Ofek, 1993). Interestingly, the relationship between financial leverage and dividend omission is insignificantly negative. In addition, it is found that the decision to omit dividends is negatively related to interest coverage ratio and cash ratio. The coefficients of both of these metrics are significantly negative. This reinforces the earlier finding and suggests that in addition to poor performance and high financial leverage, liquidity problems are also the main factors that lead to dividend omission. However, it is apparent that liquidity problems are insignificantly negative related to dividend decreases.

Given the observed poor performance, high financial leverage and liquidity problems of sample firms prior to dividend cuts, it is difficult to find these firms preserving funds for capital expenditures. It is therefore not surprising to find that the coefficient of capital

expenditures is insignificant in all four models of regressions, and for both sets of firms. This evidence does not support the view that an increase in a need for investment funds motivates managers to cut dividends (Easterbrook, 1984; and Grullon *et al.*, 2002).

It can also be seen from Table 5-5 that the dividend cut decision is positively related to the incidence of CEO turnover. This is consistent with the findings of Weisbach (1995), who contends that newly appointed managers are more willing to break with the failed policies of their predecessors. Furthermore, it appears that the dividend cut decision is significantly more likely to occur with a disciplinary influence from the market for corporate control activity. This finding suggests that the decision to cut dividends is not exclusively a firm's managerial discretion. Nevertheless, there is no evidence that financial distress motivates managers to cut dividends. Finally, I find that the firm's size is negatively related to the dividend cut decision. This suggests that smaller firms are more likely to cut dividends than larger firms.[58]

In summary, the logit regression results are consistent with univariate analyses. That is, poor performance, high financial leverage and liquidity problems all preceded announcements of dividend cuts. These findings are consistent with those of previous studies (DeAngelo *et al.*, 1992; Benartzi *et al.* 1997; Grullon *et al.*, 2002; and Lie, 2005). Benito and Young (2003) and Dhanani (2005) are recent UK studies that examine dividends. Benito and Young discern that financial characteristics: cash flow, leverage, investment opportunities, investment and company size are variables that account for dividend cuts among UK firms. Using a survey approach, Dhanani (2005) discovers findings that support dividend hypotheses relating to signalling and ownership structure. However, unlike these studies, the decision to cut dividends is also more likely to occur with a disciplinary push from external monitoring systems.

Previous studies have also shown that there is a negative relation between firm performance and the likelihood of dividend cuts. Lintner (1956) finds that a firm's bottom line income is the key determinant of dividend changes. Since Lintner (1956) primarily surveys healthy firms, his model is largely for dividend increases. However, this model suggests that low bottom line earnings drive dividend cuts. In addition, Healy

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[58] Holder, Langrehr and Hexter (1998) also present the same view.

and Palepu (1988) document a decline in earnings two years prior to the dividend omission. DeAngelo *et al.* (1990) also report a high incidence of dividend reductions by firms with persistent losses. More recently, Lie (2005) reports a significant decline in operating performance over the 5 years preceding dividend decreases and omissions.

On the contrary, DeAngelo *et al.* (1992) and Robin (1998) report that profit is not a sufficient condition for a dividend reduction. For example, DeAngelo *et al.* (1992) find that half of the firms in their loss sample did not reduce dividends during the loss year. In addition, Robin (1998) finds that there is a substantial number of income earning firms that omit dividends. Taken together, these findings suggest that poor performance is the most single important determinant of dividend cuts. The same findings have also been documented here. Unlike these studies, this chapter shows that high financial leverage, liquidity problems, and the market for corporate control activity also contribute to the dividend cut decision.

5.3.3 Post-dividend cut operating performance

In this section the results over the period following dividend cuts are presented. Financial performance is discussed first, followed by discussion on operating performance between dividend decreases and omissions, and then on dividend increases and initiations. Finally, the results on sensitivity analysis are reported.

5.3.3.1 Financial performance

I have reported results consistent with the view that firms undertake dividend cuts in response to declining operating performance, liquidity problems and increasing financial leverage. In this section I investigate whether there is an improvement in these variables following dividend cuts.

The results are reported in Table 5-6. The operating performance of sample firms substantially improves in each of the 3 years following dividend cuts, the improvement being significant at the 1% level.[59] This finding suggests that the decision to cut dividends reverses a declining trend of poor performance over the period prior to dividend cuts. This finding is consistent with that of Grullon *et al.* (2002) and Lie (2005)

[59] Figure 5-1 supports the findings of this study.

who document significant increases in operating performance over the 3 years following dividend cuts for US firms. Healy and Palepu (1988) also document an improvement in operating performance over the year following dividend omission.

The financial leverage results show that there is a significant decrease in changes of industry-adjusted debt ratio in each of the 3 years following dividend cuts. The significant level of changes is at the 5% or better. In addition, there is an improvement in interest coverage ratio over the 3 years following dividend cuts. One plausible explanation for this improvement in financial leverage is the improvement in operating performance. The improvement in operating performance means more earnings for a firm, and hence the firm's ability to service its debts obligation, which in turn reduces the likelihood of financial distress. This suggests that profitability has a negative influence on financial leverage, since a firm that can generate more earnings would borrow less (Adedeji, 1998). Grullon *et al.* (2002) also find an incidence of reduction in industry-adjusted debt ratio following dividend-decreasing firms.

The industry-adjusted changes in cash ratio results following dividend cuts are mixed. Whilst there is a significant improvement in cash ratio over the 3 years post-dividend cut for dividend decrease firms, it is found that the improvement is insignificantly positive in each of the 3 years following dividend omissions. Grullon *et al.* (2002) find that the cash levels of dividend-decreasing firms significantly increase after year 0, which match the results given here. Finally, it is found that industry-adjusted changes in capital expenditures following dividend cuts are negative and statistically different from zero for both sets of firms. These results are consistent with those of Lie (2005) for both sets of firms, and with Grullon *et al.* (2002) for dividend decreases. Following this evidence, it is apparent that no investment improvement follows dividend cuts.

In summary, the post-dividend cut analysis provides evidence that following dividend cuts there is an improvement in firm performance, an increase in financial health and an increase in liquidity. Therefore, the decision to cut dividends reverses a declining trend of profitability, financial leverage and liquidity problems. Finally, no evidence is found that there is an increase in capital expenditures following dividend cuts.

5.3.3.2 Dividend decreases and omissions

Do operating performance strategies differ between dividend decreases and omissions? The evidence presented so far shows that poor performance preceded both dividend decreases and omissions and that there is improvement in subsequent years. Dividend omissions are viewed as a special subset of dividend changes and an extreme case of dividend decreases; and, therefore, they present an opportunity for stronger tests. One of these tests is to establish whether there is a significant difference between the operating performance for dividend decreases and that of omissions.

In Table 5-7 the median changes in the differences between the industry-adjusted ROA of dividend decrease and omission firms are reported. The dividend omission firms performed significantly poorer than the dividend decrease firms over the 3 years prior to dividend cuts. It is interesting to note that they performed significantly better than their decreases counterparts in subsequent years. The p-values for differences are mostly significant at the 1% level. This finding implies that dividend omissions are worse performers prior to dividend cuts and better performers in the post-dividend cut period.

Proponents of the information content of dividend changes suggest that dividend changes also depend on management's expectations of future earnings (Modigliani and Miller, 1959; and Miller and Modigliani, 1961). This evidence suggests that managers use dividend omissions to convey to the market unfavourable information about future cash flows. This is consistent with the idea that omissions are costly and credible signals of the firm's value (Szewczyk, 1997). The finding in this study and that of previous studies (Healy and Palepu, 1988; and Lie, 2005) suggests that the information content of dividend omissions is unrelated to the future earnings potential of the firm.

5.3.3.3 Dividend increases and initiations

The analysis so far has not covered positive dividend-changing firms - dividend increases and initiations. Following signalling theories, one should expect an improvement in operating performance following dividend increases and initiations. For comparison purposes, operating performance changes surrounding the announcements of dividend increases and initiations are also analysed. Data for dividend increases and initiations is sought from the same source as that obtained for dividend decreases and

omissions (Chapter 3). In the process, 378 and 106 events for dividend increase and initiation firms, respectively, during the period 1993-2000, are found.[60]

The results of dividend-increasing firms are reported in Table 5-8. The firms significantly increased their operating performance over the 3 years prior to dividend change. The increase is at the 1% level for both sets of firms. This finding is consistent with that of Lintner (1956) who asserts that firms tend to increase dividends only when there is a high probability that cash flows will increase. It is interesting to note that following dividend change, an insignificant decline is discerned in firm performance for both sets of firms.

In Figure 5-2 a return on assets for all dividend-changing firms - increases, decreases, omissions and initiations - is apparent. In general, the figure shows that the operating performance of dividend-increasing firms increases over the 3 years prior to dividend change and declines thereafter. On the other hand, the figure also shows that the operating performance of dividend-cutting firms declines over the 3 years prior to dividend change and recovers in subsequent years.

The preceding finding suggests that changes in dividends mostly tell us something about what *has* happened, rather than what will happen to earnings (Miller, 1987). Therefore, the information content of dividends or signalling hypotheses of dividend changes cannot help predict the firm's future profitability. Benartzi *et al.* (1997), Grullon *et al.* (2002), Grullon *et al.* (2005) and Vivian (2006) also present evidence consistent with this observation.

5.3.3.4 Sensitivity analysis

The results presented so far reject the null hypotheses that poor performance, high financial leverage, and liquidity problems do not influence managers to cut dividends, and that there is no evidence of improvement in operating performance, decline in

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[60] In order to avoid the inclusion of a small increase in dividends, only firms that increased dividends by 12.5% were included in the sample data. Also, to avoid outliers, only firms that increased dividends up to 500% were included in the sample (sampling procedure is strongly influenced by Grullon *et al.*, 2002). On dividend initiations, only firms that initiated a cash dividend after suspending it for some time were included. However, dividend initiations for newly listed companies were excluded.

financial leverage, and liquidity problems following dividend cuts. Are these findings attributable to dividend cuts or caused by mean reversion in earnings?

To establish that the observed performance improvements are attributable to the dividend cut and not to mean reversion, a sensitivity check is conducted using a control sample of firms that do not cut dividends. Chapter 3 explains how control sample firms are constructed in this thesis. Barber and Lyon (1996) believe that matching sample firms to firms with similar pre-event performance helps control for the mean-reversion tendency of a performance measure. The results are presented in Table 5-9. The firm performance of sample firms is significantly and positively relative to that of control firms in each of the 3 years following dividend cuts. Following these results, therefore, the observed operating performance improvements are attributable to dividend cuts alone, and not caused by mean reversion in earnings.

5.3.3.5 Labour productivity

The discussion in the previous sections shows that firms that cut dividends experience the improvement in firm performance. In this section I examine whether there is also an increase in sales efficiency over the period following dividend cuts. I present the results in Table 5-10. Both sets of firms experienced a significantly increase in sales efficiency in each of the 3 years following dividend cuts relative to the year prior to the announcement of dividend cuts. This is the evidence that there is improvement in firm performance following the decision to cut dividends.

5.3.4 Stock returns

In this section the results of stock returns of sample firms that announced dividend cuts are reported. The results of abnormal stock returns surrounding announcements of dividend cuts are reported first. Next, the results of the relation between dividend information and performance changes are presented. Finally, the results of long run stock prices are reported.

5.3.4.1 Market reaction to announcements of dividend cuts

Chapter 3 explains how abnormal stock returns are computed in this thesis. Mean and median cumulative abnormal returns for various periods surrounding announcements of

dividend cuts are reported in Table 5-11. The cumulative abnormal returns, CAR (-1, 1), of dividend decreases and omissions are –0.91% (p-value = 0.027) and –1.89% (p-value = 0.007), respectively.[61] These results, which are consistent with the observed deteriorating operating performance over the 3 years prior to dividend cuts, reflect a deteriorating performance of sample firms. Thus, the market interprets dividend decreases and omissions as unfavourable news.

The results also show that the magnitude of the market reaction to announcements of dividend omissions is greater than that of dividend decreases. Probably, it is because omissions represent a discontinuity in the dividend continuum (Christie, 1994) and therefore the market views an announcement of it as a signal of impending firm failure. By contrast, the market views an announcement of dividend decreases as a temporary measure in response to a transitory earnings problem.[62]

5.3.4.2 The relation between dividend information and firm performance

Next, a test is conducted to establish whether the post-dividend change in operating performance documented in the previous sections is related to the market reaction to the announcement of dividend cuts. The motivation for carrying out this test is to examine whether dividend changes are based on managers' expectations of future earnings.[63]

If dividend policy changes are based on managers' expectations of future earnings, there will be a positive relation between announcement returns and subsequent earnings changes. In examining the relation between operating performance changes and the market reaction to the dividend announcement, a control was set for information on past earnings, future changes in debt ratio, future changes in capital expenditures, and future changes in cash and cash equivalent. The following cross-sectional regression is estimated:

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[61] I also computed abnormal stock returns using the market model and the mean-adjusted methods and find no significant differences.
[62] Healy and Palepu (1988), Michaely *et al.* (1995), Eaton (1999) and Lie (2004) document similar results for US firms.
[63] See Healy and Palepu (1988) for more details

$$ROA_{post,i} = \alpha_i + \beta_1 DEBT_{post,i} + \beta_2 CASH_{post,i} + \beta_3 CAP_{post,i} + \beta_4 ROA_{pre,i} + \beta_5 CAR_{(-1,1),i} + \varepsilon_i \quad (5.1)$$

where $ROA_{post,i}$ is industry-adjusted changes in ROA for a firm i in the post-dividend cut period;[64] $DEBT_{post,i}$ is industry-adjusted changes in debt ratio for the firm i in the post-dividend cut period; and $CASH_{post,i}$ is industry-adjusted changes in the cash ratio of the firm i over the post-dividend cut period; $CAP_{post,i}$ is industry-adjusted changes in capital expenditures ratio for the firm i in the post-dividend cut period; $ROA_{pre,i}$ is industry-adjusted changes in ROA for the firm i over the pre-dividend cut period; $CAR_{(-1,1),i}$ is the cumulative excess returns for the firm i on three days centred on the day of the announcements of dividend cuts.

Results are presented in Table 5-12. The constant term, *a*, is positive and significant for both sets of firms. This finding, which reinforces the earlier results, suggests that there is an improvement in operating performance following dividend cuts. In addition, the coefficient β_5 is significantly positive for dividend decreases, but marginally significantly negative for dividend omissions. This evidence suggests that dividend decreases convey information about a transitory earnings decline that would reverse in the future. On the other hand, dividend omissions convey information that signals unanticipated declines in future earnings.

It is also found that debt ratio is significantly negatively related to firm performance following dividend cuts. This finding suggests that the performance improvement is greatest for those firms that reduced their financial leverage following the dividend cut. Furthermore, the cash ratio results are significantly positive for dividend omissions and insignificantly positive for dividend decreases. In general, these results suggest that the performance improvement is greatest for those firms that increased their liquidity following dividend cuts. Finally, unlike the previous findings, it is found that there is a significant and positive relation between post-dividend cuts operating performance and future capital expenditures for dividend decrease firms, and an insignificant and positive

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[64] ROA_{post} is computed as the difference between the average of ROAs in the years +1, +2, and +3; and ROA in year 0. I compute $DEBT_{post}$; $CASH_{post}$; and CAP_{post} in the same way as ROA_{post}. I calculate ROA_{pre} in the way as the ROA_{post}. However, instead of using ROAs over the post-dividend cut period, I use ROAs over the 3 years prior to the dividend cut period.

relation for dividend omission firms. This finding suggests that operating performance is greatest for those firms that increase their investment following dividend cuts.

5.3.4.3 Long run stock returns

It has been shown that the market reacts negatively to announcements of dividend decreases and omissions. In this section, an examination on whether the negative market reaction to announcements of dividend cuts dissipates in the long run is made.

The buy-and-hold strategy is used to measure the excess return following dividend cuts. The abnormal returns for the sample firms are computed against those of matching sample firms constructed on the basis of size and industry. Chapter 3 explains how control firms are constructed in this thesis. The results are reported in Table 5-13, panel A. The dividend omission firms significantly under-performed in relation to their matching counterparts over the 3 years post-dividend cuts. However, for the dividend decreasing firms, the long run stock returns are insignificantly different from zero.

Barber and Lyon (1997) show that matching sample firms to control firms of similar size and book-to-market ratios yield well-specified test statistics. As a sensitivity check, I also compute long run abnormal returns of sample firms against matching firms constructed on the basis of size and book-to-market ratios. The results are reported in Table 5-13, panel B. The results are similar to those of panel A. This finding shows that the results of this study are not sensitive to the way matching firms are constructed. These results are consistent with previous research of Benartzi *et al.* (1997) and Grullon *et al.* (2002) for dividend decreases; and of Michaely *et al.* (1995) and Eaton (1999) for dividend omissions. The negative price drift following dividend omissions is by contrast to the observed operating performance increases following omission announcements. It is hoped that future research will help explain why this phenomenon occurs.

5.4 Summary and conclusion

The firm performance of a sample of 442 UK non-financial firms that announced dividend cuts over the period 1993-2000 were examined. This analysis provides evidence relating to three primary questions: first, what factors motivate managers to cut

dividends; and second, does the firm performance improve following dividend cuts? What are the perceptions of investors to announcements of dividend cuts?

It is found that dividend cuts are preceded by a period of poor performance, high financial leverage and liquidity problems. Poor performance might be caused by firm-specific factors, such as poor management, the under-utilization of resources and so on, or could also be associated with industry factors, such as competition and economic recession. In addition, high financial leverage and liquidity problems are closely related to poor performance, and thus a poorly performing firm finds difficulties in servicing its debt obligation, as well as meeting short-term obligations. Therefore, high financial leverage and liquidity problems suggest that the decision to cut dividends is taken in order to alleviate the potential bankruptcy costs of debt (Jensen, 1986). Collectively, these findings are consistent with the view that firms cut dividends in response to poor performance and high financial leverage (Ofek, 1993).

Unlike in previous studies, there is evidence that the decision to cut dividends is also influenced by external corporate control activity. Probably, poor performance over a long period of time activates external influences on a firm's managerial decisions, such as dividend cuts. Finally, no evidence is found that increases in need of investment funds influence managers to cut dividends. If anything, capital expenditures significantly decreased over the 3 years prior to the announcement of dividend cuts.

Following the dividend cut, it is apparent that as the operating performance of sample firms improves, there is a reduction in financial leverage and an improvement in liquidity. A sensitivity analysis shows that the improvement in operating performance is attributable to the decision to cut dividends and is not caused by a mean reversion in earnings. Therefore, the decision to cut dividends reverses a declining trend of poor performance, and reduces financial leverage and liquidity problems. Finally, consistent with previous studies, the findings here are that the market reacts negatively to announcements of dividend decreases and omissions. It is also found that the magnitude of market reaction to the announcement of dividend omissions is higher than that of dividend decreases. This difference may be attributed to the view that the

market views the announcement of dividend omissions as a signal of impending firm failure, and thus there is a higher market discount on its announcements.

The present study and previous studies have revealed that the information content of dividends cannot help identify the firm's future earnings. There is also evidence that the magnitude of changes in industry-adjusted operating performance for dividend omissions is greater than that of dividend decreases over the periods prior to and following dividend cuts. The same trend is also observed for the market reaction to dividend omissions and that of dividend decreases. Finally, the long run stock returns results following dividend cuts show that there is a significant drift following dividend omissions, and an insignificant one following dividend decreases. All of these results suggest a puzzle that future research will, hopefully, help to solve.

Corporate layoff is the next chapter to be investigated in this thesis. Ofek (1993) argues that in response to poor performance, a firm undertakes a number of operational actions, such as corporate layoffs. These actions affect the investment decisions of the firm as well its operational strategy.

Table 5-1: Median percentage changes in total assets, sales, and number of employees

The table reports median percentage changes in total assets, sales, and the number of employees for a sample of 442 UK non-financial firms that announced dividend cuts during the period 1993-2000. The significance of changes is measured using a two-tailed Wilcoxon signed rank test; and p-values are reported in parenthesis.

Median percentage changes between years					
Panel A: Whole sample					
Variable	-3 and 0	-1 and 0	0 and 1	0 and 2	0 and 3
N	349	429	400	359	310
Total Assets	3.474	-5.364	-3.255	-1.372	1.181
	(0.128)	(0.000)	(0.000)	(0.436)	(0.644)
Sales	0.683	-3.729	0.767	4.077	7.384
	(0.767)	(0.000)	(0.416)	(0.030)	(0.008)
Number of	1.788	-3.868	-6.420	-10.58	-8.627
Employees	(0.460)	(0.000)	(0.000)	(0.000)	(0.001)
Panel B: Dividend decreases					
N	219	273	254	226	201
Total Assets	8.507	-2.779	-1.941	-0.158	0.593
	(0.001)	(0.002)	(0.064)	(0.948)	(0.835)
Sales	4.912	-1.389	1.582	5.480	9.003
	(0.089)	(0.234)	(0.135)	(0.018)	(0.004)
Number of	3.054	-2.309	-4.317	-7.683	-7.626
Employees	(0.248)	(0.013)	(0.000)	(0.000)	(0.010)
Panel C: Dividend omissions					
N	130	156	146	133	109
Total Assets	-6.909	-10.6	-5.964	-3.425	2.875
	(0.158)	(0.000)	(0.001)	(0.289)	(0.616)
Sales	-6.495	-8.133	-0.894	1.667	3.861
	(0.103)	(0.000)	(0.659)	(0.613)	(0.517)
Number of	-0.956	-7.431	-10.76	-15.46	-10.58
Employees	(0.877)	(0.000)	(0.000)	(0.000)	(0.040)

Table 5-2: Descriptive statistics for sample versus control firms in the pre-dividend cut year

The table reports the mean [median] for selected financial variables for a sample of 442 UK non-financial firms that announced dividend cuts during the period 1993-2000. Panel A reports financial variables for the whole sample. Panel B reports financial variables for dividend decrease firms. Panel C reports financial variables for dividend omission firms. ROA is defined as earnings before interest, tax, depreciation, and amortization, divided by total assets. Debt ratio is the ratio of total debt to total assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. Capital expenditure ratio is the ratio of capital expenditure to total assets. Cash ratio is the ratio of cash and cash equivalent to total assets. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parentheses.

Panel A: Whole sample [N = 442]

Variable	Sample firms	Control firms	Differences
ROA	0.1022 (0.000) [0.1085 (0.000)]	0.1060 (0.000) [0.1150 (0.000)]	-0.0038 (0.646) [-0.0040 (0.405)]
Debt ratio	0.2083 (0.000) [0.2050 (0.000)]	0.1821 (0.000) [0.1650 (0.000)]	0.0262 (0.006) [0.0300 (0.000)]
Interest coverage	50.9 (0.041) [3.355 (0.000)]	99.2 (0.142) [6.380 (0.000)]	-48.5 (0.501) [-2.565 (0.000)]
Capital expenditure ratio	0.0628 (0.000) [0.0550 (0.000)]	0.0594 (0.000) [0.0490 (0.000)]	0.0039 (0.290) [0.0045 (0.087)]
Cash ratio	0.0924 (0.000) [0.0700 (0.000)]	0.1194 (0.000) [0.0965 (0.000)]	-0.0270 (0.002) [-0.0210 (0.002)]

Panel B: Dividend decreases [N = 277]

Variable	Sample firms	Control firms	Differences
ROA	0.1318 (0.000) [0.1300 (0.000)]	0.1336 (0.000) [0.1300 (0.000)]	-0.0018 (0.355) [-0.0015 (0.092)]
Debt ratio	0.1994 (0.000) [0.1950 (0.000)]	0.1699 (0.000) [0.1600 (0.000)]	0.0294 (0.006) [0.0350 (0.002)]
Interest coverage	47.7 (0.041) [4.400 (0.000)]	156.0 (0.128) [7.693 (0.000)]	-110.0 (0.300) [-2.900 (0.000)]
Capital expenditure ratio	0.0632 (0.000) [0.0550 (0.000)]	0.0581 (0.000) [0.0500 (0.000)]	0.0059 (0.142) [0.0050 (0.103)]
Cash ratio	0.0973 (0.000) [0.0750 (0.000)]	0.1112 (0.000) [0.0940 (0.000)]	-0.0139 (0.183) [-0.0115 (0.165)]

Panel C: Dividend omissions [N = 165]

Variable	Sample firms	Control firms	Differences
ROA	0.0500 (0.000) [0.0620 (0.000)]	0.0574 (0.000) [0.0700 (0.000)]	-0.0073 (0.146) [-0.0030 (0.039)]
Debt ratio	0.2241 (0.000) [0.2250 (0.000)]	0.2036 (0.000) [0.1800 (0.000)]	0.0205 (0.273) [0.0300 (0.056)]
Interest coverage	56.6 (0.305) [1.215 (0.006)]	-1.90 (0.966) [3.640 (0.000)]	58.8 (0.405) [-2.018 (0.002)]
Capital expenditure ratio	0.0620 (0.000) [0.0550 (0.000)]	0.0615 (0.000) [0.0470 (0.000)	0.0006 (0.941) [0.0030 (0.496)]
Cash ratio	0.0838 (0.000) [0.0550 (0.000)]	0.1339 (0.000) [0.1025 (0.000)]	-0.0501 (0.002) [-0.0385 (0.001)]

Table 5-3: Operating performance, financial leverage, capital expenditure, and cash prior to announcements of dividend cuts

The table reports mean [median] changes in the industry-adjusted return on assets (ROA), debt ratio, interest coverage ratio, capital expenditure ratio and cash ratio for a sample of 442 UK *non-financial* firms that announced dividend cuts during the period 1993-2000. Panel A presents industry-adjusted ROA, debt and interest coverage for the whole sample, dividend decreases and omissions. Panel B reports median changes in capital expenditure (CAP), industry-adjusted capital expenditure (ICAP), cash (CASH) and industry-adjusted cash (ICASH) for dividend decreases and omissions. ROA is defined as earnings before interest, tax, depreciation and amortization (EBITDA), divided by total assets. Debt ratio is the ratio of total debt to total assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. Capital expenditure ratio is defined as the ratio of capital expenditure to total assets. Cash ratio is defined as the ratio of cash and cash equivalent to total assets. The numbers are the mean, the median and the fraction of all changes that are positive. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parentheses.

Panel A: Industry-adjusted ROA, Debt ratio and Interest Coverage ratio

I: Whole sample [N = 442]

Window	ROA	Debt ratio	Interest coverage
Δ-3 to 0	-0.129 (0.000) [-0.115 (0.000)] 11.6	0.052 (0.000) [0.050 (0.000)] 65.8	-33.97 (0.000) [-6.770 (0.000)] 20.0
Δ-2 to 0	-0.1207 (0.000) [-0.1021 (0.000)] 12.6	0.0417 (0.000) [0.0382 (0.000)] 60.7	-49.2 (0.003) [-5.860 (0.000)] 24.1
Δ-1 to 0	-0.0835 (0.000) [-0.0723 (0.000)] 18.1	0.0203 (0.000) [0.0166 (0.000)] 53.1	-54.7 (0.027) [-3.360 (0.000)] 32.6
Cumulative	-0.1228 (0.000) [-0.1046 (0.000)] 10.1	0.0399 (0.000) [0.0344 (0.000)] 60.1	-27.43 (0.001) [-5.415 (0.000)] 24.1

II: Dividend decrease [N = 277]

Window	ROA	Debt ratio	Interest coverage
Δ-3 to 0	-0.0929 (0.000) [-0.0935 (0.000)] 13.4	0.0394 (0.000) [0.0369 (0.000)] 62.1	-22.6 (0.050) [-4.680 (0.000)] 23.9
Δ-2 to 0	-0.0882 (0.000) [-0.0827 (0.000)] 14.3	0.0289 (0.000) [0.0274 (0.000)] 57.8	-31.2 (0.007) [-4.425 (0.000)] 26.1
Δ-1 to 0	-0.0698 (0.000) [-0.0667 (0.000)] 15.2	0.0166 (0.012) [0.0137 (0.010)] 50.9	-45.9 (0.053) [-2.995 (0.000)] 32.7
Cumulative	-0.0877 (0.000) [-0.0863 (0.000)] 10.5	0.0290 (0.000) [0.0236 (0.000)] 56.0	-20.8 (0.028) [-3.880 (0.000)] 26.9

III: Dividend omissions [N = 165]

Window	ROA	Debt ratio	Interest coverage
Δ-3 to 0	-0.1912 (0.000) [-0.1586 (0.000)] 8.6	0.0737 (0.000) [0.0716 (0.000)] 72.1	-54.6 (0.001) [-13.35 (0.000)] 12.9
Δ-2 to 0	-0.1795 (0.000) [-0.1505 (0.000)] 9.3	0.0649 (0.000) [0.0605 (0.000)] 66.0	-81.2 (0.045) [-9.555 (0.000)] 20.5
Δ-1 to 0	-0.1071 (0.000) [-0.0875 (0.000)] 23.1	0.0267 (0.002) [0.0228 (0.003)] 57.1	-69.6 (0.191) [-4.210 (0.000)] 32.3
Cumulative	-0.1838 (0.000) [-0.1477 (0.000)] 9.4	0.0586 (0.000) [0.0542 (0.000)] 67.1	-39.4 (0.005) [-9.550 (0.000)] 19.0

Panel B: Median changes in Capital expenditure and cash and cash equivalent

	Dividend Decreases			Dividend Omissions		
Variable	-3 to 0	-3 to -1	-1 to 0	-3 to 0	-3 to -1	-1 to 0
CAP	-0.01 (0.000)	-0.00 (0.413)	-0.01 (0.000)	-0.02 (0.000)	-0.01 (0.204)	-0.01 (0.001)
ICAP	-0.00 (0.942)	0.01 (0.021)	-0.01 (0.000)	-0.00 (0.397)	0.01 (0.022)	-0.01 (0.000)
CASH	-0.01 (0.014)	-0.01 (0.311)	-0.01 (0.001)	-0.01 (0.225)	-0.01 (0.060)	-0.00 (0.444)
ICASH	-0.00 (0.713)	0.00 (0.918)	-0.01 (0.002)	-0.01 (0.493)	-0.02 (0.053)	0.00 (0.380)
N	202	202	276	119	119	157

Table 5-4: Corporate control activities and dividend cuts

The table reports the percentages of different activities undertaken by sample and control firms over the 12 months prior to dividend cuts during the period 1993-2000. P-values of a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Panel A: Whole sample

Activity	Sample Firms	%	Control Firms	%	p-value of differences
Takeover attempt	37	8.5	9	2.1	0.000
Financial distress	9	2.1	7	1.6	0.660
CEO turnover	57	13.2	21	4.8	0.000

Panel B: Dividend decreases

Activity	Sample Firms	%	Control Firms	%	p-value of differences
Takeover attempt	25	9.1	6	2.2	0.002
Financial distress	6	2.2	3	1.1	0.407
CEO turnover	34	12.3	13	4.7	0.000

Panel C: Dividend omissions

Activity	Sample Firms	%	Control Firms	%	p-value of differences
Takeover attempt	12	7.7	3	1.9	0.044
Financial distress	3	1.9	4	2.6	0.787
CEO turnover	23	14.7	8	5.1	0.000

Table 5-5: Cross-sectional determinants of dividend cuts

The table reports results for logit regressions of the determinants of dividend cuts for a sample of 442 UK non-financial firms that announced dividend cuts over the period 1993-2000. Dependent variable is a binary variable that takes on a value of one for dividend cut firms and zero for non-dividend cut firms. ROA is the ratio of earnings before interest, taxes, depreciation and amortization (EBITDA), divided by total assets. Debt ratio (DEBT) is the ratio of total debt to total assets. Interest coverage ratio (ICOV) is the ratio of pre-tax profits and interest charges divided to interest charges. Capital expenditure ratio (CAP) is the ratio of capital expenditure to total assets. Cash ratio (CASH) is the ratio of cash and equivalent to total assets. CEO is a binary variable set equal to one, where the company experienced a change in CEO over the 12 months prior to dividend cuts, and zero otherwise. Takeover pressure (TKV) is a binary variable set equal to one, where the company experienced a takeover threat over the 12 months prior to dividend cuts, and zero otherwise. Financial distress (DSTRS) is a binary variable set equal to one, where the company experienced a financial distress over the 12 months prior to dividend cuts, and zero otherwise. Firm size (SIZE) is the natural logarithm of the company's market value of equity. All continuous variables are measured at the financial year-end prior to the dividend cut. P-values for two-tailed tests of significance are reported in parenthesis.

	Whole sample		Dividend decreases		Dividend omissions	
Statistic	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Observations	866	866	552	552	314	314
Constant	0.046 (0.825)	0.001 (0.997)	-0.210 (0.424)	-0.225 (0.403)	0.511 (0.146)	0.462 (0.212)
$\Delta ROA_{-1,0}$	-4.511 (0.000)	-4.854 (0.000)	-6.801 (0.000)	-6.836 (0.000)	-3.242 (0.000)	-3.980 (0.000)
DEBT	1.008 (0.053)	0.719 (0.174)	2.074 (0.007)	1.896 (0.016)	-0.121 (0.868)	-0.481 (0.523)
ICOV	-0.003 (0.064)	-0.003 (0.037)	-0.001 (0.564)	-0.001 (0.487)	-0.006 (0.039)	-0.007 (0.015)
CAP	1.038 (0.477)	0.340 (0.824)	0.834 (0.655)	-0.326 (0.870)	0.166 (0.945)	-0.172 (0.944)
CASH	-1.325 (0.033)	-1.370 (0.032)	-1.255 (0.113)	-1.121 (0.165)	-1.763 (0.095)	-2.226 (0.049)
CEO turnover		1.332 (0.000)		1.029 (0.005)		1.901 (0.000)
TKV		1.910 (0.000)		1.780 (0.002)		2.120 (0.009)
DSTRS		0.185 (0.769)		1.177 (0.168)		-1.490 (0.174)
SIZE	-0.083 (0.029)	-0.096 (0.014)	-0.078 (0.098)	-0.095 (0.049)	-0.141 (0.065)	-0.157 (0.051)
Log-likelihood	-536.3 (0.000)	-513.2 (0.000)	-338.5 (0.000)	-326.1 (0.000)	-190.6 (0.000)	-178.1 (0.000)

Table 5-6: Changes in operating performance, financial leverage, capital expenditure, and cash following dividend cuts

The table reports mean [median] changes in the industry-adjusted return on assets (ROA), debt ratio, interest coverage ratio, capital expenditure ratio and cash ratio following dividend cuts for a sample of UK non-financial firms that announced dividend cuts during the period 1993-2000. Panel A presents industry-adjusted ROA, Debt ratio, and Interest Coverage ratio for the whole sample, dividend decreases, and omissions. Panel B reports median changes in capital expenditure (CAP), industry-adjusted capital expenditure (ICAP), cash (CASH) and industry-adjusted cash (ICASH) for dividend decreases and omissions. ROA is defined as earnings before interest, tax, depreciation and amortization (EBITDA), divided by total assets. Debt ratio is the ratio of total debt to total assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. Capital expenditure ratio is defined as the ratio of capital expenditure to total assets. Cash ratio is defined as the ratio of cash and cash equivalent to total assets. The numbers are the mean, the median and the fraction of all changes that are positive. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parentheses.

Panel A: Industry-adjusted ROA, Debt ratio, Interest Coverage ratio

I: Whole sample [N = 442]

Windows	ROA	Debt ratio	Interest coverage
Δ0 to +1	0.0147 (0.294) [0.0252 (0.000)] 57.2	-0.0208 (0.000) [-0.0181 (0.000)] 34.6	-8.60 (0.672) [1.445 (0.000)] 60.1
Δ0 to +2	0.0500 (0.000) [0.0532 (0.000)] 66.7	-0.0268 (0.000) [-0.0296 (0.000)] 35.1	10.17 (0.109) [3.385 (0.000)] 68.3
Δ0 to +3	0.0584 (0.000) [0.0619 (0.000)] 67.6	-0.0226 (0.083) [-0.0392 (0.000)] 31.0	59.8 (0.139) [4.285 (0.000)] 68.2
Cumulative	0.0654 (0.000) [0.0516 (0.000)] 64.8	-0.0259 (0.000) [-0.0275 (0.000)] 33.8	12.63 (0.025) [3.310 (0.000)] 70.2

II: Dividend decrease [N = 277]

Windows	ROA	Debt ratio	Interest coverage
Δ0 to +1	-0.0052 (0.699) [0.0105 (0.113)] 52.1	-0.0138 (0.036) [-0.0114 (0.011)] 37.8	11.33 (0.200) [0.790 (0.044)] 57.2
Δ0 to +2	0.0238 (0.069) [0.0381 (0.000)] 65.0	-0.0042 (0.646) [-0.0108 (0.151)] 41.6	2.42 (0.510) [1.940 (0.001)] 63.7
Δ0 to +3	0.0124 (0.478) [0.0381 (0.000)] 64.3	0.0053 (0.768) [-0.0187 (0.042)] 36.8	73.7 (0.238) [3.145 (0.000)] 65.9
Cumulative	0.0333 (0.005) [0.0362 (0.000)] 61.1	-0.0101 (0.208) [-0.0136 (0.031)] 40.6	4.81 (0.133) [2.040 (0.000)] 65.7

III: Dividend omission [N = 165]

Windows	ROA	Debt ratio	Interest coverage
Δ0 to +1	0.0500 (0.103) [0.0571 (0.000)] 66.2	-0.0331 (0.000) [-0.0329 (0.000)] 29.0	-42.8 (0.422) [2.975 (0.001)] 65.1
Δ0 to +2	0.0960 (0.001) [0.0892 (0.000)] 69.6	-0.0653 (0.000) [-0.0641 (0.000)] 24.1	23.2 (0.144) [6.295 (0.000)] 75.9
Δ0 to +3	0.1402 (0.000) [0.1172 (0.000)] 73.6	-0.0741 (0.000) [-0.0816 (0.000)] 20.2	35.0 (0.053) [6.580 (0.000)] 72.4
Cumulative	0.1254 (0.000) [0.0889 (0.000)] 71.1	-0.0533 (0.000) [-0.0527 (0.000)] 21.9	26.4 (0.069) [5.990 (0.000)] 78.1

Panel B: Median changes in Capital expenditure and Cash and cash equivalent

	Dividend Decreases				Dividend Omissions			
Variable	0 to 1	0 to 2	0 to 3	-1 to 3	0 to 1	0 to 2	0 to 3	-1 to 3
CAP	0.00 (0.273)	-0.01 (0.036)	-0.00 (0.731)	-0.01 (0.001)	-0.01 (0.001)	-0.00 (0.655)	-0.00 (0.786)	-0.01 (0.015)
ICAP	-0.00 (0.018)	-0.01 (0.027)	-0.00 (0.848)	-0.01 (0.003)	-0.01 (0.030)	-0.00 (0.322)	0.00 (0.726)	-0.01 (0.043)
CASH	0.01 (0.015)	0.01 (0.001)	0.01 (0.314)	0.01 (0.557)	0.01 (0.112)	0.01 (0.051)	0.02 (0.008)	0.02 (0.020)
ICASH	0.01 (0.059)	0.01 (0.032)	0.00 (0.792)	-0.01 (0.470)	-0.00 (0.899)	0.01 (0.103)	0.01 (0.341)	0.02 (0.133)
N	256	238	195	195	143	131	105	105

Table 5-7: Changes in operating performance surrounding dividend decreases and omissions

The table reports the median changes of the differences between the industry-adjusted ROA of dividend decreases and omissions for a sample of 442 UK non-financial firms that announced dividend cuts during the period 1993-2000. A dividend-decreasing firm is the firm that decreased a cash dividend between 12.5% and 99%. A dividend-omitting firm is the firm that omitted a cash dividend after a series of 3-year or more payment period of the cash dividend. ROA is defined as earnings before interest, tax, depreciation, and amortization (EBITDA), divided by the book value of assets. The difference is defined as the median industry-adjusted ROA of dividend decreases, minus ROA of dividend omissions. P-values for a two-tailed test of significance are reported in parentheses.

Window	Dividend decreases [N = 277]	Dividend omissions [N = 165]	p-value of difference
Δ-3 to 0	-0.095 (0.000)	-0.160 (0.000)	0.000
Δ-2 to 0	-0.080 (0.000)	-0.150 (0.000)	0.000
Δ-1 to 0	-0.065 (0.000)	-0.085 (0.000)	0.158
Δ (-1,-2,&-3) to 0	-0.080 (0.000)	-0.135 (0.000)	0.000
Δ0 to +1	0.010 (0.453)	0.055 (0.005)	0.001
Δ0 to +2	0.040 (0.001)	0.090 (0.000)	0.002
Δ0 to +3	0.040 (0.004)	0.115 (0.000)	0.000
Δ0 to (+1, +2 & +3)	0.030 (0.000)	0.080 (0.000)	0.001

Table 5-8: Changes in operating performance surrounding dividend increases and initiations

The table reports mean [median] changes in the industry-adjusted ROA surrounding dividend increases and initiations for firms that announced dividend increases and initiations during the period 1993-2000. A dividend-increasing firm is the firm that increased a cash dividend between 12.5% and 500%. A dividend-initiating firm is the firm that initiated a cash dividend after a series of 3-year or more non-payment period of the cash dividend. ROA is defined as earnings before interest, tax, depreciation, and amortization (EBITDA), divided by total assets. The numbers are the mean, median, and the percentage of the medians that are positive. P-values for a two-tailed test of significance are reported in parentheses.

Window	Dividend increases [N =378]	Dividend initiations [N = 106]
Δ-3 TO 0	0.0281 (0.000) [0.0225 (0.000)] 63.3	0.1083 (0.002) [0.0590 (0.000)] 70.7
Δ-2 TO 0	0.0435 (0.030) [0.0240 (0.000)] 66.6	0.0916 (0.000) [0.0695 (0.000)] 72.2
Δ-1 TO 0	0.0257 (0.000) [0.0205 (0.000)] 66.9	0.0895 (0.000) [0.0685 (0.000)] 80.2
Δ0 TO 1	-0.0118 (0.075) [0.0010 (0.733)] 52.2	-0.0109 (0.292) [-0.0035 (0.603)] 51.4
Δ0 TO 2	-0.0148 (0.031) [-0.0015 (0.708)] 50.1	-0.0171 (0.331) [0.0030 (0.763)] 56.0
Δ0 TO 3	-0.0201 (0.029) [-0.0005 (0.944)] 51.4	-0.0579 (0.182) [-0.0025 (0.839)] 53.6

Table 5-9: Control firm matched changes in operating performance for sample firms

The table reports changes in operating performance for/of sample and control firms for a sample of 442 UK non-financial firms that announced dividend cuts during the period 1993-2000. The control firms are selected from firms within the same FTSE level 4 industry group as the dividend cut firm, and have similar ROA in the year prior to dividend cuts. ROA is defined as earnings before interest, tax, depreciation, and amortization (EBITDA), divided by the book value of assets. The significance between the sample and control firms is based on a two-tailed *Wilcoxon signed rank test.* P-values are reported in parentheses.

Time period	Dividend cut firms median	Non-dividend cut firms median	p-value for difference
Panel A: Operating earnings / total assets (ROA) – Whole sample [N = 442]			
From year -1 to 0	-0.0700 (0.000)	0.0000 (0.616)	0.000
From year 0 to 1	0.0250 (0.000)	0.0000 (0.732)	0.000
From year 0 to 2	0.0500 (0.000)	-0.0050 (0.145)	0.000
From year 0 to 3	0.0500 (0.000)	-0.0050 (0.184)	0.000
Panel B: Operating earnings / total assets (ROA) – Dividend decreases [N = 277]			
From year -1 to 0	-0.0650 (0.000)	0.0000 (0.958)	0.000
From year 0 to 1	0.0100 (0.132)	0.0000 (0.478)	0.064
From year 0 to 2	0.0300 (0.000)	-0.0050 (0.215)	0.000
From year 0 to 3	0.0250 (0.007)	-0.0100 (0.085)	0.005
Panel C: Operating earnings / total assets (ROA) – Dividend omissions [N = 165]			
From year -1 to 0	-0.0950 (0.000)	0.0050 (0.442)	0.000
From year 0 to 1	0.0600 (0.000)	0.0050 (0.672)	0.001
From year 0 to 2	0.0850 (0.000)	-0.0050 (0.497)	0.000
From year 0 to 3	0.1050 (0.000)	0.0000 (0.898)	0.001

Table 5-10: Changes in Labour Productivity following Dividend Cuts

The table presents median changes in labour productivity over the period following dividend cuts for a sample of firms that announced dividend cuts. Labour productivity is measured as the ratio of sales to the number of employees. P-values of a two-tailed *Wilcoxon signed rank test* are reported in parentheses.

	Dividend decreases			Dividend Omissions		
Variable	-1 to 1	-1 to 2	-1 to 3	-1 to 1	-1 to 2	-1 to 3
SEMP	4.91 (0.001)	8.32 (0.000)	11.8 (0.000)	4.52 (0.031)	12.5 (0.000)	11.5 (0.000)
Size	249	222	204	145	128	113

Table 5-11: Abnormal returns surrounding dividend cut announcements

The table reports abnormal stock returns for a sample of 442 UK non-financial firms that announced dividend cuts during the period 1993-2000. The abnormal return is computed as the difference between a firm's daily return and FTSE All-Share index used as the proxy of the market portfolio. P-values of a two-tailed *Student's t-test* and *Wilcoxon signed rank test* are reported in the parentheses.

Panel A: Whole sample

Statistic	AAR (-1)	AAR (0)	CAR (-1,1)
N	442	442	442
Mean (%)	0.168 (0.339)	-1.759 (0.000)	-0.961 (0.004)
Median (%)	-0.020 (0.770)	-0.470 (0.000)	-0.615 (0.000)
% Negative	50.9	53.6	59.0

Panel B: Dividend decreases

N	277	277	277
Mean (%)	0.108 (0.541)	-0.867 (0.018)	-0.912 (0.027)
Median (%)	0.050 (0.616)	-0.400 (0.011)	-0.350 (0.070)
% Negative	46.6	51.3	55.6

Panel C: Dividend omissions

N	165	165	165
Mean (%)	0.274 (0.458)	-3.182 (0.000)	-1.892 (0.007)
Median (%)	-0.120 (0.316)	-0.630 (0.000)	-1.210 (0.000)
% Negative	55.2	57.6	63.6

Table 5-12: Relation between dividend information and firm performance

The table reports regressions of subsequent changes in the operating performance for a sample of 442 UK non-financial firms that announced dividend cuts during the period 1993-2000. Pre (post) means the years preceding (following) dividend cut announcements. Dependent variable is changes in industry-adjusted ROA following dividend cuts [i.e., (ROA+1 + ROA+2 + ROA+3)/3 – ROA (0)]. ROA is defined as earnings before interest, tax, depreciation and amortization (EBITDA), divided by total assets. DEBT is the ratio of total debt to total assets. CAP is the ratio of capital expenditure to total assets. CASH is the ratio of cash and equivalent to total assets. All independent variables except ROA_{pre} and AAR are measured over the years following the dividend cut; and ROA_{pre} is measured over the years prior to dividend cuts. $CAR_{(-1, 1)}$ is the cumulative average abnormal returns for three days centred on the day of the announcements of dividend cuts. P-values for two-tailed tests of significance are reported in the parentheses.

Model: $ROA_{post} = \alpha + DEBT + CASH + CAP + ROA_{pre} + CAR_{(-1, 1)} + \varepsilon$

Statistic	Whole sample N = 369	Dividend decreases N = 242	Dividend omissions N = 127
Constant	0.059 (0.000)	0.077 (0.000)	0.020 (0.064)
DEBT	-0.188 (0.002)	-0.214 (0.004)	-0.168 (0.089)
CASH	0.008 (0.083)	0.004 (0.439)	0.021 (0.009)
CAP	0.034 (0.000)	0.042 (0.000)	0.016 (0.198)
$ROA_{(pre)}$	-0.859 (0.000)	-0.875 (0.000)	-0.926 (0.000)
$CAR_{(-1, 1)}$	0.035 (0.658)	0.211 (0.035)	-0.239 (0.058)
Adj. R^2	0.564	0.493	0.651
F-value	96.29 (0.000)	47.78 (0.000)	48.07 (0.000)

Table 5-13: Long run stock returns following dividend cuts

The table reports the mean [median] of long run buy-and-hold abnormal returns for a sample of 442 UK non-financial firms that announced dividend cuts during the period 1993-2000. The buy-and-hold abnormal return (BHAR) is calculated as the difference between a firm's monthly return and a control firm's monthly return. Control firms are constructed on the basis of size and industry (panel A) and size and book-to-market ratio (panel B) over the year prior to dividend cuts. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parentheses.

Model: $BHAR_{i\tau} = \prod_{t=1}^{\tau}(1+R_{it}) - \prod_{t=1}^{\tau}(1+E(R_{it}))$

Panel A: BHARs on the basis of size and industry

Statistic	All Dividend Cuts			Dividend decreases			Dividend omissions		
	12-month	24-month	36-month	12-month	24-month	36-month	12-month	24-month	36-month
Mean %	-8.25 (0.021)	-13.65 (0.016)	-9.92 (0.172)	-7.23 (0.113)	-4.55 (0.515)	-0.20 (0.980)	-9.97 (0.088)	-28.91 (0.002)	-26.2 (0.063)
Median %	-7.67 (0.008)	-13.39 (0.002)	-6.80 (0.186)	-3.47 (0.297)	-5.65 (0.298)	2.22 (0.733)	-14.52 (0.006)	-27.04 (0.000)	-22.38 (0.010)
% -ve	56.8 (0.005)	57.2 (0.003)	51.7 (0.505)	52.0 (0.548)	53.1 (0.336)	47.8 (0.508)	64.8 (0.000)	64.2 (0.000)	58.2 (0.043)
N	441	421	384	276	264	241	165	157	143

Panel B: BHARs on the basis of the size and book-to-market ratio

Statistic	All Dividend Cuts			Dividend decreases			Dividend omissions		
	12-month	24-month	36-month	12-month	24-month	36-month	12-month	24-month	36-month
Mean %	-8.31 (0.014)	-9.40 (0.065)	-8.06 (0.209)	-5.02 (0.233)	-0.13 (0.984)	-0.03 (0.997)	-13.81 (0.014)	-24.81 (0.002)	-21.4 (0.042)
Median %	-9.80 (0.001)	-12.99 (0.002)	-13.18 (0.006)	-5.87 (0.081)	-4.19 (0.411)	-4.64 (0.475)	-16.77 (0.001)	-28.02 (0.000)	-26.94 (0.000)
% -ve	57.0 (0.004)	58.8 (0.000)	56.2 (0.010)	55.0 (0.105)	53.6 (0.253)	53.1 (0.335)	60.2 (0.010)	67.5 (0.000)	61.4 (0.004)
N	441	421	384	276	264	241	165	157	143

Figure 5-1: RETURN ON ASSETS OF A SAMPLE OF UK NON-FINANCIAL FIRMS THAT ANNOUNCED DIVIDEND CUTS DURING 1993-2000

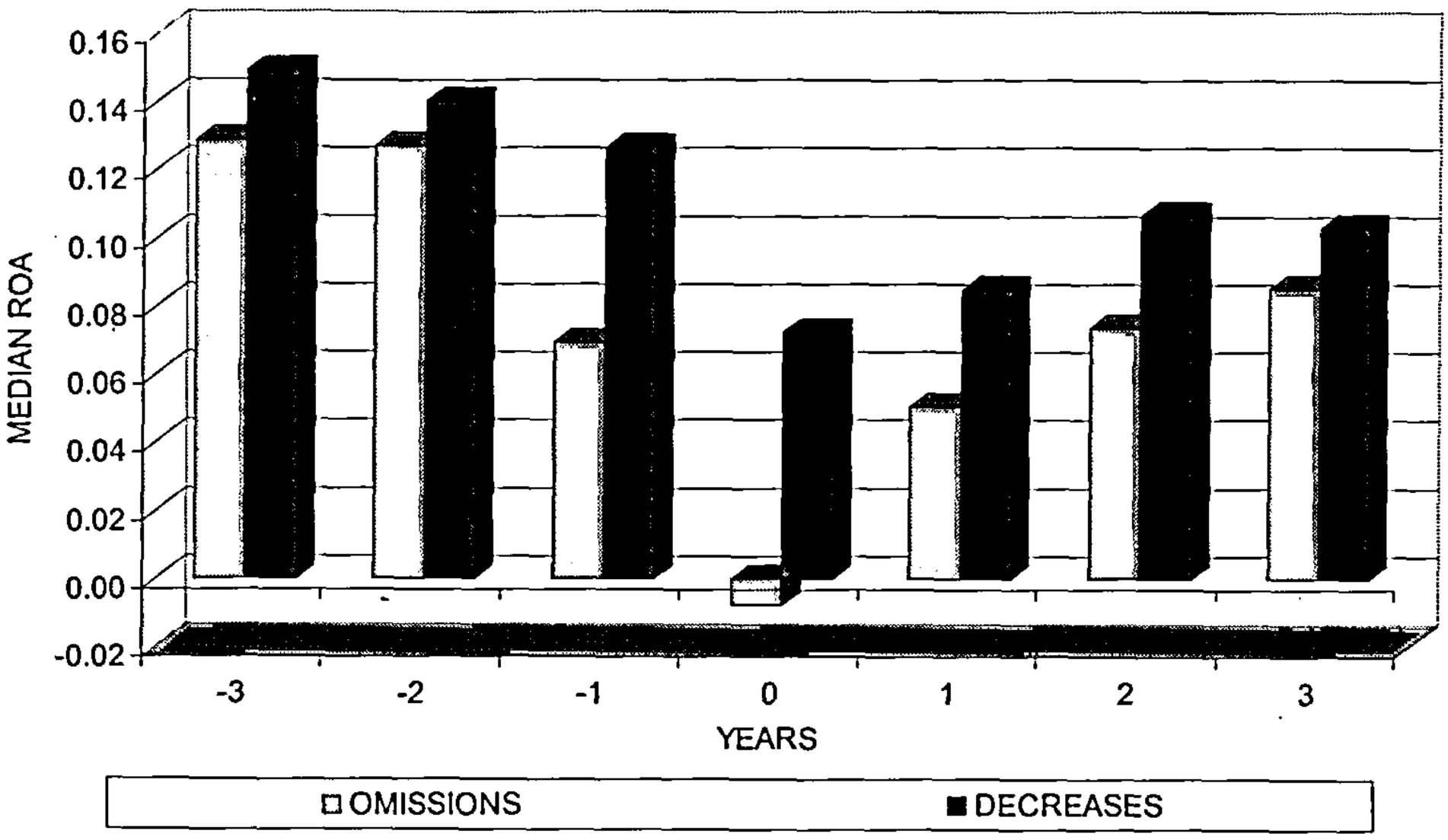
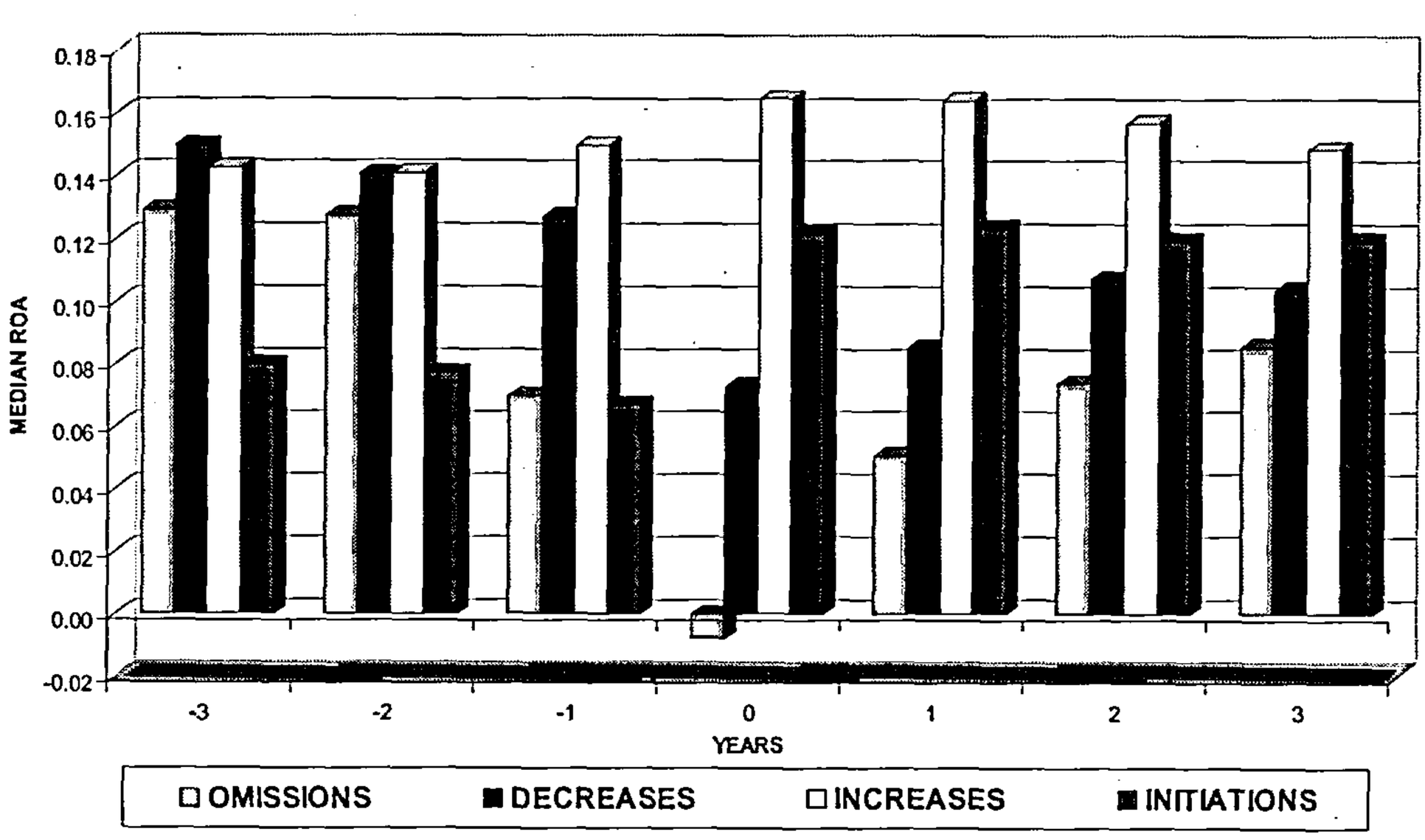


***Figure 5-2:* RETURN ON ASSETS OF A SAMPLE OF UK NON-FINANCIAL FIRMS THAT ANNOUNCED DIVIDEND CHANGES DURING 1993-2000**



CHAPTER SIX: CORPORATE LAYOFFS

6.1 Introduction

The previous chapter has examined the reasons that motivate managers to cut dividends. It is found that poor performance, high financial leverage and liquidity problems are the important factors that influence managers to cut dividends. In this chapter the determinants and outcomes of corporate layoff decisions are investigated.

The reasons why managers should layoff employees are discussed in Chapter 2. In this chapter, those firms whose management teams implement a reduction in the labour force by whatever strategy are examined; also, the effects of layoffs on the firm's performance are empirically examined. This analysis provides evidence related to three primary questions. First, what factors motivate managers to undertake layoffs? Second, what is the market reaction to announcements of layoffs and the different strategies of layoffs? Finally, does a firm's efficiency improve following layoffs? Layoffs are defined here as the termination of a significant number of permanent employees from the payroll of an organization.

The empirical analysis in this chapter extends earlier research on corporate layoffs by examining the determinants and effects of layoffs for a sample of 322 UK non-financial firms over the period 1990-2000. Specifically, the study examines the determinants of layoff decisions over the 3 years prior to layoffs in a univariate and multivariate setting. Second, in order to provide evidence as to whether layoffs increase the firm's efficiency, different factors over the 3 years post-layoff are examined. Finally, the stock market reaction to layoff announcements is examined. Unlike previous studies, different factors that are found to have a significant impact on the effect of the layoff announcement, such as the reasons for layoffs, the size of layoffs and anticipated and unanticipated layoffs are studied. An examination of these factors provides additional evidence on the information content of the layoff announcement.

It is found that layoffs are preceded by a period of poor stock market returns and operating performance, and high financial leverage. It is also found in a multivariate analysis that layoffs are preceded by CEO turnover in the 12 months prior to the

announcements. This finding suggests that newly appointed managers lay off employees in the process of restructuring operations. It is interesting to note that no evidence is found that other external control factors play a significant role in the layoff decision. In addition, there is no evidence that there is an improvement in operating performance and the firm's financial position following corporate layoffs. However, there is an increase in labour productivity in each of the 3 years following layoffs, and firms also become more focused. Thus, layoffs increase labour productivity and reduce excessive diversification.

On the stock market reaction, it is found that layoffs, in general, are associated with a negative market reaction, and this reaction is associated with a decline in the firm's financial investment opportunities. However, mixed results are found when examining the market reaction to announcements of layoffs on the basis of the stated reasons for layoffs. It is apparent that layoff announcements related to reactive strategies are associated with a significantly negative stock price response; and those layoffs related to proactive strategies are not statistically different from zero. It is also found that large layoffs are associated with more negative abnormal returns than small layoffs; and the market reacts more negatively to unanticipated layoff announcements than to anticipated announcements.

The chapter proceeds as follows: Section 6.2 develops hypotheses to be tested in this chapter. Empirical results are presented in Section 6.3. Section 6.4 summarizes and concludes the chapter.

6.2 Development of hypotheses

In addition to the general hypotheses discussed in Chapter 1, this section briefly discusses the individual hypotheses to be tested in this chapter.

I build on the assumption that managers seek to operate efficiently with minimum costs and that they choose to layoff employees in order to decrease their production costs. This premise implies that management thinks that the firm's goals (output, revenue, earnings) can still be attained with fewer employees (Casio *et al.*, 1997). Firms that have the greatest need to cut employees will be those that are not performing well – those for

which costs are greatest and returns are least. Firms can also reduce their workforce as a proactive strategy aimed at improving the firms' future performances. This argument suggests that corporate managers undertake layoffs in response to poor performance or because of a need to improve performance.

The available evidence supports the preceding arguments (see Chen *et al.*, 2001). Palmon *et al.* (1997) also examine operating performance changes between the year prior to and the year of the layoff announcement. However, Palmon *et al.* did not look at the group as a whole. Therefore, the existing evidence is not conclusive. Following this evidence, it is therefore hypothesized that:

$H_{6\text{-}1}$: Poor performance or a need to improve performance leads to corporate layoffs

A firm that does not have enough cash to meet its interest payments, or is nearing that condition, has several options. It can reschedule its debt, it can raise cash by issuing new debt or equity, or it can sell assets. All of these options are costly (Shleifer and Vishny, 1992). First, debt rescheduling might require difficult and costly coordination between multiple creditors, and also creditors might worry about the asset substitution problem, namely that the managers will take extra risks if the loan maturities are extended (Jensen and Meckling, 1976). Creditors also may suspect that the problems of the firm stem from bad management. Both of these reasons suggest that debt rescheduling is often difficult.

Issuing new securities might not be possible for several reasons. First, the uncertainty of the new security buyers about the value of the assets in place, including the quality of management, raises the cost of security issues (Myers and Majluf, 1984). Second, like creditors who are wary of rescheduling debt, buyers of new securities have to worry that the managers will squander the new cash rather than use it productively. Issuing new securities, then, is also an expensive option for the firm. Asset sales can better deal with some of the problems that plague debt rescheduling and new security issues. However, even an asset sale depends on a number of external factors that are outside the control of the firm - a liquid market, for example (Schlingemann *et al.*, 2002). If these options are costly, the firm will then have to restructure some of its operations and financial

policies in order to ensure sufficient cash flow to service its debts. Some of these actions are dividend cuts and layoffs.[65]

Theoretical evidence suggests that firms that are most likely to undertake layoffs are those firms that are struggling to get through hard times and that are saddled with more debt than ever (Cascio, 1993). This is because a high debt could lead to default and hence to bankruptcy costs (Jensen, 1986). Firms therefore reduce the number of their employees as a drastic measure to ensure sufficient cash flow to service debt. Theoretical arguments alone cannot unambiguously predict the relationship between financial leverage and the likelihood of corporate layoffs. Therefore, in this chapter, whether highly-leveraged firms layoff employees in order to ensure sufficient cash flow to service their debts are empirically tested. Therefore:

$H_{6\text{-}2}$: High financial leverage influences managers to undertake layoffs.

One of the potential factors that might influence corporate managers to undertake layoffs is low levels of employee productivity. If one assumes that unit sales decline because of a fall in demand, the firm will experience higher unit costs and will no longer operate at minimum cost, since production is not adjusted immediately. With production no longer at minimum cost, layoffs possibly become economical in order to cut costs (Lin and Rozeff, 1993). If unit sales are declining and the number of employees remains constant, then sales per employee are also declining. In addition, since sales are declining, while at the same time a firm is experiencing higher unit costs, then operating profit per employee is also declining.

The preceding argument suggests that a decline in employee productivity is also a determinant of corporate layoffs. Chen *et al.* (2001) and Elayan *et al.* (1998) examine employee productivity over the period prior to layoffs and do not find evidence that low labour productivity precedes corporate layoffs. In fact, Chen *et al.* (2001) document a significantly positive industry-adjusted change in sales per employee over the year prior

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[65] It was shown in the previous chapter that dividend cuts are among many actions a firm undertakes in order to raise funds for servicing debt.

to layoffs. It is however conjectured here that low productivity motivates managers to layoff their employees. Therefore:

$H_{6\text{-}3}$: Low labour productivity leads to corporate layoffs.

Following layoffs, firms decrease their labour costs by reducing employment levels. These lower labour costs result in increased earnings and/or the ability to control product prices to improve competitiveness. Ultimately, the performance of a firm should be improved. Empirical evidence on whether there is an improvement in operating performance following layoffs is mixed. Cascio *et al.* (1997) and Denis and Kruse (2000) do not find evidence that firm performance improves following layoffs. By contrast, Elayan *et al.* (1998), Ballester *et al.* (1999), and Chen *et al.* (2001) document evidence suggesting that the financial performance of firms improves following layoffs. A proposition that there is a performance improvement following layoffs is empirically tested.

$H_{6\text{-}4}$: Operating performance improves following corporate layoffs.

An improvement in operating performance following corporate layoffs means that a firm is able to generate additional cash flow. This cash flow, amongst other things, is used to service the firm's debt. In addition, better performing firms generate enough earnings to the extent that they borrow less. In support of this, previous research finds that profitability has a negative influence on financial leverage, since a firm which can generate more earnings will borrow less, all things being equal (Adedeji, 1998). However, no single study, to my knowledge, has examined changes in financial leverage post-layoffs. It is argued here that if there is performance improvement following corporate layoffs - and amongst other things better performance increases a firm's ability to service its debt - there should be a decline in financial leverage following layoffs. It is hypothesized that:

$H_{6\text{-}5}$: Financial leverage declines over the period following corporate layoffs.

Managers undertake layoffs, among other things, in order to increase the firm's labour productivity. There are several potential reasons for an increase in post-layoff labour productivity. First, layoffs make the firm more efficient and competitive. Second, layoffs maintain the firm's product scope, and provide a focus on productivity gains and cost reduction. Re-engineering processes, streamlining operations, and reducing redundant activities may improve productivity. Finally, layoffs reduce/remove middle-level managers, and allow for less bureaucracy and faster decision making. With fewer layers of middle managers to filter information, communication is smoother and more accurate, entrepreneurs flourish and hence productivity improves (Chalos and Chen, 2002). Elayan *et al.* (1998) and Chen *et al.* (2001) report evidence of improved labour productivity following corporate layoffs. In this chapter, whether there is an increase in labour productivity following corporate layoffs is also empirically tested. It is hypothesized that:

$H_{6\text{-}6}$: There is an increase in labour productivity following layoffs.

The extant literature presents two hypotheses that explain the investors' view to announcements of corporate layoffs: efficiency and declining investment opportunities hypotheses.[66] The efficiency hypothesis states that if investors view the layoff announcement as a way for the firm to be more efficient and more competitive, one would expect positive abnormal returns at the announcement of a corporate layoff. A positive market reaction would be attributed to cost savings, together with expectations for changes in managerial policy that might lead to improvement in the firm's performance, and its efficiency in general.

On the other hand, the declining investment opportunities hypothesis relies on the premise that the layoff announcement may reveal that the firm's investment or growth opportunities are not as good as previously thought. If so, investors are expected to revise their expectations downward about the future prospects of the firm, and the market reaction is expected to be negative. The general consensus so far is that, on the whole, the market reacts negatively to layoff announcements (Worrell *et al.*, 1991; Lin

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[66] See Elayan *et al.* (1998) for more details.

and Rozeff, 1993; Elayan *et al.*, 1998; and Chen *et al.*, 2001). One should therefore expect a negative market reaction to announcements of layoffs. It is hypothesized that:

$H_{6\text{-}7}$: The layoff announcement is associated with a negative market reaction.

Managers undertake layoffs for different reasons. This implies that investors also have different perceptions of these reasons. For example, layoffs related to declining sales or poor earnings may be associated with negative stock returns. By contrast, layoffs related to reorganization or consolidation may not be associated with negative stock returns when the reorganization does not arise from poor performance or financial distress.

Previous studies group the reasons for layoffs into two groups: proactive and reactive strategies (Palmon *et al.*, 1997; Kashefi *et al.*, 2002; McKnight *et al.*, 2002; and Hahn *et al.*, 2004). All corporate layoffs that aim to turnaround firms with aspects of poor performance such as poor earnings, plant closure and falls in demand fall under the reactive strategy group. On the other hand, layoffs that aim to maintain competitiveness or to correct performance downturns before they become severe, such as cost cutting and reorganization, fall under the proactive strategy group.

Empirical evidence shows that proactive strategies are associated with positive abnormal returns, and negative abnormal returns for firms with reactive announcements (Palmon *et al.*, 1997; Kashefi *et al.*, 2002; McKnight *et al.*, 2002; and Hahn *et al.*, 2004). These results are not consistent with those of Chen *et al.* (2001) and Chalos and Chen (2002). Chen *et al.* (2001) find that the market reacts negatively to layoffs related to weak demand, cost cutting, and low prior earnings. However, they do not find evidence of a significant market reaction to layoff announcements related to reorganization. On the other hand, Chalos and Chen (2002) find a positive market reaction to layoff announcements related to revenue line refocusing, an insignificant market reaction to layoff announcements related to production cost cutting, and weakly negative return for layoffs related to plant closings.

Given the mixed evidence to date, the following hypotheses are examined:

$H_{6\text{-}8}$: The market reacts negatively to all corporate layoffs that aim to turnaround firms with poor performance and/or high financial leverage.

$H_{6\text{-}9}$: There is an insignificant or positive stock price response to corporate layoffs that aim to maintain competitiveness or to correct performance downturns before they become severe.

If the layoff announcement conveys any information, then the magnitude of the market reaction will be a function of the size of layoff.[67] It is hypothesized that larger layoffs will result in a larger market response. If layoffs are negative signals, large ones should convey more negative information than small ones. Negative investor reactions to large layoffs may be more pronounced because large numbers of qualified workers are leaving, and also because of larger redundancy related expenses. Worrell *et al.* (1991) and Elayan *et al.* (1998) examine announcements of corporate layoffs on the basis of the size of layoffs, and their findings are mixed. Whilst Elayan *et al.* (1998) find that both groups elicited negative abnormal returns, large layoffs are significantly more negative than small ones; Worrell *et al.* (1991) find significant negative abnormal returns associated with large layoffs and insignificant returns for small layoffs. Given the mixed results, the following null hypothesis is examined:

$H_{6\text{-}10}$: The stock market does not react differently to announcements of layoffs of different sizes.

Layoffs may also be classified as a first (unanticipated) or as a sequential (anticipated) announcement relating to a firm's strategy in response to internal as well as external environments. If the layoff announcement signals information to the market, then unanticipated layoffs are expected to be associated with more stock price response relative to anticipated layoffs. This argument is consistent with the study of Smith (1986), who documents that stock price changes reflect only the unanticipated component of the announcement, hence the more predictable an event, the smaller the associated stock price change. Therefore, if the market reacts negatively to

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[67] The size of layoff is defined here as the number of employees laid-off, divided by the total number of employees one year before the announcement, or the percentage of employees laid off, if given.

announcements of corporate layoffs, then an unanticipated layoff should be associated with a more negative stock price response than any anticipated one. This is because if the market reaction to layoff announcements reflects a response to new information revealed by the layoff, rather than the layoff itself, then one might expect the reaction to be most pronounced when the surprise is greatest.

If the layoff announcement follows a period of poor performance, then it may be less likely to elicit a significant response, since investors anticipate its occurrence. This observation suggests that firms with a recent history of layoffs are expected to be associated with a smaller market response than firms with a single or first layoff announcement. Elayan *et al.* (1998) and McKnight *et al.* (2002) find that stock price responses for first (unanticipated) announcements are significantly more negative than sequential (anticipated) announcements of layoffs. Following the preceding evidence and argument, it is hypothesized that:

6-11: The market reaction for first (unanticipated) announcements is more negative than sequential (anticipated) announcements of layoffs.

6.3 Empirical results

6.3.1 Sample characteristics

To examine the above discussed hypotheses, a UK sample firms that announced corporate layoffs over the period 1990-2000 is used. The sample of 322 events was drawn from a variety of sources, as no one comprehensive database was available. Primarily, I consulted newspaper databases and the Extel Company Research database. I include in the sample a UK non-financial listed company that has laid-off permanent employees. In addition, only one announcement per firm per year was included in the sample, and to avoid including small observations, the size of layoff should at least be 0.1% of layoffs divided by the total number of employees at the end of the year prior to layoffs.[68] More details on sample firms used in this chapter are provided in Chapter 3.

[68] The results are not significantly different when the cut-off size of layoff is 1%.

6.3.2 Pre-layoff performance

In this section, the results on financial performance, market disciplinary activities and cross-sectional analysis are reported.

6.3.2.1 Financial performance

In Table 6-1 the median percentage changes in total assets, sales, and the number of employees are examined. This test provides insights into the firm's size and scope of operations over the years prior to and post-layoff. In general, the results show that growth rates of assets and sales decline over the years prior to layoffs and recover in subsequent years. Furthermore, the number of employees declines monotonically from between years -1 and 0 and in subsequent years post-layoffs. These results suggest that sample firms were able to retrench and produce more efficiently as they broadly indicate that firms continued to grow with a reduced number of employees. These results suggest that, on average, firms did not shrink the scale of their operations.

In Table 6-2 sample firms are compared with control firms along a number of dimensions related to the factors that potentially motivate managers to undertake layoff decisions at the financial year-end prior to layoffs. Because the control firms are chosen based on the same pre-event performance and industry, there is an insignificant difference in return on assets between the sample and control firms. The results also show that sample firms have higher financial leverage than non-layoff control firms. All three measures of financial leverage - debt ratio, borrowing ratio and interest coverage ratio - support this finding. These differences are significant at the 1% level for all measures.

Interestingly, it is found that sample firms had higher employee productivity than control firms over the year prior to layoffs. The differences in employee productivity as measured by sales per employee and operating profits per employee are statistically significant and positive at the 5% level or higher. Finally, on diversification measures, it is found that the sample firms were less focused than the control firms in the period one year prior to layoffs. The sample firms had a median 2.5 number of business lines against 2.0 of control firms, and the corresponding values for the Herfindahl index of

revenue concentration are 0.6693 and 0.7700, respectively. The level of significance for the differences is the 1% level for both metrics.

In Table 6-3, the industry-adjusted changes in ROA, measures of the firm's financial leverage, and measures of employee productivity over the 3 years prior to layoffs are reported. The sample firms exhibited a significant decline in the industry-adjusted ROA over the 3 years prior to layoffs. The underperformance is significantly negative at the 1% level. These results suggest that layoffs are preceded by a period of poor performance going back at least 3 years, rather than just with poor performance in the year immediately preceding the layoff announcement.

On measures of a firm's financial leverage, it is found that sample firms experienced a significant increase in industry-adjusted debt ratio and borrowing ratio, and a significant decrease in industry-adjusted interest coverage ratio over the three years prior to layoffs. This finding suggests that the sample firms were saddled with high debts prior to layoffs. Finally, unlike the situation with ROA and financial leverage, the employee productivity results show that sample firms' productivity was not statistically distinguishable from that of industry medians in each of the 3 years prior to layoffs. Taken as a whole, the results reported in Table 6-3 suggest that layoffs were preceded by a period of poor performance and high financial leverage. Nevertheless, no evidence is found that there was low labour productivity prior to layoffs.

6.3.2.2 Market disciplinary activities and layoffs

It has been shown in the previous chapters that the market for corporate control often plays an important role in the firm's decision to undertake corporate restructuring. Whether the same forces also play a role on the firm's decision to layoff its employees is examined in this section. Chapter 3 explains how data on market disciplinary activities are collected in this thesis.

In Table 6-4 the number and percentage of sample and control firms for which pre-layoff market disciplinary activities are reported. About 5.9% of sample firms were subjected to takeover pressure against 2.8% for control firms. This percentage compares with 6.3% reported by Chen *et al.* (2001). In addition, 18.9% of the sample firms

experienced CEO turnover in the 12 months prior to layoffs, against 7.5% for control firms. This finding is closely related to that of Chen *et al.* (2001), who find that 20.3% of US firms that undertook layoffs had experienced CEO turnover within the 12 months prior to layoffs. Finally, 3.4% of the sample firms were in the process of debt restructuring or capital reorganization over the 12 months prior to layoffs, against 0.6% for control firms. This percentage of the sample firms is twice that reported by Chen *et al.* (2001). The differences between the sample firms' market for disciplinary activities and that for control firms are significantly positive at the 5% level or better for all activities. In general, these results suggest that the decision to undertake corporate layoffs is not only involuntary, but is also associated with external monitoring systems.

6.3.2.3 Cross-sectional analysis

It has been shown above that operating performance, financial leverage, and external disciplinary activities influence the decision to lay off employees. These factors are now examined within a multivariate setting, by using logistic regressions to assess the likelihood of a firm undertaking a layoff. The general model which is described in Chapter 3 (equation (3.6)) is used. Three more variables are added in this: sales per employee, operating profit per employee and CEO turnover.

The dependent variable takes on a value of one for layoff firms, and zero for non-layoff firms. Sales per employees and operating profit per employee are as discussed above. CEO turnover is a binary variable set equal to one where the company experienced a CEO turnover over the 12 months prior to layoffs, and zero otherwise. All other variables are as discussed in equation (3.6). Logistic results are reported in Table 6-5. There are two models: the first model estimates the determinants of layoffs, excluding the market for disciplinary activities. This model intends to capture the effect of different financial variables that may determine the likelihood of a layoff. The second model includes all variables that are likely to influence managers to lay off employees.

It is found that the decision to lay off employees is negatively related to previous operating performance. The coefficient for return on assets is significantly negative in all models at the 5% level. Together with findings reported in the previous sections, this suggests that poor performance or a need to improve performance motivates corporate

managers to undertake layoffs. This finding is consistent with that of Chen *et al.* (2001) and Elayan *et al.* (1998), who together report that layoffs tend to follow a period of declining operating performance. Furthermore, there is weak evidence that low operating profit per employee also motivates managers to undertake layoffs. However, this finding is not robust to the inclusion of corporate control variables. In addition, the estimated coefficients of debt ratio, interest coverage, operating profits per employee, and sales per employee, though statistically insignificant at conventional levels, have the expected sign.

On the market for disciplinary activities, it is found that the layoff decision is positively related to the incidence of prior CEO turnover. This suggests that recently appointed CEOs are likely to lay off employees in order to restructure existing operations. This finding is consistent with the view that newly appointed managers are more willing to break with the failed policies of their predecessors (Weisbach, 1995 and Berger and Ofek, 1999). Finally, there is no evidence that external takeover markets influence managers to reduce their employees. This evidence suggests that layoffs appear to be voluntary decisions effected by internal control mechanisms.[69]

In summary, the logistic regression results show that operating performance is the most single important financial factor that determines the likelihood of corporate layoffs. In addition, the high management turnover rate surrounding layoffs is consistent with the findings of Warner *et al.* (1988) and Weisbach (1988) that poor performance increases the probability of management turnover.

6.3.3 Post-layoff performance

In this section the results over the period following layoffs are presented.

6.3.3.1 Financial performance

To investigate whether the layoff decision increases the firm's efficiency, I examine the industry-adjusted changes in ROA, debt ratio, borrowing ratio, interest coverage, sales per employee, and operating profit per employee over the 3 years following layoffs.

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[69] Chen *et al.* (2001) also presented the same view for US firms.

Following Chen *et al.* (2001), the performance of sample firms is measured by comparing operating returns in the layoff year to those in subsequent years.

The results are reported in Table 6-6. There is weak evidence that operating performance improves following layoffs. This finding is consistent with that of Cascio *et al.* (1997) and Denis and Kruse (2000), who find that corporate layoffs are not linked with subsequent firm performance improvements. However, Chen *et al.* (2001) and Elayan *et al.* (1998) find a significant improvement in operating performance following corporate layoffs. The possible reason for layoff firms not experiencing a significant improvement in operating performance is probably accounted for by layoff payments. Theoretically, layoffs should have a positive impact on firm performance and survival (Jensen, 1993); however this, among other factors, may be deferred as a result of layoff payments (Collett, 2002).

Furthermore, the results show that the change in sample firms' financial leverage is statistically indistinguishable from that of their industry peers. None of the three measures of financial leverage used is significant at conventional levels. Following the results reported earlier that there is weak evidence that the operating performance of sample firms improves following layoffs, the financial leverage could not have been improved on as well in the same period. This observation is based on the assumption that a firm uses internally generated earnings to service its debt obligation. Chalos and Chen (2002) find that those firms that undertook layoffs because of revenue refocusing and cost cutting had higher debt than their industry norms.

Unlike operating performance and financial leverage results, it is found that the employee productivity for sample firms increases in each of the 3 years following corporate layoffs. The significance of the increase in sales per employee and operating profit per employee is mostly at the 1% level. This finding suggests that the decision to undertake corporate layoffs improves the employee productivity in subsequent years. The finding is consistent with that of Elayan *et al.* (1998) and Chen *et al.* (2001), who find a significant improvement in labour productivity following layoff announcements. Thus, while labour productivity has not been found to correlate with layoff decisions, it is apparent that it still provides an important motivation for layoffs by UK firms.

There are several potential reasons for the increase in post-layoff labour productivity. First, layoffs make the firm more efficient and competitive. Second, layoffs maintain the firm's product scope, and provide a focus on productivity gains and cost reduction. Re-engineering processes, streamlining operations, and reducing redundant activities may improve productivity. Finally, layoffs reduce middle-level managers, and allow for less bureaucracy and faster decision making. With fewer layers of middle managers to filter information, communication is smoother and more accurate, entrepreneurs flourish and hence productivity improves (Cascio *et al.*, 1997).

Theoretical evidence drawn from different surveys suggests that productivity and quality following layoffs often suffer because there is no change in the way that the work is done. With the same amount of work as before, a layoff is simply loaded onto the backs of fewer workers (Cascio, 1993). In addition, organization behavioural analysis shows that layoffs may actually exacerbate poor productivity amongst the remaining workers. Survivors of layoffs tend to experience psychological stress, job insecurity, and anger; and their commitment decreases when they identify with the victims of layoffs (Brockner *et al.*, 1986, 1988). However, the results found in this chapter with regard to employee productivity following layoffs do not support these surveys. If anything, there is a significant increase in labour productivity following corporate layoffs.

6.3.3.2 Sensitivity check

It has been shown that there is weak evidence that performance improves following layoffs. Are these findings attributable to layoffs or caused by mean reversion in earnings? To answer this question, a sensitivity check is conducted using a control sample of non-layoff firms. Chapter 3 explains how control firms are constructed in this thesis. Barber and Lyon (1996) show that matching sample firms to firms with similar performance before an event, helps to control for the mean-reversion tendency of a performance measure. The results are reported in Table 6-7. Except for the periods prior to layoffs, the operating performance changes of sample firms are insignificantly different from those of control firms. This suggests that there is no evidence to support the theory that the weak improvement in operating performance is attributable to corporate layoffs or to mean reversion in earnings.

6.3.3.3 Changes in corporate focus following layoffs

In Table 6-2 it is shown that sample firms were less focused than control firms over the year prior to layoffs. In this section an examination of whether the decision to undertake layoffs leads to any change in corporate focus is undertaken. This test is motivated with the view that an increase in corporate focus is value increasing for shareholders of poorly performing firms that undertook layoffs (Chen *et al.*, 2001). Results are reported in Table 6-8. The median number of segments reported in the year +1 is 2.5, which is the same as in the year –1. The median value of the Herfindahl index increases from 0.67 in the year –1 to 0.69 in the year +1. The increase is significant at the 1% level of significance. In general, there is an increase in corporate focus following layoffs.[70]

6.3.4 Corporate layoffs and firm characteristics

In the previous sections, operating performance changes over the period prior to and following corporate layoffs were investigated. However, managers announce different reasons for undertaking layoffs. Some of these reasons are loss-making activities, cost cutting, falls in demand, plant closure and reorganization. Therefore, in order to fully investigate the effect of corporate layoffs on a firm's performance there is also a need to examine sample firms on the basis of the stated reasons for layoffs. In this section the sample firms' performance on the basis of stated reasons for layoffs is examined.[71]

6.3.4.1 Financial performance and stated reasons for layoffs

In Table 6-9 the industry-adjusted changes in ROA, debt ratio and interest coverage ratio over the periods prior to and following layoffs are reported. Regarding the industry-adjusted changes in ROA, the results are almost similar to all layoff announcements. Firms that undertook layoffs because of loss making, plant closure and reorganization experienced poor performance prior to layoffs. Regarding the cost cutting sub-sample, the industry-adjusted change in ROA is significantly negative only from the year -3 to year 0. However, for the fall in demand sub-sample, industry-adjusted changes in ROA over the period prior to layoffs were insignificant. Over the 3

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[70] Chen *et al.* (2001) present similar results for US firms.

[71] The distribution of sample firms on the basis of the different stated reasons for layoffs is reported in Chapter 3.

years following corporate layoffs, the operating performance of sample firms on the basis of the different stated reasons for layoffs is insignificant.

In general, the results on the industry-adjusted changes in ROA for sample firms on the basis of the different stated reasons for layoffs suggest that layoffs are preceded by a period of poor performance. However, there is no evidence that there is improvement in performance following corporate layoffs. Panel B of Table 6-9 reports industry-adjusted changes in the debt ratio of sample firms on the basis of the stated reasons for layoffs. The results are mixed. The sample firms that laid off their employees because of cost cutting had a significant increase in their debt ratio over the period prior to layoffs. This finding suggests that high financial leverage motivates corporate managers to undertake layoffs related to cost cutting. However, the results of the other sub-samples are insignificant.

Further, following layoffs, the results show that sample firms that undertook layoffs because of a fall in demand experienced a significant decline in debt ratio. For layoffs related to reorganization, there is a significant increase in debt ratio over the years from year 0 to 2. This suggests that reorganization increases the borrowing power of a firm. The firm's reorganization strategy encompasses, among other things, overhead reduction, cost reduction, and enhancement of the firm's performance. It is apparent that all these strategies increase creditors' confidence in the firm's management. This reasoning is consistent with the notion that a more efficiently run firm can carry a higher debt burden with an equal or reduced probability of financial distress (Wruck, 1990). Finally, the results on the industry-adjusted changes in interest coverage ratio are reported in Table 6-9, panel C. Layoffs related to plant closures and reorganization exhibited a significant decline in interest coverage ratio prior to layoffs. This suggests that these firms were highly-indebted. None of the sub-samples has a significant industry-adjusted change in interest coverage ratio in subsequent years.

6.3.4.2 Labour productivity and stated reasons for layoffs

In this section, measures of labour productivity for sample firms on the basis of the different stated reasons for layoffs over the period prior to and following layoffs are examined. The results are reported in Table 6-10. Significantly and positively industry-

adjusted changes in sales per employee for the loss making sub-sample are found over the 3 years prior to layoffs, and over a subsequent year. Regarding the cost cutting sub-sample, there are insignificant industry-adjusted changes in sales per employee over the three years prior to layoffs and a significant improvement over the 2 years thereafter. No significant industry-adjusted changes are found in sales per employee of the falls in demand sub-sample.

The plant closure sub-sample shows a significant decline in industry-adjusted sales per employee over the period prior to layoffs and an improvement in it over subsequent years. Finally, the reorganization sub-sample shows an insignificant decline in industry-adjusted sales per employee in the pre-layoff period and a significant improvement in it post-layoff. Panel B of Table 6-10 reports industry-adjusted changes in operating profit per employee. The results are similar to those for sales per employee. In general, there is no clear picture as to whether there was low labour productivity prior to layoffs, or an improvement in it following layoffs.

6.3.4.3 Cross-sectional analysis

In this section, logistic regressions are used to assess the determinants of corporate layoffs on the basis of the stated reasons for layoffs. The same model and variables as discussed in section 6.3.2.3 are used. Because of the small number of observations on the market for disciplinary activity variables among sub-samples of the stated reasons for layoffs, these variables are not examined here.

The logistic regression results are reported in Table 6-11. Firm performance is significantly negatively related to the likelihood of layoffs associated with a fall in demand. None of the other sub-samples has a significant relation between firm performance and the likelihood of corporate layoffs. It is found that debt ratio is significantly positively related to the likelihood of layoffs associated with loss making activities. In addition, operating profit per employee is marginally inversely related to the likelihood of layoffs associated with loss-making activities and plant closure.

In general, the results on the different stated reasons for layoffs, though mixed, suggest that there was poor performance and high financial leverage prior to layoffs. The results

also suggest that there is no statistical improvement in the firm's performance and financial position following corporate layoffs. Nevertheless, there is an increase in labour productivity following layoffs.

6.3.5 Stock returns

In this section the results on stock returns for firms that announced layoffs are reported. The results on abnormal stock returns surrounding the announcements of layoffs are reported first. Second, the results on the relation between abnormal returns and various financial performance variables prior to layoffs are presented. Finally, the results on long run stock returns are reported.

6.3.5.1 Market reaction to announcements of layoffs

In this section abnormal stock returns in various periods surrounding the layoff announcement are examined. This analysis is divided into four areas: all layoff announcements; the stated reasons for layoffs; the size of layoffs; and anticipated and unanticipated layoffs. Chapter 3 of this thesis explains how abnormal stock returns are computed.

(a) All layoff announcements

Mean abnormal returns in various periods surrounding layoff announcements are reported in Table 6-12, panel A. The mean cumulative abnormal returns on three days surrounding announcements of layoffs, CAR (-1, 1), are -0.81% (p-value = 0.018). These results reflect the worsening conditions of the firm, which among other things suggest few investment or growth opportunities, and lower potential for future cash flows. This finding supports the declining investment opportunities hypothesis which relies on the premise that the layoff announcement may reveal that the firm's investment or growth opportunities are not as good as previously thought. These results are, in general, consistent with those of Worrell *et al.* (1991), Lin and Rozeff (1993), Elayan *et al.* (1998) and Chen *et al.* (2001). These results are also consistent with those reported in UK literature (McKnight *et al.*, 2002; and Collett, 2002).

The pre-announcement cumulative average abnormal returns (750 days to 2 days, 500 to 2, and 250 days to 2 days prior to the announcement) are all significantly negative. This

suggests that decisions to lay off employees take place after the equity value of companies has experienced a substantial negative return.[72]

(b) Stated reasons for layoffs

Panel B of Table 6-12 reports results on the market response to the announcements of layoffs on the basis of the different stated reasons for layoffs. A significant and negative market reaction is found on the day prior to layoffs to layoffs related to loss-making activities, plant closure and falls in demand. These results signal expected poor firm performance in the future. However, the stock return to layoffs related to cost cutting and reorganization is not distinguishable from zero.

Cost cutting and reorganization strategies aim to enhance a firm's product scope, and focus on productivity gains and value enhancement. Therefore, the market should not be expected to react in a strong negative manner to these announcements. Elayan *et al.* (1998) and Chen *et al.* (2001) find insignificantly negative abnormal returns to layoffs related to cost cutting and reorganization. However, Palmon *et al.* (1997) and Hahn *et al.* (2004) find a significantly positive market reaction to announcements of layoffs related to reorganization.

As noted earlier, some previous studies categorize the reasons for layoffs into proactive and reactive strategies (Palmon *et al.*, 1997; Kashefi *et al.*, 2002; McKnight *et al.*, 2002; and Hahn *et al.*, 2004). That is, all corporate layoffs that aim to turnaround firms with poor performance, marked by loss making, plant closure and falls in demand, for example, fall under a reactive strategy. On the other hand, layoffs that aim to maintain competitiveness or to correct performance downturns before they become severe, such as cost cutting and reorganization, fall under a proactive strategy. These studies find that a proactive strategy is associated with positive abnormal returns and negative abnormal returns for firms related to reactive announcements. The main problem of these studies is that they assume that the reasons for layoffs are mutually exclusive.

To examine whether sample firms divided into proactive and reactive groups would change these results, as all layoffs related to loss making, plant closure and falls in

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[72] Elayan *et al.* (1998) and Chen *et al.* (2001) also present the same view.

demand are put into a reactive strategy group, and cost cutting and reorganization under a proactive strategy group. To make sure that these groups are mutually exclusive, a thorough check was made to ensure that no firm appears in both groups. If, for example, it is found that a firm has announced more than one reason for layoffs, and these reasons fall in both strategies, then that firm is removed from the proactive group. Through this process, 127 (or 39.4%) events are found to be related to a proactive strategy and 195 (or 60.6%) related to a reactive strategy. It is apparent from this classification that the majority of layoffs are related to a reactive strategy group. This is further evidence that layoffs were preceded by poor performance and high financial leverage.

The results are reported in Table 6-12, panel C. It is found that layoffs related to a reactive strategy group are associated with a significantly negative stock price response on the day prior to layoffs. However, the market reaction to announcements of layoffs related to a proactive strategy group is not different from zero. These results are similar to the previous ones and suggest that the findings of this study are robust.

(c) Size of layoffs

To understand further how layoffs may influence shareholder wealth, layoffs are categorized according to the size of layoff. It is hypothesized that if the market reacts negatively to announcements of layoffs, then bigger layoffs should result in a more negative market response than smaller ones. The results are reported in Table 6-13, panel A. The sample firms with the size of layoffs above the median elicited significantly negatively stock price reaction on the day prior to layoffs. No significant abnormal stock returns are found for sample firms where the size of the layoff is below the sample median. These results are consistent with the view that mass layoffs raise costs for both employees and firms and, therefore, have a strong negative market reaction.[73]

(d) Anticipated versus unanticipated layoffs

Finally, if the market reaction to layoff announcements reflects a response to new information revealed by the layoff, rather than the layoff itself, then one might expect the reaction to be most pronounced when the surprise is greatest. The surprise is

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[73] Worrell *et al.* (1991), Elayan *et al.* (1998) and McKnight *et al.* (2002) also find the same results.

greatest when a firm announces a layoff for the first time or has only one announcement. This is because a single or a first announcement represents new information to the market. On the other hand, if a firm has a recent history of layoffs, then the market is not expected to react as strongly to the layoff announcement. Panel B of Table 6-13 reports abnormal stock returns for sample firms on the basis of anticipated and unanticipated corporate layoffs. The sample firms with one or a first layoff announcement elicited significantly negative average abnormal returns on the day prior to the announcement. For second or further layoff announcements, the average abnormal returns are not statistically distinguishable from zero.

6.3.5.2 Relation between stock returns and the determinants of layoffs

In this section the relation between stock returns and the determinants of the likelihood of corporate layoffs is examined. It has been shown that poor performance and high financial leverage preceded corporate layoffs, and there is a significant negative abnormal stock return on the day prior to layoffs. This predicts a negative correlation between the stock price reaction to the layoff announcement and prior averages in operating performance, and positive/negative correlation to the announcement and prior averages in debt ratio/interest coverage. It is also hypothesized that low productivity leads to the layoff decision. Therefore, there should be a negative relation between stock price returns and labour productivity.

To investigate this relationship, two additional factors are included: the relative size of layoffs and firm size. It was shown above that the market reaction to announcements of layoffs also depends on the size of layoffs (Worrell *et al.*, 1991; and Elayan *et al.*, 1998). Firm size is often used as a proxy for information asymmetry. Information asymmetry may be greater for smaller firms. This is because smaller firms receive less media attention and analyst coverage compared with larger firms (Vermaelen, 1981).[74] To test this relation, the following equation is used:

$$CAR_{-1,1} = \alpha_0 + \beta_1 ROA + \beta_2 DEBT + \beta_3 COV + \beta_4 OPE + \beta_5 SEMP + \beta_6 SIZE\text{-}LAYOFF + \beta_7 LN(MV) + \varepsilon \quad (6.1)$$

[74] See also Filbeck *et al.* (2001) for more details.

where $CAR_{-1,1}$ is the 3-day excess announcement date stock price return; DEBT stands for debt ratio; COV stands for interest coverage; OPE stands for operating profit per employee and SEMP stands for sales per employee. All independent variables are as described earlier. All financial variables are industry-adjusted and measured as the average over the three years prior to layoffs.[75] LN (MV) is measured at the financial year-end prior to layoffs.

Results are reported in Table 6-14. It is found that the stock price response to layoff announcements is negatively correlated with prior operating performance and interest coverage. This suggests that the observed negative market reaction to the layoff announcement is driven mostly by firms that are associated with poor performance and high financial leverage. This is additional evidence that announcements of layoffs signal worsening conditions for sample firms. It is also found that the stock price reaction to layoffs is positively related to firm size. In other words, the more negative share price responses are associated with announcements made by smaller firms. The implication of this finding is that firm size serves as a proxy for information asymmetries existing at the time of a layoff announcement (Filbeck *et al.*, 2001).

6.3.5.3 Long run stock returns

In this section the long run stock price performance following layoffs is examined. As in the previous chapters, the buy-and-hold strategy is used to measure the excess return following layoffs. The abnormal returns for the sample firms are computed against those for matching firms, constructed on the basis of size and industry. Chapter 3 explains how control firms are constructed in this thesis.

Results are reported in Table 6-15. Firms that undertake layoffs during 1990-2000 exhibit insignificant BHARs in each of the 3 years following layoffs. The results are, in general, similar when BHARs are examined for firms on the basis of the stated reasons for layoffs. The results of this study are consistent with those of Chen *et al.* (2001) who document insignificant buy-and-hold abnormal returns in each of the 3 years post-layoff. These findings are also consistent with the results on operating performance reported in the previous sections, and both sets of findings suggest that layoffs are

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[75] For example, ROA = (ROA-1 + ROA-2 + ROA-3)/3, and so on.

followed by a period of insignificant improvement in stock market and operating performance.

6.4 Summary and conclusion

The operating performance of a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000 is examined. In a narrow sense, this is one of the first studies to examine the effects of layoffs on firm performance outside the US. Several issues have been empirically examined in this chapter, and evidence is provided in relation to three primary questions: What are the factors that influence managers to undertake corporate layoffs? Does the firm's efficiency improve following layoffs? What is the market reaction to announcements of layoffs?

Evidence is found that a period of poor stock price and operating performance and high levels of financial leverage preceded layoffs. This finding suggests that managers undertake layoffs in response to poor performance and high financial leverage. The findings here suggest that layoffs emerge out of a genuine desire to restructure in response to declining performance and high financial leverage. This evidence also supports the view that layoffs represent changes of sub-optimal contracts in response to changes in the external and internal environments (Chen *et al.*, 2001) and does not support the argument that layoffs represent a breach of implicit contracts (Brockner, 1986; and Cascio, 1993).

Second, following corporate layoffs, there is a marginal improvement in operating performance, and an insignificant improvement in stock returns and financial leverage. This may largely be attributable to high layoffs payments and not by a decrease in sales revenue. One potential explanation for these findings is that the layoffs involve expenses which tend to reduce profitability, at least in the short term, as, for example, in the case of employee severance pay (Brickley and Van Drunen, 1990). Third, there is a significant increase in labour productivity following corporate layoffs. This supports the view that revisions of labour contracts in the case of layoffs are necessary and that constructive steps must be taken to ensure corporate survival. Finally, it is found that the market reacts negatively to all layoff announcements. These results are attributed to the worsening conditions of sample firms. However, an analysis of the firms on the

basis of stated reasons for layoffs shows that layoff announcements related to cost cutting and reorganization elicit an insignificant stock price reaction.

To summarise, the findings of this chapter imply that the firm's managers seek to operate efficiently with minimum costs and that they choose to lay off employees in order to decrease their employment costs. This premise implies that management thinks that the firm's goals can still be attained with fewer employees. These findings therefore do not support the view that following a layoff, surviving employees become narrow-minded, self-absorbed, and risk averse; nor that morale sinks, productivity drops, and that survivors distrust management (Brockner, 1988).

An interesting extension of this study would be to examine the operating performance of a firm over a period of 4 or 5 years following corporate layoffs. It is believed that if high layoff payments reduce the firm's profitability, then a study that covers a longer period should be able to discover the effects of layoffs on a firm's financial performance. I leave this to future research.

The previous three empirical chapters have examined asset sales, dividend cuts, and corporate layoffs. The next chapter examines the causes of top management changes. Top management change is categorized as an operational action a poorly performing firm would take in response to poor performance (Ofek, 1993). However, Gilson (1989) argues that a manager can also be dismissed due to financial distress. I offer more explanation on these issues in the next chapter.

Table 6-1: Median percentage changes in total assets, sales, and number of employees

The table reports median percentage changes in total assets, sales, and the number of employees for a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000. The significance of changes is measured using a two-tailed *Wilcoxon signed rank test*, and p-values are reported in parenthesis.

Variable	Median percentage changes between years				
	-3 and 0	-1 and 0	0 and 1	0 and 2	0 and 3
N	297	315	309	292	276
Total Assets	17.92 (0.000)	3.338 (0.000)	1.504 (0.062)	4.437 (0.003)	6.791 (0.002)
Sales	13.64 (0.000)	2.794 (0.000)	0.816 (0.278)	1.983 (0.140)	4.572 (0.037)
Number of Employees	0.158 (0.921)	-1.808 (0.006)	-4.678 (0.000)	-8.156 (0.000)	-11.69 (0.000)

Table 6-2: Descriptive statistics for sample versus control firms in the pre-layoff year

The table reports the mean [median] for selected financial variables at the financial year-end prior to layoffs for a sample of 322 UK non-financial firms that announced layoffs over the period 1990-2000. Return on assets (ROA) is defined as earnings before interest, tax, depreciation, and amortization, divided by total assets. Debt ratio is the ratio of total debt divided by total assets. Borrowing ratio is the ratio of total debt to the difference between equity capital and reserves, and intangible assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. Sales per employee are defined as the ratio of annual sales to the number of employees. Operating profit per employee is defined as the ratio of operating profit to the number of employees. The Herfindahl index is calculated as the sum of segments' sales squared divided by total sales squared, where sales are defined at the 3-digit SIC level. The number of segments relates to the number of reported 3-digit SIC lines of business that the sample firms operated in. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Variable	N	Sample firms	Control firms	Differences
Return on Assets (ROA)	322	0.1234 (0.000) [0.1325 (0.000)]	0.1261 (0.000) [0.1365 (0.000)]	-0.0028 (0.452) [-0.0015 (0.125)]
Debt ratio	322	0.2147 (0.000) [0.2100 (0.000)]	0.1717 (0.000) [0.1630 (0.000)]	0.0411 (0.000) [0.0485 (0.000)]
Borrowing ratio	321	1.918 (0.056) [0.5600 (0.000)]	0.3983 (0.000) [0.3665 (0.000)]	1.520 (0.131) [0.1815 (0.000)]
Interest coverage	322	22.8 (0.146) [5.270 (0.000)]	165.3 (0.064) [7.480 (0.000)]	-145.6 (0.115) [-1.695 (0.000)]
Sales per employee	322	113.51 (0.000) [92.55 (0.000)]	116.3 (0.000) [90.84 (0.000)]	-2.5 (0.839) [5.950 (0.047)]
Operating profit per employee	320	11.26 (0.000) [7.647 (0.000)	9.63 (0.000) [6.708 (0.000)]	1.59 (0.162) [1.003 (0.003)]
Number of segments	320	2.924 (0.000) [2.500 (0.000)]	2.092 (0.000) [2.000 (0.000)]	0.844 (0.000) [0.5000 (0.000)]
Herfindahl index	320	0.6587 (0.000) [0.6693 (0.000)]	0.7850 (0.000) [0.7700 (0.000)]	-0.1305 (0.000) [-0.1336 (0.000)]

Table 6-3: Operating performance, financial leverage, and labour productivity over the years prior to corporate layoffs

This table reports mean [median] changes in the industry-adjusted return on assets (ROA), debt ratio, borrowing ratio, interest coverage, sales per employee, and operating profit per employee for a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000. Return on assets (ROA) is defined as earnings before interest, tax, depreciation, and amortization, divided by total assets. Debt ratio is the ratio of total debt to total assets. Borrowing ratio is the ratio of total debt to the difference between equity capital and reserves, and intangible assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. Sales per employee are defined as the ratio of annual sales to the number of employees. Operating profit per employee is defined as the ratio of operating profit to the number of employees. The numbers below the medians are the fraction of all changes that are positive. P-values are reported in parenthesis.

Window	ROA	Debt ratio	Borrowing ratio
Δ-3 to 0	-0.0225 (0.002) [-0.0155 (0.000)] 41.3	0.0195 (0.005) [0.0140 (0.018)] 54.7	-0.564 (0.241) [0.0790 (0.007)] 55.3
Δ-2 to 0	-0.0180 (0.009) [-0.0130 (0.001)] 40.4	0.0111 (0.036) [0.0080 (0.085)] 53.5	-0.767 (0.108) [0.0464 (0.036)] 54.3
Δ-1 to 0	-0.0110 (0.070) [-0.0070 (0.028)] 46.6	0.0044 (0.320) [0.0020 (0.476)] 48.9	-1.400 (0.173) [0.0121 (0.378)] 50.3
Cumulative	-0.0224 (0.001) [-0.00130 (0.000)] 42.9	0.0129 (0.013) [0.0075 (0.091)] 50.8	-0.413 (0.307) [0.0538 (0.011)] 53.8

(Continued)

Window	Interest coverage	Sales per employee	Operating profit per employee
Δ-3 to 0	-4.21 (0.078) [-1.255 (0.001)] 41.4	4.02 (0.230) [0.9400 (0.438)] 52.5	-0.65 (0.731) [0.0160 (0.955)] 49.8
Δ-2 to 0	-3.00 (0.144) [-0.9500 (0.009)] 43.9	0.04 (0.990) [-0.0125 (0.987)] 49.4	-0.23 (0.852) [0.0850 (0.685)] 51.6
Δ-1 to 0	-1.36 (0.226) [-0.5475 (0.020)] 43.8	2.03 (0.400) [0.5850 (0.305)] 51.0	0.35 (0.737) [0.2150 (0.148)] 53.2
Cumulative	-1.179 (0.172) [-0.8788 (0.003)] 42.2	1.43 (0.658) [0.3225 (0.673)] 50.5	-0.20 (0.877) [0.0900 (0.646)] 52.5

Table 6-4: Corporate control activities and corporate layoffs

The table reports the percentages of corporate control activities undertaken by sample and control firms over the 12 months prior to layoffs during the period 1990-2000. P-values for differences are given in the last column.

Activity	Sample Firms	Fraction (%)	Control Firms	Fraction (%)	p-value of differences *Student t-test* (*Wilcoxon sign rank test*)
Takeover pressure	19	5.90	9	2.80	0.034 (0.006)
Financial distress	11	3.42	2	0.62	0.012 (0.012)
CEO turnover	61	18.9	24	7.45	0.000 (0.000)

Table 6-5: Cross-sectional determinants of corporate layoffs

The table reports results for logit regressions of the determinants of layoffs for a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000. Dependent variable is a binary variable that takes on a value of one for layoff firms, and zero for non-layoff firms. Return on assets (ROA) is defined as earnings before interest, tax, depreciation, and amortization (EBITDA), divided by total assets. Debt ratio is the ratio of total debt divided by total assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. Sales per employee are defined as the ratio of annual sales to the number of employees. Operating profit per employee is defined as the ratio of operating profit to the number of employees. CEO turnover is a binary variable set equal to one where the company experienced CEO turnover over the 12 months prior to layoffs, and zero otherwise. Takeover pressure is a binary variable set equal to one where the company encountered takeover pressure over the 12 months prior to layoffs, and zero otherwise. Financial distress is a binary variable set equal to one where the company encountered financial distress over the 12 months prior to layoffs, and zero otherwise. Ln (MV) is the natural logarithm of the company's market value of equity. All continuous variables are measured at the financial year-end prior to layoffs. P-values for two-tailed tests of significance are reported in parenthesis.

Variable	Model 1	Model 2
Observations	615	615
Constant	-3.9520 (0.000)	-4.0399 (0.000)
$\Delta ROA_{-1,0}$	-2.3223 (0.017)	-1.9786 (0.040)
Debt ratio	1.1831 (0.174)	0.9942 (0.267)
Interest coverage	-0.0016 (0.466)	-0.0016 (0.480)
Sales per employee	-0.0015 (0.339)	-0.0017 (0.267)
Operating profit per employee	-0.0123 (0.098)	-0.0112 (0.136)
CEO turnover		1.0150 (0.001)
Takeover pressure		0.0716 (0.888)
Financial distress		0.5952 (0.464)
Ln (MV)	0.7958 (0.000)	0.7856 (0.000)
Log-likelihood	-289.935 (0.000)	-284.284 (0.000)

Table 6-6: Changes in operating performance, financial leverage, and labour productivity in the post-layoff period

This table reports the mean [median] changes in industry-adjusted return on assets (ROA), debt ratio, borrowing ratio, interest coverage, sales per employee, and operating profit per employee for a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000. ROA is defined as earnings before interest, tax, depreciation, and amortization, divided by total assets. Debt ratio is the ratio of total debt divided by total assets. Borrowing ratio is the ratio of total debt to the difference between equity capital and reserves, and intangible assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. Sales per employee are defined as the ratio of annual sales to the number of employees. Operating profit per employee is defined as the ratio of operating profit to the number of employees. The numbers below the medians are the fraction of all changes that are positive. P-values are reported in parenthesis.

Window	ROA	Debt ratio	Borrowing ratio
Δ0 to 1	0.0004 (0.947) [0.0020 (0.610)] 50.8	0.0059 (0.174) [0.0015 (0.545)] 48.4	0.184 (0.623) [0.0154 (0.271)] 50.3
Δ0 to 2	0.0086 (0.165) [0.0070 (0.098)] 53.6	0.0100 (0.089) [0.0040 (0.424)] 49.0	-0.261 (0.283) [0.0067 (0.802)] 50.0
Δ0 to 3	-0.0086 (0.506) [0.0065 (0.146)] 53.6	0.0029 (0.708) [-0.0040 (0.472)] 46.8	-0.357 (0.186) [-0.0257 (0.427)] 47.2
Cumulative	0.0107 (0.052) [0.0065 (0.065)] 52.7	0.0025 (0.645) [-0.0020 (0.664)] 48.2	-0.188 (0.297) [-0.0021 (0.935)] 50.9

(Continued)

Window	Interest coverage	Sales per employee	Operating profit per employee
Δ0 to 1	-0.490 (0.535) [0.2400 (0.316)] 53.4	4.68 (0.116) [1.970 (0.003)] 58.4	1.427 (0.122) [0.6110 (0.000)] 61.0
Δ0 to 2	0.33 (0.758) [0.3150 (0.311)] 52.1	7.99 (0.056) [2.208 (0.019)] 55.0	0.338 (0.728) [0.7110 (0.006)] 58.8
Δ0 to 3	0.29 (0.940) [0.3450 (0.334)] 51.4	13.62 (0.011) [5.050 (0.000)] 61.1	1.550 (0.295) [0.9995 (0.002)] 59.3
Cumulative	0.69 (0.495) [0.4875 (0.075)] 54.0	7.34 (0.054) [2.575 (0.002)] 58.0	0.337 (0.724) [0.7920 (0.001)] 60.9

Table 6-7: Control firm matched changes in operating performance for sample firms

The table reports changes in operating performance for sample and control firms for a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000. The control firms are selected from firms within the same FTSE level 4 industry group as the layoff firm, and have a similar ROA in the year prior to layoffs. ROA is defined as earnings before interest, tax, depreciation, and amortization (EBITDA), divided by total assets. The significance between the sample and control firms is based on a two-tailed *Wilcoxon signed rank test.* P-values are reported in parentheses.

Period	Layoff firms median	Non-layoff firms median	p-value for difference
Observations	322	322	322
From year -3 to -1	-0.0115 (0.000)	0.0020 (0.630)	0.000
From year -1 to 0	-0.0125 (0.000)	-0.0010 (0.713)	0.007
From year 0 to 1	-0.0010 (0.790)	-0.0020 (0.519)	0.180
From year 0 to 2	0.0100 (0.791)	0.0010 (0.810)	0.923
From year 0 to 3	0.0100 (0.859)	-0.0105 (0.028)	0.276
From year -1 to 3	-0.0105 (0.001)	-0.0140 (0.004)	0.562

Table 6-8: Change in sample firm's focus following layoffs

The table reports mean [median] changes in focus following layoffs for a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000. The number of segments relates to the number of reported 3-digit SIC lines of business that the sample firms operated in. The Herfindahl Index is calculated as the sum of segments' sales squared divided by total sales squared, where sales are defined as the 3-digit SIC level. The fractions of all changes that are positive are reported in the final column. P-values of a two-tailed *Student's t-test* for the means and *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Descriptions	N	Mean	Median	% positive
Number of lines of business				
Year –1	303	2.924 (0.000)	2.500 (0.000)	
Year +1	305	2.849 (0.000)	2.500 (0.000)	
Changes (-1 to +1)	289	-0.104 (0.176)	0.000 (0.183)	19.7%
Herfindahl Index				
Year –1	303	0.659 (0.000)	0.669 (0.000)	
Year +1	305	0.679 (0.000)	0.686 (0.000)	
Changes (-1 to +1)	289	0.022 (0.055)	0.015 (0.002)	46.7%

Table 6-9: Operating performance and financial leverage over the years prior to and post-corporate layoffs

This table reports median changes in the industry-adjusted return on assets (ROA), debt ratio and interest coverage ratio for a sample of 322 UK non-financial firms that announced layoffs over the period 1990-2000 on the basis of the stated reasons for layoffs. ROA is defined as earnings before interest, tax, depreciation, and amortization, divided by total assets. Debt ratio is the ratio of total debt to total assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. P-values are reported in parenthesis.

Panel A: Industry-adjusted changes in ROA

Window	Loss making	Cost cutting	Fall in demand	Plant closure	Reorganization
N	67	40	41	83	133
Δ-3 to 0	-0.018 (0.015)	-0.022 (0.036)	-0.005 (0.633)	-0.022 (0.006)	-0.017 (0.017)
Δ-2 to 0	-0.015 (0.052)	-0.016 (0.157)	-0.007 (0.604)	-0.019 (0.035)	-0.009 (0.109)
Δ-1 to 0	-0.007 (0.324)	-0.003 (0.840)	0.011 (0.318)	-0.014 (0.052)	-0.009 (0.056)
Δ0 to 1	0.006 (0.460)	0.018 (0.105)	-0.007(0.558)	0.002 (0.851)	-0.002 (0.764)
Δ0 to 2	0.011 (0.390)	0.008 (0.464)	0.007 (0.592)	-0.004 (0.740)	0.005 (0.486)
Δ0 to 3	0.001 (0.972)	-0.014 (0.468)	0.008 (0.612)	0.009 (0.321)	0.006 (0.356)

Panel B: Industry-adjusted changes in debt ratio

Δ-3 to 0	0.011 (0.429)	0.061 (0.003)	-0.002 (0.944)	-0.0075 (0.414)	0.0155 (0.111)
Δ-2 to 0	0.009 (0.415)	0.039 (0.011)	0.012 (0.216)	-0.0125 (0.252)	0.0075 (0.314)
Δ-1 to 0	-0.004 (0.613)	0.013 (0.160)	0.007 (0.309)	-0.0065 (0.198)	0.0035 (0.444)
Δ0 to 1	-0.004 (0.533)	-0.006 (0.650)	-0.011 (0.100)	0.0025 (0.677)	0.0080 (0.110)
Δ0 to 2	-0.008 (0.513)	-0.005 (0.826)	-0.020 (0.053)	0.0030 (0.760)	0.0183 (0.033)
Δ0 to 3	-0.013 (0.431)	0.003 (0.867)	-0.032 (0.019)	-0.004(0.805)	0.0060 (0.576)

Panel C: Industry-adjusted changes in interest coverage

Δ-3 to 0	-1.040 (0.137)	-1.663 (0.056)	-0.654 (0.559)	-1.800 (0.029)	-1.163 (0.024)
Δ-2 to 0	-0.666 (0.410)	-1.218 (0.134)	-0.350 (0.766)	-1.643 (0.067)	-0.959 (0.082)
Δ-1 to 0	-0.644 (0.349)	-0.538 (0.285)	0.360 (0.697)	-1.385 (0.021)	-0.528 (0.104)
Δ0 to 1	0.564 (0.308)	0.785 (0.202)	-0.466 (0.624)	0.748 (0.263)	-0.240 (0.474)
Δ0 to 2	0.621 (0.421)	0.280 (0.796)	0.068 (0.954)	0.965 (0.257)	-0.113 (0.834)
Δ0 to 3	-0.390 (0.677)	0.325 (0.833)	1.415 (0.338)	0.900 (0.209)	0.0188 (0.958)

Table 6-10: Changes in labour productivity over the years prior to and following corporate layoffs

This table reports median changes in the industry-adjusted sales per employee and operating profit per employee for a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000 on the basis of the stated reasons for layoffs. Industry-adjusted means (medians) are computed by subtracting the median value for all firms in the same industry (FTSE level 4 industry classification) from the corresponding layoff firm variable. Industry-adjusted changes are tested against zero, using the *Wilcoxon signed rank test* for medians. Sales per employee are defined as the ratio of annual sales to the number of employees. Operating profit per employee is defined as the ratio of operating profit to the number of employees. P-values are reported in parenthesis.

Panel A: Industry-adjusted changes in sales per employee

Window	Loss making	Cost cutting	Fall in demand	Plant closure	Reorganization
N	67	40	41	83	133
Δ-3 to 0	5.190 (0.018)	3.730 (0.234)	1.603 (0.595)	-4.890 (0.016)	-0.510 (0.768)
Δ-2 to 0	3.473 (0.049)	0.923 (0.722)	0.765 (0.746)	-2.672 (0.080)	-0.755 (0.578)
Δ-1 to 0	3.530 (0.022)	1.493 (0.401)	-0.840 (0.660)	-0.488 (0.664)	0.070 (0.934)
Δ0 to 1	5.123 (0.001)	3.992 (0.052)	0.830 (0.742)	0.190 (0.901)	2.685 (0.002)
Δ0 to 2	2.595 (0.215)	4.178 (0.095)	2.310 (0.505)	1.350 (0.495)	1.855 (0.156)
Δ0 to 3	3.085 (0.270)	1.975 (0.587)	3.160 (0.392)	5.335 (0.011)	5.380 (0.027)

Panel B: Industry-adjusted changes in operating profit per employee

Δ-3 to 0	0.165 (0.759)	0.357 (0.562)	0.222 (0.682)	-0.131 (0.692)	-0.148 (0.751)
Δ-2 to 0	0.301 (0.611)	0.525 (0.375)	0.300 (0.460)	-0.255 (0.424)	0.147 (0.677)
Δ-1 to 0	0.335 (0.336)	0.322 (0.489)	0.483 (0.282)	0.065 (0.803)	0.259 (0.287)
Δ0 to 1	1.688 (0.001)	1.441 (0.003)	-0.666 (0.279)	0.010 (0.961)	0.526 (0.032)
Δ0 to 2	1.172 (0.057)	0.955 (0.250)	-0.527 (0.602)	0.112 (0.826)	0.795 (0.048)
Δ0 to 3	0.987 (0.098)	-0.099 (0.940)	0.273 (0.739)	0.171 (0.745)	1.640 (0.005)

Table 6-11: Cross-sectional determinants of layoffs on the basis of the stated reasons for layoffs

The table reports results for logit regressions of the determinants of layoffs for a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000 on the basis of the stated reasons for layoffs. The dependent variable is a binary variable that takes on a value of one for layoff firms, and zero for non-layoff firms. Return on assets (ROA) is defined as earnings before interest, tax, depreciation, and amortization (EBITDA), divided by total assets. Debt ratio [DEBT] is the ratio of total debt divided by total assets. Interest coverage ratio [ICOV] is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. Sales per employee [SEMP] are defined as the ratio of annual sales to the number of employees. Operating profit per employee [OPE] is defined as the ratio of operating profit to the number of employees. Ln (MV) is the natural logarithm of the company's market value of equity [SIZE]. All continuous variables are measured at the financial year-end prior to layoffs. P-values for two-tailed tests of significance are reported in parenthesis.

Model: Layoff = α + ROA + DEBT + ICOV + SEMP + OPE + SIZE + ε

Variable	Loss making	Cost cutting	Fall in demand	Plant closure	Reorganization
Observations	134	84	84	174	270
Constant	-4.935 (0.000)	-6.979 (0.000)	-5.301 (0.000)	-4.793 (0.000)	-4.055 (0.000)
$\Delta ROA_{-1,0}$	-1.729 (0.371)	3.206 (0.596)	-4.118 (0.035)	-1.688 (0.466)	-2.517 (0.121)
DEBT	4.810 (0.031)	-1.526 (0.629)	-8.280 (0.056)	2.184 (0.317)	2.032 (0.115)
ICOV	-0.003 (0.685)	-0.023 (0.383)	0.002 (0.734)	-0.001 (0.820)	-0.002 (0.659)
SEMP	-0.003 (0.568)	-0.001 (0.778)	-0.008 (0.851)	-0.004 (0.236)	-0.000 (0.950)
OPE	-0.042 (0.071)	-0.036 (0.106)	-0.002 (0.937)	-0.046 (0.083)	-0.009 (0.306)
SIZE	0.940 (0.000)	1.320 (0.000)	1.453 (0.000)	1.078 (0.000)	0.723 (0.000)
Log-likelihood	-58.2 (0.000)	-29.7 (0.000)	-27.7 (0.000)	-68.8 (0.000)	-126.9 (0.000)

Table 6-12: Abnormal returns surrounding layoff announcements

The table presents abnormal stock returns for a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000. Abnormal returns are computed as the differences between sample firms' daily returns and the FTSE ALL-Share index. Panel A reports abnormal stock returns for the whole sample. Panel B reports abnormal returns for the sample firms on the basis of the stated reasons for layoffs. Panel C reports abnormal returns for the sample firms on the basis of proactive and reactive strategies. P-values of a two-tailed *Student's t-test* and *Wilcoxon signed rank test* are reported in parentheses.

Statistic	CAR (-750, -2)	CAR (-500, -2)	CAR (-250, -2)	CAR (-1, 1)	AAR (-1)	AAR (0)
Panel A: Whole sample						
N	322	322	322	322	322	322
Mean %	-14.64 (0.000)	-13.63 (0.000)	-9.49 (0.000)	-0.805 (0.018)	-0.806 (0.009)	-0.018 (0.942)
Median %	-11.44 (0.000)	-10.95 (0.000)	-8.20 (0.000)	-0.310 (0.094)	-0.150 (0.223)	-0.001 (0.921)
% (-Ve)	64.6	68.3	67.4	53.7	53.4	50.0

Panel B: The Stated Reason for the layoff

Statistic	Reorganization			Loss making			Plant closure		
	CAR (-1, 1)	AAR (-1)	AAR (0)	CAR (-1, 1)	AAR (-1)	AAR (0)	CAR (-1, 1)	AAR (-1)	AAR (0)
N	135	135	135	67	67	67	87	87	87
Mean %	-0.164 (0.717)	-0.089 (0.820)	-0.123 (0.744)	-2.343 (0.015)	-2.508 (0.009)	0.132 (0.860)	-2.118 (0.005)	-1.715 (0.011)	-0.645 (0.171)
Median %	0.080 (0.811)	0.150 (0.460)	-0.015 (0.931)	-1.498 (0.007)	-1.225 (0.001)	0.130 (0.657)	-0.980 (0.041)	-0.565 (0.044)	-0.320 (0.309)
% (-Ve)	51.9	47.4	50.4	62.7	67.2	43.3	54.0	57.5	51.7

Continued:

Statistic	Fall in demand			Cost cutting		
	CAR (-1, 1)	AAR (-1)	AAR (0)	CAR (-1, 1)	AAR (-1)	AAR (0)
N	42	42	42	42	42	42
Mean %	-0.99 (0.487)	-2.40 (0.039)	1.868 (0.049)	0.551 (0.371)	0.810 (0.164)	-0.355 (0.506)
Median %	-0.225 (0.708)	-1.060 (0.089)	0.795 (0.033)	0.635 (0.352)	0.585 (0.111)	-0.030 (0.891)
% (-Ve)	47.6	59.5	40.5	45.2	42.9	50.0

Panel C: Proactive versus Reactive layoff announcements

Statistic	Proactive strategy			Reactive strategy		
	CAR (-1, 1)	AAR (-1)	AAR (0)	CAR (-1, 1)	AAR (-1)	AAR (0)
N	127	127	127	195	195	195
Mean %	0.20 (0.596)	0.33 (0.317)	-0.12 (0.665)	-1.46 (0.004)	-1.54 (0.001)	0.05 0.897)
Median %	0.24 (0.415)	0.24 (0.205)	-0.02 (0.930)	-0.73 (0.006)	-0.45 (0.012)	-0.02 (0.929)
% (-Ve)	51.2	47.2	49.6	55.4	57.4	50.3

Table 6-13: Abnormal stock returns surrounding layoff announcements on the basis of layoff size and number of announcements

The table presents the abnormal stock returns for a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000 on the basis of the size of layoffs and anticipated versus unanticipated layoffs. Panel A reports abnormal stock returns of firms on the basis of the size of layoffs. Panel B reports abnormal stock returns of firms on the basis of anticipated versus unanticipated layoffs. The size of layoffs is defined as the ratio of layoffs, divided by the number of employees at the financial year-end prior to layoffs or a percentage of layoffs, if given. Unanticipated layoff announcements are defined as those firms with a single layoff announcement during the sample period, while anticipated announcements are a second or further layoff announcement during the sample period. P-values of a two-tailed *Student's t-test* and *Wilcoxon signed rank test* are reported in parentheses.

Panel A: The size of layoffs

Statistics	Above median size of layoffs			Below median size of layoffs		
	CAR (-1,1)	AAR (-1)	AAR (0)	CAR (-1,1)	AAR (-1)	AAR (0)
N	161	161	161	161	161	161
Mean %	-1.17 (0.029)	-1.24 (0.011)	-0.03 (0.952)	-0.44 (0.291)	-0.38 (0.323)	-0.01 (0.964)
Median %	-0.74 (0.019)	-0.49 (0.020)	-0.00 (0.766)	0.03 (0.892)	0.14 (0.352)	0.03 (0.832)
% (-Ve)	57.8	60.2	50.9	49.7	46.6	49.1

Panel B: Anticipated and Unanticipated layoffs

Statistics	Firms with One Announcement			Two or More Announcements		
	CAR (-1,1)	AAR (-1)	AAR (0)	CAR (-1,1)	AAR (-1)	AAR (0)
N	176	176	176	146	146	146
Mean %	-1.163 (0.022)	-0.978 (0.029)	-0.305 (0.476)	-0.374 (0.384)	-0.598 (0.147)	0.327 (0.126)
Median %	-0.470 (0.071)	-0.195 (0.190)	-0.170 (0.196)	-0.115 (0.641)	-0.001 (0.692)	0.235 (0.183)
% (-Ve)	56.3	54.0	52.3	50.7	52.7	47.3

Table 6-14: Relation between stock return prices and operating performance

The table reports an OLS regression of the relation between the announcement period of abnormal stock price returns and the financial characteristics for a sample of 322 UK non-financial firms that announced layoffs during the period 1990-2000. Cumulative abnormal return is calculated over the day prior to, the day of, and the day after the layoff announcement, CAR (-1, 1). ROA is defined as earnings before interest, tax, depreciation, and amortization, divided by total assets. Debt ratio (DEBT) is the ratio of total debt divided by total assets. Interest coverage ratio (COV) is defined as the ratio of pre-tax profit, plus total interest charges divided by total interest charges. Sales per employee (SEMP) are defined as the ratio of annual sales to the number of employees. Operating profit per employee (OPE) is defined as the ratio of operating profit to the number of employees. The size of layoffs (SIZE-LAYOFF) is defined as the ratio of layoffs, divided by the number of employees at the financial year-end prior to layoffs or a percentage of layoffs, if given. All independent financial variables are industry-adjusted and average over the 3 years prior to layoffs. Ln (MV) is the natural logarithm of the company's market value, measured at the financial year-end prior to layoffs. P-values for two-tailed tests of significance are reported in parenthesis.

Model:

Statistic	Coefficient (p-value)
Observations	322
Constant	-0.0403 (0.010)
ROA	-0.1411 (0.002)
DEBT	0.0119 (0.781)
COV	-0.0004 (0.029)
OPE	-0.0002 (0.487)
SEMP	0.0000 (0.849)
SIZE-LAYOFF	0.0422 (0.268)
Ln (MV)	0.0042 (0.040)
Adj – R^2	0.060

Table 6-15: Long run stock returns following layoff announcements

The table reports buy-and-hold abnormal returns (BHARs) for a sample of 322 UK non-financial firms over a period of 3 years following layoffs. The abnormal return is computed as the difference between the monthly sample and control firms' returns. The control firms (matching firms) are constructed on the basis of size and industry over the year prior to layoffs. P-values are reported in parenthesis.

Statistic	Whole sample			Reorganization			Loss making		
	12-month	24-month	36-month	12-month	24-month	36-month	12-month	24-month	36-month
N	317	308	296	134	130	125	65	64	61
Mean %	-3.67 (0.236)	-7.09 (0.113)	-7.29 (0.178)	-0.64 (0.882)	-6.61 (0.204)	-12.60 (0.101)	12.27 (0.116)	9.10 (0.398)	-6.80 (0.607)
Median %	-2.955 (0.243)	-6.201 (0.086)	-8.007 (0.078)	-1.267 (0.734)	-6.405 (0.233)	-8.345 (0.202)	8.180 (0.162)	6.105 (0.459)	-6.005 (0.548)
% (-ve)	53.4	53.1	55.0	52.6	53.3	54.1	40.9	40.9	53.0

(Continued)

Statistic	Plant closure			Fall in demand			Cost cutting		
	12-month	24-month	36-month	12-month	24-month	36-month	12-month	24-month	36-month
N	85	83	80	41	40	38	38	36	33
Mean %	-6.57 (0.398)	-8.90 (0.469)	0.63 (0.595)	-13.98 (0.126)	-7.70 (0.471)	-0.40 (0.975)	-5.45 (0.482)	-20.9 (0.054)	-31.60 (0.085)
Median %	-3.105 (0.590)	-6.735 (0.387)	-7.595 (0.441)	-9.450 (0.182)	-11.57 (0.186)	-14.57 (0.452)	-4.645 (0.371)	-18.48 (0.068)	-26.56 (0.057)
% (-ve)	51.2	54.7	57.0	61.0	63.4	65.9	56.1	61.0	58.5

CHAPTER SEVEN: CEO TURNOVER

7.1 Introduction

The previous chapters have examined asset sales, dividend cuts, and corporate layoffs. This chapter investigates performance changes surrounding CEO turnover. According to Ofek (1993), asset sales, layoffs and CEO turnover are operational actions firms undertake during the period of restructuring in response to mostly adverse economic conditions. On the other hand, dividend cuts are classified as financial actions.

Substantive literature examines mainly two themes that are related to CEO turnover: first, the relationship between firm performance and the likelihood of top management change. The general consensus is that the likelihood of top management change is negatively related to firm performance (Warner *et al.*, 1988; Weisbach, 1988; Denis and Denis, 1995; Huson *et al.*, 2004). Second, previous studies have also examined the speed and power of replacing poorly performing managers. Whether a manager can be replaced quickly following poor performance depends on the effectiveness of both internal and external monitoring systems. Internal monitoring is normally carried out by boards of directors. On the other hand, the external controlling mechanisms include capital markets, legal/political/regulatory systems, product and factor markets, and the market for corporate control.

Fama (1980) believes that boards of directors are not as effective as they are supposed to be when disciplining poorly performing managers. The reasons for this are: first, managerial entrenchment (Morck *et al.*, 1989; Denis *et al.*, 1997b; Dahya *et al.*, 1998; and Franks *et al.*, 2001); second, if a board is dominated by security holders, and looking at the market for risk bearing from the viewpoint of portfolio theory tells us that risk bearers are likely to spread their wealth across many firms and so would not be interested in directly controlling the management of any individual firm (Fama, 1980); and finally, these boards react too late, and take too long to effect major changes (Jensen, 1993).[76]

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[76] Case studies by Donaldson (1990) and Kaiser and Stouraitis (2001) are typical examples highlighting why internal monitoring systems take so long to effect major corporate changes.

Because of the ineffectiveness of the boards of directors, changes within companies are more likely to be associated with external forces (Fama, 1980; and Jensen, 1993). In addition, Mikkelson and Partch (1997) find evidence that the relation between firm performance and CEO turnover is weaker during periods when the threat of takeover is low. Denis and Kruse (2000) also discern that disciplinary events are an important force in motivating managers to make value-enhancing restructuring decisions. Furthermore, Bozec (2005) find that market discipline is positively related to firm profitability and productivity, and that managers to be effective, firms should be exposed to a competitive environment. Collectively, this discussion suggests that there is some interaction between a threat from takeover activity and market competition in disciplining poorly performing managers.

This study is motivated mainly by two issues: first, whilst there is a general consensus that poor performance contributes mostly to CEO turnover, other factors that potentially lead to CEO turnover have not been exhaustively investigated. For example, there is evidence that there is a positive relationship between financial distress and CEO turnover (Gilson, 1989), but this evidence has not been well examined by most of the previous research on corporate governance. Second, there is inconsistent evidence on: (i) whether operating performance improves following CEO turnover; (ii) whether the market for corporate control influences a decision on CEO turnover; and (iii) whether the market reaction to announcements of CEO turnover is significant or not, which calls for a further re-examination of the effect of CEO turnover on the firm's performance. This thesis attempts to fill these gaps.

To provide evidence on the above issues, this study extends earlier research by re-examining the determinants of CEO turnover, the effect of CEO turnover on the firms' performance, and the stock price response to announcements of CEO turnover for a sample of 705 CEO announcements by UK non-financial firms during the period 1993-2000. Evidence is provided relating to three primary hypotheses: first, what factors determine CEO turnover? Second, does firm performance improve following CEO turnover? Finally, what is the market reaction to announcements of CEO turnover?

This chapter re-examines operating performance surrounding CEO turnover, using UK data over the period 1993-2000. It examines performance surrounding CEO turnover as a 'corporate event', and focuses on announcements of CEO turnover for whatever reason. Unlike previous UK studies, it does not therefore focus on any specific event, situation or circumstances such as industries (Cosh and Hughes, 1997), survey-based data (Conyon, 1998), large companies (Conyon and Florou, 2002), or in relation to the implementation of Cadbury proposals (Dahya *et al.*, 2002; and Dedman, 2003). The chapter examines operating performance changes over the period of seven years centred on the year of CEO turnover. This study is, therefore, closely related to the work of Denis and Denis (1995) and Huson *et al.* (2004).

Consistent with previous studies, this study finds that poor performance and high financial leverage preceded non-routine CEO turnover, and there is no significant evidence that there was poor performance or high financial leverage prior to normal CEO turnover. In addition, it is found that managerial ownership is significantly negative related to the likelihood of non-routine CEO turnover. There is also evidence that the market for corporate control plays a significant role in non-routine CEO turnover. The latter finding is consistent with Mikkelson and Partch's (1997) evidence that the takeover market accelerates managerial discipline.

It is also found in this chapter that there is an improvement in performance and financial leverage following non-routine CEO turnover. This evidence is consistent with the improved management hypothesis (Huson *et al.*, 2004). There is also an improvement in operating performance following normal CEO turnover. However, the financial position is insignificant following normal CEO turnover. This is generally consistent with the process of orderly management succession. Finally, it is shown that the market reacts significantly and negatively to announcements of non-routine CEO turnover. This suggests that investors view non-routine CEO departure as a signal of firm financial problems. However, there is no significant market reaction to announcements of normal turnover.

This chapter is organized as follows: Section 7.2 develops hypotheses to be tested in this chapter. Section 7.3 presents empirical results. Finally, section 7.4 offers a summary and conclusion of the chapter.

7.2 Development of hypotheses

In addition to the general hypotheses discussed in Chapter 1, this section briefly discusses the individual hypotheses to be tested in this chapter.

Much of the previous literature finds that the likelihood of top management turnover is negatively related to firm performance (Warner *et al.*, 1988; Weisbach *et al.*, 1995; Huson *et al.*, 2004). This relationship is significant to firms that experienced non-routine CEO turnover. This suggests that poor performance paves the way for non-routine CEO turnover. A manager is an agent who controls a company's day-to-day activities on behalf of a shareholder (a principal). If the company is performing poorly, then this is assumed to be the direct responsibility of the top officer (Huson *et al.*, 2004). Thus, his removal is considered as a remedial action intended to make sure that management's behaviour is consistent with shareholder wealth maximization. Following this observation, one should also expect poor performance to precede non-routine CEO turnover. However, concerning normal succession within a firm, one should not expect poor performance to precede normal CEO turnover. It is therefore hypothesized here that:

$H_{7\text{-}1\ (a)}$: Poor performance leads to non-routine CEO turnover.
$H_{7\text{-}1\ (b)}$: Normal CEO turnover is not associated with poor performance.

Furthermore, Gilson (1989) finds that managerial turnover is more prevalent in financially distressed firms. Firms become financially distressed because of, among other things, poor performance and/or too little cash to cover their debt payments. The act of default or the need to renegotiate debt claims confers significant decision-making power on the firm's creditors, who can possibly further their own interests by choosing new management. In addition, Gilson (1990) presents evidence that bank lenders wield considerable influence over financially distressed firms' investment and financing policies. This is consistent with the view that creditors play a role in governance, which

increases when firm performance lags and debt-holders' claims become more uncertain (Hermalin and Weisbach, 2003). Furthermore, Jensen (1989) suggests that creditors may have greater incentives than shareholders to monitor and change management in exchange for new loans or the restructuring of existing loans. This suggests that board turnover may be particularly high where poor performance is combined with leverage (or low interest cover).[77]

The preceding evidence and argument suggest that financial distress is also associated with CEO turnover. In addition, if poor performance paves the way for non-routine CEO turnover, one should also expect financial leverage to do the same. Nevertheless, empirical evidence as to whether financial distress, unlike poor performance, leads to CEO turnover is scarce. It is therefore hypothesized here that:

$H_{7\text{-}2}$: High financial leverage leads to non-routine CEO turnover.

Prior studies provide evidence that suggests that poor performance increases the likelihood of a firm becoming the target of a takeover attempt. For example, Morck *et al.* (1989) find that the probability of hostile takeovers is inversely related to firm performance, while Mitchell and Lehn (1990) find that firms making value-decreasing acquisitions are subsequently more likely to become targets themselves. Martin and McConnell (1991) find that the rate of management turnover increases following corporate takeovers, and find that pre-takeover performance is significantly worse among those takeover targets that undergo a post-takeover management change.

In addition, Denis and Denis (1995) find that non-routine resignations are due often to external factors such as takeover attempts. Mikkelson and Partch (1997) observe that the relation between firm performance and CEO turnover is weaker during periods when the threat of takeover is low. Furthermore, Hart (1983) and Bozec (2005) find that competition in the product market has a positive and significant impact on firm profitability and productivity, and reduces the amount of managerial slack in an economy. The evidence on takeovers and actions that affect the probability of takeovers suggests that takeovers serve to limit managerial departures from maximization of

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[77] Franks *et al.* (2001) also report the same findings for UK firms.

stockholder wealth (Jensen and Ruback, 1983). By contrast, Huson *et al.* (2001) do not find a relation between turnover rates and levels of takeover activity. These findings suggest that there is some interaction between internal and external corporate control mechanisms, and thus takeovers play a direct role in disciplining poorly performing managers. It is therefore, hypothesized here that the incidence of takeover threat leads to CEO turnover.

$H_{7\text{-}3}$: Takeover threat leads to CEO turnover.

Following the hypothesis 7-3, inefficient managers who are entrenched and have the power to control boards of directors are forced out of the company by the market for corporate control. This implies that the market for corporate control provides a more efficient way of reallocating control of corporate resources (Jensen, 1993; and Dedman, 2003). However, this has been criticised as a "discipline of the last resort". In response to this criticism, Fama (1980) suggests that managers should be subjected to the labour market discipline and simply be replaced by better quality managers if they fail to meet shareholders' expectations.

The preceding evidence suggests that managers differ in quality, and therefore corporate performance should be improved following the removal of poorly performing managers. This is consistent with the improved management hypothesis, which states that non-routine management turnover tends to increase managerial quality and, therefore, expected firm performance. That is, if a departing top manager is accountable for the firm's performance, a trend of declining performance should be reversed following CEO turnover (Huson *et al.*, 2004). It is therefore hypothesized that:

$H_{7\text{-}4}$: Operating performance improves following CEO turnover.

Gilson (1989) discovers that managerial turnover is more prevalent in financially-distressed firms, and either in default or about to default on their debt. Jensen (1989) also provides the findings that suggest that board turnover may be particularly high where poor performance is combined with leverage (or low interest cover). These findings suggest a direct relationship between financial distress and CEO turnover.

However, the evidence on whether a firm's financial position improves following CEO turnover is inconclusive. Dahya *et al.* (1998) find an insignificant decrease in financial leverage following announcements of non-routine top management departures for UK firms.

If financial distress paves the way for CEO turnover, then by implication, an incoming manager has a duty to improve the firm's financial position. Two reasoning supports this observation. First, firms repay their debt in order to avoid bankruptcy costs, which in turn could lead to management losing its perquisites (Gilson, 1989; Jensen, 1989; and Wruck, 1990). Secondly, leverage constrains managerial discretion over financing and investment (Ahn *et al.*, 2006). Using a sample of leveraged capitalizations, Denis and Denis (1993) show a significant reduction in capital expenditure following the increase in leverage. All these suggest that if the firm's debt is not serviced, the firm risks bypassing valuable growth opportunities. In addition, when managerial costs of financial distress are high, managers have incentives to reduce the likelihood of default by borrowing less, choosing less risky investment projects, and managing their firms more efficiently.

Following the preceding discussion, it is hypothesized here that there should be improvement in a firm's financial position over the period following CEO turnover.

$H_{7\text{-}5}$: Financial position improves following CEO turnover.

Investors' perceptions of announcements of CEO turnover can be put into three groups: if investors view a departing manager as a way for a financially troubled or poorly performing firm to survive, they may view such announcements as a good step towards improving the firm's future performance, and such announcements would elicit positive stock returns. Second, if investors view a CEO turnover announcement as a confirmation or signalling of firm financial problems, then a negative stock price reaction would be likely to occur. Finally, if investors are well aware of impending firm failure, the announcement would provide no new information, and the market would not react significantly.

Empirical evidence on announcements of CEO turnover is mixed, although it seems to support all the above arguments. Denis and Denis (1995), Weisbach (1988), and Huson *et al.* (2001) report positive announcement period abnormal share price responses to announcements of non-routine CEO turnover. By contrast, Warner *et al.* (1988) find no significant abnormal stock returns for non-routine top management turnover. Borstadt (1985), Furtado (1985), and Sant (1988) find a negative price effect to CEO resignation announcements.[78] In the UK, Dahya *et al.* (1998) find positive abnormal returns for non-routine CEO turnover and insignificantly negative returns for voluntary turnover announcements. Dedman and Lin (2002) find that the market reaction to CEO turnover is significantly negative to all turnover announcements.

Hermalin and Weisbach (2003) discuss the role of information disclosure in the causes and consequences of CEO turnover. They argue that the market reaction to announcements of forced turnover will be positive when it is based on publicly available information, but negative when based on privately held information.

Given the mixture of these results, the following hypotheses are examined:

$H_{7\text{-}6\,(a)}$: If investors perceive a CEO turnover announcement as an action to improve a firm's performance, one should expect the market to react positively to this announcement.

$H_{7\text{-}6\,(b)}$: If investors view a CEO turnover announcement as a signal of firm financial problems, then a negative stock price reaction would be likely to occur.

$H_{7\text{-}6\,(c)}$: If investors are well aware of firm performance, the CEO announcement would not have an impact on stock prices.

7.3 Empirical results

7.3.1 Sample characteristics

To test the above discussed hypotheses, a UK sample of CEO turnover announcements over the period 1993-2000 is used. The sample of 705 events was drawn from *The Financial Times*, reports from the *UK Regulatory News Service* provided by *FT Extel News*.

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[78] Cited in Furtado and Karan (1990)

Reports, *McCarthy's News Information Service*, *Lexis-Nexis*, and annual company reports. I include in the sample a UK non-financial listed company that has experienced normal and/or forced CEO turnover. In addition, only one announcement per firm per year was included in the sample, and the departed CEO should be the top officer of a company. More details on sample firms used in this chapter are provided in Chapter 3.

7.3.2 Pre-CEO turnover financial performance

This section reports results on the whole sample, non-routine and normal CEO turnover sub-samples. However, the analysis of these results will focus mostly on non-routine and normal CEO changes. Because of the influence of outliers on most of the results presented in this chapter, the analysis will focus on medians (Barber and Lyon, 1996).

7.3.2.1 Financial performance

In Table 7-1 the results on growth rates of unadjusted book assets, sales and the number of employees over the period prior to and after CEO turnover are reported. The results indicate that the growth rate of these variables between years –3 and 0 was significantly positive for both sets of firms. However, the growth rate declines between years –1 and 0 relative to years –3 and 0; and non-routine CEO turnover firms had larger declines for all variables. Furthermore, the results show that over the years following CEO changes, growth rates for all of these variables recover. For example, the growth rate of assets between years 0 and 3 is significantly positive at the 1% level. That of sales in the same period is positive, but insignificant for both sets of firms.

The number of employee results show that the growth rate of normal CEO turnover increases significantly over the years following CEO turnover, and that of non-routine CEO turnover decreases significantly, except between the years 0 and 3. Collectively, these results suggest that non-routine CEO firms tend to grow with a reduced number of employees.

In Table 7-2 the sample firms are compared with control firms along a number of different dimensions underlying the top management change decision.[79] Again, since the control firm selection criterion is based upon the same pre-event performance, naturally there is an insignificant difference in ROA between the sample and control firms. Regarding a firm's financial position, the results show that firms have more financial leverage than control firms, with the median difference significant at the 1% level. This result is similar across almost all measures of financial leverage used in this chapter. The results also show that sample firms were less focused than control firms. Both sets of firms have more lines of business than control firms, with a median difference of 0.5 lines of business. The results on the Herfindahl indexes also support this finding. Collectively, the information in Table 7-2 suggests that those firms that changed top management were more diversified, and had more financial leverage than a sample of control firms with similar performance at the financial year prior to CEO turnover.

Table 7-3 reports industry-adjusted changes in ROA and different measures of financial leverage over the 3 years prior to CEO turnover. Firms that announced non-routine CEO turnover experienced poor performance over three years prior to CEO turnover. The results are statistically significant at the 1% level. For normal CEO changes, the industry-adjusted change in ROA is insignificant in the whole period of analysis. This finding suggests that poor performance precedes non-routine CEO turnover, and is consistent with that of the previous studies of Warner *et al.* (1988), Weisbach (1988), Denis and Denis (1995), and Huson *et al.* (2004).

The results of all three metrics used to measure financial leverage show that the non-routine CEO turnover sub-sample had a poor financial position over the 3 years prior to CEO turnover. These results are statistically significant, mostly at the 1% level. This finding, which is consistent with that of Gilson (1989), suggests that financial leverage also motivates corporate control systems to replace poorly performing managers (Franks *et al.*, 2001). The picture is different when the industry-adjusted change in financial leverage for the normal CEO turnover sub-sample is analysed. None of the three metrics is significant at conventional levels.

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[79] Chapter 3 explains how control firms are constructed in this thesis.

The results presented in Tables 7-2 and 7-3 suggest that non-routine CEO turnover tend to be associated with a trend of poor performance and high financial leverage going back at least 3 years, rather than just with poor performance in the year immediately preceding non-routine CEO turnover. In addition, there is no evidence that normal CEO turnover is associated with poor performance or high financial leverage. In the next section, I investigate whether these factors can jointly explain the CEO turnover decision.

7.3.2.2 Cross-sectional analysis

It has been shown that the decision to replace a top manager is influenced mainly by poor operating performance and the financial condition of the firm. In this section, these factors are examined within a multivariate setting, and logistic regressions are carried out to assess the likelihood of CEO turnover.[80] To investigate this, the general mode discussed in Chapter 3 (equation (3.6)) is used. Three additional factors are included: director's ownership, other directors' ownership, and institutional holdings.

Empirical evidence has shown that internal and external monitoring systems work together to discipline poorly performing managers (Fama, 1980; Fama and Jensen, 1983; Franks *et al.*, 2001; and Conyon and Florou, 2002). There is also another view suggesting that internal control systems alone cannot be effective in performing a disciplinary role because these systems react too late and take too long to effect major changes (Jensen, 1993; and Mikkelson and Partch, 1997). It is therefore apparent that external control systems play an important disciplinary role because it is believed that these systems effect changes quickly (Fama, 1980; and Dedman, 2003).[81] On the other hand, increasing managerial ownership provides incentives to management to increase its commitment towards achieving shareholder wealth. However, there is an argument that increasing managerial ownership creates a stumbling block if a manager were to be

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[80] In the logistic regressions, I remove the borrowing ratio because it is closely related to debt ratio and therefore its inclusion could result in a multicollinearity problem. However, when I substitute borrowing ratio to debt ratio, the results do not change significantly.

[81] Mikkelson and Partch (1997) and Hadlock and Lumer (1997) also provide evidence that the relation between firm performance and CEO turnover is weaker during periods when the threat of takeover is low. This suggests that top managers face reduced disciplinary pressure in periods where there is less takeover activity.

removed because of his inability to maximize the shareholder wealth (Dahya *et al.*, 1998; and Huson *et al.*, 2004).

The preceding discussion suggests that to capture and isolate different factors that are likely to influence the top management change decision, a researcher needs to control a number of corporate governance variables.[82]

The dependent variable takes on the value of one for CEO turnover firms, and zero for control firms. Director's ownership (DR) is the fractional ownership stakes of the departing managers; other directors' ownership (ODR) are the fractional ownership stakes of the firm's directors outside those of the departing CEO; and institutional holdings (INST) are the fraction of the firm's shares held by institutions with a disclosable interest of greater than 3%. All other variables are as discussed in equation (3.6).

The logistic regression results are reported in Table 7-4. As in the previous sections, the analysis will focus mostly on non-routine and normal CEO turnover sub-samples. As would be expected, the decision to displace a top manager is negatively related to previous firm performance. This finding is consistent with much of the previous literature on top management turnover (Warner *et al.*, 1988; Weisbach, 1988; Denis and Denis, 1995; and Huson *et al.*, 2004). However, it is found that the relation between normal CEO turnover and prior operating performance is insignificantly negative.

It is also found that the likelihood of a non-routine CEO change is increasing as the level of financial leverage in the firm increases. The coefficients of debt ratio and interest coverage ratio are significant at the 5% level for the non-routine sub-sample. This finding is consistent with that of Gilson (1989), who reveals a high incidence of CEO turnover following financial distress. In addition, theoretical evidence also shows that creditors often insist on the replacement of managers as a condition for restructuring firms with high financial leverage (Gilson, 1990). For the normal CEO change, however, it is only the coefficient of interest coverage ratio which is statistically different from zero.

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[82] Some prior studies also control for the age and succession variables; I leave them for future research.

On market disciplinary variables, it is found that takeover pressure is positively related to the likelihood of non-routine CEO turnover. This is consistent with the view that the market for corporate control plays an important role in disciplining poorly performing managers (Fama, 1980; and Dedman, 2003). The relation between takeover pressure and normal CEO changes is insignificantly positive. It is interesting to note that financial distress is insignificantly related to the non-routine CEO change, but is significantly and positively related to the normal CEO change. This finding, together with a significant negative relation between interest coverage ratio and normal CEO turnover, suggests that financial distress accelerates normal CEO changes.

On whether managerial ownership insulates managers from being replaced, it is found that a director's ownership is significantly and negatively related to the likelihood of non-routine CEO turnover, and this relationship is statistically significant at the 5% level. However, the coefficient for normal CEO changes is statistically indistinguishable from zero. The coefficient of director's ownership for non-routine CEO changes remains unchanged even after controlling for two more ownership variables, namely, other directors' ownership and institutional holdings.[83] The results also remain unchanged for normal CEO change. None of the coefficients of other directors' ownership and institutional holdings is significant for both sets of firms. These results suggest that the ownership structure of a firm plays an important role in determining the effectiveness of internal managerial control mechanisms. This finding, which is consistent with that of Dahya *et al.* (1998), suggests that CEO turnover occurs more frequently in UK firms in which CEOs own fewer stakes in the firm's shares.

Overall, the logistic results reinforce the earlier findings that non-routine CEO turnover is preceded by poor performance and high financial leverage. In addition, the results show that non-routine CEO turnover occurs mostly when the departing CEO holds a small amount of the firm's equity. Furthermore, the results show that the market for corporate control complements internal control systems in disciplining poorly performing managers.

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[83] As the results do not change significantly, I report only one model for each sub-sample.

7.3.3 Post-CEO turnover operating performance

In this section, operating performance changes following CEO turnover are examined.

7.3.3.1 Financial performance

As with the previous chapters, the performance consequences of CEO turnover are measured by comparing operating returns on assets in the CEO turnover year to those in subsequent years. Also, following Hermalin and Weisbach (2003), it is assumed that CEO turnover is based on information that was previously private and only announced upon the CEO's dismissal and therefore operating performance during the year of the CEO change is a more appropriate benchmark.

In Table 7-5 changes in the industry-adjusted return on assets (ROA), debt ratio, borrowing ratio and interest coverage ratio over the 3 years following CEO turnover are reported. Firm performance increases in each of the three years following non-routine CEO turnover. This is consistent with the improved management hypothesis (Huson *et al.*, 2004). There is also an improvement in operating performance following normal CEO turnover. However, the levels of statistical significance are weaker than those of non-routine CEO turnover. In general, this finding suggests that CEO turnover reverses a trend of poor performance in the years before CEO turnover. The findings here are consistent with those of Denis and Denis (1995) and Huson *et al.* (2004). The results also show that the non-routine CEO turnover sub-sample experienced a significant decline in financial leverage in the years following CEO turnover. This suggests that there is also financial leverage improvement following non-routine turnover. However, the change in financial leverage following normal CEO turnover is not statistically different from that of the industry median.

The results presented in Table 7-5 suggest mainly two things: first, there is an improvement in operating performance and financial leverage following non-routine CEO turnover. Therefore, by displacing poorly performing managers, firms are able to bring in high quality managers who reverse the declining trend of poor performance and the increasing trend of financial leverage. Second, even though poor performance is not directly related to normal CEO transitions, the results suggest that a new manager improves performance following normal CEO turnover.

In this thesis the main assumption is that a corporate event happens in year 0, and therefore performance changes are computed relative to year 0.[84] However, many of the previous studies on CEO turnover compute performance changes relative to year –1 (Denis and Denis, 1995; and Huson *et al.*, 2004), among others. As a robust check, these changes are also computed relative to year –1. The results are reported in Table 7-6. Non-routine CEO turnover firms experienced a *significantly* negative industry-adjusted changes in ROA over the 3 years prior to CEO turnover. However, over the 3 years following non-routine CEO turnover, firm performance is statistically indistinguishable from zero. For normal CEO turnover, the industry-adjusted changes in ROA are not significant over the 3 years prior to and after CEO announcements, except for a change from year –1 to +2. The median industry-adjusted change in ROA in this period is significant and positive at the 5% level.

7.3.3.2 Turnover-performance relation over time

The results so far show that top managers are forced out of office because of poor performance and high financial leverage, and there is improvement in both, following non-routine CEO turnover. On the other hand, normal CEO turnover is not preceded by poor performance or high financial leverage and there is an improvement in operating performance thereafter. These results generally assume that the relation between CEO turnover and the financial variables examined is the same for the whole period of analysis, that is, 1993-2000. However, the sensitivity of turnover to performance may vary across different time periods.

Previous studies on UK firms have addressed this issue. Dedman (2003) and Dahya *et al.* (2002) address this issue and concentrate on the impact of the Cadbury proposals, and divide their sample firms into two periods: before and after Cadbury (1992). Nevertheless, the periods before and after the Cadbury committee contain two contrasting periods of general economic performance in the UK. The pre-Cadbury period is associated with a recessionary period and the post period is associated with higher growth and improved economic performance. Following the different economic

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[84] For example, in the case of CEO turnover, the assumption is that a new manager comes in between years 0 and 1.

performance in these periods, it is not surprising to find that both studies yield inconclusive results on the temporary stability of the management turnover-performance relation. Conyon and Florou (2002) divided their sample into groups of 1991-1994 versus 1995-1997. They find that managers are more likely to depart voluntarily nowadays compared with previously. However, their results are mixed when they analyse non-routine CEO turnover. In general, the authors do not find evidence that the disciplining effect of top executives has strengthened over time.

In this section, the study also examines whether firm performance varies across different time periods of CEO turnover. Sample firms are partitioned into two groups: 1993-1996 and 1997-2000,[85] and an investigation is conducted into whether there is a significant difference between these groups in the relation between management turnover and firm performance. Two analyses are conducted. First, industry-adjusted changes in the return on assets (ROA) over the 3 years prior to and after announcements of CEO turnover are examined. In this analysis, the differences between these groups are also computed.

The results are reported in Table 7-7. The non-routine CEO turnover firms experienced poor performance prior to CEO turnover, regardless of whether firms were divided into groups of 1993-1996 or 1997-2000 periods, and the difference between these groups is insignificant. Over the 3 years following non-routine CEO turnover, firm performance improves in each of the 3 years relative to the year 0 for the sample firms that dismissed their CEOs during the 1993-1996 period. It is interesting to note that firms that replaced their CEOs during the 1997-2000 period did not exhibit performance improvement in each of the 3 years following CEO turnover.

The normal CEO turnover results are mixed. There is weak evidence that firms that had normal CEO changes during the 1993-1996 period experienced a decline in operating performance over the years prior to normal CEO changes. However, the results show that there was a marginal increase in operating performance for firms that had normal CEO changes during the 1997 - 2000 period. Subsequent to normal CEO turnover, there is an improvement in operating performance, which is significant at the 1% level.

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[85] This partition is simply to split the sample period into two groups of an equal number of years.

Interestingly, there is a decline in operating performance following normal CEO changes during the 1997-2000 period. In addition, the difference in industry-adjusted changes in ROA between the 1993-1996 and 1997-2000 groups is significant at 1% in the years 2 and 3, relative to the year 0. The results presented in Table 7-7 suggest two main things: first, the relation between management turnover and performance prior to CEO turnover is the same for the entire 1993-2000 period for both sets of firms. Secondly, firm performance following CEO turnover varies over the 1993-2000 period for normal and non-routine CEO changes.

Second, to examine whether the relation between management turnover and firm performance is the same for the entire 1993-2000 period, this section also conducts a cross-section analysis in a fashion analogous to that in equation 7.1. The results for logistic regressions are reported in Table 7-8. The coefficient of ROA is significant and negative for non-routine CEO turnover firms for both the 1993-1996 and 1997-2000 groups. This is further evidence that poor performance is the most important factor that leads to non-routine CEO turnover. None of the coefficients of ROA in the normal turnover regression is significant. Debt ratio is insignificant for both sets of firms when these firms are divided into different periods of CEO turnover. However, the coefficients for interest coverage ratio are significant and negative for all groups, and for both sets of firms.

It is found that takeover threat is significantly positive in the 1997-2000 period for non-routine CEO turnover and insignificant in the 1993-1996 period, as well as in both periods for the normal CEO change. The coefficients of financial distress are significantly positive in the 1993-1996 period for normal CEO turnover and none is significant for non-routine CEO turnover. Over the entire 1997-2000 period, none of the firms that announced normal CEO turnover exhibited significant financial distress pressure from creditors. It is also found that director's ownership is significantly negative in the 1997-2000 period for non-routine CEO turnover. This finding, together with a significant and positive relation between non-routine CEO turnover and takeover threat in the same period, suggests that internal and external monitoring systems were more effective in the 1997-2000 period than in the 1993-1996 period in disciplining poorly performing managers.

In summary, the results remain generally the same, regardless of the distribution of firms according to the years of announcements of CEO turnover. That is, poor performance leads to top management dismissals.

7.3.3.2 Post-turnover restructuring activities

Previous studies have documented significant corporate downsizings following other organizational changes.[86] In order to provide additional details of the extent of restructuring activities following CEO turnover, I searched the same documents as for asset sales, dividends[87] and layoffs. Table 7-9 reports the incidence of these restructurings for non-routine and normal CEO turnover, and also for control firms. Non-routine turnover firms undertook more asset sales over the 3 years following CEO turnover than was the case for normal turnover. About 42.6% of the non-routine firms announced asset sales, against 20.8% of control firms and 33.1% for normal turnover. This finding is inconsistent with that of Denis and Denis (1995) who indicate approximately the same percentage for both non-routine resignations and normal retirements of their sample. In addition, about 13.5% of non-routine CEO turnover firms announced corporate layoffs against 1.52% of control firms and 9.3% for normal CEO changes.

Furthermore, non-routine turnover firms reduced and omitted more dividends than control firms and normal turnover firms. About 12.9% and 11.2% of non-routine CEO turnover firms announced dividend decreases and omissions post-CEO turnover, respectively. The corresponding percentages for control firms and normal CEO change firms are 5.58% and 5.33%, and 9.0% and 6.43%, respectively. Finally, the results show that the non-routine firms announced fewer dividend increases and initiations than control and normal CEO turnover firms. Taken together, these results are consistent with Weisbach's (1995) finding that incoming CEOs often reverse the policies of previous CEOs.

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[86] For changes in total assets, employment, and capital expenditure following large mergers see Healy, Palepu and Ruback (1992). For changes following large asset downsizing, see Denis and Shome (2005). For changes following management changes, see Denis and Denis (1995) and Huson *et al.* (2004).

[87] I also searched for dividend increases and initiations.

7.3.3.3 Sensitivity analysis

It has been shown that there is an improvement in firm performance following non-routine CEO turnover. These results could be associated with different factors that are not necessarily the result of improved managerial capacity. For example, the results could be driven by firms that acquired other companies after replacing the CEO. Alternatively, the findings could be attributable to a mean reversion in earnings.

To investigate these possibilities, two sensitivity checks are conducted: first, industry-adjusted changes in ROA for the non-routine CEO turnover sub-sample are analysed after removing all firms that undertook mergers.[88] Second, the return on assets for control firms is compared with that of non-routine CEO turnover firms. Barber and Lyon (1996) believe that matching sample firms to firms with similar performance before an event helps to control for the mean-reversion tendency of a performance measure.

The results are presented in Table 7-10. Panel A reports results on industry-adjusted changes in ROA following non-routine CEO turnover, after removing firms that undertook acquisitions over the post-turnover period. There is an improvement in operating performance for non-routine CEO turnover firms, even after removing firms that undertook mergers and acquisitions. Panel B of Table 7-10 reports returns on assets for sample and control firms in different periods. The results show that the observed performance improvements are attributable to CEO turnover and are not caused by mean reversion in earnings.

7.3.4 Stock returns

In this section the results on stock returns for sample firms that announced CEO turnover are reported. The results are divided into two groups: abnormal stock returns surrounding announcements of CEO turnover, and long run stock returns following CEO turnover.

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[88] The Acquisitions Monthly journal was searched for companies that undertook mergers and acquisitions over the sample period, 1993-2000. About 75 (or 19.0%) firm-observations for the non-routine CEO turnover undertook mergers and acquisitions in the 3 years following top management changes.

7.3.4.1 Market response to CEO turnover announcements

Chapter 3 explains how abnormal stock returns are calculated in this thesis. The abnormal stock returns on the day prior to and the day of CEO turnover announcements, and the cumulative abnormal returns in the three days surrounding turnover announcements are presented in Table 7-11. The cumulative abnormal return, CAR (-1, 1), of all announcements is –0.85% (p-value = 0.012), non-routine turnover is –1.37% (p-value = 0.008) and normal turnover is –0.24% (p-value = 0.551). These results are consistent with the hypothesis that investors view a forced CEO turnover announcement as a signal of a firm's financial problems. On the other hand, insignificant abnormal market returns on the announcement of normal CEO turnover suggest that investors perceive this announcement as a normal succession firm's management.

Previous studies document mixed results on the market reaction to announcements of CEO turnover. Weisbach (1988), Denis *et al.* (1995), and Huson *et al.* (2001) document positive announcement period abnormal share price returns for announcements of non-routine CEO turnover. By contrast, Warner *et al.* (1988) find no significant abnormal return for non-routine top management turnover. In the UK, Dahya *et al.* (1998) find positive abnormal returns for non-routine CEO turnover and insignificantly negative returns for voluntary turnover announcements. Dedman and Lin (2002) find that the market reaction to CEO turnover is significantly negative for all turnover announcements. However, Dedman and Lin did not distinguish between non-routine and normal CEO changes.

7.3.4.2 Long run stock returns

The long run stock returns following CEO turnover are calculated using the buy-and-hold strategy. The buy-and-hold abnormal returns (BHARs) for sample firms are computed as the difference between sample firms BHARs and that of control firms.[89] Control firms are constructed on the basis of size and industry. Table 7-12 presents long run stock returns results following CEO changes. The sample firms significantly under-performed when compared to the control firms in years 1 and 2 following CEO turnover for both sets of firms. However, the performance of stock returns is

[89] For more details on this methodology, see Chapter 3.

insignificantly negative in year 3 for both sets of firms. The results are, in general, consistent with the findings of Huson *et al.* (2004).

These results are surprising, especially for normal CEO turnover, because there were no significant abnormal market returns on days surrounding the normal CEO turnover announcement. Over time, results on the long run performance of stock returns following corporate events have been criticised, mainly because they contradict the market efficiency hypothesis. For example, Fama (1998) contends that most studies on long run stock returns following corporate events are subject to methodological problems covering the bad model and misspecification of significance tests. Nevertheless, following these observations the results presented in Table 7-12 cannot be associated with the bad model phenomenon as put forward by Fama (1998), or with the long run underperformance of sample firms. I leave this for future research.

7.4 Summary and conclusion

This chapter has contributed to research that examines the financial performance of firms surrounding CEO turnover, the relationship between governance and firm performance, and the market reaction to announcements of CEO turnover. Using a sample of 705 CEO turnover announcements for a sample of UK non-financial firms during the 1993-2000 period, evidence is presented of substantial poor performance and high financial leverage prior to non-routine turnover. Firms that experienced normal CEO turnover did not exhibit poor performance or high financial leverage prior to CEO turnover.

Companies that experienced non-routine CEO turnover do undertake several restructuring activities following CEO turnover. These firms substantially downsize their assets, reduce employment levels, and cut dividends relative to control and normal CEO turnover firms. Firm performance and financial position improve in each of the 3 years following non-routine CEO turnover. There is also firm performance improvement following normal CEO turnover. However, the financial position of these firms is not statistically distinguishable from their industry peers. The observed performance improvement following non-routine CEO turnover is consistent with the improved management hypothesis (Huson *et al.*, 2004).

The market reaction to announcements of non-routine CEO turnover is significantly negative and suggests that that investors view a forced CEO turnover announcement as a signal of firm financial problems or of impending firm failure. It also signals the declining investment opportunities of the firm, and managers are dismissed because of a belief that they are a cause of the phenomenon. However, there is no significant market reaction to announcements of normal CEO turnover.

The results on performance improvement and the reduction in high financial leverage following non-routine CEO turnover support the view that managers differ in quality, and therefore the firm performance should be improved following the removal of poorly performing managers (Fama, 1980; and Dedman, 2003). The fact that managerial ownership is shown to be negatively related to non-routine CEO turnover and the market for corporate control is shown to be positively related to non-routine CEO turnover, imply that both internal and external monitoring systems work together to discipline poorly performing managers.

The firm performance results prior to non-routine CEO turnover show that poor performance goes back to the year 3 prior to management changes. This raises the question as to why managers of these firms are not replaced in more timely fashion. That is, why do firms take so long to dismiss apparently poorly performing managers? Future research on these issues would be particularly informative.

The present chapter has examined in detail the causes and effects of top management changes. The next chapter, which combines all empirical chapters in this thesis, dwells on the causes and outcomes of corporate restructuring decisions. Several issues are empirically examined to provide the evidence related to whether restructuring increases a firm's efficiency and value.

Table 7-1: Median percentage changes in total assets, sales, and number of employees

The table reports median percentage changes in total assets, sales, and the number of employees for a sample of 705 UK non-financial firms that announced CEO turnover during the period 1993-2000. The significance of changes is measured using a two-tailed *Wilcoxon signed rank test*; and p-values are reported in parenthesis.

		Median percentage changes between years				
Sample	N	-3 and 0	-1 and 0	0 and 1	0 and 2	0 and 3
Panel A: Book value of total assets						
All changes	685	19.65 (0.000)	2.200 (0.003)	2.750 (0.000)	9.100 (0.000)	19.15 (0.000)
Non-routine changes	377	16.75 (0.000)	-0.750 (0.509)	1.000 (0.349)	5.700 (0.007)	14.85 (0.000)
Routine changes	308	22.55 (0.000)	5.250 (0.000)	4.550 (0.000)	12.50 (0.000)	23.60 (0.000)
Panel B: Sales						
All changes	691	18.60 (0.000)	2.950 (0.000)	3.150 (0.000)	4.500 (0.006)	3.250 (0.239)
Non-routine changes	382	13.65 (0.000)	-0.250 (0.815)	1.000 (0.368)	-0.050 (0.974)	0.550 (0.883)
Routine changes	309	23.70 (0.000)	6.150 (0.000)	5.550 (0.000)	9.550 (0.000)	6.100 (0.136)
Panel C: Number of employees						
All changes	680	8.750 (0.000)	0.450 (0.439)	-1.250 (0.036)	-0.150 (0.902)	1.900 (0.287)
Non-routine changes	374	9.150 (0.000)	-0.700 (0.364)	-3.950 (0.000)	-4.200 (0.021)	-3.300 (0.203)
Routine changes	306	8.250 (0.000)	1.800 (0.026)	1.550 (0.040)	4.050 (0.014)	7.650 (0.002)

Table 7-2: Descriptive statistics for sample versus control firms in the pre-CEO turnover year

The table reports the mean [median] for selected financial variables at the financial-end prior to announcements of CEO turnover for a sample of 705 UK non-financial firms that announced CEO turnover during the period 1993-2000. Panel A reports results for all CEO turnover. Panel B reports results for the non-routine sub-sample. Panel C reports results for normal CEO changes. ROA is defined as earnings before interest, tax, depreciation, and amortization, divided by total assets. Debt ratio is the ratio of total debt to total assets. Borrowing ratio is the ratio of total debt to the difference between equity capital and reserves, and intangible assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges to total interest charges. The number of segments relates to the number of reported 3-digit SIC lines of business that our sample firms operated in. The Herfindahl index is calculated as the sum of segments' sales squared divided by total sales squared, where sales are defined as the 3-digit SIC level. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed test* for the medians are reported in parenthesis.

Panel A: All changes

Variable	Sample firms	Control firms	Differences
Observations	705	705	705
ROA	0.0828 (0.000) [0.1175 (0.000)]	0.0862 (0.000) [0.1185 (0.000)]	-0.004 (0.180) [-0.000 (0.371)]
Debt ratio	0.401 (0.027) [0.204 (0.000)]	0.188 (0.000) [0.165 (0.000)]	0.214 (0.238) [0.037 (0.000)]
Borrowing ratio	0.808 (0.000) [0.5160 (0.000)]	0.528 (0.012) [0.3465 (0.000)]	0.274 (0.370) [0.1435 (0.000)]
Interest coverage	13.57 (0.000) [4.855 (0.000)]	98.8 (0.023) [6.415 (0.000)]	-86.0 (0.051) [-1.415 (0.000)]
Number of segments	2.113 (0.000) [2.000 (0.000)]	1.646 (0.000) [1.500 (0.000)]	0.489 (0.000) [0.500 (0.000)]
Herfindahl index	0.720 (0.000) [0.742 (0.000)]	0.761 (0.000) [0.772 (0.000)]	-0.043 (0.011) [-0.033 (0.004)]

Panel B: Non-routine changes

Observations	394	394	394
ROA	0.0648 (0.000) [0.1095 (0.000)]	0.0716 (0.000) [0.1110 (0.000)]	-0.008 (0.111) [0.000 (0.591)]
Debt ratio	0.563 (0.084) [0.219 (0.000)]	0.201 (0.000) [0.178 (0.000)]	0.364 (0.263) [0.044 (0.000)]
Borrowing ratio	0.693 (0.019) [0.5165 (0.000)]	0.666 (0.076) [0.3730 (0.000)]	0.020 (0.967) [0.1265 (0.003)]
Interest coverage	14.70 (0.014) [4.275 (0.000)]	110.2 (0.137) [5.730 (0.000)]	-97.0 (0.197) [-1.140 (0.021)]
Number of segments	2.148 (0.000) [2.000 (0.000)]	1.622 (0.000) [1.500 (0.000)]	0.557 (0.000) [0.500 (0.000)]
Herfindahl index	0.714 (0.000) [0.741 (0.000)]	0.747 (0.000) [0.759 (0.000)]	-0.033 (0.155) [-0.029 (0.076)]

Panel C: Normal changes

Variable	Sample firms	Control firms	Differences
Observations	311	311	311
ROA	0.1059 (0.000) [0.1270 (0.000)]	0.1050 (0.000) [0.1270 (0.000)]	0.001 (0.513) [0.000 (0.485)]
Debt ratio	0.200 (0.000) [0.187 (0.0000]	0.172 (0.000) [0.152 (0.000)]	0.028 (0.030) [0.031 (0.002)]
Borrowing ratio	0.948 (0.003) [0.5105 (0.000)]	0.3556 (0.000) [0.3240 (0.000)]	0.591 (0.078) [0.1572 (0.000)]
Interest coverage	12.15 (0.000) [5.655 (0.000)]	62.6 (0.004) [7.230 (0.000]	-50.3 (0.022) [-1.750 (0.005)]
Number of segments	2.067 (0.000) [2.000 (0.000)]	1.680 (0.000) [1.500 (0.000)]	0.399 (0.000) [0.500 (0.000)]
Herfindahl index	0.728 (0.000) [0.744 (0.000)]	0.778 (0.000) [0.788 (0.000)]	-0.053 (0.027) [-0.035 (0.021)]

Table 7-3: Operating performance and financial leverage over the years prior to CEO turnover

This table reports mean [median] changes in the industry-adjusted ROA, debt ratio, borrowing ratio, and interest coverage ratio for a sample of 705 UK non-financial firms that announced CEO changes during the period 1993-2000. Panel A reports results for all CEO turnover. Panel B reports results for the non-routine sub-sample. Panel C reports results for normal CEO changes. ROA is defined as earnings before interest, tax, depreciation and amortization (EBITDA), divided by total assets. Debt ratio is the ratio of total debt to total assets. Borrowing ratio is the ratio of total debt to the difference between equity capital and reserves, and intangible assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges to total interest charges. The fractions of all changes that are positive are reported below the medians. Cumulative is defined as the difference between year 0 and the median of year –1, -2, and –3. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed test* for the medians are reported in parenthesis.

Panel A: All Changes

Window	N	ROA	Debt ratio	Borrowing ratio	Interest coverage
Δ-3 TO 0	659	-0.0470 (0.002) [-0.0275 (0.000)] 41.6	0.0284 (0.000) [0.0240 (0.000)] 56.0	0.162 (0.764) [0.0635 (0.001)] 57.2	-5.08 (0.052) [-2.42 (0.000)] 40.2
Δ-2 TO 0	668	-0.0313 (0.071) [-0.0210 (0.000)] 41.3	0.0191 (0.003) [0.0165 (0.000)] 56.5	-0.119 (0.839) [0.0430 (0.008)] 55.6	-1.51 (0.552) [-1.780 (0.000)] 40.0
Δ-1 TO 0	681	-0.0195 (0.186) [-0.0125 (0.000)] 46.7	0.0075 (0.099) [0.0070 (0.017)] 55.6	0.343 (0.386) [0.0325 (0.010)] 54.8	-0.69 (0.700) [-0.825 (0.002)] 45.1
Cumulative	655	-0.0507 (0.001) [-0.0250 (0.000)] 41.2	0.0237 (0.000) [0.0170 (0.000)] 57.1	0.416 (0.367) [0.0445 (0.002)] 55.4	-1.10 (0.555) [-1.955 (0.000)] 38.7

Panel B: Non-routine changes

Δ-3 TO 0	358	-0.0985 (0.000) [-0.0570 (0.000)] 35.2	0.0407 (0.000) [0.0380 (0.000)] 58.2	0.232 (0.812) [0.0960 (0.004)] 59.2	-11.86 (0.001) [-4.705 (0.000)] 33.2
Δ-2 TO 0	362	-0.0775 (0.002) [-0.0525 (0.000)] 31.8	0.0295 (0.005) [0.0305 (0.000)] 60.4	-0.340 (0.745) [0.0630 (0.034)] 56.8	-5.74 (0.033) [-3.763 (0.000)] 31.6
Δ-1 TO 0	375	-0.0551 (0.003) [-0.0315 (0.000)] 39.2	0.0104 (0.153) [0.0115 (0.013)] 56.8	0.839 (0.201) [0.0575 (0.007)] 57.3	-4.73 (0.041) [-2.010 (0.000)] 40.6

Cumulative	354	-0.1015 (0.000) [-0.0565 (0.000)] 31.4	0.0367 (0.000) [0.0310 (0.000)] 60.8	0.708 (0.396) [0.0705 (0.008)] 57.8	-6.04 (0.002) [-4.025 (0.000)] 30.3

Panel C: Normal changes

Window	N	ROA	Debt ratio	Borrowing ratio	Interest coverage
Δ-3 TO 0	302	0.0138 (0.570) [-0.0035 (0.523)] 49.0	0.0168 (0.037) [0.0100 (0.056)] 53.5	0.078 (0.682) [0.0350 (0.074)] 54.8	2.99 (0.443) [-0.0800 0.856)] 48.4
Δ-2 TO 0	306	0.0238 (0.302) [0.0030 (0.428)] 52.9	0.0081 (0.254) [0.0035 (0.473)] 51.8	0.150 (0.504) [0.0235 (0.175)] 54.1	3.51 (0.441) [0.0500 (0.901)] 50.0
Δ-1 TO 0	306	0.0244 (0.294) [0.0025 (0.466)] 56.2	0.0044 (0.353) [0.0030 (0.453)] 54.4	-0.262 (0.467) [0.0110 (0.455)] 52.1	4.22 (0.133) [0.1500 (0.629)] 50.7
Cumulative	302	0.0091 (0.690) [-0.0005 (0.881)] 53.0	0.0096 (0.127) [0.0050 (0.210)] 52.8	0.066 (0.695) [0.0215 (0.155)] 52.5	4.70 (0.158) [-0.0775 0.828)] 48.7

Table 7-4: Cross-sectional determinants of CEO turnover

The table reports results for logit regressions of the determinants of CEO turnover for a sample of 705 UK non-financial firms that announced CEO changes during the period 1993-2000. Dependent variable is a binary variable that takes on a value of one for sample firms and zero for control firms. ROA is defined as earnings before interest, tax, depreciation and amortization (EBITDA), divided by total assets. Debt ratio (DEBT) is the ratio of total debt to total assets. Interest coverage ratio (ICV) is defined as the ratio of pre-tax profit, plus total interest charges to total interest charges. Takeover pressure (TKV) is a binary variable set equal to one, where the company encountered takeover pressure over the 12 months prior to CEO changes, and zero otherwise. Financial distress (DSTRS) is a binary variable set equal to one, where the company encountered financial distress over the 12 months prior to CEO turnover, and zero otherwise. Director's ownership (DR) is the fractional ownership stakes of the departing managers; other directors' ownership (ODR) are the fractional ownership stakes of the firm's directors; institutional holdings (INST) are the fraction of the firm's shares held by institutions with a disclosable interest of greater than 3%. Firm size (SIZE) is measured by the natural logarithm of the company's market value of equity. All continuous variables are measured at the financial year-end prior to CEO turnover. P-values for a two-tailed test of significance are reported in parentheses.

Model: $CEO = \alpha + ROA + DEBT + ICOV + TKV + DSTRS + DR + ODR + INST + SIZE + \varepsilon$

Variable	All changes	Non-routine changes	Normal changes
Observations	1410	788	622
Constant	-0.9847 (0.000)	-1.0935 (0.004)	-0.9569 (0.025)
$\Delta ROA_{-1,0}$	-1.1743 (0.002)	-1.5078 (0.002)	-0.5082 (0.544)
$DEBT_{-1}$	0.8208 (0.043)	0.9032 (0.054)	1.2030 (0.114)
$ICOV_{-1}$	-0.0033 (0.001)	-0.0037 (0.011)	-0.0029 (0.042)
$TKV_{12\ months}$	1.1075 (0.001)	1.3310 (0.003)	0.7707 (0.152)
$DSTRS_{12\ months}$	0.9437 (0.024)	0.4322 (0.407)	1.9104 (0.019)
DR_{-1}	-0.8063 (0.210)	-3.007 (0.013)	0.1756 (0.837)
ODR_{-1}	-0.7430 (0.876)	-1.335 (0.843)	-1.295 (0.851)
$INST_{-1}$	-0.3880 (0.326)	-0.2629 (0.610)	-0.5401 (0.397)
$SIZE_{-1}$	0.2656 (0.000)	0.2782 (0.000)	0.2621 (0.000)
Log-likelihood	-665.656 (0.000)	-348.398 (0.000)	-309.193 (0.000)

Table 7-5: Changes in operating performance and financial leverage over the period following CEO turnover

The table reports mean [median] changes in industry-adjusted return on assets (ROA), debt ratio, borrowing ratio and interest coverage ratio for a sample of 705 UK non-financial firms that announced CEO changes during the period 1993-2000. Panel A reports results for all CEO turnover. Panel B reports results for the non-routine sub-sample. Panel C reports results for normal CEO changes. ROA is defined as earnings before interest, tax, depreciation and amortization (EBITDA), divided by total assets. Debt ratio is the ratio of total debt to total assets. Borrowing ratio is the ratio of total debt to the difference between equity capital and reserves, and intangible assets. Interest coverage ratio is defined as the ratio of pre-tax profit, plus total interest charges to total interest charges. The fractions of all changes that are positive are reported below the medians. Cumulative is defined as the difference between the median of year +1, +2, and +3; and year 0. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed test* for the medians are reported in parenthesis.

Panel A: All changes

Window	N	ROA.	Debt ratio	Borrowing ratio	Interest coverage
Δ+1 TO 0	636	0.0184 (0.201) [0.0550 (0.120)] 52.0	-0.0035 (0.385) [-0.0030 (0.232)] 46.4	-0.804 (0.161) [0.0070 (0.533)] 52.2	1.07 (0.641) [0.7125 (0.016)] 54.2
Δ+2 TO 0	592	0.0172 (0.321) [0.0140 (0.001)] 57.4	0.0011 (0.857) [-0.0065 (0.109)] 45.8	-1.186 (0.033) [-0.0440 (0.015)] 41.9	2.94 (0.302) [1.433 (0.000)] 58.4
Δ+3 TO 0	534	0.0384 (0.004) [0.0150 (0.002)] 55.6	0.0024 (0.729) [-0.0045 (0.424)] 45.9	-1.034 (0.191) [-0.0405 (0.134)] 45.0	4.30 (0.184) [1.410 (0.002)] 55.8
Cumulative	529	0.0496 (0.000) [0.0155 (0.000)] 57.8	-0.0064 (0.212) [-0.0085 (0.028)] 43.4	-0.948 (0.108) [-0.0395 (0.012)] 43.4	1.36 (0.533) [1.280 (0.000)] 57.8

Panel B: Non-routine changes

Δ+1 TO 0	345	0.0533 (0.001) [0.0190 (0.004)] 56.8	-0.0132 (0.018) [-0.0100 (0.009)] 42.8	-1.650 (0.113) [-0.0100 (0.543)] 50.0	2.91 (0.170) [1.568 (0.001)] 58.5
Δ+2 TO 0	321	0.0340 (0.145) [0.0170 (0.011)] 56.7	-0.0040 (0.664) [-0.0160 (0.012)] 40.1	-2.098 (0.037) [-0.0900 (0.004)] 39.1	1.73 (0.483) [1.710 (0.001)] 58.6
Δ+3 TO 0	292	0.0553 (0.009) [0.0200 (0.009)] 55.8	-0.0009 (0.934) [-0.0130 (0.130)] 41.8	-2.240 (0.098) [-0.100 (0.023)] 43.3	-0.15 (0.975) [2.047 (0.001)] 59.5
Cumulative	289	0.0625 (0.000)	-0.0115 (0.146)	-1.560 (0.143)	1.42 (0.498)

		[0.0185 (0.001)] 57.8	[-0.0160 (0.008)] 39.6	[-0.076 (0.005)] 41.6	[1.788 (0.000)] 61.0

Panel C: Normal changes

Δ+1 TO 0	291	-0.0229 (0.348) [-0.0045 (0.263)] 46.7	0.0066 (0.266) [0.0040 (0.290)] 50.3	0.206 (0.250) [0.0230 (0.100)] 54.5	-1.12 (0.795) [-0.1100 (0.783)] 49.1
Δ+2 TO 0	271	-0.0032 (0.903) [0.0110 (0.040)] 57.9	0.0054 (0.511) [0.0030 (0.532)] 52.6	-0.090 (0.657) [-0.0045 (0.844)] 45.1	4.40 (0.428) [1.070 (0.058)] 57.8
Δ+3 TO 0	242	0.0179 (0.227) [0.0100 (0.099)] 55.4	0.0037 (0.668) [0.0040 (0.548)] 50.8	0.424 (0.484) [0.0130 (0.698)] 46.5	9.69 (0.021) [0.5975 (0.365)] 51.2
Cumulative	240	0.0341 (0.003) [0.0135 (0.004)] 57.9	-0.0024 (0.713) [-0.0010 (0.871)] 47.9	-0.202 (0.242) [-0.0115 (0.541)] 45.0	1.29 (0.755) [0.6550 (0.148)] 53.9

Table 7-6: Changes in operating performance: alternative benchmark

The table reports mean [median] changes in the industry-adjusted return on assets (ROA) for a sample of 705 UK non-financial firms that announced CEO changes during the period 1993-2000 on the basis of an alternative benchmark. ROA is defined as earnings before interest, tax, depreciation and amortization (EBITDA), divided by total assets. The fractions of all changes that are positive are reported below the medians. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed test* for the medians are reported in parenthesis.

Windows	N	Forced CEO turnover	N	Normal CEO turnover
Δ-3 to –1	369	-0.0381 (0.002) [-0.0165 (0.000)] 56.1	304	-0.0307 (0.186) [-0.0070 (0.116)] 52.0
Δ-1 to +1	341	0.0020 (0.904) [-0.0025 (0.716)] 51.6	288	0.0022 (0.835) [-0.0010 (0.832)] 47.9
Δ-1 to +2	316	-0.0151 (0.506) [-0.0070 (0.309)] 53.2	269	0.0210 (0.065) [0.0130 (0.016)] 41.6
Δ-1 to +3	287	0.0169 (0.418) [0.0020 (0.799)] 49.8	240	0.0151 (0.317) [0.0105 (0.105)] 45.0

Table 7-7: Turnover-performance relation over time

This table reports median industry-adjusted changes in ROA for a sample of 705 UK non-financial firms that announced CEO turnover during the period 1993-2000 on the basis of the turnover-performance relation over time. Sample firms are divided into two groups, 1993-1996 and 1997-2000. P-values of a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Panel A: All CEO turnover

Window	1993-1996	1997-2000	P-value of differences
Δ-3 TO 0	-0.027 (0.000)	-0.027 (0.000)	0.6305
Δ-2 TO 0	-0.017 (0.000)	-0.027 (0.000)	0.3143
Δ-1 TO 0	-0.008 (0.037)	-0.021 (0.000)	0.1713
Δ+1 TO 0	0.010 (0.030)	-0.000 (0.953)	0.1373
Δ+2 TO 0	0.027 (0.000)	-0.006 (0.430)	0.0001
Δ+3 TO 0	0.028 (0.000)	-0.003 (0.668)	0.0015
Observations	370	335	

Panel B: Non-routine and Normal CEO turnover

Δ-3 TO 0	-0.059 (0.000)	-0.055 (0.000)	0.5642
Δ-2 TO 0	-0.051 (0.000)	-0.054 (0.000)	0.8696
Δ-1 TO 0	-0.028 (0.001)	-0.034 (0.000)	0.8211
Δ+1 TO 0	0.030 (0.001)	0.010 (0.322)	0.0874
Δ+2 TO 0	0.036 (0.001)	0.002 (0.826)	0.0112
Δ+3 TO 0	0.044 (0.001)	0.003 (0.742)	0.0145
Observations	156	238	

Panel C: Normal CEO turnover

Δ-3 TO 0	-0.013 (0.050)	0.017 (0.055)	0.0087
Δ-2 TO 0	-0.000 (0.889)	0.011 (0.085)	0.1529
Δ-1 TO 0	0.002 (0.596)	0.003 (0.647)	0.8238
Δ+1 TO 0	-0.000 (0.923)	-0.016 (0.047)	0.0980
Δ+2 TO 0	0.021 (0.000)	-0.028 (0.056)	0.0009
Δ+3 TO 0	0.019 (0.005)	-0.022 (0.144)	0.0070
Observations	214	108	

Table 7-8: Cross-sectional determinants of CEO turnover on the basis of time period

This table presents cross-sectional results for a sample of 705 UK non-financial firms that announced CEO turnover during the 1993 to 2000 period on the basis of the turnover-performance relation over time. The sample firms are divided into two groups, 1993-1996 and 1997-2000. The variables are as defined in Table 7-4. P-values of a two-tailed *Student's t-test* for the means are reported in parenthesis.

Variable	All CEO changes		Forced CEO changes		Normal CEO changes	
	1993-1996	1997-2000	1993-1996	1997-2000	1993-1996	1997-2000
Observations	754	656	318	470	436	186
Constant	-1.061 (0.006)	-0.969 (0.020)	-1.556 (0.012)	-0.724 (0.153)	-0.716 (0.166)	-1.445 (0.070)
$\Delta ROA_{-1,0}$	-2.234 (0.002)	-0.722 (0.106)	-3.124 (0.002)	-0.952 (0.066)	-1.544 (0.165)	1.447 (0.328)
DEBT	0.854 (0.203)	0.789 (0.119)	1.036 (0.267)	0.773 (0.160)	1.096 (0.226)	1.748 (0.233)
ICOV	-0.007 (0.005)	-0.002 (0.063)	-0.013 (0.027)	-0.002 (0.090)	-0.005 (0.062)	-0.001 (0.543)
TKV	1.427 (0.062)	0.917 (0.019)	1.396 (0.199)	1.140 (0.021)	1.414 (0.190)	0.319 (0.641)
DSTRS	1.392 (0.011)	0.000 (1.000)	0.838 (0.279)	0.017 (0.982)	1.986 (0.019)	*
DR	-0.099 (0.906)	-1.820 (0.092)	-2.528 (0.237)	-3.290 (0.032)	0.013 (0.990)	0.403 (0.817)
ODR	1.261 (0.847)	-2.342 (0.744)	-0.800 (0.943)	-2.886 (0.742)	-0.433 (0.959)	-0.180 (0.989)
INST	-0.445 (0.401)	-0.279 (0.643)	0.039 (0.960)	-0.595 (0.402)	-0.935 (0.217)	0.573 (0.644)
SIZE	0.295 (0.000)	0.259 (0.000)	0.365 (0.000)	0.238 (0.001)	0.252 (0.001)	0.262 (0.028)
Log-likelihood	-353.4 (0.000)	-305.9 (0.000)	-130.9 (0.000)	-212.6 (0.000)	-216.1 (0.000)	-89.9 (0.213)

* - dropped because of having the same observations

Table 7-9: Post-turnover restructuring activities

The table reports an incidence of restructuring activities for a sample of 705 UK non-financial firms that announced CEO turnover during the 1993-2000 period. Restructuring activities are identified from a search of FT Extel cards database and verified by Financial Times archive news articles; and also from newspaper databases.

Activity	Non-routine CEO turnover				Normal CEO turnover			
	Sample firms		Control firms		Sample firms		Control firms	
	N	%	N	%	N	%	N	%
Asset Sales	168	42.6	82	20.8	103	33.1	56	18.1
Layoffs	53	13.5	6	1.52	29	9.3	4	1.29
Dividend decreases	51	12.9	22	5.58	28	9.0	18	5.79
Dividend omissions	44	11.2	21	5.33	20	6.43	14	4.50
Dividend increases	22	5.58	43	10.9	36	11.6	41	13.2
Dividend initiations	6	1.52	9	2.28	12	3.86	7	2.25

Table 7-10: Operating performance post-forced CEO turnover on the basis of mergers and acquisitions

This table reports median changes in the industry-adjusted return on assets for a sample of 394 UK non-financial firms that announced non-routine CEO changes during the period 1993-2000 on the basis of Mergers and Acquisitions. Panel A reports operating performance after removing firms that undertook mergers and acquisitions over a 3-year period post-CEO turnover. Panel B reports operating performance for firms and control firms for a sample of forced CEO turnover in the same period. A control firm is selected from firms within the same industry group (FTSE level 4) as a CEO turnover firm, and having similar ROA in the year prior to a CEO turnover announcement. ROA is defined as earnings before interest, tax, depreciation, and amortization (EBITDA), divided by total assets. The significance between the sample and control firms is based on a two-tailed *Wilcoxon signed rank test.* P-values are reported in parentheses.

Panel A: ROA for forced CEO turnover after removing firms that undertook mergers and acquisitions

Windows	N	Industry-adjusted return on assets (ROA)
Δ+1 TO 0	319	0.0205 (0.006)
Δ+2 TO 0	295	0.0185 (0.015)
Δ+3 TO 0	269	0.0225 (0.011)
Cumulative	266	0.0200 (0.002)

Panel B: Control firm matched operating performance for forced CEO changes

Time period	N	Sample firms median	Control firms median	p-value of difference
From year –1 to 0	367	-0.0339 (0.000)	0.0056 (0.110)	0.000
From year 0 to +1	321	0.0157 (0.015)	0.0060 (0.864)	0.027
From year 0 to +2	283	0.0119 (0.082)	-0.0095 (0.060)	0.035
From year 0 to +3	235	0.0122 (0.112)	-0.0130 (0.035)	0.015

Table 7-11 Abnormal returns surrounding CEO turnover announcements

This table presents abnormal stock returns for a sample of 705 UK non-financial firms that announced a CEO turnover during the period 1993-2000. The abnormal return is computed as the difference between sample firms' daily returns and the FTSE ALL-Share index used as the proxy to the market portfolio. The fractions of all changes that are negative are reported in the last row. P-values of a two-tailed *Student's t-test* for means and the *Wilcoxon signed rank test* for medians are reported in parentheses.

Panel A: All Changes

Statistic	CAR (-1,1)	AAR (-1)	AAR (0)
N	704	704	704
Mean %	-0.848 (0.012)	-0.451 (0.025)	-0.645 (0.072)
Median %	-0.148 (0.236)	-0.110 (0.064)	0.000 (0.991)
% (-ve)	51.1	53.6	50.3

Panel B: Non-routine and Normal CEO turnover

Statistic	Non-routine changes			Normal changes		
	CAR (-1,1)	AAR (-1)	AAR (0)	CAR (- 1,1)	AAR (-1)	AAR (0)
N	393	393	393	311	311	311
Mean %	-1.369 (0.008)	-0.892 (0.009)	-0.733 (0.138)	-0.243 (0.551)	0.107 (0.422)	-0.595 (0.253)
Median %	-0.328 (0.141)	-0.205 (0.052)	-0.003 (0.830)	-0.002 (0.915)	-0.004 (0.567)	0.020 (0.858)
% (-ve)	53.4	55.5	51.4	47.9	51.1	48.9

Table 7-12: Long run stock returns following CEO turnover

This table reports buy-and-hold abnormal returns (BHARs) for a sample of 705 UK non-financial firms that announced CEO turnover during the period 1993-2000. The abnormal return is the difference between the monthly sample and control firms' returns. The control (matching) firms are constructed on the basis of size and industry over the year prior to announcements of a CEO turnover. The fractions of all changes that are negative are reported in the last row. P-values of a two-tailed *Student's t-test* for means and the *Wilcoxon signed rank test* for medians are reported in parenthesis.

Panel A: All changes

Statistic	12-month	24-month	36-month
N	696	668	619
Mean (%)	-8.98 (0.000)	-11.18 (0.006)	-8.60 (0.149)
Median (%)	-8.52 (0.000)	-9.30 (0.001)	-9.14 (0.012)
% (-ve)	56.9	55.8	54.0

Panel B: Non-routine and Normal CEO turnover

	Non-routine changes			Normal changes		
	12-month	24-month	36-month	12-month	24-month	36-month
N	388	371	350	308	297	269
Mean (%)	-10.16 (0.001)	-11.15 (0.041)	-10.09 (0.249)	-7.96 (0.005)	-10.83 (0.068)	-4.98 (0.511)
Median (%)	-9.15 (0.001)	-9.25 (0.017)	-12.65 (0.011)	-8.33 (0.001)	-9.05 (0.021)	-4.59 (0.374)
% (-ve)	56.2	54.2	56.0	57.8	57.4	51.4

CHAPTER EIGHT: CORPORATE RESTRUCTURING

8.1 Introduction

This chapter is the combination of all of the previous empirical chapters examined in this thesis; that is, asset sales, dividend cuts, corporate layoffs and CEO turnover. Asset sales, layoffs and CEO turnover are operational actions. They affect the investment decisions of the firm as well as its operational strategy. On the other hand, dividend cuts are financial actions that affect the value of the cash flow distribution to the firm's owners. Following this classification, this chapter therefore examines operating performance changes for the sample of firms that undertook both operational and financial actions as a corporate restructuring programme during a period of adverse economic conditions.

The reasons why managers should undertake restructuring and whether it increases a firm's efficiency are discussed in Chapter 2. The phrase "corporate restructuring" is a broad phenomenon that covers a range of activities, such as changes in control, in financial structure, in the firm's major lines of business and so on.[90] Mergers and acquisitions, asset sales, management buyouts, dividend policy changes, refocusing, corporate layoffs, management turnover, plant closures, share repurchases and debt administration all fall within the general term 'restructuring.'

In a narrow sense, this is one of the first studies to examine more than one restructuring event.[91] In addition, the approach of this thesis differs from much of the previous literature on restructuring because it examines firms whose managers announced different events related to corporate restructuring programmes: sell-offs, dividend cuts, corporate layoffs, and CEO turnover. John *et al.* (1992), Kang and Shivdasani (1997) and Denis and Kruse (2000) examine firms that undertook restructuring in response to performance declines. Moreover, Brickley and Van Drunen (1990) and Liao (2004) start with restructured firms and examine changes in internal organization. All these studies focus on year-to-year changes. Focusing on corporate announcements, rather than year-

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[90] See definition of corporate restructuring in Chapter 2.

[91] Peel (1995) examines mergers, divestments and MBOs at the micro (economic-wide) level; and Gilson (2001) examines bankruptcies, buyouts and breakups.

to-year changes in variables, allows for more precisions in the measurement of the factors that influence the corporate restructuring decision.

Hall (1994) and Peel (1995) observe that many restructuring events occur simultaneously, and therefore, before arriving at a conclusion on the effect of restructuring on a firm's performance, a researcher needs to examine different forms of corporate restructuring (Markides, 1995). Chapters 4 through 7 examine individual forms of restructuring. This chapter combines all of these chapters. The analysis in this chapter provides evidence related to three primary questions: first, what factors motivate managers to undertake restructuring? Second, what is the performance consequence of restructuring? Finally, does a firm's efficiency improve following restructuring?

It is found that restructuring is preceded by a period of poor operating performance, high financial leverage and excessive diversification, and is then followed by improvement in all these areas. Firms also increase their investment levels and labour productivity over the period following corporate restructuring. On the other hand, the sample firms experience an insignificant increase in R&D and were able to reduce costs over the years following corporate restructuring. This finding provides evidence that corporate managers undertake restructuring programmes in order to increase the firm's efficiency, to expand investment opportunities and efficiently re-allocate resources. Further analysis shows that there is a positive relation between threats from the market for corporate control and the restructuring decision; and is limited to those firms that mostly undertake one corporate restructuring event per year. This is consistent with the notion that external control mechanisms also play an important role in restructuring firms (Fama, 1980; and Fama and Jensen, 1983).

There are several potential reasons for a firm's increased efficiency following restructuring. First, restructuring means that a firm may be separated into different pieces in order to improve the efficiency of operations and thereby increase the combined value of assets (Alchian and Demsetz, 1972). Second, restructuring improves the use of resources. Kaplan (1989), Smith (1990) and Wruck (1990) show that restructuring carried out in response to high financial leverage leads to an improvement

in firm performance. This is because financial distress gives creditors the right to demand restructuring because their contract with the firm has been breached. Creditors can then pressurise the firm to liquidate or reorganize. Leverage, therefore, leads to value maximization by triggering liquidation (Titman, 1984). In addition, leverage reduces management's ability to expand through value-reducing projects (Jensen, 1986).

Third, restructuring frees resources to move to higher-valued uses and this happens when managers are forced to reduce capacity and to rethink operating policies and strategy decisions (Wruck, 1990). In addition, the firm's restructuring programmes lead to an improvement in the efficient use of corporate resources and the redistribution of income among competing constituent interests (Donaldson, 1990). Finally, empirical evidence on corporate restructuring in the form of asset sales shows that following asset sales, firms are more focused, have lower financial leverage, and experience increases in operating performance (John *et al.*, 1992; John and Ofek, 1995; Markides, 1995; and Denis and Shome, 2005). Evidence on corporate layoffs suggests that layoffs improve a firm's efficiency. The firm becomes more competitive, and in the long term its productivity improves. In other words, corporate restructuring exposes business units to direct product market competition thereby forcing increases in corporate focus and efficiency.

The chapter proceeds as follows: Section 8.2 develops hypotheses to be tested in this chapter. The empirical results are presented in Section 8.3. Section 8.4 summarizes and concludes the chapter.

8.2 Development of hypotheses

In addition to the general hypotheses discussed in Chapter 1, this section briefly discusses the individual hypotheses to be tested in this chapter.

The extant literature argues that firms restructure in response to poor performance (John *et al.*, 1992; Kang and Shivdasani, 1997; and Denis and Kruse, 2000), among others. This is because poor performance, especially over a long period of time, has a number of implications to the firm. First, it can lead to financial distress (Ofek, 1993), which in turn could lead to bankruptcy. Secondly, poor performance can lead to for a

firm to be a target for corporate raiders. Thirdly, poor performance is one of the signs of managerial inefficiency or slack in an economy. Finally, managers lose their human-capital quality when they are seen as they do not take actions that would reverse poor performance.

In fact, given the effectiveness of both internal and external control mechanisms, managers of poorly performing companies would be dismissed in the wake of declining profitability. The foregoing discussion suggests that corporate restructuring is inevitable in a situation where a firm's profitability is declining. It is therefore hypothesized here that companies undertake corporate restructuring in response to poor performance.

$H_{8\text{-}1}$: Poor performance leads to corporate restructuring.

Ofek (1993) claims that higher financial leverage significantly increases the probability that certain restructuring actions, such as asset sales and employee layoffs will be taken. In addition, Jensen (1989) argues that highly-leveraged firms will respond faster to a decline in value than their less-leveraged counterparts because a small decline in value can lead to default. Furthermore, Ravenscraft and Scherer (1987)[92] argue that because of financial distress, poorly performing companies undertake sell-off programs. The latter evidence suggests that firms are forced to sell assets in order to raise cash to meet debt repayments. This mostly happens when a highly-levered firm finds it difficult to raise additional funds through issuing new securities (Shleifer and Vishny, 1992).

In addition, management would like to repay the debt in order to avoid bankruptcy, which in turn could lead to management losing its perquisites (Gilson, 1989). There is also evidence that creditors often insist on the divestiture of certain assets as a condition for restructuring firms with high financial leverage (Gilson, 1990).

The preceding argument suggests that firms undertake corporate restructuring in response to high financial leverage. It is therefore hypothesized here that:

$H_{8\text{-}2}$: High financial leverage motivates managers to undertake restructuring.

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[92] Cited in Peel (1995)

Researchers in strategy management have asserted that change in diversity is negatively related to a firm's performance, especially when most of the restructured firms are *over-diversified* (Hill and Hansen, 1991 and Markides, 1992). This is because diversification is driven by managerial self-interest in order to increase personal compensation and employment security. This argument is consistent with the agency cost hypothesis (Jensen, 1986). According to Jensen's (1986) free cash flow hypothesis, top management in firms with free cash flow invest in over-diversification and organizational inefficiencies.

Diversification may divert management's attention away from a firm's core business and lead to a loss of strategic control. The further a firm is diversified from its core businesses, the more likely it is that its diversification programme produces low returns (Gibbs, 1993). Restructuring is therefore carried out in order to correct over-expansion and over-diversification undertaken by self-serving managers (John and Ofek, 1995; Markides, 1995; Denis *et al.*, 1997a; and Berger and Ofek, 1999). In addition, Berger and Ofek (1999) discern that agency problems are the main cause of suboptimal diversification and their reduction via corporate control events plays a crucial role in corporate refocusing choices. This discussion suggests that corporate restructuring exposes business units to direct product market competition thereby forcing increases in corporate focus and efficiency.

It is therefore argued here that a need to reduce excessive diversification motivates corporate managers to undertake restructuring. Therefore:

$H_{8\text{-}3}$: Corporate restructuring occurs in relatively diversified firms.

If a firm can achieve the goal of optimizing resources allocation, reducing risks and selecting munificent operating environments through a series of restructuring activities, improved performance should result. For example, from the perspective of agency theory (Jensen, 1986), corporate restructuring is a mechanism through which agency problems are corrected and the alignment of managerial interest and stockholders'

wealth is reached. Consequently, firms should expect a significant improvement in post-restructuring performance.

In the view of market for corporate control (Jensen and Ruback, 1983), supposedly inefficient and undervalued firms are targeted by corporate raiders, thus the primary purpose of the market for corporate control is to create efficiency in the operations of the firm. One should therefore expect an active market for corporate control to significantly increase average firm performance over time. Similarly, in the logic of diversification theorists (Denis *et al.*, 1997a; and Berger and Ofek, 1999), corporate restructuring is a process through which firms optimize their degree of diversification. Additionally, from the standpoint of resource-based theory (Liao, 2004), corporate restructuring activities represent a firm's effort to rebuild and optimize a firm's input-based competencies.

Viewing restructuring as the process by which firms reduced their diversification by refocusing on their core business, Markides (1994), John and Ofek (1995) and Berger and Ofek (1999) find that refocusing is positively associated with performance improvements. In addition, John *et al.* (1992), Kang and Shivdasani (1997), and Denis and Kruse (2000), who examine corporate restructuring following performance declines find that there is firm performance improvement over the subsequent years. Furthermore, Smith (1990) find that there is the increase in operating returns following management buyouts, and this most likely reflects an increase in operating efficiency stemming from improved management incentives. By contrast, Brickley and Van Drunen (1990), who focusing on firms that restructure by altering the number of divisions or subsidiaries, find a decline in earnings and attribute this to increased expenses. This finding is consistent with that of Liao (2004), who did not find a significant difference in performance between restructured and non-restructured firms.

Given the mixed evidence to date, it is argued here that operating performance improves following corporate restructuring. Therefore:

$H_{8\text{-}4}$: There is an improvement in operating performance following restructuring.

Whilst much of the previous literature examines operating performance changes centred in the year of restructuring, very few studies examine financial leverage. An exception to this is that of John *et al.* (1992), who document that large firms that undertook restructuring because of poor performance reduced their leverage quickly over the years following restructuring. Furthermore, Denis and Shome (2005) show that following large scale asset downsizings there is an insignificant reduction in debt ratios. Grullon *et al.* (2002) and Lie (2005) show that firms that cut dividends have lower debt ratios than their industry peers.

There are three explanations why should managers service their debt obligation. First, firms repay their debt in order to avoid bankruptcy costs, which in turn could lead to management losing its perquisites (Gilson, 1989; Jensen, 1989; and Wruck, 1990). Secondly, leverage constrains managerial discretion over investment (Ahn *et al.*, 2006). Using a sample of leveraged capitalizations, Denis and Denis (1993) show a significant reduction in capital expenditure following the increase in leverage. It follows, therefore, that if leverage constrains investment, firms with valuable growth opportunities should choose lower leverage to avoid the risk of being forced to bypass some of these opportunities, while firms without valuable growth opportunities should choose higher leverage to bond themselves not to waste cash flow on unprofitable investment opportunities (Jensen, 1986).

Furthermore, when managerial costs of financial distress are high, managers have incentives to reduce the likelihood of default by borrowing less, choosing less risky investment projects, and managing their firms more efficiently. Finally, corporate managers also know that if they do not service their debt obligation, creditors have the right to demand restructuring because their contract with the firm has been breached.

If corporate restructuring is linked to firm performance improvement, then by implication there should be also an improvement in the financial position. This is consistent with the predictions of the Pecking Order Theory that firms prefer internal resources to finance their investments before raising external sources of funds (Myers, 1984). Rajan and Zingales (1995) and Antoniou *et al.* (2002) discover that financial leverage decreases with profitability.

The foregoing discussion suggests that the financial position of a firm improves following corporate restructuring. Therefore:

$H_{8\text{-}5}$: Financial leverage declines following corporate restructuring.

If restructuring aims to correct over-expansion and over-diversification programmes, as hypothesized in hypothesis 8-3, then firms should be more focused following restructuring. A reduction in business diversity may improve firm's performance by creating narrow lines of businesses that will utilize related firm resources (Liao, 2004). A reduction in diversification scope would also reduce information-process demand on top management and provide the firm with the opportunity to reconfigure the governance structure, thereby allowing them to devote more time to increasing the efficiency of the assets that remain. In general, the whole idea behind corporate refocusing is the desire to enhance shareholder value.

Markides (1995), John and Ofek (1995), Denis *et al.* (1997a), and Berger and Ofek (1999) find that firms restructure in order to refocus on core activities. It has also been shown in the previous chapters that firms sell assets and lay off employees in order to reduce excessive diversification. This suggests that firms are more focused following asset sales and corporate layoffs.[93] It is therefore conjectured here that there is a reduction in firm's diversification following corporate restructuring. Therefore:

$H_{8\text{-}6}$: Corporate focus increases following corporate restructuring.

Investors' perception to announcements of restructuring strategy depends on the information disclosed by corporate managers. In addition, because restructuring is a complex and multidimensional phenomenon, it is very difficult to predict the stock market response to the restructuring announcement. This is because there are many reasons why investors may undervalue or overvalue a restructuring. Many companies have no prior experience with restructuring, so there is no precedent to guide investors.

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[93] John and Ofek (1995), Berger and Ofek (1999) and Chen *et al.* (2001) produce similar findings for US firms.

Restructuring also often produces wholesale changes in the firm's assets, business operations and capital structure.

Because of these factors and many others, managers face the additional important challenge of marketing restructuring to the capital market (Gilson, 2001). The most obvious way to do this is to disclose useful information to investors and analysts that they can then use to value restructuring more accurately. However, corporate managers are often limited in what they can disclose publicly because some of the information could benefit the firm's competitors. Information problems arise when corporate managers have private information about their firm's investment opportunities (Myers and Majluf, 1984), and either cannot credibly convey that information to dispersed investors or can do so only by disclosing proprietary information to competitors (Healy and Palepu, 1995).

As the foregoing discussion makes clear, it is very difficult to predict investors' perceptions on announcements of some restructuring events. For example, in a study of the stock market's reactions to restructuring announcements of portfolio, organizational and financial restructuring, Bowman and Singh (1993) find that the announcements were not associated with significant average abnormal returns.[94] Bowman and Singh could not offer a definite interpretation of their results. However, Brickley and Van Drunen (1990) focus on firms that reorganize by altering the number of divisions or subsidiaries, and document positive and significant average abnormal stock returns around restructuring announcements. Brickley and Van Drunen attributed their findings to the information revealed about the firm's investment opportunities. Poon *et al.* (2001) examine market reactions to corporate restructurings and find that restructuring programmes that impose a charge against the firm's earnings are typically associated with negative stock price reaction surrounding the announcement day.

In the previous chapters, it has been shown that the market reacts positively to announcements of asset sales and negatively to corporate layoffs, dividend cuts, and forced CEO turnover. All of these events followed a period of poor performance. This suggests that previous poor performance is not a sufficient condition to help predict

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[94] Cited in Bowman and Singh (1993)

investors' perception on an announcement of a corporate event. However, given the fact that the market significantly responds to the restructuring announcement, then restructuring conveys credible information to the market. Following this argument, it is argued here that there is a significant stock market response to the restructuring announcement. Therefore:

$H_{8\text{-}7}$: Restructuring is associated with a significant stock price response.

8.3 Empirical results

8.3.1 Sample characteristics

To test the above discussed hypotheses, a sample of UK non-financial firms that announced sell-offs, dividend cuts, corporate layoffs, and CEO turnover over the period 1993-2000, as described in their respective chapters of this thesis is used. I include only one observation per year. As discovered by Peel (1995), some of my sample firms announce more than one restructuring event per year. Therefore, to avoid double counting, I group the sample firms on the basis of events per year, and form three sub-samples: one-event (1386 observations), two-event (171 observations), and three-event (23 observations). There is a fourth sub-sample which has four observations and due to insufficient number of observations is not analysed here. More details on the sample firms used in this chapter are provided in Chapter 3.

8.3.2 Company financial characteristics surrounding corporate restructuring

In this section I describe financial characteristics that I investigated around the restructuring decision. Table 8-1 reports assets, sales, employment levels and industrial diversification over the seven-year period surrounding the restructuring announcement. Panel A reports mean [median] values over the seven year period surrounding the announcement, and panel B reports median changes in these values over the sample period. It is found that the growth rate of assets and sales for one-event sub-sample declines over the years immediately preceding the corporate restructuring and recovers in subsequent years. The other sub-samples, two- and three-event, did not exhibit a recovery afterwards. In fact, the three-event sub-sample experienced a significantly decline in these values in each of the three years following restructuring.

The employment growth rate results are mixed. The one-event sub-sample firms experience significantly declines in employment in two years following restructuring. On the other hand, the growth rate declines monotonically from years prior to restructuring and in subsequent years post-restructuring for the two-event and three-event sub-samples. For example, the two-event sub-sample experiences a decline of -4.0% in the years between -3 and 0 to -13.9% in the years between 0 and 3. The corresponding values for the three-event sub-sample are -13.2% and -32.1%, respectively. These results, in general, suggest that corporate restructuring firms that undertook a restructuring of one event per year were able to cut back and produce more efficiently since they continue to grow with a reduced number of employees. However, those firms that undertook more than one event per year did not experience such behaviour. The one-event sub-sample results are consistent with those of John *et al.* (1992).

It is interesting to note that whilst there was a big difference in growth rate of assets, sales and employment levels for the three sub-samples, all sub-samples experience a significant increase in focus in each of the three years following restructuring, based on both the number of reported segments and the Herfindahl Index of revenue concentration. John *et al.* (1992) find that the majority of their sample firms that undertook change in number of segments reduced the number of segments. This finding suggests that restructuring allows managers to focus on a reduced set of core businesses.

8.3.3 Changes in Investment, R&D, Cost of Sales, Labour Productivity, and Industrial Diversification

If managerial behaviour is consistent with the maximization of shareholder wealth, as the theories of finance assume, I should expect a restructuring firm increases investment, R&D, efficiency, and focus; and decreases costs over the period following corporate restructuring. In this section I measure changes in these variables over the three years following restructuring relative to the year prior to restructuring. I report the results in Table 8-2. It is found that the one-vent sub-sample experienced a significant increase in investment in the year 3 relative to the year -1 and the change is significant at the 1% level. The two-event sub-sample exhibited a marginal increase in investment,

and the three-event sub-sample did not experience a significant change over the same period.

On the other hand, the sample firms have insignificant increase R&D over the three years following corporate restructuring. The cost of sales results show that the two-event sub-sample marginally reduced costs; and the one-event sub-sample insignificantly reduced costs over the years subsequent to the announcement of restructuring. However, the three-event sub-sample insignificantly increased costs in the years between -1 and 1, and -1 and 2; and reduced in the years between -1 and 3. It is interestingly to note that all restructuring firms examined increased monotonically their efficiency following corporate restructuring. Finally, consistent with the results reported in Table 8-1, the sample firms are more focused in each of the 3 years following corporate restructuring.

Collectively, I find that the sample firms marginally increased their investment and R&D, and reduced costs. In addition, it is found that the sample firms significantly increased their efficiency and business focus over the years following corporate restructuring. These results are, in general, consistent with the earlier hypothesis that following restructuring, firms increase their investment, R&D, efficiency, and refocus on core activities; and reduce costs. These findings are to some extent consistent with those of Hoskisson and Johnson (1992) and John *et al.* (1992).

8.3.4 Financial performance surrounding corporate restructuring decisions

8.3.4.1 Univariate analysis of sample and control firms

Panel A of Table 8-3 presents descriptive statistics for sample and control-matched firms along number of financial dimensions at the year -1. These factors potentially motivate managers to undertake restructuring decisions. As would be expected, since I match sample and control firms on the basis of ROA, there is an insignificant difference in this variable between sample and control firms. I examine changes in ROA surrounding restructuring announcements further in the next section.

The financial leverage results show that the sample firms had higher financial leverage than non-restructuring firms. Finally, the industrial diversification results show that

sample firms were less focused than control firms over the one year prior to restructuring. For example, the one-event sub-sample had a median of 2.0 business lines against 1.5 of control firms; and the corresponding values for the Herfindahl index of revenue concentration are 0.747 and 0.787, respectively. The level of significance for the differences is at the 1% level. The corresponding values for the two-event and three-event sub-samples are: 2.5 against 2.0, and 0.70 against 0.77; and 3.0 against 2.0, and 0.55 against 0.76, respectively. These results suggest that restructuring allows firms to refocus on core activities and improve efficiency.

The findings presented so far implicitly suggest that corporate managers restructure their organizations in response to poor performance, high financial leverage, and a need to refocus on core activities. However, there are more questions that need to be addressed before arriving at this conclusion. First, do all managers restructure their firms in response to poor performance, high financial leverage or excessive diversification? If the answer is yes, why then does it take so long to restructure a poorly performing, highly-levered or highly-diversified firm?

Research shows that, in the absence of the active market for corporate control, management, especially entrenched management, are reluctant to carry-out restructuring programmes (Gibbs, 1993; and Mikkelson and Partch, 1997). This suggests that takeover threats force entrenched management into restructuring the firm (John *et al.*, 1992; and Denis and Kruse, 2000). In addition, Denis *et al.* (1997a) and Berger and Ofek (1999) believe that the threat of hostile takeover forces corporate managers to restructure in order to refocus on core businesses.

In panel B of Table 8-3 I examine the incidence of external control threats within the sample and control firms over the 12-month period prior to the restructuring announcement. It is found that the one-event sub-sample has higher rates of external control activity amongst my sample firms in relation to the control sample. In total for the one-event sub-sample, the sample firms had 13.3% incidence of external control activity as compared to 4.6% for control firms, with the difference significant at the 1% level. For the two-event sub-sample, it is a takeover threat only which is significant at the 1% level in favour of the sample firms as compared to control firms. For the three-

event sub-sample, none of the activity is significant. These results, in general, are consistent with those of prior findings that suggest that corporate restructuring programs often result from external control pressures (Denis and Kruse, 2000). Thus, in general, managers' decision to restructuring the firm might not have been entirely voluntary, or at least can represent a defensive measure against a threat to their control.

8.3.4.2 Operating performance and financial leverage surrounding corporate restructuring

The results presented so far suggest potential factors that might impact the likelihood of corporate restructuring. However, since they are measured at one point in time they provide an incomplete explanation as to the factors that cause restructuring decisions. Also, since I match sample and control firms on the basis of year -1 ROA, this prevents from finding any significant difference in this variable between sample and control firms. As such, I now examine company financial performance over the seven-year period surrounding restructuring announcements.

Examining levels of operating performance and other financial variables surrounding corporate restructuring provides information on the causes and outcomes of restructuring decisions. I report industry-adjusted changes from years -3, -2, and -1 relative to that of restructuring year, year 0, and the cumulative changes in these variables over the years prior to restructuring. Over the period following restructuring, I report industry-adjusted changes from year +3, +2, and +1 relative to that of restructuring year, year 0, and the cumulative changes in these variables over the following years.[95]

Tables 8-4, 8-5, and 8-6 report industry-adjusted changes in ROA, debt ratio and interest coverage ratio over the seven-year period surrounding corporate restructuring, respectively. The industry-adjusted changes in ROA results show that there is a significant decline in industry-adjusted ROA over the 3 years period prior to corporate restructuring. As such, corporate restructuring appears to occur in response to declining performance going back over a period of at least three years.

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[95] This methodology is consistent with that of John *et al.* (1992), Denis and Shome (2005) and the previous chapters in this thesis.

Subsequent to corporate restructuring, it is found that restructuring firms that undertake one and two events per year experience a significant increase in industry-adjusted ROA in each of the 3 years. The increase in industry-adjusted ROA for the three-event sub-sample is not statistically significant in each of the three years following restructuring. This finding suggests that restructuring reverses a trend of declining performance over the period prior to restructuring. This finding is consistent with that of John *et al.* (1992), Kang and Shivdasani (1997), and Denis and Kruse (2000), who observe a significant increase in operating performance over the 3 years following restructuring for firms that undertook restructuring in response to poor performance. In addition, Smith (1990) find that there is the increase in operating returns following management buyouts, and this most likely reflects an increase in operating efficiency stemming from improved management incentives. However, these results are at odds with those of Brickley and Van Drunen (1990), who find deterioration in earnings following restructurings.

Table 8-5 shows a significant increase in financial leverage relative to industry medians prior to the restructuring announcement for restructuring firms that undertake one and two events per year. However, the three-event sub-sample does not exhibit a significant increase in financial leverage over this period. The results are almost the same when industry-adjusted changes in interest coverage ratio are examined, Table 8-6. Collectively, these results suggest that the sample firms were saddled with high debts prior to announcements of restructuring events. These results are consistent with Jensen's (1989) view that highly-leveraged firms are more likely to restructure when their values decline. In addition, firms are motivated to reduce their debt levels because high debt constrains investment and reduces managerial discretion on cash flows (Ahn *et al.*, 2006). Therefore, restructuring appears to offer a viable means of reducing debt overhang.

In panel B of Table 8-5 and 8-6 changes in debt ratio and interest coverage over the period following restructuring are reported, respectively. To the exception of the three-event sub-sample in panel B of Table 8-6, in general, the results show that restructuring firms experience a significant decline in debt ratio and increase in interest coverage.

These results are consistent with those of John *et al.* (1992), who document that poorly performing firms reduce leverage quickly following restructuring.

These results also suggest that managers restructure in order to avoid indirect bankruptcy costs, among other things. According to Weiss (1990), there are three main sources of indirect bankruptcy costs. First, following lost sales and a decline in the value of inventory, customers may become concerned about assured supply or warranties. In certain industries (for example, financial services) these costs can completely destroy the value of the firm. Second, with increased operating costs, firms may lose key employees or have to pay more to keep them from abandoning a troubled firm. Suppliers may refuse to ship on favourable credit terms, and the firm's costs of capital may increase. Third, a reduction in the firm's competitiveness may occur because management attention is focused on the bankruptcy, thus increasing the firm's vulnerability to competitors. All these suggest that there is a huge benefit for managers to undertake restructuring in response to high financial leverage.

In summary, the post-restructuring results provide evidence that following restructuring there is an improvement in operating performance and an increase in financial health. Consistent with the results reported in Table 8-2, these results suggest that restructuring increases the firm's efficiency, and thus the manager's behaviour is consistent with shareholder wealth maximization. Figures 8-1, 8-2 and 8-3, which report median levels of ROA, Debt and Labour Productivity, support these results.

8.3.4.3 Operating performance and different combination of restructuring events per year.

The data set in the present chapter shows that there are sample firms that announced more than one event per year. Whilst the motive of these announcements is unclear, however, it is interesting to investigate whether the observed improvement in firm performance is driven by firms that have announced a certain pairs of events per year. In this section operating performance for the different combinations of sample firms on the basis of events per year is empirically examined. There are six combinations of two events per year and the results are reported in Table 8-7.

It is interesting to note that industry-adjusted changes in ROA for all pairs significantly decline over the years prior to corporate restructuring and recover over the subsequent years. As such, the observed improvement in firm performance is not driven by firms that have announced a certain pairs of events per year.

8.3.4.4 Multivariate analysis of the determinants of corporate restructuring

It has been shown that firm performance, high financial leverage, excessive diversification and external disciplinary activities influence the restructuring decision. However, these findings are preliminary because they are examined in a univariate setting. To put this finding in perspective, the determinants of corporate restructuring are examined within a multivariate setting, and logistic regressions are used to assess the likelihood of a firm undertaking a restructuring. To investigate this, the market value of equity to control for the firm's size is also included in the logistic regressions.[96] The cross-sectional model to be estimated is explained in Chapter 3 (equation (3.6)).

Also, following Hall (1994) and Peel (1995) and as discussed in Chapters 1 and 2 of this thesis that corporate restructuring is a complex and multidimensional phenomenon, and therefore a researcher needs to look at different forms of restructuring separately if any generalizations are to be made (Markides, 1995), dummy variables are included in the logistic regressions. These variables are intending to capture the effect of these events on the probability that a firm will undertake restructuring. The dummy variables are categorized into three groups: first, a group of two events over the sample period, 1993-2000, per firm is formed. Categories in this group are AD, AL, AC, DL, DC, and LC. The letters are the first letters of these events: asset sales, CEO turnover, dividend cuts and layoffs. An example of a dummy variable in this group is: AD = 1, if a firm announced both asset sales and dividend cuts over the sample period, and zero otherwise; and so on.

Secondly, a group of three events over the sample period per firm is also formed. Categories in this group are: ADL, ADC, ALC, and DLC; and the letters as well as

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[96] Control firms are constructed on the basis of pre-event performance and industry group. Firm size is, therefore, included in regression equations in order to control for firm size.

construction of dummy variables are as defined in the first group. Finally, a group of four events over the same period is formed. In this group, a dummy variable is set equal to one where the firm announced all four events as described above over the sample period, and zero otherwise.

The logistic results are reported in Table 8-8.[97] The second column reports results on variables as discussed in Chapter 3 (equation (3.6)). It is interesting to note that all variables on the general model and as hypothesized in this thesis are statistically significant. All coefficients are significant at the 1% level. In addition, these results are robust in the inclusion of all dummy variables (third, fourth, and fifth columns).

Consistent with the univariate results reported earlier, these results suggest that poor performance or a need to improve performance motivates managers to restructure their companies. This finding is consistent with the findings of John *et al.* (1992), Kang and Shivdasani (1997) and Denis and Kruse (2000), among others, who report a high incidence of restructuring activities following poor performance. In addition, the results also suggest that restructuring firms were highly-indebted prior to restructuring. This is consistent with Jensen's (1989) prediction that firms with high leverage are more likely to respond quickly to a decline in value.

Concerning industrial diversification, the findings suggest that restructuring provides a strategy that allows firms to re-focus on their core activities. A high level of diversification is an indicator of free cash flow, which self-serving managers use to invest in value-destroying projects (Jensen, 1986; and Gibbs, 1993). Thus, restructuring is undertaken to correct over-diversification (Donaldson, 1990; John and Ofek, 1995; Denis *et al.*, 1997a; and Berger and Ofek, 1999). On market disciplinary variables, it is apparent that external monitoring systems play an important role in corporate restructuring (John *et al.*, 1992; Kang and Shivdasani, 1997; Mikkelson and Partch, 1997; and Denis and Kruse, 2000). Thus, discipline from lenders, takeover threats and product markets are important factors in the decision to restructuring the firm.

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[97] Because the results are almost similar when ROA is measured over the year -3, -2 and -1 relative to the year 0, the results are reported only for a window of year -3 to 0.

As noted earlier, the motives that force corporate managers to undertake restructuring are mixed. Much of the literature suggests that managers undertake restructuring in response to poor performance (John *et al.*, 1992; Kang and Shivdasani, 1997; and Denis and Kruse, 2000). The results of the present study also show that in addition to poor performance, managers undertake restructuring programmes in response to threats from creditors. Perhaps the most consistent finding regarding the motive for undertaking restructuring is excessive diversification. Previous research in case studies (Donaldson, 1990; and Kaiser and Stouraitis, 2001) and empirical studies by John and Ofek (1995); Markides (1995); Denis *et al.* (1997a); Berger and Ofek (1999) and Denis and Shome (2005) all suggest that firms restructure in order to reduce excessive diversification. The same finding is also presented here.

The evidence on whether managers are forced to undertake restructuring programmes is also mixed. John *et al.* (1992), Denis *et al.* (1997a), and Denis and Kruse (2000), among others, maintain that there is an element of external pressure behind restructuring. In addition, Mikkelson and Partch (1997) believe that managers, on average, are reluctant to undertake restructuring, and therefore, a takeover approach forces them to restructure their companies. By contrast, studies of individual companies (Donaldson, 1990; and Kaiser and Stouraitis, 2001) suggest that internal control systems push for restructuring. Brickley and Van Drunen (1990) also believe that internal restructurings often occur without the direct threat of a hostile takeover. The results presented here appear to support both pieces of evidence. Thus, there is an element of corporate restructuring that is related to internal control systems and another that relates to the external internal systems. In general, this discussion suggests that corporate restructuring results in a realignment of the interests of shareholders and managers.

Concerning the effect of restructuring events on the probability that a firm will restructure, the results presented in Table 8-8 (columns 3-5) are mixed. However, these results show a certain pattern. The dummy variables of the pairs of AL, AC, and LC are all significantly negative related to the decision to undertake restructuring. In fact, these pairs represent asset sales, CEO turnover and layoffs. In addition, the very same variables are statistically significant and negatively related to corporate restructuring when the events are put in the group of three events, ALC. It is also not surprisingly to

find that a dummy variable of four events over the sample period is significantly negative related to the restructuring decision. This pattern is therefore robust and not by chance. A DC dummy variable is significantly positive related to the restructuring decision. Since, it has been shown that a layoff is one of the events that are negatively related to the restructuring decision, the positive relation between DC and restructuring could mostly be driven by firms that announced dividend cuts over the sample period, 1993-2000.

The pattern of the results explained above is similar to the events as classified by Ofek (1993) and in this thesis. Asset sales, CEO turnover and layoffs, which have the negative effect on the probability of corporate restructuring, are classified as operational actions a firm would take in response to poor or a need to improve performance. On the other hand, dividend cuts, which have a positive effect on the probability of corporate restructuring, are classified as financial actions that affect the value of various claims and the cash flow distribution to the firm's owners.[98]

While the reasons behind the behaviour of these results are not clear, in general, these results suggest that the more the operational actions a firm undertakes, the less the probability that the firm will restructure in response to adverse conditions. This observation is consistent with a proactive strategy which a firm undertakes in order to maintain competitiveness or to correct performance downturns before they become severe. The reverse is true when a firm takes financial actions, such as dividend cuts. The cut in dividends may be caused by financial covenants that restrict payments, or by the cash-flow shortage and financial distress that debt service obligations create. It is likely, therefore, that in the event that the firm is performing poorly and cannot meet financial obligations, the firm's creditors as well as investors pressurize the firm to restructure.

8.3.5 Stock returns

In this section the results on stock returns are reported for sample firms that announced corporate restructuring events during the period 1993-2000. First, the results on

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[98] According to Ofek (1993), other examples of financial actions are debt restructuring and bankruptcy filing.

abnormal stock returns surrounding announcements of restructuring events are reported. Second, the results on long run stock returns are presented.

8.3.5.1 Market reaction to announcements of restructuring

In this section abnormal stock returns at various periods surrounding the restructuring announcement are examined. Chapter 3 of this thesis explains how abnormal stock returns are computed. The results are reported in Panel A of Table 8-10. The one-event and two-event sub-samples exhibited a significantly negative cumulative abnormal returns (CARs) on the three days surrounding the restructuring announcement, –0.39% (t = -2.42), and -2.45% (t = -2.43), respectively. The negative stock price reaction reflects the dismal performance prior to corporate restructuring. This indicates that shareholders do not benefit from such activities and is consistent with the notion that some of restructuring decisions signal negative information of the firm's future performance. However, over the same period, the three-event sub-sample elicited an insignificantly positive CAR, 0.81% (t = 1.04). The possible interpretation of this finding is that investors may have anticipated the restructuring events prior to the announcement from the other sources of information, so that no new information was revealed in the announcement.

Empirical evidence on stock price responses to restructuring announcements is mixed. Bowman and Singh (1993) examine the stock market's reactions to restructuring announcements of portfolio, organizational and financial restructuring, and find that the announcements were not associated with significant average abnormal returns. However, Brickley and Van Drunen (1990) focus on firms that reorganize by altering the number of divisions or subsidiaries, and document positive and significant average abnormal stock returns around announcements of restructuring. Brickley and Van Drunen attributed their findings to the information revealed about the firm's investment opportunities. Poon *et al.* (2001) examine market reactions to restructurings and find that restructuring programmes that impose a charge against the firm's earnings are typically associated with negative stock price reaction surrounding the announcement day.

Berger and Ofek (1999) examine abnormal stock returns for firms that undertook restructuring in order to refocus on core businesses, and find a significant and positive average abnormal stock return around refocusing-related announcements. However, it is apparent that their results are driven mostly by sell-off firms because these firms account for about 83.9% of their sample firms. In addition, Denis and Kruse (2000) examine restructuring announcements for firms that restructured their activities in response to performance declines and find that, on average, restructuring announcements are met with a positive stock price reaction. Like Berger and Ofek (1999), Denis and Kruse (2000) also maintain that the positive stock price reaction is driven by the sub-sample of asset sale announcements.

The findings by Berger and Ofek (1999) and Denis and Kruse (2000) are, in general, consistent with those of this study. A positive price reaction to asset sale announcements (Chapter 4) is also observed. However, when the other forms of corporate restructuring (dividend cuts, corporate layoffs, and CEO turnover) are examined, it is found that they elicit a negative stock price reaction, Chapters 5, 6, and 7 respectively. Denis and Kruse (2000) also observe an insignificant and negative stock price response to announcements of layoffs. Poon *et al.* (2001) believe that restructuring programmes that impose a charge against the firm's earnings are typically associated with negative stock price reaction surrounding the announcement day. Dividend cuts, CEO turnover and corporate layoffs are examples of restructuring programmes that impose a charge against the firm's earnings as Poon *et al.* claim, and because these events account for 78% of the total sample of this study, then it is obvious that the observed negative market reaction is mostly driven by these firms.

Given the mixed results, it is therefore difficult to generalize as to whether restructuring is associated with a positive or negative stock price. As has been shown in this study, and in those of Berger and Ofek (1999) and Denis and Kruse (2000), it is only through an examination of individual events that comprise restructuring that researchers would be able to predict the market response to announcements of restructuring.

There are two main reasons that explain this situation. First, restructuring is a complex and multidimensional phenomenon and involves a lot of activities, some of which are

interdependent and occur in tandem (Hall, 1994; and Peel, 1995). Second, with information disclosure, managers face the challenge of disclosing useful information to investors and analysts that they can use to value restructuring more accurately. However, corporate managers are often limited in what they can disclose publicly because some of the information could benefit the firm's competitors. Information problems arise when corporate managers have private information about their firm's investment opportunities (Myers and Majluf, 1984), and either cannot credibly convey that information to dispersed investors, or can do so only by disclosing proprietary information to competitors (Healy and Palepu, 1995).

As the foregoing discussion makes clear, one cannot conclude that the restructuring announcement is associated with a positive or negative market response. However, one thing is clear, restructuring is associated with a significant stock price return.

8.3.5.2 Long run stock returns

Finally, in this section the long run stock returns following restructuring events are examined. As with the previous chapters, the buy-and-hold strategy is used to measure the excess return following restructuring events. The abnormal stock returns of the sample firms are computed against those of matching sample firms constructed on the basis of size and industry. Chapter 3 explains how control firms are constructed in this thesis.

The results are reported in Panel B of Table 8-10. Firms that undertook restructuring during 1993-2000 under-performed in relation to matching firms over the year following restructuring. However, the underperformance is restricted to firms that undertake one and two events per year. Furthermore, the results show that the long-run return performance for sample firms over 2 and 3 years following corporate restructuring are statistically indistinguishable from that of control sample firms.

As discussed in section 8.3.5.1, it is also true that the magnitude and direction of long run stock returns of restructuring events depends on the performance of individual events that comprise restructuring. As such, it is very difficult to predict how the stock returns will behave in long-run following restructuring. For example, except for

corporate layoffs, most restructuring events examined in this thesis are associated with significantly negative BHARs over the three years following restructuring. To the best of my knowledge, no published study has examined long run stock returns following restructuring.[99] Therefore, the findings provided here are exploratory, and call for more future research in this area.

8.4 Summary and conclusion

The performance of a sample of 1805 events of corporate restructuring by UK non-financial firms over the period 1993-2000 is examined. In a narrow sense, this is one of the first studies to examine more than one restructuring event. In addition, the approach of this study differs from most other studies of restructuring because it examines firms whose managers announced events that relate to corporate restructuring programmes. John *et al.* (1992), Kang and Shivdasani (1997) and Denis and Kruse (2000), among others, examine firms that undertook restructuring in response to performance declines. Moreover, Brickley and Van Drunen (1990) and Liao (2004), among others, start with restructured firms and examine changes in internal organization.

Several issues that have been empirically examined in this chapter provide evidence related to three primary questions: what factors that motivate managers to undertake restructuring? What is the performance consequence of restructuring? Finally, are corporate managers willing/unwilling to undertake corporate restructuring programmes?

Evidence is found that firms undertake restructuring in response to poor performance, high financial leverage, and excessive diversification. In addition, evidence is found that corporate managers are also prompted to undertake restructuring by external forces. Collectively, these results suggest that restructuring emerges out of a genuine desire to restructure in response to declining performance, high financial leverage and excessive diversification. It is also found that there is an improvement in firm performance,

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[99] Michaely *et al.* (1995) and Eaton (1999), among others, examine the long run performance of stock returns for dividend omissions and decreases, and find the same results as reported in Chapter 5 of this thesis. Chen *et al.* (2001) examine corporate layoffs and find the same results as those in Chapter 6. Huson *et al.* (2004) examine CEO turnover and document the same findings as those here. Lee and Lin (2006) examine long-run return performance for UK firms that disclosed the intended use of sell-off proceeds, and their results are the same as those reported in Chapter 4.

financial health, and firms are more focused following restructuring. Moreover, firms increase investment, efficiency and were able to cut costs over the period following corporate restructuring.

There are several potential reasons for a firm's increased efficiency following restructuring. First, restructuring leads to a firm being separated into different parts that can improve the efficiency of operations, and thereby increase the combined value of assets (Alchian and Demsetz, 1972). Second, restructuring improves the use of resources. Kaplan (1989), Smith (1990) and Wruck (1990) show that restructuring carried out because of financial leverage leads to improvement in operating performance. This is because financial distress gives creditors the right to demand restructuring because their contract with the firm has been breached. They can force the firm to liquidate or reorganize. In addition, leverage reduces management's ability to expand through value-reducing projects (Jensen, 1986). Third, corporate restructuring frees resources to move to higher-valued uses and this happens when corporate managers are forced to reduce capacity and to rethink operating policies and strategy decisions (Wruck, 1990). In addition, the firm's restructuring programme leads to an improvement in the efficient use of corporate resources and the redistribution of income among competing constituent interests (Donaldson, 1990).

In summary, the findings of this chapter suggest that corporate restructuring is likely to: (a) result in the correction of inadequate governance patterns, (b) create a more focused diversification strategy, (c) increase strategic control, (d) reduce reliance on bureaucratic control through reduced corporate staff, and (e) increase the performance of the firm and shareholder wealth.

Agency theory argues that managers' wealth is increased more through growth and diversification than through the maximization of firm market value. Consequently, managers may not be willing to reduce or reverse diversification unless their objectives are aligned with those of shareholders, or unless they are pressured to restructure by shareholders or outside investors. Therefore, according to agency theory arguments, managers' willingness to restructure the firm depends on the ownership structure of the firm, among other things. This argument suggests that there are direct effects of

ownership structure on corporate restructuring. However, this study did not examine this relation. It is hoped that future research can offer the evidence on this.

Table 8-1: Financial characteristics of corporate restructuring firms in the years surrounding announcements

The table reports selected financial characteristics for sample companies surrounding 1805 corporate restructuring announcements by a sample of UK listed non-financial companies over the period 1993-2000. Panel A reports mean [median] values for the respective variables. Panel B reports median changes in financial characteristics over the sample period. The number of segments relates to the number of reported 3-digit SIC lines of business that sample firms operated in. The Herfindahl Index is calculated as the sum of segments' sales squared divided by total sales squared, where sales are defined as the 3-digit SIC level. One, two, and three corporate restructuring events denote firms that announced one event, two events, and three events per year, respectively. The statistical significance of median changes is measured using a two-tailed *Wilcoxon signed rank test.* P-values are in parentheses.

Panel A: Mean [median] financial characteristics surrounding corporate restructuring year

I: One-event corporate restructuring sub-sample

Variable	-3	-2	-1	0	1	2	3
Assets (£million)	1,036 [109]	1,027 [116]	1,093 [121]	1,152 [129]	1,270 [131]	1,427 [135]	1,592 [152]
Sales (£million)	1,043 [146]	1,037 [144]	1,051 [147]	1,086 [148]	1,181 [144]	1,295 [146]	1,386 [151]
Employees ('000')	19.4 [1.93]	10.8 [1.83]	10.6 [1.86]	10.5 [1.81]	10.7 [1.83]	11.1 [1.85]	11.5 [1.97]
Number of Segments	2.32 [2.00]	2.33 [2.00]	2.31 [2.00]	2.28 [2.00]	2.17 [2.00]	2.15 [2.00]	2.17 [2.00]
Herfindahl index	0.73 [0.81]	0.73 [0.76]	0.73 [0.78]	0.74 [0.83]	0.76 [0.88]	0.77 [0.91]	0.76 [0.85]
Sample Size	1255	1341	1361	1362	1298	1223	1144

II: Two-event corporate restructuring sub-sample

Assets (£million)	2,126 [389]	2,282 [433]	2,294 [445]	2,390 [437]	2,633 [403]	2,587 [406]	2,594 [383]
Sales (£million)	1,891 [539]	1,931 [539]	1,991 [591]	1,965 [554]	2,007 [493]	2,142 [514]	2,095 [424]
Employees ('000')	20.3 [7.29]	21.2 [7.33]	20.4 [6.98]	18.9 [6.18]	18.6 [6.21]	18.3 [6.13]	18.1 [5.48]
Number of Segments	2.50 [2.00]	2.68 [2.00]	2.54 [2.00]	2.58 [2.00]	2.46 [2.00]	2.36 [2.00]	2.33 [2.00]
Herfindahl index	0.69 [0.64]	0.67 [0.62]	0.70 [0.69]	0.70 [0.69]	0.73 [0.75]	0.74 [0.72]	0.73 [0.70]
Sample Size	167	174	174	174	161	152	141

III: Three-event corporate restructuring sub-sample

Assets (£million)	3,107 [2,324]	3,161 [1,888]	3,219 [1,732]	3,271 [1,563]	3,222 [1,583]	3,733 [2,275]	3,861 [1,735]
Sales (£million)	3,110 [2,008]	3,091 [2,009]	3,095 [2,016]	2,901 [1,920]	2,632 [1,502]	2,581 [1,844]	2,708 [2,080]
Employees ('000')	38.5 [38.2]	36.3 [34.8]	34.2 [34.9]	30.5 [33.3]	25.5 [19.8]	24.8 [21.0]	23.6 [18.5]

Number of Segments	3.55 [3.00]	3.27 [3.00]	3.22 [3.00]	3.48 [3.00]	3.00 [3.00]	2.84 [3.00]	2.63 [3.00]
Herfindahl index	0.55 [0.48]	0.59 [0.52]	0.57 [0.50]	0.55 [0.50]	0.65 [0.64]	0.66 [0.56]	0.68 [0.55]
Sample Size	22	23	23	23	22	19	19

Panel B: Median change in financial characteristics surrounding corporate restructuring year

Percentage Change from Year *i* and Year *j*

I: One-event corporate restructuring sub-sample

Variable	-3 to 0	-1 to 0	0 to +1	0 to +2	0 to +3
Assets (%)	19.6 (0.000)	2.65 (0.000)	2.80 (0.000)	8.70 (0.000)	15.5 (0.000)
Sales (%)	16.3 (0.000)	3.40 (0.000)	4.20 (0.000)	8.10 (0.000)	10.5 (0.000)
Employees (%)	7.35 (0.00)	0.30 (0.470)	-1.65 (0.000)	-1.50 (0.083)	0.85 (0.506)
SEGS	0.000 (0.289)	0.000 (0.307)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
HI	0.000 (0.005)	0.000 (0.004)	0.000 (0.000)	0.010 (0.000)	0.020 (0.000)
Sample Size	1224	1321	1244	1145	1000

II: Two-event corporate restructuring sub-sample

Assets (%)	5.40 (0.036)	-3.30 (0.014)	-3.80 (0.005)	-3.80 (0.112)	-0.90 (0.758)
Sales (%)	1.80 (0.472)	-4.90 (0.000)	-0.75 (0.542)	-1.00 (0.649)	-3.50 (0.300)
Employees (%)	-4.00 (0.108)	-5.85 (0.000)	-7.00 (0.000)	-12.5 (0.000)	-13.9 (0.000)
SEGS	0.000 (0.412)	0.000 (0.402)	-0.000 (0.135)	-0.000 (0.010)	-0.000 (0.013)
HI	0.000 (0.544)	0.000 (0.584)	0.015 (0.000)	0.025 (0.001)	0.035 (0.003)
Sample Size	167	173	161	152	141

III: Three-event corporate restructuring sub-sample

Assets (%)	-1.75 (0.673)	-3.00 (0.301)	-8.80 (0.018)	-15.2 (0.007)	-15.3 (0.038)
Sales (%)	-2.93 (0.438)	-3.78 (0.242)	-10.5 (0.016)	-17.2 (0.008)	-20.5 (0.008)
Employees (%)	-13.2 (0.032)	-7.50 (0.057)	-14.9 (0.000)	-26.4 (0.001)	-32.1 (0.000)
SEGS	0.000 (0.836)	0.000 (0.327)	-0.500 (0.033)	-1.000 (0.020)	-1.000 (0.017)
HI	0.005 (0.903)	-0.005 (0.906)	0.090 (0.006)	0.140 (0.031)	0.175 (0.015)
Sample Size	22	23	22	19	19

Table 8-2: Measures of Investment, R&D, Cost of Sales, Labour Productivity, and Industrial Diversification in sample period

The table reports median changes in financial characteristics for sample companies surrounding 1805 different corporate restructuring announcements by a sample of UK listed non-financial companies between 1993 and 2000. Labour productivity is measured as the ratio of sales to the number of employees. Industrial diversification is measured by the number of segments and the Herfindahl Index, and these variables are as defined in Table 2. The statistical significance of median changes is measured using a two-tailed *Wilcoxon signed rank test.* P-values are reported in parenthesis.

Sub-sample	Observations	-1 to 1	-1 to 2	-1 to 3
Panel A: Investment / total assets				
One-event	1384	0.000 (0.806)	0.000 (0.143)	0.000 (0.003)
Two-event	174	0.000 (0.563)	0.000 (0.070)	0.000 (0.134)
Three-event	23	-0.000 (0.754)	0.001 (0.691)	-0.001 (0.660)
Panel B: R&D / sales				
One-event	1384	0.000 (0.186)	0.000 (0.847)	0.000 (0.972)
Two-event	174	0.000 (0.590)	0.000 (0.664)	0.000 (0.944)
Three-event	23	0.003 (0.124)	0.004 (0.170)	0.001 (0.575)
Panel C: Cost of sales /sales				
One-event	1384	-0.003 (0.110)	-0.004 (0.128)	-0.004 (0.192)
Two-event	174	-0.009 (0.089)	-0.011 (0.128)	-0.015 (0.060)
Three-event	23	0.044 (0.223)	0.037 (0.334)	-0.000 (0.984)
Panel D: Sales / employees				
One-event	1384	6.750 (0.000)	11.20 (0.000)	14.15 (0.000)
Two-event	174	6.920 (0.000)	10.27 (0.000)	13.45 (0.000)
Three-event	23	9.350 (0.074)	9.995 (0.080)	14.28 (0.019)
Panel E: Number of Segments				
One-event	1384	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Two-event	174	-0.000 (0.227)	-0.000 (0.032)	-0.000 (0.042)
Three-event	23	-0.000 (0.272)	-0.500 (0.059)	-0.500 (0.068)
Panel F: Herfindahl Index				
One-event	1384	0.008 (0.000)	0.018 (0.000)	0.030 (0.000)
Two-event	174	0.018 (0.003)	0.034 (0.001)	0.033 (0.006)
Three-event	23	0.049 (0.198)	0.096 (0.122)	0.142 (0.044)

Table 8-3: Univariate analysis of sample versus control firms in the pre-corporate restructuring year

The table reports means [medians] for selected financial variables at the financial year-end prior to the announcement of corporate restructuring events for a sample of 1805 events by UK non-financial firms during the period 1993-2000. Panel A reports selected financial measures for sample firms. Panel B reports the incidence of corporate control threats in the 12-month period preceding announcements of different corporate restructuring events. Return on assets (ROA) is defined as earnings before interest, tax, depreciation, and amortization (EBITDA) divided by total assets. Debt ratio (DEBT) is the ratio of total debt to total assets. Interest coverage ratio (ICOV) is defined as the ratio of pre-tax profit plus total interest charges divided by total interest charges. The number of segments (SEGS) relates to the number of reported 3-digit SIC lines of business that sample firms operated in. The Herfindahl Index (HI) is calculated as the sum of segments' sales squared divided by total sales squared, where sales are defined as the 3-digit SIC level. Takeover threats (TKV) are defined as any reported incidence that the firm has received a formal approach regarding a takeover bid. Financial distress (DSTRS) is defined where the company has defaulted on its debt and is in the process of debt restructuring or capital reorganization. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon sign test* for the medians are reported in parenthesis.

Panel A: Mean [median] financial characteristics

I: One-event corporate restructuring sub-sample

Variable	Sample firms	Control firms	Differences
ROA	0.100 (0.000) [0.124 (0.000)]	0.106 (0.000) [0.128 (0.000)]	-0.005 (0.522) [-0.002 (0.602)]
DEBT	0.309 (0.001) [0.202 (0.000)]	0.172 (0.000) [0.149 (0.000)]	0.137 (0.143) [0.050 (0.000)]
ICOV	9.98 (0.000) [5.040 (0.000)]	18.99 (0.000) [7.090 (0.000)]	-8.53 (0.005) [-1.555 (0.000)]
SEGS	2.307 (0.000) [2.000 (0.000)]	1.851 (0.000) [1.500 (0.000)]	0.456 (0.000) [0.500 (0.000)]
HI	0.734 (0.000) [0.747 (0.000)]	0.804 (0.000) [0.787 (0.000)]	-0.068 (0.000) [-0.061 (0.000)]

II: Two-event corporate restructuring sub-sample

ROA	0.088 (0.000) [0.104 (0.000)]	0.088 (0.000) [0.106 (0.000)]	0.002 (0.885) [-0.002 (0.852)]
DEBT	0.247 (0.000) [0.236 (0.000)]	0.154 (0.000) [0.142 (0.000)]	0.092 (0.000) [0.098 (0.000)]
ICOV	4.131 (0.000) [3.335 (0.000)]	30.03 (0.001) [6.768 (0.000)]	-26.0 (0.004) [-3.315 (0.002)]
SEGS	2.538 (0.000) [2.500 (0.000)]	2.104 (0.000) [2.000 (0.000)]	0.367 (0.041) [0.500 (0.040)]
HI	0.697 (0.000) [0.696 (0.000)]	0.784 (0.000) [0.769 (0.000)]	-0.085 (0.005) [-0.080 (0.007)]

III: Three-event corporate restructuring sub-sample

ROA	0.096 (0.000) [0.010 (0.000)]	0.106 (0.000) [0.115 (0.000)]	-0.010 (0.638) [-0.006 (0.761)]

DEBT	0.212 (0.000) [0.211 (0.000)]	0.144 (0.000) [0.138 (0.000)]	0.068 (0.026) [0.076 (0.023)]
ICOV	2.740 (0.038) [2.530 (0.048)]	6.850 (0.001) [5.748 (0.001)]	-4.10 (0.089) [-3.020 (0.163)]
SEGS	3.127 (0.000) [3.000 (0.000)]	1.857 (0.000) [2.000 (0.000)]	1.381 (0.001) [1.000 (0.002)]
HI	0.568 (0.000) [0.551 (0.000)]	0.773 (0.000) [0.760 (0.000)	-0.188 (0.010) [-0.173 (0.009)]

Panel B: Incidence of external control threats

I: One-event corporate restructuring sub-sample

Variable	Number (fraction) for sample firms	Number (fraction) for control firms	P-value for difference in means
TKV	128 (9.2%)	43 (3.1%)	0.000
DSTRS	56 (4.0%)	20 (1.5%)	0.000
TOTAL	184 (13.3%)	63 (4.6%)	0.000

II: Two-event corporate restructuring sub-sample

TKV	17 (9.7%)	6 (3.4%)	0.018
DSTRS	6 (3.4%)	4 (2.3%)	0.522
TOTAL	23 (13.1%)	10 (5.7%)	0.026

III: Three-event corporate restructuring sub-sample

TKV	3 (13.0%)	2 (8.7%)	0.645
DSTRS	0 (0%)	0 (0%)	*
TOTAL	3 (13.0%)	2 (8.7%)	0.645

* - the same number of observations

Table 8-4: Changes in operating performance surrounding corporate restructuring

This table reports means [medians] changes in industry-adjusted ROA for a sample of UK non-financial firms that announced different forms of corporate restructuring over the period 1993-2000. Industry-adjusted means [medians] are computed by subtracting the median value for all firms in the same FTSE level 4-industry group from the corresponding corporate restructuring firm value. Number of events denotes the events announced by the firm per year. The fractions of all changes that are positive are reported below the medians. Cumulative is defined as the difference between the median of three years prior (following) corporate restructuring, and year 0. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon sign test* for the medians are reported in parenthesis.

	Sub-samples		
Window	One-event	Two-event	Three-event
Panel A: Operating performance prior to corporate restructuring			
Δ-3 to 0	-0.049 (0.000) [-0.031 (0.000)] 38.7	-0.075 (0.000) [-0.053 (0.000)] 31.5	-0.052 (0.007) [-0.054 (0.007)] 27.3
Δ-2 to 0	-0.046 (0.000) [-0.031 (0.000)] 36.5	-0.074 (0.000) [-0.051 (0.000)] 33.5	-0.050 (0.033) [-0.050 (0.026)] 26.1
Δ-1 to 0	-0.032 (0.000) [-0.024 (0.000)] 38.8	-0.039 (0.004) [-0.024 (0.000)] 39.3	-0.021 (0.277) [-0.025 (0.212)] 43.5
Cumulative	-0.056 (0.000) [-0.034 (0.000)] 35.7	-0.076 (0.000) [-0.051 (0.000)] 30.6	-0.052 (0.005) [-0.053 (0.005)] 26.1
N	1339	173	23
Panel B: Operating performance following corporate restructuring			
Δ0 to +1	0.013 (0.196) [0.009 (0.000)] 53.6	0.033 (0.031) [0.017 (0.048)] 58.4	-0.018 (0.503) [-0.015 (0.626)] 50.0
Δ0 to +2	0.017 (0.124) [0.013 (0.000)] 55.2	0.056 (0.001) [0.038 (0.000)] 66.4	0.058 (0.007) [0.048 (0.002)] 80.0
Δ0 to +3	0.021 (0.052) [0.015 (0.000)] 56.6	0.060 (0.001) [0.040 (0.000)] 64.5	0.028 (0.161) [0.028 (0.165)] 63.2
Cumulative	0.037 (0.000) [0.016 (0.000)] 57.3	0.047 (0.001) [0.028 (0.000)] 62.6	0.031 (0.068) [0.029 (0.076)] 66.7
N	1262	161	22

Table 8-5: Changes in financial leverage surrounding corporate restructuring

This table reports means [medians] changes in industry-adjusted Debt for a sample of UK non-financial firms that announced different forms of corporate restructuring over the period 1993-2000. Industry-adjusted means [medians] are computed by subtracting the median value for all firms in the same FTSE level 4-industry group from the corresponding corporate restructuring firm value. Number of events denotes the events announced by the firm per year. The fractions of all changes that are positive are reported below the medians. Cumulative is defined as the difference between the median of three years prior (following) corporate restructuring, and year 0. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon sign test* for the medians are reported in parenthesis.

	Sub-samples		
Window	One-event	Two-event	Three-event
Panel A: Financial leverage prior to corporate restructuring			
Δ-3 to 0	0.024 (0.000) [0.022 (0.000)] 56.0	0.043 (0.000) [0.033 (0.001)] 57.7	0.015 (0.471) [0.014 (0.659)] 52.2
Δ-2 to 0	0.017 (0.000) [0.016 (0.000)] 55.7	0.028 (0.009) [0.021 (0.016)] 59.0	0.012 (0.544) [0.010 (0.574)] 52.2
Δ-1 to 0	0.011 (0.000) [0.007 (0.000)] 53.6	0.006 (0.470) [0.004 (0.545)] 50.9	0.016 (0.457) [0.011 (0.403)] 56.5
Cumulative	0.021 (0.000) [0.016 (0.000)] 55.6	0.029 (0.003) [0.022 (0.008)] 59.0	0.012 (0.515) [0.009 (0.616)] 25.2
N	1337	173	23
Panel B: Financial leverage following corporate restructuring			
Δ0 to +1	0.001 (0.787) [-0.003 (0.146)] 47.0	-0.018 (0.055) [-0.014 (0.005)] 37.5	-0.019 (0.235) [-0.026 (0.082)] 27.3
Δ0 to +2	0.006 (0.188) [-0.003 (0.319)] 47.3	-0.018 (0.174) [-0.023 (0.013)] 38.8	-0.042 (0.072) [-0.046 (0.073)] 26.3
Δ0 to +3	0.006 (0.335) [-0.005 (0.191)] 46.0	-0.029 (0.022) [-0.033 (0.001)] 38.4	-0.031 (0.286) [-0.027 (0.205)] 31.6
Cumulative	0.001 (0.847) [-0.006 (0.036)] 46.1	-0.021 (0.066) [-0.023 (0.004)] 37.7	-0.028 (0.107) [-0.032 (0.095)] 28.6
N	1264	160	22

Table 8-6: Changes in interest coverage surrounding corporate restructuring

This table reports means [medians] changes in industry-adjusted interest coverage for a sample of UK non-financial firms that announced different forms of corporate restructuring over the period 1993-2000. Industry-adjusted means [medians] are computed by subtracting the median value for all firms in the same FTSE level 4-industry group from the corresponding corporate restructuring firm value. Number of events denotes the events announced by the firm per year. The fractions of all changes that are positive are reported below the medians. Cumulative is defined as the difference between the median of three years prior (following) corporate restructuring, and year 0. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon sign test* for the medians are reported in parenthesis.

	Sub-samples		
Window	One-event	Two-event	Three-event
Panel A: Interest coverage prior to corporate restructuring			
Δ-3 to 0	-8.83 (0.000) [-2.215 (0.000)] 38.5	-7.77 (0.000) [-4.165 (0.000)] 31.0	7.45 (0.422) [-1.870 (0.294)] 43.5
Δ-2 to 0	-7.33 (0.000) [-1.925 (0.000)] 39.0	-5.68 (0.000) [-2.855 (0.000)] 37.0	-1.11 (0.704) [-1.460 (0.475)] 40.9
Δ-1 to 0	-2.97 (0.022) [-1.150 (0.000)] 41.6	-2.315 (0.011) [-1.465 (0.007)] 41.6	2.83 (0.334) [0.255 (0.795)] 45.5
Cumulative	-5.31 (0.001) [-1.850 (0.000)] 38.5	-4.50 (0.000) [-3.025 (0.000)] 34.5	-0.19 (0.949) [-1.660 (0.256)] 40.9
N	1321	173	23
Panel B: Interest coverage following corporate restructuring			
Δ0 to +1	-0.25 (0.874) [0.615 (0.000)] 55.6	2.63 (0.017) [1.250 (0.024)] 60.0	-5.41 (0.152) [-2.315 (0.144)] 27.3
Δ0 to +2	1.49 (0.433) [0.900 (0.000)] 55.8	3.98 (0.030) [2.625 (0.000)] 66.7	-8.67 (0.396) [1.458 (0.588)] 60.0
Δ0 to +3	3.79 (0.106) [0.885 (0.002)] 54.5	8.59 (0.008) [2.890 (0.000)] 64.3	-10.1 (0.372) [1.898 (0.279)] 60.0
Cumulative	1.79 (0.239) [0.960 (0.000)] 57.5	4.31 (0.001) [2.603 (0.000)] 67.8	-0.60 (0.879) [1.422 (0.344)] 52.6
N	1244	160	22

Table 8-7: Changes in operating performance surrounding pairs of different corporate restructuring events

This table reports median changes in industry-adjusted ROA for a sample of UK non-financial firms that announced two or more corporate restructuring events over the period 1993-2000 on the basis of pairs of events. Industry-adjusted medians are computed by subtracting the median value for all firms in the same FTSE level 4-industry group from the corresponding corporate restructuring firm value. Cumulative is defined as the difference between the median of three years prior (following) corporate restructuring, and year 0. P-values of a two-tailed *Wilcoxon sign test* for the medians are reported in parenthesis.

	Different Combinations					
Window	Assets & CEO	Assets & Dividend Cuts	Assets & Layoffs	CEO & Dividend Cuts	CEO & Layoffs	Dividend cuts & Layoffs
Panel A: Operating performance prior to corporate restructuring						
Δ-3 to 0	-0.058 (0.000)	-0.084 (0.000)	-0.025 (0.008)	-0.065 (0.000)	-0.048 (0.000)	-0.016 (0.000)
Δ-1 to 0	-0.017 (0.030)	-0.039 (0.000)	-0.007 (0.345)	-0.028 (0.003)	-0.016 (0.044)	-0.030 (0.000)
Cumulative	-0.047 (0.000)	-0.072 (0.000)	-0.024 (0.002)	-0.056 (0.000)	-0.043 (0.000)	-0.056 (0.000)
N	165	135	117	151	156	131
Panel B: Operating performance following corporate restructuring						
Δ0 to +1	0.012 (0.194)	0.028 (0.021)	0.009 (0.303)	0.021 (0.050)	0.016 (0.080)	0.010 (0.355)
Δ0 to +3	0.036 (0.001)	0.059 (0.000)	0.021 (0.040)	0.040 (0.001)	0.035 (0.000)	0.045 (0.000)
Cumulative	0.031 (0.000)	0.042 (0.000)	0.024 (0.004)	0.035 (0.001)	0.031 (0.000)	0.030 (0.001)
N	152	129	111	140	143	119

Table 8-8: Logistic regressions of the determinants of corporate restructuring

The table reports results of logistic regressions where the dependent variable takes the value of one for sample firms that announced different events of corporate restructuring during their financial year, and zero for non-corporate restructuring control firms over the period 1993-2000. Corporate control [CTRL] is defined where the firm experienced a takeover approach or financial distress over the 12 months prior to the announcements of different events of corporate restructuring, and zero otherwise. AD, AL, AC, DL, DC, and LC [which stands for: AD – asset sales & dividend cuts; AL – asset sales & corporate layoffs; AC – asset sales & CEO turnover; DL – dividend cuts & corporate layoffs; and LC – corporate layoffs & CEO turnover] are dummy variables that take the value of one for sample firms that announced pairs of corporate restructuring events over the sample period, and zero otherwise. ADL, ADC, ALC, and DLC [which stands for: ADL – asset sales, dividend cuts and corporate layoffs; ADC – asset sales, dividend cuts, and CEO turnover; ALC – asset sales, corporate layoffs, and CEO turnover; DLC – dividend cuts, corporate layoffs, and CEO turnover] are dummy variables that take the value of one for sample firms that announced these three corporate restructuring events over the sample period, and zero other otherwise. ADCL is a dummy variable that takes the value of one if a firm announced all four restructuring events examined in this thesis over the sample period, and zero otherwise. All other variables are as defined in the previous tables. P-values for two-tailed tests of significance are reported in parenthesis. *, **, and *** denote statistical significance at the 1%, 5%, and 10% respectively.

Variable	All firms	Two events	Three events	Four events
Constant	-1.162*	-1.153*	-1.154*	-1.134*
$\Delta ROA_{-3 \text{ to } 0}$	-1.949*	-1.886*	-1.925*	-1.944*
$DEBT_{-1}$	1.489*	1.525*	1.496*	1.470*
HI_{-1}	-0.788*	-0.910*	-0.850*	-0.821*
$CTRL_{-1}$	1.263*	1.275*	1.257*	1.265*
AD		-0.032		
AL		-0.364**		
AC		-0.279**		
DL		-0.244		
DC		0.234**		
LC		-0.287**		
ADL			-0.070	
ADC			0.109	
ALC			-0.527*	
DLC			-0.056	
ADCL				-0.345**
$LN(MV)_{-1}$	0.332*	0.383*	0.360*	0.339*
Log-likelihood	-1512.4*	-1495.1*	-1503.4*	-1510.0*
N	2528	2528	2528	2528

Table 8-9: Correlation matrix of the determinants of corporate restructuring

The table presents correlation matrix of the determinants of corporate restructuring. The variables are as defined in Table 8-8.

Panel A: All firms excluding dummy variables

	HI-1	$DEBT_{-1}$	$CTRL_{-1}$	$LN\ (MV)_{-1}$
$DEBT_{-1}$	-0.105			
$CTRL_{-1}$	-0.038	0.001		
$LN\ (MV)_{-1}$	-0.201	-0.007	0.058	
$\Delta ROA_{-3\ to\ 0}$	-0.028	0.129	-0.042	0.017

Panel B: Two events over the sample period per firm

	HI-1	$DEBT_{-1}$	$CTRL_{-1}$	$LN\ (MV)_{-1}$	$\Delta ROA_{-3\ to\ 0}$	AD	AL	AC	DL	DC
$DEBT_{-1}$	-0.105									
$CTRL_{-1}$	-0.038	0.001								
$LN\ (MV)_{-1}$	-0.201	-0.007	0.058							
$\Delta ROA_{-3\ to\ 0}$	-0.028	0.129	-0.042	0.017						
AD	-0.089	-0.007	-0.009	0.036	0.002					
AL	-0.159	-0.008	-0.011	0.266	0.013	0.151				
AC	-0.135	-0.005	0.052	0.171	0.012	0.188	0.153			
DL	-0.021	-0.007	-0.028	0.106	-0.018	0.069	0.158	-0.157		
DC	0.022	-0.011	-0.029	-0.138	-0.035	0.026	-0.225	-0.063	0.038	
LC	-0.067	-0.007	-0.038	0.261	0.021	-0.169	0.202	0.023	0.297	-0.045

Panel C: Three events over the sample period per firm

	HI-1	$DEBT_{-1}$	$CTRL_{-1}$	$LN\ (MV)_{-1}$	$\Delta ROA_{-3\ to\ 0}$	ADL	ADC	ALC
$DEBT_{-1}$	-0.105							
$CTRL_{-1}$	-0.038	0.001						
$LN\ (MV)_{-1}$	-0.201	-0.007	0.058					
$\Delta ROA_{-3\ to\ 0}$	-0.028	0.129	-0.042	0.017				
ADL	-0.105	-0.008	0.021	0.144	0.018			
ADC	-0.105	-0.008	0.019	0.055	-0.003	0.353		
ALC	-0.141	-0.007	-0.005	0.280	0.008	0.429	0.235	
DLC	-0.034	-0.010	-0.024	0.122	0.011	0.371	0.183	0.250

Panel D: Four events over the sample period per firm

	HI-1	$DEBT_{-1}$	$CTRL_{-1}$	$LN\ (MV)_{-1}$	$\Delta ROA_{-3\ to\ 0}$
$DEBT_{-1}$	-0.105				
$CTRL_{-1}$	-0.038	0.001			
$LN\ (MV)_{-1}$	-0.201	-0.007	0.058		
$\Delta ROA_{-3\ to\ 0}$	-0.028	0.129	-0.042	0.017	
ADCL	-0.106	-0.008	-0.001	0.147	0.011

Table 8-10: Stock returns to announcements of corporate restructuring events

The table presents stock returns surrounding different announcements of corporate restructuring events and stock performance following corporate restructuring over the period 1993-2000. Panel A reports cumulative abnormal stock returns (CARs) over the three days surrounding announcements of corporate restructuring events. CARs are computed as the difference between sample firms' daily return and returns on the *FT All-Share* Index over the corresponding period. Panel B reports buy-and-hold abnormal returns [BHARs] for sample firms following corporate restructuring. The buy-and-hold abnormal return is calculated as the difference between the monthly sample and control firms' returns. The control firms (or matching firms) are constructed on the basis of size and industry over the year prior to announcements of restructuring events. The fractions of all changes that are positive are reported in the last column. One, two, and three events denote firms that announced one event, two events, and three events per year, respectively. P-values of a two-tailed *Student's t-test* for the means and a two-tailed *Wilcoxon signed rank test* for the medians are reported in parenthesis.

Panel A: Stock price reaction to corporate restructuring announcements [CARs]

Sub-sample	N	Mean (t-stat.)	Median (p-value)	% Positive
One-event	1377	-0.39% (-2.42)	-0.16% (0.004)	42.4%
Two-event	171	-2.45% (-2.43)	-0.39% (0.147)	40.8%
Three-event	23	0.81% (1.04)	0.58% (0.513)	52.2%

Panel B: Long run stock returns following corporate restructuring [BHARs]

I: 12 – month period [BHARs]

One-event	1351	-4.17% (-2.25)	-3.30% (0.036)	47.6%
Two-event	171	-8.24% (-1.84)	-5.07% (0.217)	50.6%
Three-event	23	-2.40% (-0.13)	-12.3% (0.403)	39.1%

II: 24 – month period [BHARs]

One-event	1336	-2.16% (-0.81)	-0.34% (0.880)	50.8%
Two-event	170	-13.08% (-1.53)	-5.52% (0.351)	48.3%
Three-event	23	1.70% (0.06)	-6.17% (0.891)	56.5%

III: 36 – month period [BHARs]

One-event	1326	0.23% (0.07)	-0.96% (0.713)	48.9%
Two-event	169	-10.40% (-1.09)	-10.45% (0.162)	42.7%
Three-event	23	14.0% (0.44)	-8.01% (0.727)	47.8%

Figure 8-1: Return on Assets Surrounding Corporate Restructuring

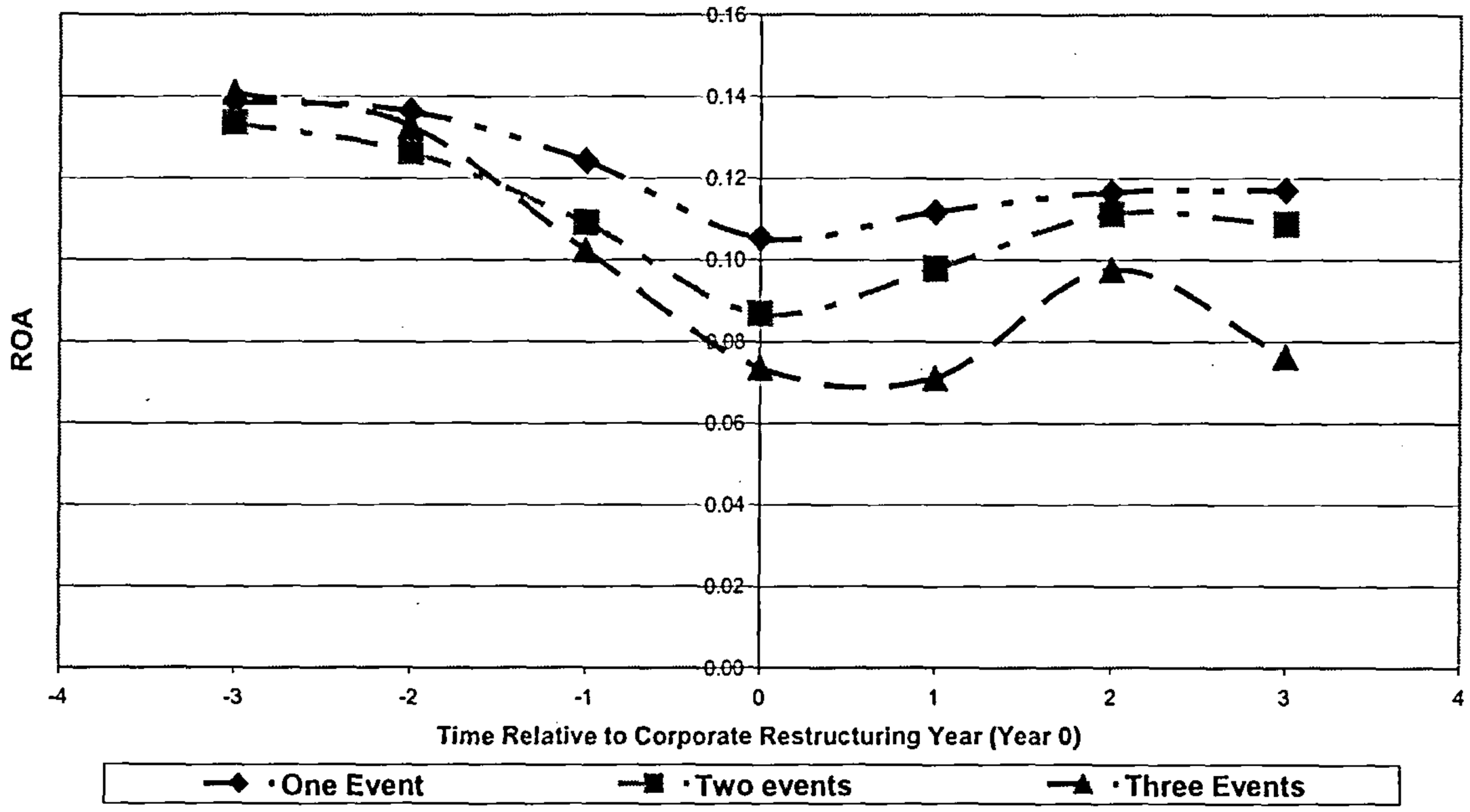


Figure 8-2: Debt Surrounding Corporate Restructuring

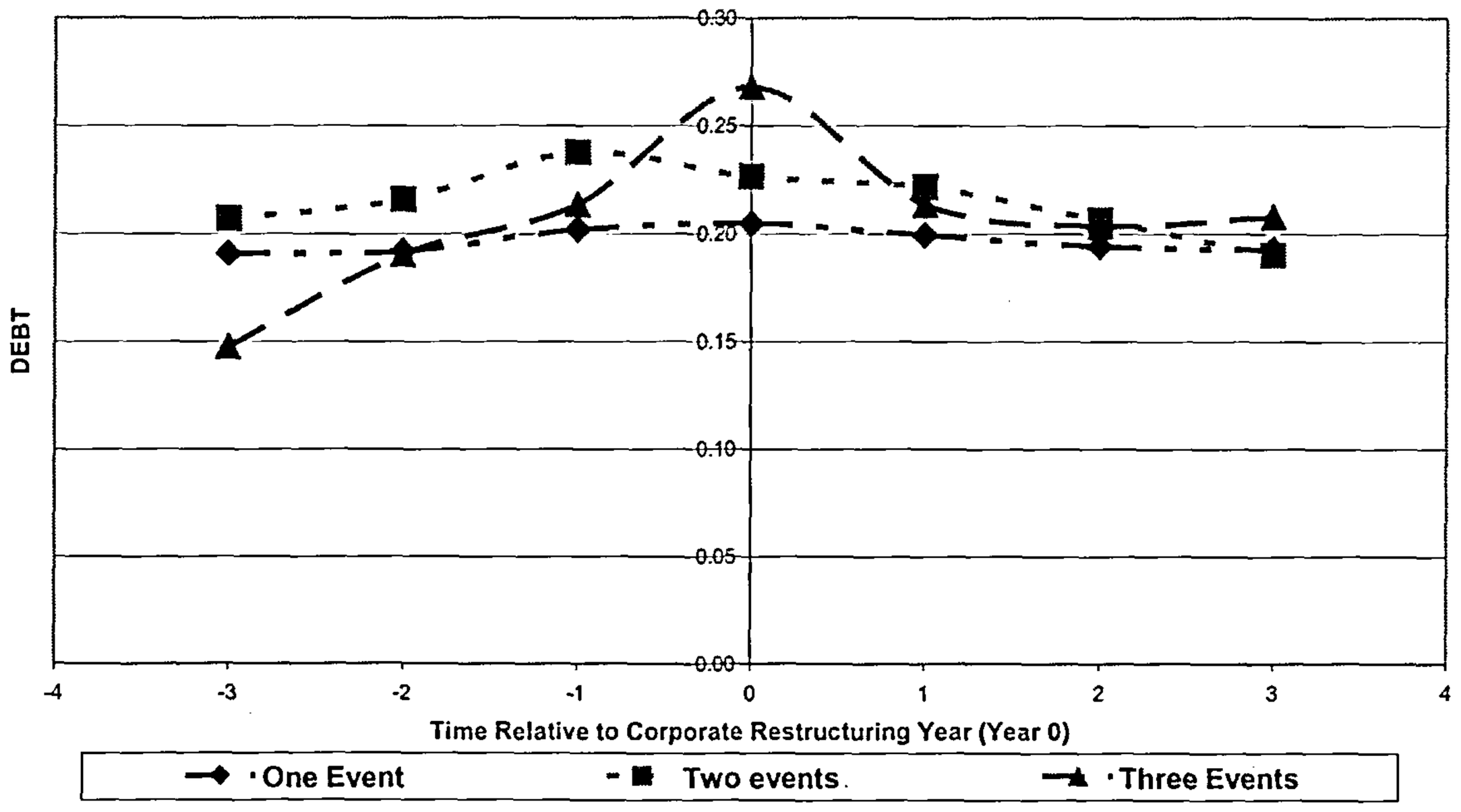
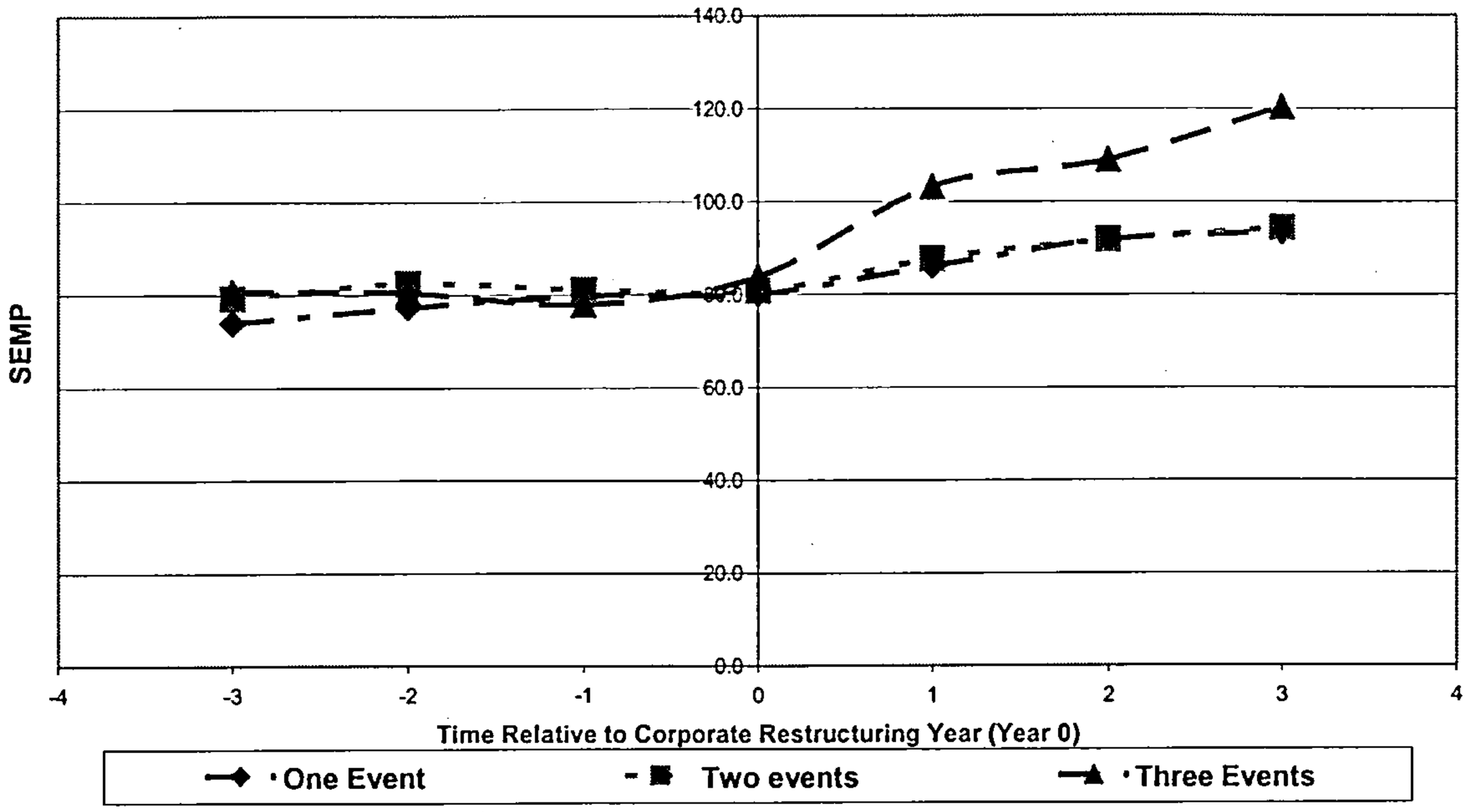


Figure 8-3: Sales per Employee Surrounding Corporate Restructuring



CHAPTER NINE: CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

9.1 Introduction

Corporate restructuring activity in its various forms has proved to be an increasingly important strategy recently pursued by managers. In so doing, managers find efficient ways through which firms can respond to what are mostly adverse economic conditions. The most general approach to these issues is to undertake several restructuring activities that are justified on financial, portfolio or organizational grounds (Bowman *et al.*, 1993).

Over time, academicians have been investigating motives for undertaking corporate restructuring, as well as considering whether restructuring creates value. It is interesting to note that there is no consistent evidence on these issues. There are three main reasons that can explain this situation. First, restructuring is viewed as a complex and multidimensional phenomenon, and therefore an examination of a single restructuring activity does not provide sufficient evidence of the motive for carrying out restructuring, as well as the issue of whether restructuring creates value (Hall, 1994; and Peel, 1995).

Second, a serious problem with many of these studies on restructuring is that they are not sufficiently precise about what they mean by "restructuring", thus inconclusive generalizations are often made (Markides, 1995). Finally, most of the existing findings on corporate restructuring are drawn mainly from US firms. This means that empirical research into other markets' restructuring has lagged considerably behind corresponding US studies. For example, despite the differences between UK and US corporate environments, the two markets share some fundamental similarities (Franks and Mayer, 1997) in terms of corporate legal environment, corporate ownership, and so forth. The similarities, as well as the differences between the two markets, make the UK a good market for studying and expanding knowledge about the different issues regarding corporate restructuring.

Following the preceding discussion, this thesis, which has used data from the UK, has examined several issues on restructuring, and has provided evidence related to three primary issues: what are the factors that influence managers to undertake restructuring?

What are performance consequences of restructuring? Do corporate managers undertake restructuring willingly?

The remainder of this chapter is structured as follows: Section 9.2 provides a summary of the main empirical chapters in this thesis. Section 9.3 provides the contributions of this thesis. Section 9.4 discusses the limitations of the findings presented in the thesis, the implications for future research and, finally, the concluding remarks.

9.2 Summary of main research findings

In this section a brief summary of the main research findings of the empirical chapters presented in this thesis is provided.

9.2.1 Asset sales

This chapter examined the operating performance changes of 399 UK non-financial firms that announced asset sales. Specifically, the chapter examined what motivates managers to restructure their assets and whether the operating performance of the remaining assets improves following asset sales.

The findings of this chapter indicate that asset sales are preceded by a period of poor performance, high levels of financial leverage, low liquidity and that they occur in relatively diversified firms. Companies may also have been forced to sell assets due to pressure from lenders, and external product, corporate and labour markets. Following asset sales, the operating performance of firms tends to improve. There is also a reduction in financial leverage, and firms become more focused. This is mainly attributable to the view that asset sales reverse the trend of declining performance in firms and thus business operations are more likely to be rendered economically viable after the disposal of under-performing assets. Asset sales may also raise cash for servicing debt, which in turn reduces bankruptcy costs; and reducing the likelihood of bankruptcy brings about more investment opportunities. In addition, the threat caused by a failure to make debt service payments serves as an effective motivating force to make organizations more efficient (Jensen, 1986; and Stulz, 1990).

9.2.2 Dividend cuts

This chapter examines the operating performance of UK non-financial firms that announced dividend cuts, dividend decreases and omissions. In addition, evidence is also provided of whether signalling hypotheses of dividend changes can help predict a firm's future profitability.

The findings of this chapter show that poor performance, high financial leverage and liquidity problems motivate corporate managers to cut dividends. There is also evidence that the decision to cut dividends is also influenced by the market for corporate control activities. Finally, there is no evidence that increases in the need for investment funds influence managers to cut dividends. Following the dividend cut, there is an improvement in operating performance and liquidity, and a reduction in financial leverage. Therefore, the decision to cut dividends reverses a declining trend of poor performance, and reduces financial leverage and liquidity problems. Taken together, these findings allow me to reject the signalling hypotheses of dividend changes.

9.2.3 Corporate layoffs

This chapter examined the determinants and the effects of corporate layoffs on a firm's efficiency. Evidence is also provided of whether the layoff decision increases a firm's productivity.

The findings of this chapter show that a period of poor stock price and operating performance and high levels of financial leverage preceded layoffs. This suggests that layoffs emerge from a genuine desire to restructure in response to declining performance and high financial leverage. Therefore, layoffs represent changes of sub-optimal contracts in response to changes in external and internal environments (Chen *et al.*, 2001). Following layoffs, there is a marginal improvement in operating performance, and an insignificant improvement in stock returns and financial leverage. However, there is a significant increase in labour productivity following layoffs. This supports the view that revisions of labour contracts in the case of layoffs are necessary, and that constructive steps are required to ensure corporate survival. Following these results, the survivors' syndrome theory is rejected, that layoffs represent a breach of implicit contracts (Brockner, 1986; and Cascio, 1993). Finally, the findings of this chapter show

that the market reacts negatively to layoff announcements and is driven by firms that undertake layoffs associated with reactive strategy.

In summary, the findings of this chapter imply that the firm's managers seek to operate efficiently with minimum costs and that they choose to lay off employees in order to decrease their employment costs. These findings therefore do not support the view that following a layoff, surviving employees become narrow-minded, self-absorbed, and risk averse; nor that morale sinks, productivity drops, and that survivors distrust management (Brockner, 1988).

9.2.4 CEO turnover

This chapter examined the operating performance following CEO turnover. The focus of this chapter is on announcements of CEO turnover carried out by UK non-financial firms. It does not, therefore, focus on any specific event, situation or circumstances such as industries (Cosh and Hughes, 1997), survey-based data (Conyon, 1998), large companies (Conyon and Florou, 2002) or in relation to the implementation of the Cadbury proposals (Dahya *et al.*, 2002; and Dedman, 2003).

The findings of this chapter indicate that firms dismiss their managers because of poor performance and high financial leverage. In addition, these firms undertake a number of restructuring activities in subsequent years, such as asset sales, corporate layoffs and dividend cuts. There is also evidence that managerial ownership is negatively related to forced CEO turnover and the market for corporate control is positively related to this turnover. This suggests that both internal and external monitoring systems work together to discipline poorly performing managers. Following forced top management dismissals, firms experienced improvement in performance and financial position in each of the 3 years following CEO turnover. Normal management change firms also experienced performance improvements. The observed performance improvement following CEO turnover is consistent with the improved management hypothesis (Huson *et al.*, 2004). Finally, the findings show that the market reacts negatively to announcements of forced CEO turnover and this indicates that investors view these announcements mainly as a signal of impending firm failure.

9.2.5 Corporate restructuring

This chapter examined the operating performance of the previous empirical chapters when combined together. It intends to investigate three main issues: what motivates managers to undertake restructuring, whether restructuring increases a firm's efficiency and whether corporate managers are forced to undertake restructuring. In a narrow sense, this is one of the first studies to examine more than one restructuring event. In addition, the approach of this thesis differs from much of the previous literature on restructuring because it examines firms whose managers announced different events related to corporate restructuring programmes. John *et al.* (1992), Kang and Shivdasani (1997) and Denis and Kruse (2000) examine firms that undertook restructuring in response to performance declines. Moreover, Brickley and Van Drunen (1990) and Liao (2004) start with restructured firms and examine changes in internal organization.

It is found that restructuring is preceded by a period of poor operating performance, high financial leverage and excessive diversification, and is then followed by improvement in all these areas. Firms also increase their investment levels and labour productivity over the period following corporate restructuring. On the other hand, the sample firms experience an insignificant increase in R&D and were able to reduce costs over the years following corporate restructuring. This finding provides evidence that corporate managers undertake restructuring programmes in order to increase the firm's efficiency, to expand investment opportunities and efficiently re-allocate resources. Further analysis shows that there is a positive relation between threats from the market for corporate control and the restructuring decision; and is limited to those firms that mostly undertake one corporate restructuring event per year. This is consistent with the notion that external control mechanisms also play an important role in restructuring firms (Fama, 1980; and Fama and Jensen, 1983).

There are several potential reasons for a firm's increased efficiency following restructuring. First, restructuring means that a firm may be separated into different pieces in order to improve the efficiency of operations and thereby increase the combined value of assets (Alchian and Demsetz, 1972). Second, restructuring improves the use of resources. Kaplan (1989), Smith (1990) and Wruck (1990) show that restructuring carried out in response to high financial leverage leads to an improvement

in firm performance. This is because financial distress gives creditors the right to demand restructuring because their contract with the firm has been breached. Creditors can then pressurise the firm to liquidate or reorganize. In addition, leverage reduces management's ability to expand through value-reducing projects (Jensen, 1986). Third, restructuring frees resources to move to higher-valued uses and this happens when managers are forced to reduce capacity and to rethink operating policies and strategy decisions (Wruck, 1990). In addition, the firm's restructuring programmes lead to an improvement in the efficient use of corporate resources and the redistribution of income among competing constituent interests (Donaldson, 1990). In other words, corporate restructuring exposes business units to direct product market competition thereby forcing increases in corporate focus and efficiency.

9.3 Contribution of this Thesis

By investigating the factors that motivate managers to undertake restructuring, and identifying whether restructuring increases efficiency, this thesis makes the following contribution to the body of evidence on corporate restructuring: First, it focuses on firms from a market that is relatively unexplored in the context of corporate restructuring. In a narrow sense, this is one of the first studies to examine corporate restructuring outside the US market. The second contribution of this thesis is that different forms of corporate restructuring are simultaneously examined. One of the challenges of previous studies on corporate restructuring is that they examine only one form of restructuring and arrive at a general conclusion that restructuring creates value. The evidence provided by Peel (1995) and Hall (1994) shows that firms in the process of restructuring undertake more than one form of restructuring simultaneously, and thus before generalizations are made, a researcher needs to analyse these forms separately (Markides, 1995).

The third primary contribution of this thesis is that the different factors that influence corporate managers to undertake restructuring are directly examined. Both univariate and multivariate analyses are used to examine these factors over the period prior to restructuring. Many previous studies have examined these factors in a univariate setting, but very few have examined them in a multivariate setting. In addition, apart from examining financial variables that are assumed to motivate managers to undertake

restructuring activities, this thesis has also examined the market for corporate control. managers rarely admit that external threats are reasons to restructure firms. On the market for corporate control, this thesis specifically examined whether sample firms were subjected to takeover pressures (actual or potential) and also to financial distress.

Fourth, this thesis provides evidence as to whether restructuring increases a firm's efficiency. This evidence has implications for the firm's investors, particularly its shareholders, because if restructuring increases efficiency, it shows that managers are taking decisions that are consistent with shareholders' value maximization. The final contribution of this study is that the stock market reaction on days surrounding corporate restructuring announcements is examined. This offers more insights into information signals of restructuring activities to the market.

9.4 Limitations, implications for future research and concluding remarks

In this section a brief summary of problems and limitations of this thesis, the implications for future research and concluding remarks are provided.

9.4.1 Problems and limitations

The scope of this thesis is limited to the examination of operating performance centred on the year of announcements of restructuring events. The thesis limited its analysis to financial performance changes over a period of seven years surrounding the year of restructuring. It focuses on the following restructuring events: asset sales, dividend cuts, corporate layoffs and CEO turnover.

This thesis encountered a problem of data. Specifically, there was no readily available and reliable source that contains company announcements reported in a consistent manner. Thus, most of the data of this thesis was collected manually, which, apart from being time-consuming, also lead to some observations being omitted. Third, most of the data used in this thesis was drawn from company announcements. It is possible that some companies do not announce all of their corporate decisions, while also not all company announcements are reported, especially those of small companies (Vermaelen, 1981). In general, relying on company announcements suggests that some of the observations might not be included. While these problems do present important caveats

to the findings that have been presented within the empirical chapters of this thesis, it is not felt that they significantly invalidate the research that has been presented here.

9.4.2 Implications for future research

This thesis covered wide areas of both corporate restructuring and governance theories. The empirical findings of this thesis support the view that the restructuring decision depends mostly on corporate governance. This is supported by the empirical findings reported in this thesis, and these findings, in general, suggest that internal and external monitoring systems work together to influence restructuring decisions. This thesis has also widely examined the influence of financial performance on the restructuring decision. In brief, the findings of this thesis offer the following as the implications for future research:

First, when a firm considers restructuring its organizational form, asset sales, layoffs, dividend policy changes and CEO turnover are only several approaches that could be employed. This thesis has examined these topics in detail from both an ex-ante and ex-post basis. Further research on the other managerial decisions, such as share repurchases, mergers and acquisitions, management buyouts, takeovers, bankruptcy, debt restructuring and business break-ups would also provide more evidence on why corporate managers undertake restructuring, and as to whether restructuring increases a firm's efficiency.

Second, this thesis has revealed that the information content of dividends cannot help identify a firm's future earnings. The findings of this thesis have also shown that the magnitude of changes in the industry-adjusted operating performance for dividend omissions is greater than that of dividend decreases over the periods prior to and following dividend cuts. The same trend is also observed in the market reaction to dividend omissions and that of dividend decreases. All these results suggest a puzzle that, hopefully, future research will help to solve.

Third, an interesting extension of this thesis would be to examine the operating performance of a firm over a period of 4 or 5 years following corporate layoffs. It is believed that if high layoff payments reduce a firm's profitability, then a study that

covers a longer period should be able to discover the effects of layoffs on a firm's financial performance. Fourth, the findings on operating performance prior to forced CEO turnover show that poor performance goes back to the year 3 prior to CEO turnover. This raises the question of why the managers of these firms are not replaced in more timely fashion. That is, why do firms take so long to dismiss apparently poorly performing managers?

Finally, agency theory argues that managers' wealth is increased more through growth and diversification than through maximization of firm market value. Consequently, managers may not be willing to reduce or reverse diversification unless their objectives are aligned with those of shareholders, or unless they are pressured to restructure by shareholders or outside investors. Therefore, according to agency theory arguments, managers' willingness to restructure a firm depends on the ownership structure of the firm, among other things. This observation suggests that there are direct effects of ownership structure on restructuring. However, this observation has not been formalized. It is hoped that future research will offer the evidence on this.

9.4.3 Concluding remarks

The findings presented in this thesis have drawn on several aspects of corporate restructuring and governance. Several issues have been empirically examined in this thesis and offer contributions to these fields of research in both specific and general senses. The data used in testing the results reported in this thesis have come from a variety of sources, which have proved fruitful in allowing the examination of a number of testable hypotheses concerning the interaction of corporate restructuring and governance systems.

It has been seen that restructuring decisions depend mostly on corporate governance systems. In future, the author therefore aims to study and examine this relationship further by using other restructuring activities and the other areas that have been discussed in this thesis, and also by using any other areas of interest that stem from further research.

References

Addison, J. T., and M. L. Blackburn (1994): The worker adjustment and retraining notification act: Effect on notice provision, Industrial and Labour Relations Review 47, 650-662.

Adedeji, A., (1998): Does the pecking order hypothesis explain the dividend payout ratios of firms in the UK? Journal of Business Finance & Accounting 25 (9) & (10), 1127-1155.

Afshar, K. A.; R. J. Taffler; P. S. Sudarsanam (1992): The Effect of Corporate Divestments on Shareholder Wealth: The UK experience, Journal of Banking and Finance 16, 115 – 135.

Aharony, J., and I. Swary (1980): Quarterly dividend and earnings announcements and stockholders' returns: An empirical analysis, Journal of Finance 35, 1-12.

Ahn, S., D. J. Denis, and D. K. Denis (2006): Leverage and investment in diversified firms, Journal of Financial Economics 79, 317-337.

Alchian, A. A., and H. Demsetz (1972): Production information costs, and economic organization, American Economic Review 62, 777-795.

Amihud, Y., and B. Lev (1981): Risk reduction as a managerial motive for conglomerate mergers, Bell Journal of Economics 12, 605-617.

Ang, J. S., and P. Y. Keys (2002): In defense of US corporate boards: An analysis of boards' actions toward CEOs during periods of employee layoffs, working paper.

Antoniou, A.; Y. Guney and K. Paudyal (2002): The determinants of corporate debt maturity structure: Evidence from France, Germany and UK. European Financial Management Forthcoming

Asquith, P., and D. W. Mullins (1983): The impact of initiating dividend payments on shareholders' wealth, Journal of Business 56, 77-96.

Ballester, M.; J. Livnat; and N. Sinha (1999): Corporate Reorganizations: Changes in the Intensity of Labour and Capital Expenditures, Journal of Business Finance and Accounting, 26 (9) & (10), Nov/Dec. 1999; 1205-1238.

Barber, B.M., and J. D. Lyon (1996): Detecting abnormal operating performance: The empirical power and specification of test statistics, Journal of Financial Economics 41, 359-399.

Barber, B.M., and J. D. Lyon (1997): Detecting abnormal stock returns: The empirical power and specification of test statistics, Journal of Financial Economics 43, 341-372.

Begg, P. F. C., (1991): Corporate Acquisitions and Mergers: A Practical Guide to the Legal, Financial and Administrative Implications (London: Graham and Trotman).

Benartzi, S., R. Michaely, and R. Thaler (1997): "Do Changes in Dividends Signal the Future or the Past?" Journal of Finance, Vol. 52, No.3, 1007 – 1034.

Benito, A., and G. Young (2003): Hard Times or Great Expectations? Dividend Omissions and Dividend Cuts by UK Firms, Oxford Bulletin of Economics and Statistics, 65, 5, 531-555.

Berger, P. G., and E. Ofek (1995): Diversification's effect on firm value, Journal of Financial Economics 37, 39-65.

Berger, P. G., and E. Ofek (1999): Causes and effects of corporate refocusing programs, Review of Financial Studies, 12, 311-345.

Bethel, J. E., and J. Liebeskind (1993): The effects of ownership structure on corporate restructuring 14, 15-31.

Bhattacharya, S., (1980): Nondissipative signalling structure and dividend policy, Quarterly Journal of Economics 95, 1-24.

Bhattacharya, S., (1979): Imperfect information, dividend policy, and "the bird in the hand" fallacy, Bell Journal of Economics 10, 259-270.

Bhide, A. (1990): Reversing corporate diversification, Journal of Applied Corporate Finance 3, 70-81.

Black, B., and J. Coffee (1994): Hail Britannia? Institutional investor behaviour under limited regulation. Michigan Law Review 97, 1997-2087.

Bowman, E., and H. Singh (1990): Overview of corporate restructuring: Trends and consequences, Corporate Restructuring, McGraw-Hill, New York.

Bowman, E., and H. Singh (1993): Corporate restructuring: Re-configuring the firm, Strategic Management Journal 14, 5-14.

Bozec, R., (2005): Boards of Directors, Market Discipline and Firm Performance, Journal of Business Finance & Accounting 32(9) & (10), 1921-1960.

Brickley, J. A., and L. D. Van Drunen (1990): Internal Corporate Sell-off: An Empirical Analysis. Journal of Accounting and Economics 12, 251 – 280.

Brockner, J., (1988): The effects of work layoffs on survivors: Research, theory and practice, Research in Organizational Behaviour, JAI Press, Greenwich CT, 213-255.

Brockner, J.; J. Greenberg; A. Brockner, J. Bortz, J. Davy and C. Carter (1986): Layoffs, equity theory, and work performance: Further evidence of the impact of survivor guilt, Academy of Management Journal, 29, 373-384.

Brown, S. J.; and J. B. Warner (1980): Measuring security price performance, Journal of Financial Economics, 8, 205-258.

Brown, S. J.; and J. B. Warner (1985): Using daily stock returns: The case of event studies, Journal of Financial Economics, 14, 3-31.

Cadbury, A. (1992): 'Codes of best practice,' 'Report from the committee on financial aspects of corporate governance,' London, Gee Publishing.

Cascio, W. F., (1993): Layoffs: what do we know? What have we learned? Academy of Management Executive, Vol. 7 No. 1, 95-104.

Cascio, W. F.; C. E. Young and J. R. Morris (1997): Financial Consequences of Employment-Change Decisions in Major U.S. Corporations, Academy of Management Journal; Oct 1997; 40, 5; 1175-1189.

Chalos, P., and C. J. P. Chen (2002): Employee Layoffs Strategies: Market Reaction and Post Announcement Financial Performance, Journal of Business Finance & Accounting, 29 (5) & (6), 847-870.

Charest, G. (1978): "Dividend information, stock returns and market efficiency – II", Journal of Financial Economics, 6, 297-330.

Chen, P., V. Mehrotra, R. Sivakumar, and W. W. Yu (2001): Layoffs, shareholders' wealth and corporate performance, Journal of Empirical Finance 8, 171-199

Christie, W. G. (1990): "Dividend yield and expected returns: The zero-dividend puzzle", Journal of Financial Economics, 28, 95-125.

Christie, W. G. (1994): "Are Dividend Omissions Truly the Cruellest Cut of All"? Journal of Financial and Quantitative Analysis, Vol. 29, 459-480.

Clubb, C., and A. Stouraitis (2002): The significance of Asset sale Profitability in Explaining the Market Reaction to Divestiture Announcements, Journal of Banking & Finance 26, 671-688.

Coase, R. H. (1937): The nature of the firm, Economica 4, 386-405.

Collett, N., (2002): Reactions of the International Stock Exchange to Company Employment Announcements: Redundancies and New Jobs, Journal of Business Finance & Accounting 29 (9) & (10), 1181-1208.

Comment, R., and G. A. Jarrell (1995): Corporate focus and stock returns, Journal of Financial Economics 37, 67-87.

Conyon, M. (1998): Directors' pay and turnover: An application to a sample of large UK firms, Oxford Bulletin of Economics and Statistics 60 (4), 485-507.

Conyon, M. J., and A. Florou (2002): Top executive dismissal, ownership and corporate performance, Accounting and Business Research, 32, 209-225.

Cosh, A., and A. Hughes (1997): Executive remuneration, executive dismissal and institutional shareholdings, International Journal of Industrial Organization 15, 469-492.

Dahya, J., A. Lonie and D. Power (1998): Ownership structure, firm performance and top executive change: An analysis of UK firms, Journal of Business Finance and Accounting 25, 1089-1118.

Dahya, J., J. J. McConnell and N. G. Travlos (2002): The Cadbury committee, corporate performance and top management turnover, Journal of Finance 57, 461-483.

Dahya, J., and J. J. McConnell (2004): Outside directors and corporate board decisions, Journal of Corporate Finance 11, 37-60.

DeAngelo, H., and L. DeAngelo (1990): Dividend policy and financial distress: An empirical investigation of troubled NYSE firms, Journal of Finance 45, 1415-1431.

DeAngelo, H., L. DeAngelo, and D. J. Skinner (1992): "Dividend and Losses", Journal of Finance, Vol. 47, No. 5. Dec. 1992, 1837 – 1863.

DeAngelo, H.; L. DeAngelo; and D. J. Skinner (1996): "Reversal of fortune Dividend signalling and the disappearance of sustained earnings growth", Journal of Financial Economics, 40, 341 – 371.

DeBondt, W.; and R. Thaler (1985): Does the stock market overreact? Journal of Finance, 40, 793-805.

Dedman, E., and S. W. –J. Lin (2002): Shareholder wealth effects of CEO departures: Evidence from the UK, Journal of Corporate Finance 8, 81-104.

Dedman, E. (2003): Executive turnover in UK firms: The impact of Cadbury, Accounting and Business Research 33, 33-50.

Denis, D. J., and D. K. Denis (1993): Managerial discretion, organizational structure, and corporate performance: a study of leveraged recapitalizations, Journal of Accounting and Economics 16, 209-236.

Denis, D. J., and D. K. Denis (1995): Performance changes following top management dismissal, Journal of Finance 50, 1029-1057.

Denis, D. J., T., A., Kruse (2000): Managerial discipline and corporate restructuring following performance declines, Journal of Financial Economics 55, 391-424.

Denis, D. J., and D. K. Denis, and A. Sarin (1997a): Agency problems, equity ownership, and corporate diversification, Journal of Finance 52, 135-160.

Denis, D. J., and D. K. Denis, and A. Sarin (1997b): Ownership structure and top executives, Journal of Financial Economics 45, 193-221.

Denis, D. K., and D. K. Shome (2005): An empirical investigation of corporate asset downsizing, Journal of Corporate Finance 11, 427-448.

DeWitt, R.L., (1998): Firm, Industry, and Strategy Influences on Choice of Layoffs Approach, Strategic Management Journal, vol. 19, 59-79.

Dhanani, A., (2005): Corporate Dividend Policy: The Views of British Financial Managers, Journal of Business Finance & Accounting 32(7) & (8), 1625-1672.

DiMaggio, P., and W. Powell (1983): The iron cage revisited: Institutional isomorphism and collective rationality, American Sociology Review 48, 147-160.

Donaldson, G. (1961): Corporate Debt Capacity: A study of corporate debt policy and the determination of corporate debt capacity (Boston, division of research, Harvard Graduate School of Business Administration).

Donaldson, G. (1990): Voluntary restructuring: The case of General Mills, Journal of Financial Economics 27, 117 – 141.

Donaldson, G. (1994): Corporate restructuring: Managing the change process from within (Boston, Harvard Business School Press).

Easterbrook, F., (1984): Two Agency-Cost explanations of dividends, American Economic Review 74, 650-659.

Eaton, R. D. V. (1999): "Stock Price Adjustment to the Information in Dividend Changes", Review of Quantitative Finance and Accounting, 12, 113 -133.

Elayan, F. A.; G. S. Swales; B. A. Maris; and J. R. Scott (1998): Market Reactions, Characteristics, and the Effectiveness of Corporate Layoffs, Journal of Business Finance & Accounting, 25 (3) & (4), 329-350.

Fama, E. F., and H. Babiak (1968): Dividend policy: An empirical analysis, Journal of the American Statistical Association 63, 1132-1161.

Fama, E. F. (1980): Agency problems and the theory of the firm, Journal of Political Economy 88, 288-307.

Fama, E. F., (1998): Market Efficiency, Long – Term Returns, and Behavioural Finance, Journal of Financial Economics 49, 283 – 306.

Fama, E. F., and M. C. Jensen (1983): Separation of ownership and control, Journal of Law and Economics 26, 301-325.

Fama, E. F., and M. C. Jensen (1983): Agency problems and residual claims, Journal of Law and Economics 26, 1-28.

Fama, E. F., L. Fisher, M. Jensen, and R. Roll (1969): The Adjustments of Stock Prices to New Information, International Economic Review 10, 1 - 21.

Filbeck, G., and S. E. Webb (2001): Information asymmetries, managerial ownership, and the impact of layoff announcements on shareholder wealth, Quarterly Journal of Business and Economics 40, 2, 31-47.

Franks, J. and C. Mayer (1996): Hostile takeover and the correction of managerial failure, Journal of Financial Economics 40, 163-181.

Franks, J. and C. Mayer (1997): Corporate ownership and control in the UK, Germany, and France; in Donald H. Chew (Ed.), studies in International Finance and Governance Systems: A comparison of the US, Japan, and Europe, OUP, New York.

Franks, J., C. Mayer and L. Renneboog (2001): Who disciplines management in poorly performing companies? Journal of Financial Intermediation 10, 209-248.

Furtado, E., and V. Karan (1990): Causes, consequences and shareholder wealth effects of management turnover: A review of the empirical evidence, Financial Management, 60-75.

Gibbs, P. A. (1993): Determinants of corporate restructuring: The relative importance of corporate governance, takeover threat, and free cash flow, Strategic Management Journal 14, 51-68.

Gilson, S. C. (1989): Management turnover and financial distress, Journal of Financial Economics 25, 241-262.

Gilson, S. C. (1990): Bankruptcy, boards, banks, and blockholders, Journal of Financial Economics 27.

Gilson, S. C. (1998): Creating Value through Corporate Restructuring, Harvard Business School, working paper.

Gilson, S. C. (2001): Creating Value through Corporate Restructuring: Case Studies in Bankruptcies, Buyouts, and Breakups, John Wiley & Sons, Inc.

Grullon, G.; R. Michaely; and B. Swaminathan (2002): "Are dividend changes a sign of firm maturity?" Journal of Business 75, 387-424.

Grullon, G.; R. Michaely; S. Benartzi; and R. H. Thaler (2005): Dividend Changes Do Not Signal Changes in Future Profitability, The Journal of Business 78, 5; 1659-1682.

Hahn, T., and M. G. Reyes (2004): On the estimation of stock-market reaction to corporate layoff announcements, Review of Financial Economics 13, 357-370.

Hall, B. H., (1994): Corporate restructuring and investment horizons in the United States, 1976-1987, Business History Review 68, 110-144.

Harris, M.; and A. Raviv (1990): Capital Structure and the Informational Role of Debt, Journal of Finance 45, 2, 321-349.

Hart, O. D. (1983): The market mechanism as an incentive scheme, Bell Journal of Economics 14, 366-382.

Haynes, M., S. Thompson, and M. Wright (2000): The determinants of corporate divestment in the UK, International Journal of Industrial Organization 18, 1201 -1222.

Haynes, M., S. Thompson, and M. Wright (2002): The impact of divestment on firm performance: Empirical evidence from a panel of UK companies, The Journal of Industrial Economics, vol. L, 173-196.

Healy, P. M, K. G. Palepu and R. S. Ruback (1992): Does Corporate Performance Improve after Mergers? Journal of Financial Economics 31, 35-175.

Healy, P. M., and K. G. Palepu (1995): The challenges of investor communication: The case of CUC International, Inc. Journal of Financial Economics 38, 111-140.

Hermalin, B. E., and M. S. Weisbach (2003): Boards of directors as an endogenously determined institution: A survey of the economic literature, Economic Policy Review, 7-26.

Hill, C. W. L., and G. S. Hansen (1991): A longitudinal study of the cause and consequences of changes in diversification in the US. Pharmaceutical Industry 1977-1986, Strategic Management Journal 12, 187-199.

Hillier, D; P. McColgan and S. M. Werema (2006): Asset Sales and Firm Strategy, a working paper.

Hite, G. L., L. E. Owers; and R. C. Rogers (1987): The market for interfirm asset sales: Partial sell-offs and total liquidations, Journal of Financial Economics 18, 229 – 252.

Hite, G. L., and L. E. Owers (1983): Security Price Reactions around Corporate Spin – Off Announcements, Journal of Financial Economics 12, 409 – 436.

Holder, M. E., F. W. Langrehr and J. L. Hexter (1998): Dividend policy determinants: An investigation of the influences of stakeholder theory, Financial Management 27, 3, 73-82.

Hoskisson, R. O., and R. A. Johnson (1992): Corporate restructuring and strategic change: The effect on diversification strategy and R&D intensity, Strategic Management Journal 13, 625-634.

Huson, M. R., R. Parrino and L. T. Starks (2001): Internal monitoring mechanisms and CEO turnover: A long-term perspective, Journal of Finance 56, 2265-2297.

Huson, M. R., P. H. Malatesta, and R. Parrino (2004): Managerial succession and firm performance, Journal of Financial Economics 74, 237-275.

Ikenberry, D.; J. Lakonishok and T. Vermaelen (1995): The underreaction to open market share repurchases, Journal of Financial Economics, 39, 181-208.

Jain, P. C., (1985): The Effect of Voluntary Sell – Off Announcements on Shareholder Wealth, Journal of Finance, 209 – 224.

Jensen, M. C. (1986): Agency costs of free cash flow, corporate finance and takeover, American Economic Review 76, 323-329.

Jensen, M. C. (1986): Active investors, LBOs and privatisation of bankruptcy, Journal of Applied Corporate Finance 2, 35-44.

Jensen, M. C., (1989): Active investors, LBOs and privatisation of bankruptcy, Journal of Applied Corporate Finance 2, 35-44.

Jensen, M. C. (1991): Corporate control and the politics of finance, Journal of Applied Corporate Finance 4, 13-33.

Jensen, M. C. (1993): The modern industrial revolution, exit and the failure of internal control systems, Journal of Finance 48, 831-880.

Jensen, M. C., and W. H. Meckling (1976): Theory of the firm: Managerial behaviour, agency costs and ownership structure, Journal of Financial Economics 3, 305-360.

Jensen, M. C., and K. Murphy (1990): Performance pay and top management incentives, Journal of Political Economy 98, 225-264.

Jensen, M. C., and R. S. Ruback (1983): The market for corporate control: The scientific evidence, Journal of Financial Economics 11, 5-50.

John, K., L. H. P. Lang; and J. Netter (1992): The Voluntary Restructuring of Large Firms in Response to Performance Decline, Journal of Finance, vol. XLVII. No. 3, 891-917.

John, K. and E. Ofek (1995): Asset Sales and Increase in Focus, Journal of Financial Economics 37, 105-126.

John, K and J. Williams, (1985): Dividends, dilution and taxes: A signalling equilibrium, Journal of Finance, 1053-1070.

Kaiser, K., and Stouraitis, A. (1995): Value Creation Through Corporate Asset sale: European Divestitures, European Management Journal 13, 2, 164 – 174.

Kaiser, K. M. J. and A. Stouraitis (2001): Reversing corporate diversification and the use of the proceeds from asset sales: The case of Thorn EMI, Financial Management Winter 2001, 63 -102.

Kang, J. K., and A. Shivdasani (1995): Firm performance, corporate governance, and top executive turnover in Japan, Journal of Financial Economics 38, 29-58.

Kang, J. K., and A. Shivdasani (1997): Corporate Asset sale during Performance Declines in Japan, Journal of Financial Economics 46, 29 -65.

Kaplan, S. N. (1989): The effects of management buyouts on operating performance and value, Journal of Financial Economics 24, 217-254.

Kashefi, J., and G. J. McKee (2002): Stock prices' reactions to layoff announcements, Journal of Business and Management 8,2, 99-107.

Khanna, N., and A. B. Poulsen (1995): Managers of financially distressed firms: Villains or Scapegoats? Journal of Finance 50, 919-940.

Kothari, S. P.; and J. B. Warner (1997): Measuring long-horizon security performance, Journal of Financial Economics, 43, 301-339.

Lang, L., A. Poulsen and R. Stulz (1995): Asset Sales, firm performance, and the agency costs of managerial discretion, Journal of Financial Economics 37, 3 – 37.

Lasfer, A.; P. S. Sudarsanam; R. J. Taffler (1996): Financial Leverage, Asset Sales, and Lender Monitoring, Financial Management 25, 57 – 66.

Lee, P. M., (1997): A Comparative Analysis of Layoff Announcements and Stock Price Reactions in the United States and Japan, Strategic Management Journal 18, 879-894.

Lee, E., and S. Lin (2004): Disclosure of intended use of sell-off proceeds and long-run performance, forthcoming European Financial Management.

Liao, J., (2004): Restructuring scope, performance and R&D intensity: Do all restructuring activities create value? Advances in Competitiveness Research 12, 20-41.

Lie, E., (2005): Operating performance following dividend decreases and omissions, Journal of Corporate Finance 12, 27-53.

Lie, E. (2005): Operating performance following open market share repurchase announcements, Journal of Accounting and Economics 39, 411-436.

Lin, J-C, and M. S. Rozeff (1993): Capital Market Behaviour and Operational Announcements of Layoffs, Operation Closings and Pay Cuts, Review of Quantitative Finance and Accounting 3, 29-45.

Lintner, J. (1956): "Distribution of incomes of corporations among dividends, retained earnings and taxes", American Economic Review, Vol. 46, 97 – 113.

Lonie, A. A.; G. Abeyratna; D. M. Power; and C. D. Sinclair (1996): The stock market reaction to dividend announcements: A UK study of complex market signals, Journal of Economic Studies 23, 32-60.

Loughran, T.; and J. R. Ritter (2000): Uniformly least powerful tests of market efficiency, Journal of Financial Economics, 55, 361-389.

Lyon, J. D.; B. Barber and C. Tsai (1999): Improved methods for tests of long-run abnormal stock returns, Journal of Finance, 54, 165-201.

Makismovic, V., and G. Phillips (2001): The market for corporate assets: Who engages in mergers and asset sales and are there efficiency gains? Journal of Finance 56, 2019-2065.

Markides, C., (1992): Consequences of corporate refocusing: Ex ante evidence, Academy of Management Journal 35, 398-412.

Markides, C., (1994): Causes and consequences of corporate restructuring: Paper presented at Strategic Management Society meeting, London.

Markides, C., (1995): Diversification, Focusing, and Economic Performance (MIT Press, Cambridge MA).

Martin, K. J., and J. J. McConnell (1991): Corporate performance, corporate takeovers, and management turnover, Journal of Finance 46, 671-687.

McKnight, P. J., A. Lowrie and C. Coles (2002): Investor Reactions, Social Implications and Layoff Announcements in the UK: A Comparison between Periods, Journal of Management & Governance 6, 1, 83-100.

Michaely, R.; R. H. Thaler; and K. L. Womack (1995): "Price reactions to dividend initiations and omissions: Overreaction or Drift?" Journal of Finance, Vol. L, 573-608.

Mikkelson, W. H., and M. M. Partch (1997): The decline of takeovers and disciplinary managerial turnover, Journal of Financial Economics 44, 205-228.

Miller, M. H. and F. Modigliani (1961): "Dividend policy, growth and the valuation of shares", Journal of Business, Vol. 34, 411- 433.

Miller, M. H. and K. Rock (1985): Dividend policy under asymmetric information, Journal of Finance 40, 1031-1051.

Miller, M., (1987): The informational content of dividends, in J. Bossons, R. Dornbush, and S. Fisher, Eds.: Macroeconomics: Essays in Honour of Franco Modigliani (MIT press: Cambridge, Mass.), 37-61.

Mitchell, M. L., and K. Lehn (1990): Do bad bidders become good targets? Journal of Political Economy 98, 372-398.

Mitchell, M. L; and E. Stafford (1997): Managerial decisions and long-term stock price performance, The Journal of Business, 73, 3, 287-328.

Modigliani, F., and M. H. Merton (1959): The cost of capital, corporation finance, and the theory of investment: Reply, American Economic Review 49, 655-669.

Moeller, S. B; F. P. Schlingemann; and R. M. Stulz (2004): Firm Size and the gains from acquisitions, Journal of Financial Economics 73, 201-228.

Morck, E., A. Shleifer and R. Vishny (1989): Alternative Mechanisms for Corporate Control, American Economic Review, 842-852.

Myers, S. C., and N. Majluf (1984): Corporate financing and investment decisions when firms have information that investors do not have, Journal of Financial Economics 13, 187-221.

Myers, S. C., (1984): The capital structure puzzle, Journal of Finance 39, 575-592.

Nanda, V. (1991): On the good news in equity carve-outs, Journal of Finance 46, 1717-1737.

Nissim, D. and A. Ziv (2001): "Dividend Changes and Future Profitability", Journal of Finance, Vol. 56, No. 6. Dec. 2001, 2111 – 2133.

Ofek, E (1993): Capital Structure and Firm Response to Poor Performance: An Empirical Analysis, Journal of Financial Economics 34, 3-30.

Palmon, O., H. Sun; and A. P. Tang (1997): Layoff Announcements: Stock Market impact and financial performance, Financial Management 26, 54-68.

Peel, M. J. (1995): The impact of corporate restructuring: Mergers, Divestments and MBOs, Long Range Planning 28, No. 2, 92-101.

Pettit, R. R. (1972): "Dividend announcements, security performance, and capital market efficiency", Journal of Finance, Vol. 27, 993-1007.

Poon, P. S.; G. D. Newbould and C. Durtschi (2001): Market Reactions to Corporate Restructurings, Review of Quantitative Finance and Accounting, 16, 3, 269-290.

Rajan, R. G.; and L. Zingales (1995): What Do We Know about Capital Structure? Some Evidence from International Data, Journal of Finance, 1, 5, 1421-1460.

Ritter, J. R (1991): The long-run performance of initial public offerings, Journal of Finance, 46, 3-27.

Robin, A. J. (1998): "Dividend Omissions: Rationale and Market Impact", American Business Review, 1-8.

Schlingemann, F. P., R. M. Stulz and R. A. Walking (2002): Divestitures and the Liquidity of the Market for Corporate Assets, Journal of Financial Economics 64, 117 – 144.

Servaes, H., (1996): The value of diversification during the conglomerate merger wave, Journal of Finance 51, 1201-1225.

Shleifer, A., and R. Vishny (1986): Large shareholders and corporate control, Journal of Political Economy 94, 461-488.

Shleifer, A., and R. Vishny (1989): Management entrenchment: The case of manager-specific investments, Journal of Financial Economics 25, 123-139.

Shleifer, A., and R. Vishny (1990): The takeover wave of the 1980s, Science 249, 745-749.

Shleifer, A., and R. Vishny (1991): Takeovers in the 1960s and the 1980s: Evidence and Implications, Strategic Management Journal 12, 51-59.

Shleifer, A., and R. Vishny (1992): Liquidation values and debt capacity: A market equilibrium approach, Journal of Finance 47, 1343 – 1366.

Short, H., and K. Keasey (1999): Managerial ownership and the performance of firms: Evidence from the UK, Journal of Corporate Finance 5, 79-101.

Smith, A. (1990): Corporate ownership structure and performance: The case of management buyouts, Journal of Financial Economics 27, 143 - 163.

Smith, C. W., (1986): Investment banking and the capital acquisition process, Journal of Financial Economics 15, 3-29.

Smith, C., and J. Warner (1979): On Financial Contracting: An Analysis of Bond Covenants, Journal of Financial Economics 7, 117-161.

Strong, M., (1992): Modelling abnormal returns, Journal of Business Finance & Accounting 19 (4), 533-553.

Stulz, R. M., (1990): Managerial Discretion and Optimal Financing Policies, Journal of Financial Economics 26, 3 – 27.

Suzuki, K., (2000): Seasoned equity offerings in the UK, usage of funds, method of issue and share price reaction of issuers: Working paper, London Business School.

Szewczyk, S. H., G. P. Tsetsekos, and Z. Z. Zantout (1997): "Do Dividend Omissions Signal Future Earnings or Past Earnings?", Journal of Investing; spring 1997; 6, 1; 40 – 53.

Titman, S., (1984): The effect of capital structure on a firm's liquidation decision, Journal of Financial Economics 13, 137-151.

Trueman, (1985): The relationship between the level of capital expenditures and firm value, *Journal of Financial and Quantitative Analysis*

Vermaelen, T., (1981): Common stock repurchases and market signalling: An empirical study, Journal of Finance 9, 139-183.

Vivian, A. (2006): Payout Ratio, Earnings Growth and Returns: UK Industry Evidence. EFM Behavioural Finance Symposium, April 20-22 2006. Durham Business School, United Kingdom.

Warner, J.B., R. J. Watts, and K. Wruck (1988): Stock prices and top management changes, Journal of Financial Economics 20, 461-492

Watts, Ross. (1973): The information content of dividends, Journal of Business 46, 191-211.

Warner, J. B., R. J. Watts and K. Wruck (1988): Stock prices and top management changes, Journal of Financial Economics 20, 461-492.

Weisbach, M. S., (1988): Outside directors and CEO turnover, Journal of Financial Economics 20, 431-460.

Weisbach, M. S., (1995): CEO turnover and the firm's investment decisions, Journal of Financial Economics 20, 431-460.

Weiss, L. A., (1990): Bankruptcy resolution: Direct costs and violation of priority of claims, Journal of Financial Economics 27, 285-314.

Weston, J. F., (1970): The Nature and Significance of Conglomerate Firms, St. John's Law Review 44, 66 – 80.

Weston, J. F., K. S. Chung and S. F. Hoang (1990): Mergers, Sell-off, and Corporate Control, *Prentice Hall*, 1990.

Weston, J. F., M. L. Mitchell, and J. H. Mulherin (2004): Takeovers, Restructuring, and Corporate Governance, Pearson Prentice Hall, 4th Ed.

Worrell, D. L., W. N. Davidson III, and V. M. Sharma (1991): Layoff Announcements and Stockholder Wealth, Academy of Management Journal; Sep 1991; 34, 3; 662-678.

Wruck, K. H., (1990): Financial distress, reorganization, and organizational efficiency, Journal of Financial Economics 27, 419-444.