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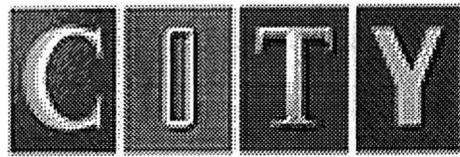
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The impact of different types of shareholder groups
on the financing and performance of UK corporations:
an empirical analysis

by
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Submitted in accordance with the requirements for the
Degree of Doctor of Philosophy

City University Business School, London
Department of Accounting and Finance

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Declaration

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Abstract

In this study I provide an empirical analysis of the impact of institutional shareholders on the performance of UK corporations, with specific reference to the monitoring role of the different types of institutional investors. I analyse and compare the shareholding in all UK non-financial companies quoted in the London Stock Exchange in 1993 and 1997 in order to understand whether different types of shareholder groups monitor companies in which they hold large stakes. I then analyse the market response to the trades of institutional investors, using a unique data set of 8,590 buy orders and 8,136 sell orders during the 1993-1998 period, in order to see whether these trades convey information to the market regarding the expected monitoring or are merely a result of the trading strategies followed. Finally, I examine a number of operational, financial and governance changes that take place during the one-year period before and after the share purchases by institutional investors with the intention of detecting post-purchase monitoring evidence.

I find that certain types of institutional investors prefer to invest in companies with some specific financial attributes. The results suggest that institutional investors differ in their management styles and cannot be treated as a single large group of investors with a similar disposition towards monitoring. Also, I report that the relationship between ownership structure and firm value has shifted significantly in the last decade. The results suggest that companies adopt an optimal ownership structure that minimises potential agency conflicts, given their nexus-of-contracts. The second part of the thesis is concerned with institutional trades. The results do not provide support for the monitoring hypothesis but suggest that block trades reflect the trading strategies of institutional investors and that some institutions are better than others in timing their trades. The last part of the thesis deals with post block purchase performance of the targeted companies. I provide evidence of shareholder monitoring following purchases by pressure-resistant institutions, largely driven by pension funds, during the year subsequent to the trade. However, I fail to detect significant changes in operations and corporate governance for block purchases of at least 5 percent of the outstanding ordinary shares of the company.

On the whole, the findings support the view that institutional investors prefer to use indirect means in bringing about changes in the firm. Previous studies have referred to this attitude as “quiet diplomacy” (Bethel et al., 1998), institutional network with “club-like dynamics” (Short and Keasey, 1997) and monitoring through “behind the scenes” action (Stapledon, 1996).

List of Abbreviations

ACT:	Advance Corporation Tax
AGM:	Annual General Meeting
AMEX:	American Stock Exchange
AR:	Abnormal Returns
Board:	Board of Directors
CA:	Companies Act
CA85:	Companies Act 1985
CalPERS:	California Public Employees Retirement System
CAO:	Company Announcements Office
CAR:	Cumulative Abnormal Return
CEO:	Chief Executive Officer
CSO:	Central Statistics Office
EGM:	Extraordinary General Meeting
EPS:	Earnings Per Share
ESOP:	Employee Share Ownership Scheme
FT:	Financial Times
FTSE:	Financial times- Stock Exchange
ICC:	Industrial and Commercial Company
IDB:	Inter Dealer Broker
IFMA:	Institutional Fund Managers Association
KW:	Kruskal-Wallis
LBO:	Leveraged Buyout
LSE:	London Stock Exchange
LTD:	Long-Term Debt
MWU:	Mann Whitney-U
NAPF:	National Association of Pension Funds
NED:	Non-Executive Director
NI:	National Insurance
NMS:	Normal Market Size
NPV:	Net Present Value
NYSE:	New York Stock Exchange
OLS:	Ordinary Least Squares
ONS:	Office for National Statistics
OPF:	Occupational Pension Funds
OPS:	Occupational Pension Scheme
P/E:	Price Earnings Ratio
PA:	Pensions Act
PR:	Pressure-Resistant
PS:	Pressure-Sensitive
Q:	Tobin's Q
R&D:	Research and Development
RNS:	Regulatory News Service
ROA:	Return on Assets
ROE:	Return on Equity

ROS: Return on Sales
TA: Total Assets
UK: United Kingdom
US: United States of America

To Hakan

Chapter 1. Introduction

1.1. Purpose and goals

Share ownership by institutional investors has been in the centre of much debate, criticism and reviews for the last decade. The literature is not short of studies looking at various different aspects of this phenomenon and trying to come up with a 'golden rule' through country comparisons. However, the different historical evolution, institutional set-up and market dynamics prevalent in each country are only some of the factors which decrease the generalisability of the derived conclusions.

This study focuses only on the UK case and, through an empirical approach, aims to examine the impact of different types of institutional shareholders on the performance of UK corporations. To achieve this objective, the monitoring role of different institutional shareholders will be analysed to see whether these holdings add value, lead companies to better performance and better corporate governance practices. This analysis will then be extended to see how markets respond to changes in institutional share stake and to identify the operational and corporate governance changes that take place following the buy trades.

The specific research questions will focus, among other things, on issues such as:

1. What are the financial characteristics of the companies in which institutional investors hold large stakes? In particular, are these companies likely to suffer from the free cash flow problem, i.e., undertake negative NPV projects, have

lower debt levels in their capital structure, pay lower dividends, invest less in research and development and are they smaller than other companies in which shareholding is widely diversified?

2. Do institutional investors have different objectives? If so, how do they differ in their monitoring of companies? For example, do pension funds make companies in which they hold large stakes pay high dividends to benefit from tax credit and to generate income to pay pensioners while other financial institutions would rather get their return in the form of capital gain to minimise their tax liability?

3. Is it possible to identify the ownership structure that leads to improved accounting and market performance?

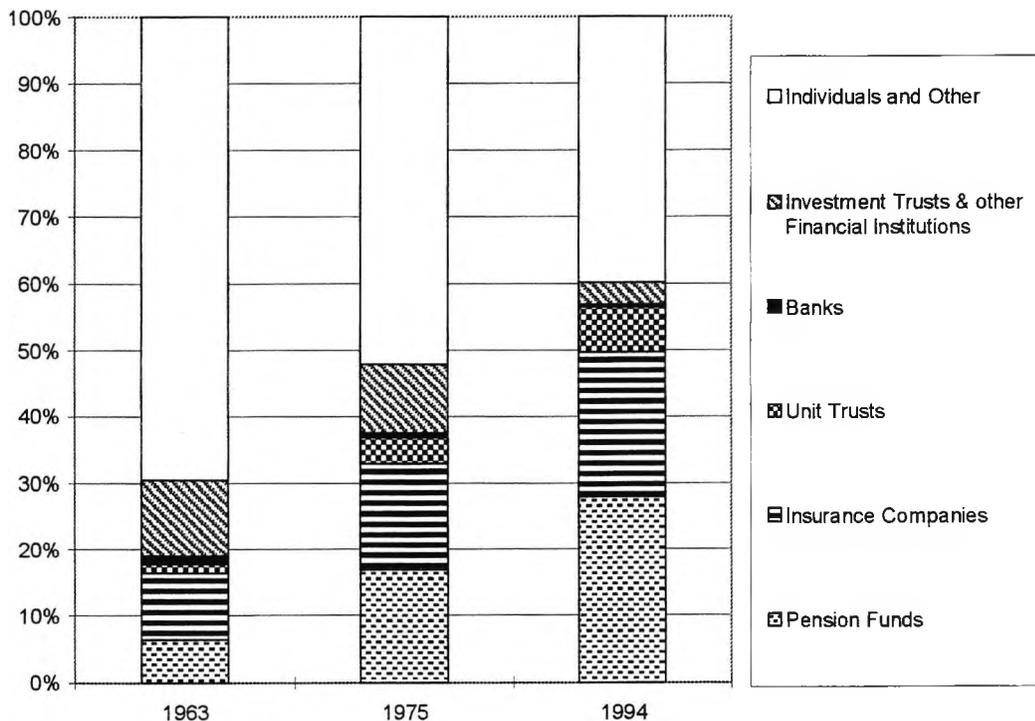
4. How do markets react when institutional investors announce a change in their shareholding in these companies? In other words, do institutional trades convey information to the market and if so is the information consistent with the monitoring role and the decrease in the free cash flow problem.

5. How do changes in ownership affect the frequency of occurrence of certain operational, financial and governance changes? In particular, do companies in which shareholders have just acquired large stakes adopt strategies that lead to shareholder value creation?

1.2. Motivations for the study

Over the last three decades, institutional ownership of UK equities has increased by an impressive 30 percentage points¹. There is a significant reversal of the ownership structure between 1963 and 1994, from one that is dominated by individuals to one that is dominated by institutions, as can be seen on Table 1 and Figure 1. Pension funds and insurance companies account for nearly 50 percent of the ownership of UK equities as of 1994 figures. Therefore, the performance of UK equities is a key determinant in the success of the institutions. From a 'self-interest' perspective one would expect increased involvement by these institutions in the companies in which they invest (Short and Keasey, 1997).

Figure 1. Ownership of UK Equities (%)¹



¹ Compiled from Pension fund Indicators 1997 PDFM Limited based on ONS figures.

Table 1. Ownership of UK Equities (%)

	<u>1963</u>	<u>1975</u>	<u>1994</u>	1963-1994 <u>% change</u>
Pension Funds	6.4	16.8	27.8	4.7
Insurance Companies	10.0	15.9	21.9	2.5
Unit Trusts	1.3	4.1	6.8	5.3
Banks	1.3	0.7	0.4	-3.6
Investment Trusts & Other Financial	<u>11.3</u>	<u>10.5</u>	<u>3.3</u>	-3.8
Total Institutions	30.3	48.0	60.2	2.2
Individuals	54.0	37.5	20.3	-3.0
Other Personal Sector	2.1	2.3	1.3	-1.5
Public Sector	1.5	3.6	0.8	-1.9
Industrial & Commercial	5.1	3.0	1.1	-4.7
Overseas	<u>7.0</u>	<u>5.6</u>	<u>16.3</u>	2.7
Individuals & Other	<u>69.7</u>	<u>52.0</u>	<u>39.8</u>	-1.7
TOTAL	100	100	100	
Value of All-Share (£bn)	27	45	690	

Source: Compiled from Pension fund Indicators 1997 PDFM Limited based on ONS figures.

However, there is a serious lack of research and empirical evidence as to the impact of different types of institutional shareholders on the performance of companies in which they invest and on the UK equity market. Common sense tells us that different types of institutions naturally have different investment objectives and behaviour. However, we do not precisely know how exactly this reflects upon the companies in which institutions invest and the equity market. This inhibits us from making a critical analysis of the policy implications. Such analysis is crucial for the future performance and operations of the UK equity market which plays a major role in the UK economy and in the global financial markets in general.

Most of the previous research² is based on survey methodology. Although this methodology provides a direct evidence of institutional monitoring and allows an

² FT (April 1998) Director's Survey: Shares in the action, Stapledon (1996) and the annual surveys conducted by the IFMA (Institutional Funds Managers Association) all utilise survey methodology and provide useful insights to the topic.

analysis of information not disclosed by companies and not observable through share prices, it is likely to suffer from non-response bias and incorrect response bias.

This study will contribute to the literature by attempting to fill this gap through an innovative approach. The data used is a direct consequence of what investors have actually done. Additionally, it is unique data, the major bulk of which has been laboriously collected by hand, since it is not available in a machine-readable format. This constructed database is also very valuable since it details all disclosed ownership for 1993 and 1997 on a name-by-name basis. Finally, and most importantly, this analysis is unique in that it has never been carried out before.

The findings provided by this empirical investigation should be of relevance to corporate governance regulators in assessing the monitoring role of the various financial institutions and will contribute to the current debates on corporate governance and activism. The evidence from this analysis will also be of relevance to policy makers involved in the design of efficient trading systems and to market participants by contributing to the current debate on short-termism.

The remainder of the thesis is organised as follows. Chapter 2 provides a broad literature review regarding the issues and concepts which will be touched upon throughout the whole of the thesis. Specific reviews in Chapters 3, 4, and 5 supports this literature review. Chapter 3 analyses and compares the shareholding in all UK non-financial companies quoted in the London Stock Exchange in 1993 and 1997 in order to understand whether different types of shareholder groups in

the UK monitor companies in which they hold large stakes. Chapter 4 analyses the market response to the trading patterns of institutional investors in the UK during the 1993-1998 period from a 'shareholder monitoring' perspective. Chapter 5 examines operational, financial and governance changes following these share purchases by institutional investors with the intention of identifying post-purchase monitoring evidence. Chapter 6 briefly summarises the findings and concludes.

Chapter 2. Review of existing literature

2.1. Shareholder monitoring and activism

2.1.1. Why is monitoring important

According to the classical theory of the firm, the underlying assumption is that shareholders can exercise control over managers through their power to hire, fire and design their compensation contracts. Managers, in return, make their decisions keeping in mind the foremost objective of maximising shareholder wealth, despite the fact that it may run against their self-interest. Secondly, it is assumed that bondholders are fully protected against any action that will expropriate wealth away from them. The third assumption is, given that managers convey information to the market in a truthful and timely manner, firm's market price is an unbiased estimate of its true value (Damodaran, 1997).

However, taking into account the size and the complexity of the modern organisations where shareholders hire managers to run the business on their behalf, there is the potential for a conflict of interest to arise between shareholders and the managers. In this principal-agent relationship, the so-called agency costs come about due to the divergence between the interests of shareholders and managers (Jensen and Meckling, 1976). The agency cost is made up of monitoring costs, bonding costs and the residual loss.

Firstly, monitoring costs refer to the costs which are incurred by the shareholders and result from the activities to minimise the divergence between the interests of

managers and shareholders (Stapledon, 1996). The several different forms of these activities are further explained later on in this chapter. Secondly, bonding costs are those costs incurred by the managers during the making up of 'bonding' devices (Grossman and Hart, 1982; Jensen and Meckling, 1976). An illustrative example of a 'bonding' device is adopting financial policies which will maximise the market value of the company in order to reduce the threat of a successful take-over bid. Finally, the residual costs are those costs which result from the remaining divergence between shareholders' and managers' interests.

According to the contractual view of the firm, in which the firm is made up of a nexus-of-contracts, the separation between ownership and control is not only inevitable but also economically efficient (Fama, 1980). Contractarians suggest that the market forces minimise the discrepancy between the interests of managers and shareholders. Hence, any action directed towards reducing the remaining discrepancy will only serve to bring additional unjustifiable costs. However, this view is criticised for its over reliance on the market forces (Stapledon, 1996) which are far from being the ultimate solution to the divergence of interests between shareholders and managers. The market forces constitute only one of the elements of the complementary mechanisms to control agency problems. Also, the underlying assumption of the contractarians that complete contracts might be written to minimise any potential conflict between managers and shareholders, does not hold true in practice.

Furthermore, agency theorists point to the fact that corporations incur excessive costs as managers deviate from maximising shareholder wealth, especially when

their own interests conflict with those of shareholders. Therefore, monitoring is important and mechanisms which align the interests of shareholders and managers are needed.

2.1.2. Definition

Maug (1998) uses the term 'monitoring' as a "comprehensive label for all value enhancing activities" (p.66) and suggests a definition which includes intervention into both company affairs and information acquisition for purposes of identifying a potential target of intervention. Hence, 'monitoring' is used interchangeably with 'intervention' and 'shareholder activism'.

On the other hand, Stapledon (1996) adopts a more technical approach and defines monitoring as "...any form of involvement, direct or indirect, at firm level or industry-wide, by institutions in corporate governance" (pg. 3). In this definition the direct versus indirect distinction refers to whether the institutions themselves carry out the actions or prefer to act through proxies such as collective action vehicles or non-executive directors. The second distinction refers to the target of the monitoring actions; actions targeted towards an individual company versus a certain category of company. This leaves us with four possible permutations of the manner in which institutional monitoring is performed.

Stapledon, in light of his interview study, concludes that a large portion of the firm-level monitoring in the UK has been carried out directly by the fund managers themselves. Whereas industry-wide monitoring has been conducted

indirectly by the trade associations of the traditional institutions. At this point, the following quote by Charkham (1995) is quite illustrative of the state of the monitoring environment in the UK at the end of the last take-over boom:

“Shareholders have all but abdicated. As a rule the only time they do anything that matters is when they assent, or refuse to assent, their shares when a bid is made. It was said of Charles I that there was nothing truly kingly in his life except the leaving of it. So it is with UK shareholders: their only kingly act is when they sell out” (p.8)

However, Stapledon suggests that the firm-level monitoring in the early 1990s was much greater than what was visible from the outside. He further explains that this was due to monitoring through “behind the scenes” action, rather than publicising it (p.154). Short and Keasey (1997) also report findings in support of Stapledon’s conclusion and point to the institutional network with club-like dynamics in operation in the UK.

However, regardless of whether the firm-level monitoring by institutions is widely publicised or not, one would expect to see its effects reflected in the bottom line. Simply put, as long as monitoring improves firm performance and adds value, the precise mechanisms of how it works should not be of much relevance. One of the aims of this study is also to shed some light on this debate and, through an empirical analysis, investigate whether shareholding by different types of institutions has a positive effect on firm performance and firm value.

2.1.3. The decision to monitor or to sell

The 'monitor vs. sell' decision faced by institutional shareholders is a complex issue with many intervening factors. It is clear that an ultimate answer to this question does not exist and each situation demands specific attention. However, as common sense would suggest, an institution would be expected to monitor when the potential benefits are expected to outweigh the costs involved.

Theoretical frameworks that help explain the context in which large investors would be motivated to monitor managers are provided by Diamond (1984), Admati, Pfleiderer and Zechner (1994), Maug (1998) and Kahn and Winton (1998).

In Diamond's model, investors face three opportunities. They can choose to monitor by themselves, do not monitor when monitoring costs exceed the losses that arise due to managerial misuse of resources or hire an intermediary to monitor on their behalf in which case additional delegation costs will be incurred due to the monitoring of the intermediary. The choice will depend on the total cost associated with each of these 3 options.

Through economies of scale and diversification, the large intermediary helps to lower the costs and thus provide a better solution to agency conflicts. Delegation costs can also be reduced by diversification within the intermediary's portfolio. This reduction is due to the fact that firstly, according to portfolio theory, diversification allows to stabilise cash flows by decreasing the default risk of the intermediary and secondly, diversification decreases the possibility that the

intermediary will establish undesirable links with the firms that respond to its interests.

In short, the model suggests that as the size of the intermediary increases, the delegation costs and the duplications in monitoring activities decreases.

However, this model has been criticised for using banking intermediation synonymously with financial intermediation. Also, the conditions under which monitoring will take place and the level of commitment to monitoring are not explained in this model.

This brings us to the model by Admati *et al* (1994) who provide insights into the large investors incentives to monitor. By adopting a 3-period time structure, the model assumes that there is one large investor, namely the price maker, who holds a significant stake in the firm, can chose the level of monitoring, has access to costly monitoring technology which in turn affects the expected payoffs and can influence share price. They consider the two extreme situations where the intermediary holds the entire firm and where the transaction costs are at the maximum level. In the former situation, the highest level of monitoring occurs due to the position of the intermediary in which an excessive portion of a risky security is held. In the latter extreme situation, investors have an incentive to hold shares through the intermediary, leading to a monopolistic solution with optimal level of risk sharing and monitoring.

They argue that when monitoring is costly, intermediary will only monitor when a modification in the firm payoff structure and a net benefit is expected. The

level of commitment of the intermediary will be sub-optimal outside the two extreme cases.

Maug (1998), also using a 3-period model, extends this analysis to consider the incentives of large shareholders to monitor public corporations in a liquid markets context. He points to the free-rider problem faced by large shareholders which occurs when small shareholders do nothing and simply benefit from the monitoring efforts of the large shareholder. In this situation, large shareholders alone incur the costs of monitoring. However, it can also be argued that this is justified by the larger return on the shares held in case of intervention. If the stake held is too small, it is likely that the capital gain on this stake may not cover the costs of monitoring. Therefore, Maug suggests that liquid markets lead to more effective corporate governance by overcoming the free-rider problem and making it less costly to not only hold large stakes but also to acquire new ones.

Kahn and Winton (1998) also agree that the size of the institutions stake is an important factor in the decision to intervene. However, they further add that firm specific factors which affect the magnitude and sign of the intervention's impact on the institution's trading profit might also be relevant.

2.1.4. Mechanisms to control agency problems

The aim of this section is to briefly outline the spectrum of devices which operate to align the interests of shareholders and managers and to describe how monitoring by institutional shareholders fits into the broad picture.

First and foremost, there are various market forces at play in reducing the conflict of interest between shareholders and managers. The existence of a market for corporate control poses the threat of a take-over bid when managers under perform. The mere existence of this threat may persuade managers to run the company in order to maximise the return to shareholders (Manne, 1965; Scharfstein, 1988). However, in practice, take-overs are very expensive due to the direct (payments to advisers and underwriters) and indirect (managerial time and effort) costs involved in the process (Jenkinson and Mayer, 1992; Franks and Harris, 1989). Also, take-overs may be prevented by substantial regulatory barriers, such as those prevalent in the UK banking sector (Stapledon, 1996). The managerial labour market also poses a powerful threat for those managers who do not maximise shareholder wealth. Besides, since managers work as members of a team, they tend to monitor the performance of the individual members of the team to ensure that their performance is not shadowed by the under-performance of another member of the team (Fama, 1980). The last one of the market forces, the product market, dictates that only those firms that are efficiently run will survive against the fierce competition from the market (Stapledon, 1996).

Secondly, agency problems can be controlled via equity ownership which can be in the form of share ownership by managers, large external blockholders and large intermediaries or institutions. Shareholding by managers is viewed as a means of divergence of the interests of shareholders and managers. Earlier studies (e.g. Jensen and Meckling, 1976) predict a positive and linear relationship between managerial holding and firm performance. However, Stulz (1988) proposes a model in which high managerial ownership will force the bidder to

pay a high premium but, at the same time, it reduces the probability that the bidder makes a bid. Thus, high managerial ownership is expected to lead to managerial entrenchment. This model predicts a non-linear relationship between managerial holding and firm value.

The empirical evidence tends to provide support for this non-linear relationship. For example, in a cross-section of 371 Fortune 500 firms, Morck, Shleifer and Vishny (1988) investigate the relationship between management ownership and market valuation of the firm as measured by Tobin's Q. They report that Tobin's Q rises until the level of ownership by the board of directors reaches the 5 percent level, decreases when board ownership is in the 5 to 25 percent interval and slightly increases beyond the 25 percent level. Similarly, McConnell and Servaes (1990), for a larger sample of firms³, report a U-shaped form of relationship between directors' holdings and firm value. The findings of Hermalin and Weisbach (1991) also confirm a curvilinear relationship between the level of management ownership and corporate performance.

Ownership by large blockholders, on the other hand, addresses the agency problem by providing a large enough interest in profit maximisation and the power to ensure that their interests are pursued (Holderness and Sheehan, 1988). Additionally, ownership by large intermediaries that monitor on behalf of their 'depositors' can help reduce the monitoring costs by avoiding duplication.

³ The sample used by McConnell and Servaes consists of 1,173 firms for 1976 and 1,093 firms for 1986.

Ownership by institutional investors falls into this category and the decision to monitor or sell their shares will be further explored in the next section.

Thirdly, the use of debt represents an external control mechanism which helps mitigate the free cash flow problem. It also causes a reduction in monitoring costs by controlling managers only when the risk of default is likely to occur. Lang Ofek and Stulz (1996) report that leverage is negatively associated with growth for firms with low Tobin's Q, suggesting that leverage has a negative effect on growth only for companies with poor opportunities or growth opportunities not recognised by the market. However, for firms with good opportunities, debt was not found to affect growth.

Next, the appointment of outside (non-executive) directors to the board, also supported by the suggestions of the Cadbury Code, is found to be an effective mechanism in monitoring performance of the executive management (Cotter, Shivdasani and Zenner, 1997).

Also, it might be possible to force managers to align their interests with those of shareholders' through the use of incentive contracts (Hart, 1995; Hart and Holmstrom, 1987). The simplest example of this is the managers' pay contracts

Finally, the existence of a long-term relation between the principal and the agent can actually help to explain the alignment of interests even in the context of incomplete contracts. Banking relationships are typically characterised by this notion. Ayres and Cramton (1993) suggest that investors who commit to holding a firm's equity enjoy higher credibility and influence in monitoring the management. However, it is important to note that conflicts of interest might

arise in a situation where the intermediary is both the shareholder and the lender of the firm.

At this point, it is important to note that when one of the above mechanisms is not used, this may not necessarily have a negative effect on firm performance. Agrawal and Knoeber (1996) suggest that this might be due to the fact that the specific mechanism which is used less might be compensated by another mechanism which is used more, and hence, this unique balance might lead to improved firm performance. They present direct empirical evidence for the interdependence among the mechanisms to control agency problems and they warn that cross-sectional OLS regressions of firm performance on single mechanisms may be misleading.

They focus on 7 mechanisms and classify them into 2 broad categories by the source of monitoring. In the first category, the source of monitoring is internal, in the sense that, the decision to adopt these mechanisms is made by the firm's internal decision makers. The use of debt, market for managers, insider shareholding and outsiders on board are examples for these internal mechanisms. On the other hand, in the second category, the source of monitoring is outside parties. Institutional shareholding, blockholding by large outside owners and activity in the market for corporate control are examples of the mechanisms the use of which is determined by outsiders. Using 1987 data for a sample of 383 Forbes 800 firms, they regress firm performance on the entire set of control mechanisms and report that insider shareholding has no statistically significant effect. Likewise, in a simultaneous equations framework incorporating all of the

control mechanisms, they report that insider shareholding, use of debt and corporate control activity have no statistically significant effect on firm performance.

2.2. Corporate governance

Despite theories (Alchian, 1950; Stigler, 1958) which suggest that we should not worry about corporate governance- since competition will take care of it- it is questionable whether competition alone can be the ultimate solution for corporate governance failures of types experienced in the UK in the 1980s⁴.

There are several definitions in the literature for corporate governance. Some are more detailed and have a broader context than others. However, in simple terms, corporate governance is the system by which companies are directed and controlled.⁵ Albeit criticisms for not making a distinction between the management and governance systems (Short, 1997), this definition is concise and agreed upon by practitioners.

At this point it is important to clearly identify between the runnings of the business and making sure that the business is run properly. On the one hand, the

⁴ Keasey and Wright (1997) explain that corporate problems in the UK in the late 1980s involved “creative accounting, spectacular business failures, the apparent ease of unscrupulous directors in expropriating other stakeholders’ funds, the limited role of auditors, the claimed weak link between executive compensation and company performance, and the roles played for the market for corporate control and institutional investors in generating apparently excessive short-term perspectives to the detriment of general economic performance” (p.1)

⁵ Committee on the Financial Aspects of Corporate Governance (‘Cadbury Committee’) Report (1992), para. 2.5.

running of the business falls in the domain of management function, defined by Tricker (1984) as the activities which formulate a strategic direction and crucial executive decisions. On the other hand, making sure that the business is run properly falls in the domain of the governance function which involves accountability and supervision through monitoring and oversight of management performance (Tricker, 1984).

More recently, Monks and Minow (1995) define corporate governance as the relationship among various participants in determining the direction and performance of corporations and identify the primary participants as the shareholders, the management and the board of directors. Monks and Minow (1996) also define the goal of corporate governance as “to find a way to maximise wealth creation over time, in a manner that does not impose inappropriate costs on third parties or on society as a whole” (pg. 262).

From an agency perspective, Shleifer and Vishny (1997) suggest that “corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment” (pg. 737). The agency theory and how it relates to the theory of the ownership structure of the firm will further be explored in the following chapters.

Chapter 3. Shareholder groups and corporate monitoring

3.1. Introduction

In this Chapter, through an empirical approach, I examine the impact of different types of institutional shareholders on the performance of UK corporations. To achieve this objective, I analyse the monitoring role of different institutional shareholders to see whether these holdings add value and lead companies to better performance. The specific research questions focus on 3 main points.

Firstly, I describe the financial characteristics of the companies in which different types of institutional investors hold large stakes. In particular, I try to find out whether these companies are likely to suffer from the free cash flow problem, as identified by the lower debt levels in their capital structure, lower dividends, lower investment in research and development, smaller size when compared to companies in which shareholding is widely diversified.

Secondly, I examine the monitoring role of different types of institutional investors. For example, I inquire whether pension funds make the companies that they invest in pay high dividends so that they can enjoy the tax credit facility, while other types of financial institutions would rather get their return in the form of capital gains in order to minimise their tax liability.

Finally, I question whether there is a link between ownership structure and firm value. I test the hypothesis that firms with high institutional ownership are more

likely to adopt value-increasing policies. Furthermore, I analyse the determinants of the changes in ownership structure and test for the optimal ownership structure under a contracting environment faced by the firm.

3.2. Institutional ownership, monitoring and firm value

In the UK, institutional shareholders⁶ are perceived as carrying a social responsibility of promoting good corporate governance in the companies that they hold shares in. Also, by virtue of their size, they are thought of as equipped with the power to govern by exercising their voting rights.

However, these theories tend to consider institutional shareholders as one large, homogenous group and overlook the fact that there may exist different sets of factors which determine the costs and benefits involved. Additionally, there may even be agency conflicts within the institutions themselves because, although they possess the ownership and control attributable to the shares, they- by definition- are acting on behalf of others who may be pension fund trustees or insurance policy holders.

We do know that the institutional investors vary greatly in size and in purpose, with different sets of obligations and pressures in place for each type (Charkham, 1995). However, evidence is inconclusive regarding the effect of large external shareholders and blockholdings, of which shareholding by institutional investors is one of the options.

Short and Keasey (1997) have reported the presence of institutional investors to have a positive effect on corporate performance. Similarly, Chaganti and Damanpur (1991) found that institutional ownership has a significantly positive effect on return on equity (ROE). However, Holderness and Sheehan (1988), Murali and Welch (1989) and Denis and Denis (1994) find no evidence to suggest that there exists a difference in firm performance between majority-owned firms and diffused owned ones. McConnell and Servaes (1990) suggest that blockholder ownership does not significantly affect firm's performance. However, they report a significant relationship between performance and the combination of blockholder and director ownership.

Agrawal and Knoeber (1996) take this idea of looking at the combined effect of certain shareholding one step further and focus on the interdependence among the 7 mechanisms to control agency problems. They report that, using both single mechanism OLS regressions and simultaneous equations estimation, institutional shareholding and blockholding by large outside owners have no statistically significant effect on firm performance when the entire set of control mechanisms is incorporated into the framework⁷.

In terms of institutional shareholding and corporate governance, Pound (1988) suggests that the extent of the institution's intervention is dependent on the

⁶ In a narrow theoretical framework, the terms 'shareholders' and 'investors' embrace different sets of concepts. In this study, they have been used interchangeably. However, within the flow of the text, when specifically referring to only one of these terms, a clear distinction was made.

⁷ Please refer to Chapter 2, Section 2.1.4. for a detailed description of the mechanisms to control agency problems.

relationship between the institution and the company. Furthermore, he presents 3 different hypotheses to describe the incentives of institutions to intervene in corporate governance; namely, efficient monitoring, conflict of interest and strategic alignment hypothesis. He also provides empirical evidence for his assertion that institutions tend to vote in favour of management.

Pound's 'relationship' explanation to the issues of institutional shareholding and corporate governance is also supported by Short and Keasey (1997) who suggest an institutional network with club-like dynamics in operation in the UK. Similarly, Gaved (1996) suggests that the highly concentrated shareownership in the UK⁸ has led to a more 'relationship investing' approach characterised by reduced emphasis on financial history and higher emphasis on intangibles. The high concentration has also been reported with specific reference to the pension funds sector. In the UK, nearly 15 percent (£66 billion) of all occupational pension funds' assets were managed by the largest 5 in-house administered occupational pension funds (NAPF, 1996a; Faccio and Lasfer, 2000a).

In the US, Hoskisson et al. (1995) focus on certain types of institutional investors and point to the variations in the objectives of mutual funds versus pension funds. Coffee (1991) puts forward the notion of the 'optimal corporate monitor' and comments that pension funds are more likely to fulfil the requirements of this role than other institutions. However, there are drawbacks to the argument

⁸ Citing a 1995 survey carried out by Shelley Taylor which revealed that 75 percent of shares of the largest FTSE 100 companies are in the hands of fund managers, including 28 percent held by pension funds, 22 percent held by insurance companies, 6.8 percent held by unit trusts and 16.3 percent held by overseas institutional investors.

especially regarding externally managed pension funds and large pension funds with highly diversified portfolios composed of relatively small holdings per se, both of which serve to limit the monitoring activity.

In the UK, Faccio and Lasfer (2000a) report results not consistent with pension funds monitoring. They find that pension funds invest in small, low value companies and these holdings do not add value in the long term. Additionally, ownership by pension funds does not necessarily lead companies to compliance with the Code of Best Practice recommended by the Cadbury Report (1992). For example, such companies do not split the roles of chairman and CEO.

3.3. Institutional types

The purpose of this section is to briefly touch upon the methods of classification offered in the literature and to introduce the different financial institutions which are major players in the UK financial arena. In doing so, the main focus will be on highlighting the liabilities, investments and the effect of taxation on these institutions.

Financial institutions can be classified in several different ways. Brickley, Lease and Smith (1988) classify institutions into two groups as “pressure-resistant” and “pressure-sensitive” institutions. Pressure-resistant institutions are less subject to management influence and more likely to oppose managers. Typical examples of such institutions are mutual funds, foundations and public employer pension funds. Pressure-sensitive institutions, on the other hand, are defined as having current or potential business with the firm and sensitive to pressures from the

management to vote in their favour. Typical examples of such institutions are banks, insurance companies and trusts.

Piesse, Peasnell and Ward (1995), on the other hand, offer a definition based on the pattern of the cash flows into the institution. They classify institutions as deposit-taking and investment institutions. The deposit taking institutions are typically commercial banks that form a direct link between savers and borrowers. Investment institutions (also called as non-bank intermediaries) use the small amounts of money collected from several savers to accumulate large funds and invest these funds in the best interest of the savers.

Given the current level of restructuring within the financial services sector, which is a direct consequence of advances in technology, liberalisation and product innovation to name a few, the clear-cut lines among the businesses of different financial institutions are starting to disappear. Nonetheless we can still draw an overall picture by outlining the liabilities, investment strategies and taxation policies faced by these financial institutions.

3.3.1. Insurance companies

They are in the business of spreading risks over time, among policyholders or in other possible methods. Their main lines of business can be classified as general insurance (fire, accident, motor and marine insurance) and long-term business. For general insurance, the insurance company is expected to select assets to invest in which will enable the company to meet claims from policyholders when a loss arises within the period specified in the contract. Long-term business, on

the other hand, comprises health insurance, capital redemption business and life assurance. Contrary to general insurance business, where assets are held against liabilities of a short-term nature, long-term insurance business necessitates the use of an investment instrument which will provide both income and capital gains over a longer time horizon. Their investments are constrained by the nature of the liabilities and legislation, especially regarding solvency by the Department of Trade and Industry.

Non-life insurance business is subject to corporation tax, however, for life business special taxation provisions apply. Life business is taxed on the investment income rather than on the trading profits. For the funds invested on behalf of the Inland Revenue-approved pension businesses, the income and capital gains are exempt from tax. Due to the different tax treatment for each line of business, insurance companies are required to allocate their total investment income among life assurance, general annuity and pensions businesses before accounting for tax.

Table 2. Institutional investments as a percentage of assets (as at end of 1996) ⁽¹⁾

Type of Institution	Total Net Assets (£ billion)	Short-term assets & cash	Gilts		UK company securities		Overseas Securities ⁽³⁾	Unit Trust Units	Property ⁽⁴⁾	Other ⁽⁵⁾
			Index-linked	Other ⁽²⁾	Ordinary	Other				
Insurance, long-term funds ⁽⁶⁾	550	5.1%	2.0%	14.5%	40.5%	6.9%	12.7%	7.8%	6.5%	3.8%
Insurance, general funds	96	6.3%	0.5%	16.7%	13.5%	4.2%	15.6%	0.3%	2.1%	40.8%
Pension Funds ⁽⁷⁾	544	4.8%	5.0%	5.7%	50.7%	1.1%	18.6%	4.0%	4.0%	6.1%
Investment Trusts	51	2.0%	-	2.0%	49.0%	2.0%	43.1%	0.1%	0.4%	1.6%
Unit Trusts	130	3.1%	-	2.3%	52.3%	0.8%	38.5%	-	-	3.1%
Fund Managers ⁽⁸⁾	1683 ⁽⁹⁾	7.5%	1.6%	8.0%	30.2%	-	45.6%	-	2.5%	4.6%

Source: Authors' compilation based on Financial Statistics data supplied by the Office for National Statistics, Sept. 1998 and the Fund Management Survey 1997 by the Institutional Fund Managers' Association (IFMA).

Notes: (1) All figures in the table are based on market values, except for loans and mortgages at book values

(2) Includes conventional British Government Securities

(3) Includes overseas company securities and overseas government securities

(4) Includes UK land, property and ground rents

(5) Includes UK local authority securities, UK loans and mortgages, agents' and reinsurance balances, debtors net of creditors and other assets

(6) ONS reports the investments made on behalf of the insured pension funds under this category

(7) Includes the investments of self-administered funded schemes of local authorities, public sector and private sector

(8) The Fund Management Survey 1997 by IFMA does not report the ordinary shares separately for the UK Company

Securities (9) Includes the total funds managed for both UK (£1,048.3 billion) and Overseas Institutional Clients (£634.5 billion) as at 31 March 1997

In terms of asset allocation, there is a clear distinction between long-term funds and general funds. A larger proportion of long-term funds' assets are invested in long-term securities, while general funds invest less in UK company securities. At first glance, it seems as if general funds and long-term funds hold approximately the same proportion of their assets in gilts. However, 86 percent of long-term funds' assets in the gilts category have maturity dates greater than 5 years, as opposed to only 31 percent for general funds (ONS, 1998).

3.3.2. Pension funds

The first main distinction for pension provision in the UK is the state system of pay-as-you-go pensions⁹ where the current pension premiums received are used to pay existing pensioners and the private pension schemes. Private pension schemes comprise pensions offered through occupational pension funds and individual pension arrangements offered through financial institutions. Since the funded occupational pension schemes are in the business of putting together an accrual of funds to meet the future pension liabilities of a specific organisation's employees, they need to find ways of investing the sums collected. These sums are usually made up of the contributions paid by both the employer and employees, as well as part of the investment income. However, in the pay-as-you-go system a collection of funds to be invested does not exist. Hence, the focus in this section will be on the occupational pension funds.

The funded occupational pension schemes usually operate under a trust structure in which they are separate legal entities from the employers who run the schemes. Therefore, should the employer go bankrupt, the pension rights will remain unaffected.

In terms of the risk involved, occupational pension funds can be classified as 'defined benefit' and 'defined contribution' schemes. Defined benefit schemes, also called as final salary schemes, pay out pensions equal to a fixed percentage of the pre-retirement salary. In such a set-up, the investment risk is on the

⁹ The State Basic Pension Scheme and the State Earnings Related Pension Scheme are examples of this type of pensions.

employer. For defined contribution schemes, also referred to as money-purchase schemes, the contribution paid by the employees are fixed, however benefits depend on the investment returns. Therefore, it is the members or future pensioners who bear the investment risk. Although this system might be attractive when the investments are doing well, it is important to note that members will lose out on the downside.

For both of these schemes, equities constitute an attractive investment instrument due to the fact that their long-term nature mirrors the long-term liabilities of pensions. However, while the proportion of shares to total assets ranges between 70 and 80 percent for defined benefit schemes, this figure goes down to 25-30 percent for defined contribution schemes (NAPF, 1996b). This can be explained by the relative risk aversion of individuals who bear the investment risk in the case of the defined contribution plans (Faccio and Lasfer, 2000a).

In terms of the asset investment structure, occupational pension funds can be classified as self-administered schemes, insured schemes and pooled funds. Most large schemes are self-administered schemes which directly invest in various asset types (NAPF, 1996a; Blake, 1995; Minns, 1980). Also, large companies are known to manage their pension schemes internally (Stapledon, 1996). The investments might be carried out by the trustees themselves, by in-house fund managers, by the external fund managers or a combination of both internal and external fund managers. However, in each of these cases, the pension fund rather than the intermediary owns the assets. Insured schemes, on the other hand, are usually small pension funds that take out insurance policies similar to any other

type of insurance policy. The trustees of the pension fund only own the insurance policy itself and not the underlying assets. It is the insurance company who is the beneficial owner of the assets and who bears the actuarial risk. Finally, the pooled funds usually operate by pooling several different pension funds' money and investing it as if it was a single fund. The investment can be carried out by a fund manager, can be invested as unit-linked insurance funds (also known as life company managed funds) or into authorised unit trusts (Stapledon, 1996).

Those pension funds that are approved by the Inland Revenue are not subject to taxation on both the interest income and capital gains from their investments. They were also allowed to claim back the advance corporation tax upon receiving dividends, however, from July 1997, the tax credit has been abolished. This special tax treatment previously applicable to occupational pension funds has been shown to significantly affect their choice of dividends over capital gains (Lasfer, 1996). Additionally, overseas dividends and foreign currency hedging may also be subject to taxation.

The majority (50.7%) of pension funds' assets are in the UK company securities category, which is the highest among all other institutional investors. Also, 77 percent of their investments in the gilts category have maturity dates greater than 5 years. Therefore, looking at Table 2, the long-term nature of the pensions business is clearly evident.

3.3.3. Investment trust companies

Despite what the name suggests, they are public companies incorporated with limited liability under the Companies Act 1985 and they are not trusts in the legal sense of the word. Contrary to unit trusts, they are closed-ended funds which are set up to enable collective investment. Also contrary to unit trusts, investors buy shares of the investment trust company itself and not shares of the underlying assets. Investment trusts can issue fixed-interest capital in the form of debenture as well as loan and preference stocks. Hence, they can benefit from the positive effects of gearing.

Their investment policy is shaped by their general objectives which may be investing in certain geographical areas or certain industries, maximising long-term capital growth or high income, to name a few. However, they invest mostly or exclusively in equities.

They are subject to corporation tax, however, according to the Finance Bill 1980, their capital gains are not taxed. This partially explains their heavy investment in the UK securities. With 49 percent of their total assets invested in the UK securities, they rank second in this category after pension funds. From Table 2 it is possible to say that they also invest quite heavily in overseas securities (43.1%).

3.3.4. Unit trusts

Unit trusts are a type of financial intermediary, which allow individual investors to hold a large and diversified portfolio by investing in an open-ended fund. They

operate under a trust structure. Only those unit trusts that are authorised¹⁰ can invest in UK equities and their units can be bought and sold in the market. Company ordinary shares constitute the majority proportion of their portfolio.

The tax treatment for unit trusts can get quite complicated at times. Generally speaking, they are subject to corporation tax, but not income tax or capital gains tax. The income from shareholding in UK companies is 'franked', that is exempt from corporation tax. However, other income from such instruments as gilt-edged securities or bank deposits are subject to corporation tax. According to the Finance Bill 1980, for those authorised unit trusts that only invest in UK interest-bearing securities and have only individual shareholders, income tax, rather than corporation tax, is applicable.

Exempt unit trusts were set up prior to the 80s for investment specifically by pension funds, charities and other tax-exempt investors. At the moment however, their tax treatment is identical to that of an authorised unit trust.

From Table 2, we can clearly see the effect of taxation in unit trusts' asset allocation. The lowest proportion of their assets are invested in the short-term assets (3.1%) and gilts (2.3%), due to the fact that their income from gilt-edged securities and bank deposits are subject to corporation tax. Among all other institutional investors, they have the highest proportion of UK company securities in their investment portfolio (52.3%).

¹⁰ They are authorised by the Department of Trade under the Prevention of Fraud (Investments) Act 1958. Those unit trusts that are unauthorised are typically property unit trusts.

3.3.5. *Banks*

Historically, banks were the pioneers of financial intermediation. There are approximately 500 authorised banks in the UK, with more than half operating as branches or subsidiaries of foreign banks. Typically, a bank's assets are derived from the deposits they collect from customers, which may be repaid at call or at short notice. The solvency and liquidity considerations restraint a bank's choice of investment instruments. Also, in order to minimise default risk, they opt for securities with a negligible default risk (Frost and Hager, 1986).

The tax treatment of the income and capital gains from investments are subject to the same treatment as the bank's trading profits.

3.3.6. *Fund managers*

The total assets managed by the fund managers amount to £1,683 billion at 31 March 1997¹¹. They manage assets of private clients, overseas institutions, charities, pension funds, insurance companies, unit trusts and investment trusts. From Table 3, it is clear that pension funds dominate their client base, both in terms of the number of portfolios and the total funds managed.

¹¹ Total funds managed for UK and overseas institutional clients amount to £1,048.3 billion and £634.5 billion, respectively (Institutional Fund Managers' Association, 1997)

Table 3. Fund Managers – Client Analysis (31 March 1997)

Type of Client	Client funds managed as % of total	Number of portfolios managed
Pension funds	45.6	6211
Insurance, life funds	24.1	727
Insurance, non-life funds	4.4	609
Unit trusts	7.3	1650
Investment trusts	2.4	234
Other	<u>16.2</u>	<u>4771</u>
TOTAL	100	14202

Source: Fund Management Survey 1997 conducted by the Institutional Fund Managers' Association (IFMA).

In general, the fund management agreement hands over the right to exercise the votes attached to UK equity investments to fund managers. Therefore, using this collective power, the potential for direct, firm-level monitoring is higher than that of other institutional investors (Stapledon, 1996).

The agreement may also include a clause related with performance measurement. In most cases, portfolio performance is measured on a quarterly basis (Marsh, 1990). This has been the corner stone of much criticism in the short-termism debate. However, Marsh argues that, because the market value of their portfolio is measured relative to a market index or to another fund's performance, the only means of outperforming is through spotting and buying undervalued shares while selling overvalued shares. Hence, he suggests that fund managers actually serve to achieve market efficiency.

The fund management industry is highly concentrated with the firms in the top quartile managing 66 percent of the total funds (IFMA, 1997). The industry is also characterised by fierce competition which makes it even harder to win at the game of identifying mispriced securities (Marsh, 1990).

In terms of asset allocation, the largest proportion of their assets (45.6%) is invested in the overseas securities, as shown in Table 2. Out of this 45.6 percent, only 33.3 percent relates to overseas company securities, which is still higher than the investments in the UK company securities of 30.2 percent. Surprisingly, in the short-term category, fund managers' investments are even higher than the insurance company general business investments. However, it is important to note that, in Table 2, the data for fund managers was compiled from the 1997 survey by IFMA, whereas all other data was compiled from the ONS statistics. The fund managers' data is not directly comparable with the other institutional investors since the ONS statistics are based on beneficial ownership. For example, the investments of pooled pension funds that are run by a fund manager would be reported in the pension funds category in the ONS data and fund managers category in the IFMA data. Despite this drawback, Table 2 is quite illustrative of the 'control versus ownership' controversy prevalent in the UK¹².

3.4. Data and methodology

The sample consists of all non-financial UK companies listed in the London Stock Exchange at end of 1993. Excluding companies with missing ownership and financial data, I obtain a final sample of 1,153 companies for 1993 and 764

¹² The analysis by Minns (1980) was the first to draw attention to this controversy.

companies for 1997¹³. To avoid survivorship bias, the sample includes companies for which relevant data is available even if they are currently extinct.

Data availability in a machine-readable format was a major problem. Extel Financial- Extel Cards¹⁴ only provide the shareholding information for the current year and previous years are not available. The company accounts were not much help either because only a few companies disclose the information on shareholding by category of shareholder. Due to our large sample size, other options such as the use of the Jordan ownership database and of the company share registers¹⁵ were not feasible. Another option was to use the Crawford's Directory of City Connections, which has a separate section on institutional shareholding over 5 percent. However, this 5 percent threshold misses out important detail, as documented by previous literature¹⁶.

Therefore, the collection of data by hand was chosen as the best available option. The data for 1993 was collected from the London Stock Exchange Official

¹³ A reconciliation of the reduction in sample size is provided below:

Final sample with full ownership and financial data for 1997	764 companies
Companies with ownership data unavailable	184
Companies takeover during the period	60
Subsidiaries currently not listed on the London Stock Exchange	100
Companies delisted during the period (company request/financial difficulty)	31
Companies with financial data unavailable	<u>14</u>
Final sample with full ownership and financial data for 1993	1,153 companies

¹⁴ In previous literature, Extel Company cards were used (Faccio & Lasfer, 2000a).

¹⁵ Monk (1994) has used UK company share registers of the 10 major quoted companies to analyse 200 institutional shareholding.

¹⁶ Faccio & Lasfer (2000a) report that 61% of the Pension Funds' shareholding falls in the interval of 3-6% of ordinary shares.

Yearbook 1993-1994 (the Yearbook). In the Yearbook, the “capital” section lists the name and the percentage held by all shareholders of the company who hold shares equal to 3 percent or more of the issued capital as at the end of 1993. This section also lists the name and percentage held by all the directors of the company as at the end of 1993, regardless of the 3 percent threshold. In order to collect the second year’s data, The Macmillan Stock Exchange Yearbook 1998 on CD-Rom (Macmillan)¹⁷ was used. In Macmillan the “substantial shareholders” section provides exactly the same ownership information as the Yearbook, as at various dates in 1997 and a few in 1998¹⁸. For simplicity I will refer to this data as “1997 data” throughout the remainder of the thesis.

Under the UK Companies Act 1985, companies had to disclose in their annual accounts all shareholding in excess of 5 percent. However, from June 1990, companies are legally required to disclose all external interests equal to or greater than 3 percent of their issued share capital. As a consequence, this study can only analyse the ownership interests of 3 percent or more of the issued share capital of the sample companies. Therefore, the 3 percent threshold level used in this study

¹⁷ The London Stock Exchange Official Yearbook was published with the new name of Macmillan Stock Exchange Yearbook for 1998 and was available in text format on CD-Rom. Therefore, although the source for 1997 data is a CD-Rom, it was not given in a machine-readable format and data for both years was input by hand.

¹⁸ Out of the final sample of 764 companies, 40 (5.2%) have ownership data for the first quarter of 1998 (29 in January, 10 in February and 1 in March) which is due to a last minute update provided on the CD-Rom. I would not expect this to potentially bias the results in any way.

is a level that is intentionally chosen, but rather one that is legally dictated¹⁹. It is important to note that, nearly all UK²⁰ and US²¹ studies face this problem of threshold level of ownership. There are two main theoretical justifications which can be proposed to explain this threshold level and they will be explained in the paragraph that follows.

First and foremost, according to the Diamond (1984) model, the investors' monitoring stance will depend on the total costs associated with each of the 3 choices available to them, namely the choice to monitor, not to monitor and monitor through an intermediary. The Admati et al. (1994) model further adds that monitoring, when it is costly, will only occur when a net benefit is expected. In other words, in line with both of these theoretical models, it can be argued that, a certain degree of substantial ownership is required for the benefits of monitoring to outweigh its costs. What constitutes that certain degree is really the subject of further theoretical modelling and calls for more empirical testing. Secondly, there is a substantial strand of literature originated by Shleifer and

¹⁹ Despite the 3 percent limitation, the minimum level of ownership in my dataset is within the range of 0.29%-2.50% in 1997 data (0.14%-2.02% in 1993 data) for 7 out of 20 categories (8 out of 20 categories in 1993 data) of different ownership types, as shown in Tables 4.A and 4.B..

²⁰ There are 2 UK studies to-date which analyse all shareholding, including those that are less than 3%. Stapledon (1996) focuses on a sample of the major institutional investors in the UK and examines their monitoring role in the companies that they hold shares in. Monk (1994), on the other hand, uses the UK company share registers of the 10 major quoted companies to analyse the institutional shareholding in these companies. However, both studies suffer from greatly reduced sample size in comparison to the one used in this study.

²¹ All US empirical studies referred to in Chapter 3, Section 3.2. and in Chapter 2, Section 2.1.4., use a threshold level of ownership of 5% since beneficial ownership of 5% or more in firm

Vishny (1986) and developed by Hirshleifer and Titman (1990) and Choudhury and Jegadeesh (1994) which concentrate on the use of “toeholds” to combat the free-rider problem described by Grossman and Hart (1980)²². Bris (1998), focusing on all hostile tender offer announcements in the US and the UK during the 1980-1995 period, reports that the median toeholds in the US are lower (4.35% at and 3.65% 6 months prior to announcement) than the legal disclosure level of 5 percent, while in the UK they are considerably higher (10% at and 5% 6 months prior to announcement) than the legal disclosure level of 3 percent. Therefore, it could be argued that the 3 percent threshold level indeed captures a fair portion of the institutional share ownership activity in the UK from a monitoring perspective.

The choice of 1993 as the first year of analysis²³ is mainly driven by the fact that previous UK studies²⁴ covered the period up to 1992 and at the time I embarked on this project there was no empirical evidence to facilitate a comparison in order

triggers a reporting requirement in accordance with Section 13(d) of the Securities Exchange Act of 1934. For details of the US regulatory framework, please refer to Clark (1986).

²² A toehold refers to the mechanism of open market purchase of shares before the official announcement of a tender offer. Please refer to Bulow et al. (1999) for a detailed discussion of the theoretical and empirical work on toeholds and to Sudarsanam et al. (1996) for the use of toeholds in the UK.

²³ I would not expect this analysis to be sample dependent since, it is generally believed and also revealed by the FT (1998a) survey that 98 percent of top finance directors believe major shareholders to be long-term investors.

²⁴ At the time, the 2 most recent empirical and comprehensive works available were those by Short (1996) covering 258 UK listed firms over the 1988-1992 period and Leech and Leahy (1991) covering 470 UK listed firms over the 1981-1985 period.

to judge the effectiveness or otherwise of all the efforts to promote good corporate governance²⁵.

The following guidelines were used to input the ownership data into the database;

- when a detailed breakdown of shares held by the Holding group was provided, the breakdown was used,
- when it was stated for whom the company holds the shares on behalf of, the company or person who ultimately/effectively controls the shares were input to the database (that is, not the middle person),
- only issued ordinary shares are included in the analysis and non-ordinary shareownership such as preference, founder, non-voting, deferred and convertible ordinary shares are all excluded,

²⁵ For a thorough review of the studies regarding compliance with the recommendations and advisory aspects of the Cadbury Committee Code of Best Practice, as well as comparison of the pre- and post-Cadbury periods, please refer to Conyon and Mallin (1997). According to the Cadbury Committee (1995) Compliance Report, looking at the top 500 companies and a random sample of companies in the 501-1550 size ranking range, during the period from September 1993 to December 1994, 86 percent of the top 250 companies and only 26 percent of the companies in the 1251-1550 range issued, in their published accounts, a statement of full compliance with the Code. Additionally, in the pre-Cadbury period, i.e. prior to the publication of the report in December 1992, despite variations among different committees, the Nomination Committee adoption rate was a mere 0.04 percent among the top 500 companies. However, by December 1994, nearly half of the top 500 companies had a Nomination Committee in place.

Therefore, considering the fact that I am using a broadly balanced sample as explained in Footnote 31, it would be fair to say that the 1993 and 1997 data used in this study is appropriate in allowing comparisons to be made with previous UK studies in order to shed some light on the UK corporate performance pre- and post-Cadbury.

- when names of individuals were given as shareholders, it was compared against the list of directors to ensure an accurate classification of shares held by directors and by individuals,

- names of individuals were also double checked to identify family and relatives of directors and such shares were classified as holdings by directors' family, to the extent that it was identifiable from surnames

- when it was stated at the beginning of the Official Yearbook's listing that the company is a subsidiary, shares held by the parent were classified under the parent category, rather than Industrial and Commercial Company.

After the completion of the database, further classifications were necessary to identify shareholding by different types of institutional groups. There were 1,114 institutions for 1993 and 1,665 institutions for 1997, which were identified as holding shares in the sample companies. Since these institutions were identified by their names, they needed to be classified into different types. For this purpose, 20 different shareholder groups were set-up (including ownership by individuals and by employees) and the database was converted from a name-basis to a type of institution-basis.

These classifications are primarily based on the FT London Share Service and the FT Managed Funds Service published in the January 1994 papers. However, quite frequently, it was not possible to identify the type of the institutional shareholder from the FT, in which case the London Stock Exchange Official Yearbook and Crawford's Directory of City Connections were used. Other sources were used to identify institutional types not found in these primary

sources and also as a control for accuracy. These other sources are The Company Guide by Hemmington Scott, Pension Funds and their Advisers by AP Information Services, Annual Fund Management Reports by the Institutional Fund Managers Association (IFMA) and *Institutional Shareholders and Corporate Governance* study by Stapledon (1996).

For example, the fund managers' names are not supplied in the FT, therefore I looked up the names in the Investment Advisers section of Crawford's Directory of City Connections. When the name was not listed there, I referred to the Pension Funds and their Advisers publication to see if they manage funds on behalf of pension fund clients. Then to double check, I referred to see if this institution was included in the study by Stapledon and IFMA. For the pension funds, 'superannuation', 'retirement benefit' and 'pension' were used as keywords and I was able to trace only some of these to the list of self-investing pension funds provided by the Crawford's Directory. Therefore, this approach of using several sources and double-checking was essential due to the fact that there does not exist a single exhaustive source that gives the name of an institution and its type.

For each company in the sample, the shares held by each type of shareholder were then summed up to define as the ownership variables which are summarised in Tables 4.A. and 4.B., for 1993 and 1997, respectively.²⁶

²⁶ Several studies have used single year ownership variables to test the hypotheses that corporate value is a function of the structure of equity ownership. Please refer to Agrawal and Knoeber (1996), Short (1996), McConnell and Servaes (1990) and Morck, Shleifer and Vishny (1988) for a detailed description of the ownership variables used.

The directors' ownership variable includes the percentage of shares held by the directors and their families, taking into account all beneficial and non-beneficial holdings, family trusts and, where identifiable, indirect control gained by owning shares through a third company in which they have controlling interest. Therefore, I define management ownership as the proportion of shares held by firm's managers that are members of the board. UK quoted companies are required to disclose in their financial statements the names of all the board members, and the proportion of shares held directly and indirectly (beneficial and non-beneficial) by executive and non-executive directors, even if the ownership stake is zero (Companies Act 1985). The officers who are not members of the board are only subject to the ordinary disclosure rules of 3 percent or above. This legal disclosure requirement meant that I had to define managerial ownership as ownership by members of the board of directors. Although this definition is consistent with that of Morck *et al* (1988) and Short and Keasey (1999), it differs from that of McConnell and Servaes (1990) and Holderness *et al* (1999) as I do not include shares owned by corporate officers not members of the board. I tried to split managerial ownership variable into ownership of executive and non-executive directors, however, I find that non-executive directors' ownership is very small (less than 1%). I assume that the inclusion of this holding is not going to affect the analysis.

The percentage of shares held by employees takes into account those shares which were held through an employees' share ownership scheme, since this was the only way of identification. The public sector ownership includes the percentage of shares held by the public sector, such as local councils,

government, treasury and universities. When it was stated that the shares are held by the local authority pension scheme, then this was classified as pension fund holding, which includes the self-investing pension funds and, where identifiable, only those pension fund management arms of the financial conglomerates which operate as a separate legal entity.

All of the classifications were control-oriented rather than beneficial ownership-oriented. That is, classification was based on the shareholding by type of controlling institution, rather than by the purpose of the beneficial shareholding²⁷. In that sense, it differs from the beneficial ownership statistics issued by the CSO (Central Statistics Office), which understates the power of institutions as shareholders (Minns, 1980)²⁸.

It is important to note that, in comparing the findings of this study with those reported in other studies, firstly, the findings regarding the percentage of ownership by institutions, individuals and other groups may not be in agreement

²⁷ For example, when Mercury Asset Management (MAM) holds X% of the shares of a Company Y on behalf of their Client Z (i.e. the beneficial owner is Client Z), this X% was treated as a share stake held by the fund managers category, because effectively it is MAM who gets invited to the Annual General Meeting of Company Y.

²⁸ In a broad context, beneficial ownership refers to the fact that a beneficiary (a person or an organisation) enjoys the benefits (dividends in this case) associated with the ownership. For example, in the UK, shares held through nominee accounts are quite common and it is not possible to identify who the beneficial owners are. However, for the purposes of this study, the beneficial owner of these shares is not relevant because it is the nominee's name that goes on the company share register and it is the nominee who is invited to attend the annual general meeting. The control of these shares lies in the hands of the nominee in this case. Therefore, the share ownership system prevalent in the UK necessitates a distinction between beneficial ownership and control and it is important to note that beneficial owners may or may not exercise direct control over the firm.

with those reported by the Central Statistics Office (CSO) in the share ownership statistics. This is mainly due to the fact that the CSO focuses on beneficial share ownership in its classification. Secondly, ownership by directors and their families might seem to be overstated when compared to previous studies, due to the fact that this analysis includes, where identifiable, those interests which provide an indirect control to the directors, such as owning shares through a third company or through family trusts. Both of these points arise due to the control perspective adopted throughout the study, which has also been the main focus in the classifications that were used. However, this approach is essential in achieving the objective of this study and it is also the very component that makes this work unique.

3.5. Empirical results

In this section I first conduct a descriptive analysis of the large stakes held by different investor categories. I analyse the financial characteristics of companies in which each category of shareholder holds large stakes in 1993 and 1997. I will try to determine the relationship between each category of block ownership and firm value by regressing Tobin's Q against ownership and a set of other control variables. I will then concentrate on the changes in the shareholder groups' holdings and define a number of observable variables that influence the optimal ownership structure. Additionally, I will extend specifications used in previous literature by taking into account explanatory variables to proxy for the scope of managerial discretion, the monitoring role of pressure-sensitive versus pressure-resistant blockholders within a UK institutional framework.

Also, following Hermalin and Weisbach (1991), I use lagged explanatory variables as instruments for the different groups of ownership in order to eliminate the possible effect of endogenous regressors. Additionally, to avoid the possibility of the lagged explanatory variables also suffering from the endogeneity problem, and to ensure that the results do not reflect a spurious relationship between ownership and performance, I include industry dummies to control for unobserved heterogeneity at the industry level (Himmelberg et al. (1999)).

3.5.1. Descriptive Analysis

Tables 4.A. and 4.B. presents the descriptive statistics for the ownership variables²⁹. For all the ownership variables, with the exception of parent company's ownership in 1993, the means are greater than the medians suggesting that the distributions of ownership are positively skewed. The ownership variables vary considerably ranging between 4.86 percent and 100 percent in 1993 and between 3.81 percent and 75.05 percent in 1997. However, in 1993, 14 out of the 20 ownership variables used have medians less than or equal to 7 percent. With the exception of 2 variables, directors' ownership and parent

²⁹ The figures in both of these tables are not comparable to those of the CSO data. This is mainly due to the fact that the CSO focuses on beneficial share ownership in its classification, while this study focuses on the control aspect. Additionally, ownership by directors and their families is higher than the CSO figures, since this analysis includes, where identifiable, those interests which provide an indirect control to the directors, such as owning shares through a third company or through family trusts. Both of these points arise due to the monitoring perspective adopted throughout the study, which has also been the main focus in the classifications that were used.

company, the median percentage ownership by different types of shareholders ranges between 5 percent and 11 percent. In 1997, only 10 of the ownership variables are less than 7 percent.

For both years the top three institutions remain unchanged and ownership by directors and their families has the largest number of occurrences. In 1993, in 652 out of the 1153 companies in the sample (57% of the companies), directors and their families had share stakes ranging from 2 percent to 100 percent, with a median share stake of 21.5 percent. In 1997, in 413 out of the 764 companies in the sample (36 percent of the companies), directors and their families had share stakes ranging from 2 percent to 96 percent, with a median share stake of 18.4 percent.

Fund managers are the largest institutional shareholder category. They hold an average of 13 percent (16% in 1997) of shares in 631 (377 in 1997) companies. These are followed by insurance companies and pension funds with an average holding of 8.5 percent (8.6% in 1997) and 7.4 percent (7.1% in 1997). It is interesting to note that, although employees hold large stakes in only 10 companies, their median holding of 5.19 percent (6.94% in 1997) is comparable to that of pension funds.

Table 4. A. Analysis of Large Stakes (1993 data).

The table reports the descriptive statistics and the magnitude of holdings of each category of investors reported in the financial statements. N is for number of holdings and ICCs is for industrial and commercial companies. I follow Brickley, Lease and Smith (1988) for the Pressure-resistant vs. Pressure-sensitive distinction. The sample includes 1153 UK non-financial companies.

Holdings	N	% of Total	Descriptive Statistics				Magnitude of Holdings				
			Median	Mean	Min	Max	< 4.5%	4.5-6%	6-10%	10-20%	+ 20%
Directors	652	57	21.48	27.40	2.02	100.00	9	5	14	20	52
Fund Managers	631	55	11.14	13.07	3.00	57.62	14	11	20	37	18
Insurance Cos	544	47	6.70	8.51	3.00	49.80	30	15	24	27	4
Pension Funds	324	28	5.46	7.39	0.14	66.40	36	18	26	18	2
Individuals	279	24	7.90	12.38	0.81	77.59	26	12	21	21	20
ICCs	267	23	9.50	16.35	2.00	100.00	24	10	19	18	29
Banks	259	22	4.86	6.72	0.55	60.63	46	15	27	8	4
Overseas investors	259	22	6.74	12.44	3.00	68.10	32	13	20	17	18
Investment Trusts	243	21	6.27	8.72	1.58	65.21	32	17	26	18	7
Groups	210	18	4.66	6.14	3.00	24.44	47	19	19	15	0
Nominees	144	12	7.10	10.20	0.70	71.80	31	12	20	27	10
Assurance Cos	129	11	5.43	6.21	1.48	17.45	34	25	31	10	0
Other financial Inst	129	11	6.93	10.61	3.00	51.74	26	19	22	20	13
Parent Company	99	9	100.00	86.27	20.90	100.00	0	0	0	0	100
Venture Capitalists	86	7	7.16	10.38	3.01	59.40	22	14	24	28	12
Unit Trusts	71	6	5.34	7.44	3.03	26.02	42	14	21	20	3
Joint holdings	31	3	5.96	6.50	3.10	14.95	36	19	32	13	0
Charities and trusts	28	2	8.95	16.67	3.07	99.31	25	18	11	25	21
Public sector	14	1	3.84	12.15	3.08	40.50	64	7	0	0	29
Employees	10	1	5.19	11.47	3.13	48.20	20	40	10	20	10
Financial Cos	974	84	21.30	24.64	3.00	84.10	6	5	10	25	54
Insiders (Dir + Emp)	653	57	21.52	27.54	2.02	100.00	9	5	13	20	53
Other	780	68	15.52	28.16	0.81	100.00	16	6	15	19	44
Pressure-resistant	810	70	13.49	16.40	0.55	72.81	13	8	17	32	30
Pressure-sensitive	824	71	11.69	15.79	3.00	100.00	16	7	21	30	26

Table 4. B. Analysis of Large Stakes (1997 data).

The table reports the descriptive statistics and the magnitude of holdings of each category of investors reported in the financial statements. N is for number of holdings and ICCs is for industrial and commercial companies. I follow Brickley, Lease and Smith (1988) for the Pressure-resistant vs. Pressure-sensitive distinction. The sample includes 764 UK non-financial companies.

Holdings	N	% of Total	Descriptive Statistics				Magnitude of Holdings (%)				
			Median	Mean	Min	Max	< 4.5%	4.5-6%	6-10%	10-20%	+ 20%
Directors	413	36	18.47	24.64	2.11	96.03	14	6	13	20	47
Fund Managers	377	33	13.63	15.81	1.10	62.38	10	8	14	39	29
Insurance Cos	354	31	7.01	8.61	2.50	40.90	31	11	27	25	6
Overseas investors	211	18	8.25	13.61	3.00	96.30	24	13	23	19	21
Investment Trusts	178	15	7.75	10.05	2.50	43.54	24	14	22	32	8
Pension Funds	167	14	5.10	7.10	3.00	56.90	46	11	26	14	3
Individuals	160	14	7.25	9.78	3.00	50.50	25	15	28	23	9
Financial Groups	133	12	6.30	7.96	3.00	24.37	28	18	20	32	2
ICCs	119	10	7.87	14.12	3.06	70.28	25	13	21	19	22
Assurance Cos	119	10	5.62	6.41	3.00	20.30	35	21	34	9	1
Banks	117	10	6.17	7.99	0.32	26.16	35	14	20	28	3
Nominees	97	8	7.95	10.74	3.02	57.10	30	10	25	22	13
Other financial Inst	79	7	7.27	11.47	0.29	75.00	24	16	28	14	18
Unit Trusts	54	5	4.82	6.05	3.14	20.39	45	24	20	9	2
Venture Capitalists	41	4	7.64	8.93	3.20	23.72	22	14	32	27	5
Parent Company	15	1	75.05	80.62	53.46	100.00	0	0	0	0	100
Charities and trusts	15	1	3.99	11.03	1.00	50.07	60	13	7	20	0
Public sector	10	1	3.81	7.76	3.00	32.95	60	10	10	10	10
Employees	10	1	6.94	10.95	2.02	23.10	0	50	10	20	20
Joint holdings	4	0	4.46	4.63	3.10	6.50	50	25	25	0	0
Financial Cos	669	58	22.05	24.42	1.10	78.80	8	5	11	22	54
Insiders (Dir + Emp)	417	36	18.53	24.67	2.11	96.03	14	6	13	20	47
Other	446	39	10.75	19.35	1.00	100.00	17	9	21	24	29
Pressure-resistant	510	44	15.47	18.16	1.10	78.03	12	6	13	31	38
Pressure-sensitive	533	46	9.64	13.26	1.00	70.28	18	9	26	28	19

The percentage ownership by a parent company has the greatest median and mean of 100 percent and 87 percent (75% and 81% in 1997), respectively. There are 99 (15 in 1997) companies identified as subsidiaries in which the parent companies hold between 21 percent and 100 percent (53% and 100% in 1997) of the issued share capital. The holdings that exceed 65 percent are mostly for the companies acquired during the relevant year.

In the last 5 rows of Tables 4.A. and 4.B. splits the holdings into financial companies, insiders (directors and employees) and the remaining holders. The financial companies are then split into pressure-resistant and pressure-sensitive, following Brickley *et al* (1988). Figures 2.A. and 2.B. present the split of the sample into these two latter categories and show that in 165 (133 in 1997) companies only pressure-resistant shareholders hold large stakes while in 179 (156 in 1997) companies only pressure-sensitive institutions hold large stakes. In the vast majority of companies (645 in 1993 and 377 in 1997)) both pressure-resistant and pressure-sensitive institutions hold large stakes.

In terms of the monitoring role of these 3 different groups of institutional shareholders by pressure classification, theoretically we would expect the PrONLY group to take a more active stance in corporate governance issues since they do not have a current or potential link with the company. On the other hand, we would expect the PsONLY group to be less inclined to oppose management with the fear of impairing an ongoing or future business relationship. For those companies in which both pressure-resistant and pressure-sensitive institutions hold shares, the total holdings of the pressure-resistant group is higher than that of the pressure-sensitive group in majority of the cases. The percentage

ownership of the pressure-resistant group dominates in 520 out of 645 companies in 1993 and in 242 out of 377 companies in 1997. We would still expect shareholder monitoring to occur, even when the total holdings of the pressure-resistant group is less than that of the pressure-sensitive group, since the free-rider problem will be dissipated by the increased liquidity in a liquid markets context (Maug, 1998).

Figure 2. A. Sample of companies owned by Pressure-Sensitive and/or Pressure-Resistant Institutions (1993 data).

Pr (Stakes held by Pressure-Resistant institutions) = PrONLY + 645 companies
 Ps (Stakes held by Pressure-Sensitive institutions) = PsONLY + 645 companies
 Pr > Ps in 520 companies

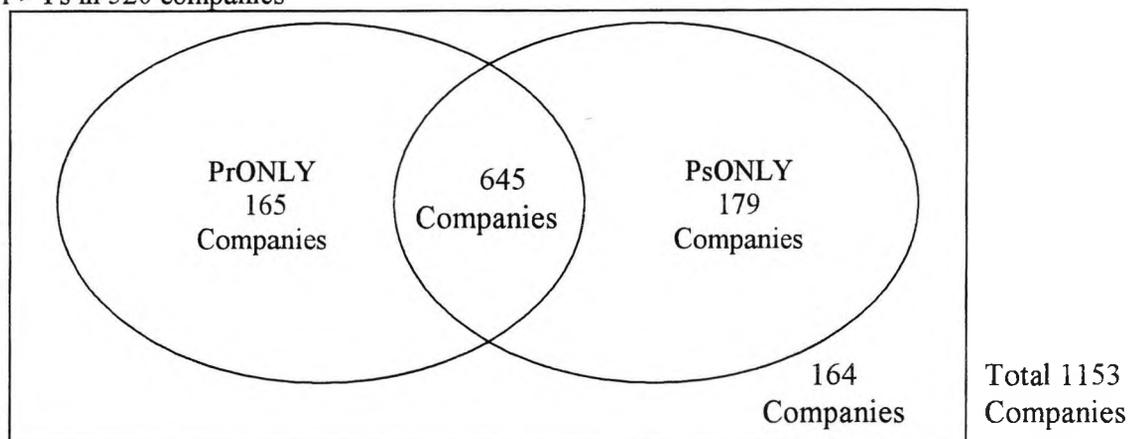
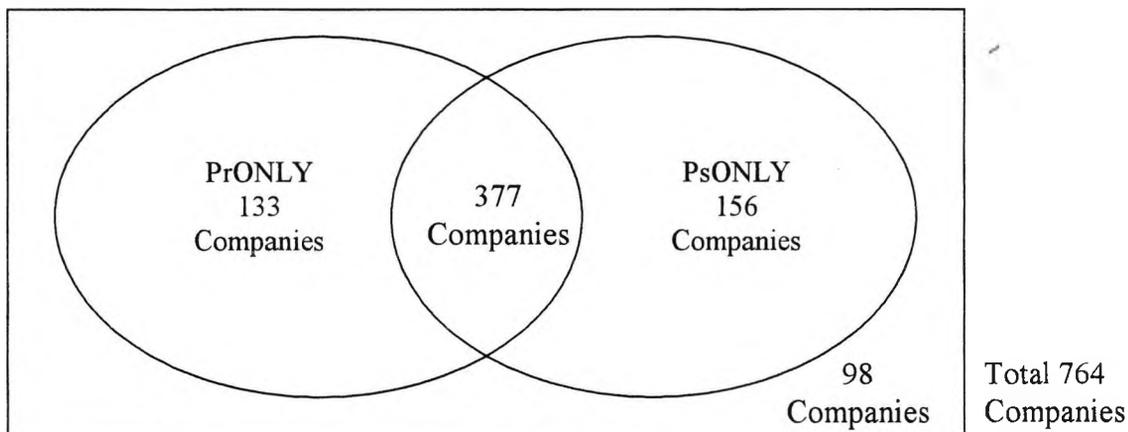


Figure 2. B. Sample of companies owned by Pressure-Sensitive and Pressure-Resistant Institutions (1997 data).

Pr (Stakes held by Pressure-Resistant institutions)=PrONLY+377 companies
 Ps (Stakes held by Pressure-Sensitive institutions)=PsONLY+377 companies
 Pr > Ps in 242 companies



Tables 4.A and 4.B. also report the magnitude of holding of ownership by different shareholder types. The results show that, while the public sector holds most of its stakes in the smallest holding category ($< 4.5\%$), directors tilt their stakes into the more than 20 percent holdings ($+20\%$). In 1993 (1997), in the small holding category ($<4.5\%$), group companies invest 47 percent (28%) of their funds, banks 46 percent (35%), unit trusts 42 percent (45%), and Pension funds 35 percent (46%). The smallest investment in this category is parent company because their investments are, by definition, greater than 20 percent.

The majority of the fund managers' investments (37% and 39% in 1993 and 1997, respectively) is in the 10-20 percent category and the remaining portion seems to be fairly equally distributed among the other 4 categories.

Tables 5.A and 5.B report the descriptive statistics for the financial variables used. As can be clearly seen from the table, the variables which proxy firm size MKTCAP (equity market value at year-end), TURNOVER (sales revenue) and TOTAST (total assets) are all highly skewed. Therefore, their natural logarithms will be used in the regression analysis in the following sections. Following Hermalin and Weisbach (1991), I use lagged explanatory variables, which explains the minimum value of the MKTCAP variable being equal to zero due to the companies which had ownership and financial data available for 1993, but were subsequently delisted. The negative minimum values in the table are partially due to negative book value of equity due to goodwill write-offs and partially due to negative earnings. There are 5 cases in 1993 data and 4 cases in

1997 data which have been identified as outliers in earnings and excluded from analysis

When I compare the two years, I find that Q, MB and MT have all decreased in the 1997 data. The median value for Q decreases from 1.02 to 0.89 which is due to an 88 percent increase in total assets, while the market value of equity increases by only 78 percent. The median value for MB decreases from 1.84 to 1.44 which is due to an increase in shareholders' funds (82 percent) greater than the increase in market value of equity. Finally, the decrease in MT is attributable to an increase in turnover (107 percent) also greater than the increase in market value of equity.

Table 5. A. Descriptive Statistics for Financial Variables (1993 data).

MKTCAP is the market value of equity at year-end, TOTAST is the Total Assets at year-end, Q is the market value of equity plus book value of debt over total assets, MB is the market value of equity over shareholders' funds, MT is the market value of equity plus book value of debt over turnover, ROA is profit before interest and tax over turnover, ROE is earnings over shareholders' funds, ROS is profit before interest and tax over turnover, PE is the year-end share price over earnings per share, RDT is research and development costs over turnover, MLEV is long-term debt over long-term debt plus market value of equity, BLEV is long-term debt over long-term debt plus shareholders' funds, DPT is directors' monetary pay (excl. options) over turnover, PAYOUT is ordinary dividends over earnings.

<u>Variable</u>	<u>Median</u>	<u>Mean</u>	<u>Min.</u>	<u>Max.</u>	<u>Std.Dev.</u>	<u>N</u>
MKTCAP (£'000)	31,047	408,253	0.00	24,380,000	1,643,916	1,149
TURNOVER (£'000)	41,795	518,798	0.00	69,135,000	2,868,075	1,149
TOTAST (£'000)	50,577	492,189	0.00	61,929,000	2,474,771	1,149
Q	1.02	1.29	0.00	23.23	1.28	1,042
MB	1.84	2.54	-20.57	78.38	4.60	1,042
MT	0.85	2.67	0.00	341.12	18.08	1,032
ROA	0.09	0.08	-1.40	1.51	0.14	1,042
ROE	0.12	0.07	-42.37	16.54	1.51	1,040
ROS	0.07	0.00	-56.96	8.18	1.88	1,032
PE	13.65	11.45	-422.70	200.00	32.23	996
RDT	0.00	0.02	0.00	5.18	0.22	1,032
MLEV	0.07	0.15	0.00	1.00	0.23	1,035
BLEV	0.12	0.24	-6.09	75.22	2.36	1,042
DPT	0.01	0.03	0.00	7.64	0.25	1,032
PAYOUT	0.36	0.48	-26.06	96.00	3.38	1,042

Table 5. B. Descriptive Statistics for Financial Variables (1997 data).

MKTCAP is the market value of equity at year-end, TOTAST is the Total Assets at year-end, Q is the market value of equity plus book value of debt over total assets, MB is the market value of equity over shareholders' funds, MT is the market value of equity plus book value of debt over turnover, ROA is profit before interest and tax over turnover, ROE is earnings over shareholders' funds, ROS is profit before interest and tax over turnover, PE is the year-end share price over earnings per share, RDT is research and development costs over turnover, MLEV is long-term debt over long-term debt plus market value of equity, BLEV is long-term debt over long-term debt plus shareholders' funds, DPT is directors' monetary pay (excl. options) over turnover, PAYOUT is ordinary dividends over earnings.

<u>Variable</u>	<u>Median</u>	<u>Mean</u>	<u>Min.</u>	<u>Max.</u>	<u>Std.Dev.</u>	<u>N</u>
MKTCAP (£'000)	55,301	1,083,893	431	144,000,000	6,958.837	756
TURNOVER (£'000)	104,575	908,005	314	128,000,000	5,556,403	763
TOTAST (£'000)	78,531	956,526	440	115,000,000	5,788.896	764
Q	0.89	1.19	0.15	23.30	1.36	702
MB	1.44	3.43	-56.47	333.69	16.77	756
MT	0.70	1.34	0.08	49.84	2.85	702
ROA	0.09	0.06	-2.65	0.56	0.19	764
ROE	0.13	0.26	-10.03	62.66	2.94	762
ROS	0.07	-0.11	-122.32	1.28	4.44	763
PE	9.66	10.75	142.50	391.43	28.80	751
RDT	0.01	0.42	0.00	93.05	5.99	241
MLEV	0.13	0.17	0.00	0.92	0.16	633
BLEV	0.19	0.33	-3.28	60.57	2.45	641
DPT	0.01	0.02	0.00	3.69	0.14	756
PAYOUT	0.36	0.43	-5.33	27.67	1.44	753

3.5.2. Change in share stake between 1993 and 1997

In this section a Wilcoxon signed rank test is used to compare the share stake of different investor categories in 1993 and 1997.

Table 6. Analysis of the change in share stake between 1993 and 1997.

Type of Shareholder	N ^a	Magnitude of the Share Stake (%)						Sum of Ranks ^b		P value ^b
		25th Percentile		50th Percentile		75th Percentile		Negative Ranks ^c	Positive Ranks ^d	
		1993	1997	1993	1997	1993	1997			
Assurance Cos	764	0.0	0.0	0.0	0.0	0.0	0.0	6,496***	3,374	0.001
Banks	764	0.0	0.0	0.0	0.0	0.4	0.0	13,798	20,132***	0.009
Charities & Trusts	764	0.0	0.0	0.0	0.0	0.0	0.0	77	199*	0.064
Directors	764	0.0	0.0	6.7	3.6	26.2	21.1	31,431	86,424***	0.000
Employees	764	0.0	0.0	0.0	0.0	0.0	0.0	64	56	0.820
Fund Managers	764	0.0	0.0	4.9	0.0	12.8	13.5	72,014	71,902	0.988
Financial Group Companies	764	0.0	0.0	0.0	0.0	0.0	0.0	14,542	13,188	0.516
Industrial & Commercial Cos	764	0.0	0.0	0.0	0.0	0.0	0.0	9,054	17,281***	0.000
Individuals	764	0.0	0.0	0.0	0.0	3.0	0.0	10,345	18,816***	0.000
Insurance Companies	764	0.0	0.0	3.0	0.0	6.7	6.5	55,592	61,778	0.315
Investment Trusts	764	0.0	0.0	0.0	0.0	0.0	0.0	19,680**	14,511	0.034
Joint Holdings	764	0.0	0.0	0.0	0.0	0.0	0.0	32	293***	0.000
Nominees	764	0.0	0.0	0.0	0.0	0.0	0.0	6,008	4,724	0.210
Other Financial Institutions	764	0.0	0.0	0.0	0.0	0.0	0.0	4,707	5,446	0.452
Overseas Investors	764	0.0	0.0	0.0	0.0	0.0	3.3	27,279***	19,082	0.008
Parent Company	764	0.0	0.0	0.0	0.0	0.0	0.0	121	179	0.407
Pension Funds	764	0.0	0.0	0.0	0.0	3.7	0.0	12,264	29,641***	0.000
Public Sector	764	0.0	0.0	0.0	0.0	0.0	0.0	64	107	0.349
Unit Trusts	764	0.0	0.0	0.0	0.0	0.0	0.0	1,924	2,171	0.619
Venture Capitalists	764	0.0	0.0	0.0	0.0	0.0	0.0	531	1,747***	0.000
Financial Institutions	761	8.2	6.7	19.4	18.8	33.3	33.6	123,934	137,069	0.241
Insiders (Directors+Employees)	761	0.0	0.0	6.6	3.8	27.4	21.5	32,927	86,390***	0.000
Other	761	0.0	0.0	5.1	4.2	18.0	13.9	71,131	98,523***	0.001
Pressure-Resistant Institutions	761	3.1	0.0	9.3	7.8	19.2	20.1	98,462	107,299	0.346
Pressure-Sensitive Institutions	761	3.0	0.0	7.3	6.2	15.8	13.2	84,049	123,641***	0.000

a. the number of companies the test statistic is computed for; b. Wilcoxon Signed Rank Test for two related samples; c. refers to the Sum of Ranks for those cases where the magnitude of the share stake held in 1997 is greater than that of 1993; d. refers to the Sum of Ranks for those cases where the magnitude of the share stake held in 1997 is smaller than that of 1993. (***, **, *: Significant at 0.01, 0.05 and 0.10 levels, respectively.)

From Table 6 we can see that in 1997, assurance companies, investment trusts and overseas investors have decreased their holdings in the sample companies, while banks, ICCs, pension funds and venture capitalists have increased their share stake. Additionally, directors, individuals and joint holdings also have a statistically significant increase in the share stake held in 1997. The changes in share stake for all other types of shareholders are not statistically significant.

There are some major movements that are taking place when I compare the two years' ownership patterns. First and foremost, the magnitude of the share stake held by assurance companies and investment trusts in 1997 is statistically significantly higher than 1993, while the magnitude of the share stake held by banks and pension funds in 1997 is statistically significantly lower than 1993. Overall, it is fair to say that the magnitude of financial institutions' holdings has become smaller in 1997, despite the fact that the decrease is not statistically significant.

Secondly, there is a major movement between the 2 years for the insiders' holdings. The magnitude of insiders' holdings has decreased significantly in 1997, largely driven by the decrease in the magnitude of directors' holdings. Directors' holdings had a median of 6.7 percent in 1993 which declined to 3.6 percent in 1997.

Thirdly, looking at movements in institutional holdings split into the 2 different pressure groups, there is a statistically significant (at 1 percent level) drop in the magnitude of holdings by the pressure-sensitive institutions in 1997. The median holding declined from 7.3 percent in 1993 to 6.2 percent in 1997, mainly driven

by the holdings of banks and charities and trusts, which are included in the pressure-sensitive category. There is also an overall decrease in 1997 in the magnitude of the pressure-resistant institutions' holdings. Included in this category are the holdings of pension funds, unit trusts, and fund managers which have all declined in magnitude in 1997. The median holding by pressure-resistant institutions has dropped from 9.3 percent in 1993 to 7.8 percent in 1997.

On the whole, the decline in the magnitude of holdings is quite a striking result, also documented in Table 11, which will be further discussed and explored in Sections 3.5.4.1. and onwards.

3.5.3. Financial characteristics of companies held by large investor groups

This section presents the financial characteristics of companies in which investors hold large stakes. The sample firms, referred to as test firms, are compared against a control group of companies in which the relevant investor group analysed does not hold large stake. The results are based on the analysis of the medians to overcome the problem of skewness in the accounting and financial variables.

The variables used include, Size as measured by market value of equity at year-end, Tobin's Q (market value of equity plus book value of debt over total assets), Return on Assets (profit before interest and tax over turnover), Leverage (long-term debt over long-term debt plus market value of equity) and Dividend Payout (ordinary dividends over earnings). The differences in medians between the test

and control samples are measured by the Mann-Whitney U test. The results are presented in Tables 7.A. and 7.B..

To control for size effects, the sample is split into small and large firms based on median market capitalisation and comparisons carried out. To control for industry effects, return on assets is adjusted for 32 different industry groups based on the LSE classification.. The results of this analysis is presented in Tables 7.C. and 7.D. for each years' data.

Table 7. A. Differences in Medians between test and control companies (1993 data).

Test companies are companies in which the relevant shareholder holds large stakes. The control companies are all the remaining companies in the sample. Other Financials comprise Assurance Companies, Groups under the same Financial Conglomerate, Investment Trusts, Unit Trusts, Venture Capital Companies, and all Other Financial Institutions. I follow Brickley, Lease and Smith (1988) for the Pressure-resistant vs. Pressure-sensitive distinction. Other comprises Charities and trusts, Employees, Industrial and Commercial Companies, Joint Holdings, Nominees, Overseas Investors, Parent Co., and Public Sector. ***, **, *: Significant at 0.01, 0.05 and 0.10 levels respectively.

	Financial Institutions							Other shareholders		
	Fund managers	Insurance Cos	Pension funds	Banks	Other financials	Pressure resistant	Pressure sensitive	Directors	Individuals	Other
Panel A. Size Market value of Equity at year end £m										
Test	56.11***	78.47***	31.03*	57.28***	44.00***	44.40***	51.37***	25.16***	14.20***	32.57***
Control	24.77	23.13	49.05	36.17	40.60	28.88	20.02	155.48	60.50	55.39
MW p-value	0.000	0.000	0.074	0.000	0.005	0.000	0.000	0.000	0.000	0.000
Panel B. Q										
Test	1.06***	1.07***	0.97*	1.20***	1.02	1.03**	1.05***	1.02	0.98***	0.99***
Control	0.97	0.99	1.05	1.00	1.03	0.99	0.91	1.03	1.05	1.09
MW p-value	0.000	0.003	0.066	0.000	0.376	0.031	0.000	0.444	0.010	0.004
Panel C. ROA										
Test	0.09	0.092**	0.08	0.10***	0.09	0.09	0.089	0.09	0.07***	0.08***
Control	0.09	0.085	0.09	0.09	0.09	0.09	0.085	0.09	0.09	0.10
MW p-value	0.589	0.054	0.113	0.006	0.287	0.862	0.537	0.156	0.003	0.000
Panel D. Leverage (LTD/(LTD + Market value of equity))										
Test	0.07	0.08	0.07	0.05***	0.07	0.07	0.07	0.05***	0.06**	0.08**
Control	0.07	0.07	0.07	0.08	0.07	0.09	0.08	0.11	0.08	0.07
MW p-value	0.961	0.741	0.262	0.010	0.786	0.590	0.305	0.000	0.035	0.023
Panel E. Dividend Payout										
Test	0.39***	0.39***	0.34	0.37	0.38***	0.38***	0.37	0.33***	0.33**	0.33***
Control	0.32	0.33	0.37	0.36	0.34	0.31	0.33	0.40	0.37	0.40
MW p-value	0.000	0.001	0.485	0.183	0.006	0.001	0.101	0.001	0.018	0.000

Table 7. B. Differences in Medians between test and control companies (1997 data).

Ownership variables are for 1997 and financial variables are for 1998. Test companies are companies in which the relevant shareholder holds large stakes. The control companies are all the remaining companies in the sample. Other Financials comprise Assurance Companies, Groups under the same Financial Conglomerate, Investment Trusts, Unit Trusts, Venture Capital Companies, and all Other Financial Institutions. I follow Brickley, Lease and Smith (1988) for the Pressure-resistant vs. Pressure-sensitive distinction. Other comprises Charities and trusts, Industrial and Commercial Companies, Joint Holdings, Nominees, Overseas Investors, Parent Co., and Public Sector. ***, **, *: Significant at 0.01, 0.05 and 0.10 levels respectively.

	Financial Institutions							Other shareholders		
	Fund managers	Insurance Cos	Pension funds	Banks	Other financials	Pressure resistant	Pressure sensitive	Directors	Individuals	Other
Panel A. Size Market value of Equity at year end £m										
Test	68.75	105.35***	29.16***	50.71**	49.45**	45.53***	65.21	26.00***	17.33***	38.81***
Control	39.28	29.45	74.93	56.67	74.93	98.56	40.06	188.37	89.94	80.81
MW p-value	0.251	0.000	0.000	0.032	0.011	0.000	0.701	0.000	0.000	0.001
Panel B. Q										
Test	0.83**	0.93*	0.71***	0.85	0.82***	0.80***	0.89	0.78**	0.75**	0.86
Control	0.92	0.84	0.92	0.89	1.00	1.05	0.86	0.93	0.91	0.90
MW p-value	0.026	0.057	0.000	0.839	0.000	0.000	0.525	0.016	0.011	0.253
Panel C. ROA										
Test	0.091	0.104***	0.089	0.099	0.094	0.090	0.095**	0.092	0.094	0.088
Control	0.093	0.081	0.094	0.091	0.090	0.096	0.083	0.094	0.092	0.094
MW p-value	0.765	0.000	0.247	0.273	0.421	0.296	0.045	0.676	0.779	0.267
Panel D. Leverage (LTD/(LTD + Market value of equity))										
Test	0.137*	0.123	0.120	0.106	0.129	0.133	0.123	0.108*	0.105***	0.131
Control	0.113	0.126	0.126	0.127	0.106	0.112	0.126	0.142	0.135	0.123
MW p-value	0.070	0.622	0.492	0.382	0.584	0.176	0.535	0.079	0.010	0.653
Panel E. Dividend Payout										
Test	0.359	0.387***	0.327**	0.328	0.370*	0.358	0.369**	0.331***	0.326***	0.338***
Control	0.360	0.327	0.369	0.366	0.324	0.360	0.319	0.394	0.373	0.379
MW p-value	0.728	0.000	0.037	0.324	0.094	0.539	0.040	0.000	0.002	0.001

Table 7. C. Differences in Medians between test and control companies-controlling for size and industry (1993 data).

Test companies are companies in which the relevant shareholder holds large stakes. Control companies are all the remaining companies in the sample. Other Financials comprise Assurance Companies, Groups under the same Financial Conglomerate, Investment Trusts, Unit Trusts, Venture Capital Companies, and all Other Financial Institutions. I follow Brickley, Lease and Smith (1988) for the Pressure-resistant vs. Pressure-sensitive distinction. Other comprises Charities and trusts, Employees, Industrial and Commercial Companies, Joint Holdings, Nominees, Overseas Investors, Parent Co., and Public Sector. L is for Large Firms (market capitalisation \geq median) and S is for Small Firms (market capitalisation $<$ median). Return on Assets is adjusted for 32 different industry groups following the LSE classification. ***, **, *: Significant at 0.01, 0.05 and 0.10 levels respectively.

	Financial Institutions							Other Shareholders		
	Fund Managers	Insurance Cos	Pension Funds	Banks	Other Financials	Pressure Resistant	Pressure Sensitive	Directors	Individuals	Other
Panel A. Size: Market Value of Equity at year-end (£m)										
Test (L)	209	208	140***	164***	197***	197***	203***	122***	111***	240
Control (L)	286	291	276	291	358	499	588	478	247	233
MW p-value	0.154	0.120	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.827
Test (S)	17***	17***	15	24***	16***	15***	15**	13*	11***	13
Control (S)	11	12	13	12	9	10	13	16	17	14
MW p-value	0.000	0.000	0.150	0.000	0.000	0.001	0.014	0.067	0.000	0.817
Panel B. Q										
Test (L)	1.31	1.32	1.35	1.35	1.30*	1.31	1.33	1.49***	1.35	1.31
Control (L)	1.33	1.31	1.31	1.31	1.44	1.35	1.24	1.20	1.31	1.33
MW p-value	0.935	0.513	0.814	0.246	0.060	0.218	0.458	0.000	0.446	0.637
Test (S)	0.91	0.89	0.80	0.96**	0.87	0.91	0.89	0.91**	0.83	0.81
Control (S)	0.81	0.85	0.91	0.83	0.78	0.76	0.81	0.74	0.87	0.91
MW p-value	0.184	0.720	0.254	0.049	0.301	0.151	0.567	0.047	0.175	0.153

Table 7.C. Continued--

Panel C. Industry Adjusted Return on Assets										
Test (L)	0.02	0.03	0.02	0.03 **	0.02	0.02	0.02	0.04 ***	0.03	0.01 ***
Control (L)	0.02	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.03
MW p-value	0.567	0.121	0.553	0.032	0.804	0.950	0.199	0.000	0.279	0.001
Test (S)	-0.01	0.00	-0.01	0.01	-0.01	0.00	0.00	0.00 **	-0.01	-0.01
Control (S)	0.00	0.00	0.00	-0.01	0.00	0.00	-0.01	-0.02	0.00	0.00
MW p-value	0.763	0.944	0.544	0.147	0.795	0.337	0.815	0.039	0.932	0.329
Panel D. Leverage (LTD/(LTD+Market value of equity))										
Test (L)	0.07	0.07	0.05 ***	0.04 ***	0.07	0.07	0.07	0.03 ***	0.03 ***	0.07
Control (L)	0.07	0.07	0.08	0.07	0.08	0.07	0.09	0.10	0.08	0.07
MW p-value	0.916	0.529	0.004	0.009	0.244	0.622	0.220	0.000	0.000	0.331
Test (S)	0.05 *	0.06 *	0.06	0.04	0.05 **	0.05 **	0.05	0.04 *	0.05	0.05
Control (S)	0.03	0.04	0.04	0.05	0.02	0.02	0.05	0.06	0.05	0.04
MW p-value	0.056	0.093	0.148	0.938	0.018	0.039	0.270	0.055	0.522	0.509
Panel E. Dividend Payout										
Test (L)	0.44 ***	0.44 **	0.39	0.42	0.43 **	0.43 **	0.42	0.37 ***	0.40	0.37 ***
Control (L)	0.38	0.38	0.43	0.42	0.40	0.38	0.43	0.47	0.42	0.46
MW p-value	0.007	0.043	0.150	0.941	0.046	0.029	0.469	0.000	0.790	0.000
Test (S)	0.34 **	0.32	0.30	0.34 *	0.33 **	0.33 ***	0.31	0.31 **	0.31	0.26
Control (S)	0.24	0.28	0.30	0.27	0.24	0.18	0.28	0.16	0.28	0.33
MW p-value	0.028	0.269	0.513	0.089	0.045	0.004	0.181	0.016	0.577	0.343

Table 7. D. Differences in Medians between test and control companies-controlling for size and industry (1997 data).

Test companies are companies in which the relevant shareholder holds large stakes. The control companies are all the remaining companies in the sample. Other Financials comprise Assurance Companies, Groups under the same Financial Conglomerate, Investment Trusts, Unit Trusts, Venture Capital Companies, and all Other Financial Institutions. I follow Brickley, Lease and Smith (1988) for the Pressure-resistant vs. Pressure-sensitive distinction. Other comprises Charities and trusts, Employees, Industrial and Commercial Companies, Joint Holdings, Nominees, Overseas Investors, Parent Co., and Public Sector. L is for Large Firms (market capitalisation \geq median) and S is for Small Firms (market capitalisation $<$ median). Return on Assets is adjusted for 32 different industry groups following the LSE classification. ***, **, *: Significant at 0.01, 0.05 and 0.10 levels respectively.

	Financial Institutions							Other Shareholders		
	Fund Managers	Insurance Cos	Pension Funds	Banks	Other Financials	Pressure Resistant	Pressure Sensitive	Directors	Individuals	Other
Panel A. Size:Market Value of Equity at year-end (£m)										
Test (L)	215***	250**	188***	162***	207***	220***	235***	178***	190**	288
Control (L)	358	339	312	340	496	436	562	403	309	288
MW p-value	0.000	0.013	0.004	0.000	0.000	0.000	0.000	0.000	0.018	0.627
Test (S)	17	20***	14	13	18**	15	17	15	11***	12
Control (S)	14	12	15	15	11	15	11	17	17	18
MW p-value	0.138	0.000	0.664	0.837	0.019	0.389	0.188	0.171	0.009	0.186
Panel B. Q										
Test (L)	1.01***	1.10	1.13	1.04	1.04***	1.02***	1.09	1.17**	1.10	1.10
Control (L)	1.18	1.09	1.09	1.10	1.21	1.21	1.13	1.07	1.10	1.08
MW p-value	0.006	0.830	0.498	0.760	0.006	0.001	0.739	0.032	0.234	0.553
Test (S)	0.63**	0.63**	0.61**	0.66	0.66**	0.65	0.66	0.68*	0.66	0.68
Control (S)	0.70	0.71	0.71	0.67	0.71	0.76	0.69	0.63	0.67	0.66
MW p-value	0.039	0.040	0.013	0.720	0.032	0.104	0.589	0.065	0.386	0.842

Table 7.D. Continued--

Panel C. Industry Adjusted Return on Assets										
Test (L)	0.03	0.04*	0.04	0.04*	0.03	0.03	0.03	0.04**	0.04	0.03
Control (L)	0.04	0.02	0.03	0.03	0.03	0.04	0.02	0.03	0.03	0.03
MW p-value	0.324	0.060	0.381	0.063	0.360	0.349	0.161	0.040	0.239	0.945
Test (S)	0.00	0.00	0.01	0.02	0.00	0.00*	0.00	0.01***	0.01	0.00
Control (S)	0.00	0.00	0.00	0.00	-0.01	-0.02	0.00	-0.02	-0.01	0.00
MW p-value	0.561	0.510	0.540	0.484	0.277	0.065	0.686	0.008	0.150	0.373
Panel D. Leverage (LTD/(LTD+Market value of equity))										
Test (L)	0.14	0.13	0.12	0.11	0.14	0.14	0.13	0.11**	0.08**	0.13
Control (L)	0.13	0.14	0.14	0.14	0.11	0.12	0.14	0.15	0.14	0.13
MW p-value	0.533	0.542	0.996	0.359	0.601	0.283	0.355	0.021	0.020	0.698
Test (S)	0.13*	0.11	0.12	0.10	0.12	0.12	0.11	0.11	0.10*	0.12
Control (S)	0.09	0.11	0.11	0.11	0.08	0.09	0.11	0.12	0.12	0.11
MW p-value	0.053	0.817	0.325	0.783	0.811	0.374	0.983	0.795	0.095	0.267
Panel E. Dividend Payout										
Test (L)	0.39	0.41	0.34**	0.34**	0.41	0.39	0.40	0.37**	0.36*	0.37***
Control (L)	0.41	0.38	0.41	0.41	0.38	0.41	0.39	0.41	0.40	0.41
MW p-value	0.548	0.128	0.044	0.047	0.297	0.838	0.949	0.011	0.099	0.007
Test (S)	0.29	0.35**	0.33	0.28	0.33*	0.31	0.33**	0.32	0.33	0.26
Control (S)	0.32	0.27	0.29	0.31	0.20	0.25	0.22	0.25	0.29	0.33
MW p-value	0.429	0.042	0.915	0.688	0.088	0.977	0.034	0.955	0.511	0.130

The first 7 columns report the financial characteristics of companies in which financial institutions hold large stakes. These institutions are first analysed by category and then split into pressure-resistant and pressure-sensitive. The last 3 columns report the financial characteristics of companies in which investors other than financial institutions hold large stakes. These include directors, individuals and other categories such as ICCs, overseas investors and public sector.

In Tables 7.A. and 7.B., Panel A, shows that for both years' data, the companies which all financial institutions invest in are larger than those that they do not invest in, with the exception of pension funds. Companies in which pension funds have substantial investment are, on average, smaller than the control group. Their median market value is £31 million in 1993 and £29 million in 1997 compared to the control group figures of £49 million in 1993 and £75 million in 1997. The results based on turnover and total assets as an alternative measure of size (not reported in Tables 7.A. and 7.B.) all confirm that the companies in which pension funds hold stakes in generally tend to be smaller than the remaining companies. Splitting the sample into small and large companies produces interesting results, as can be seen in Tables 7.C. and 7.D.. I find that among the large firms (i.e. with market capitalisation equal to or greater than the median), those that all financial institutions choose to invest in tend to be smaller than the other firms in the large firm sub-group. Surprisingly, for the small firm sub-group, I find no statistically significant difference in size between the firms pension funds hold shares in and those that they do not, for both years analysed.

For the other shareholders, the median market value of equity of companies in which directors, individuals and other non-financial investors hold large stakes are smaller than the control firms in both sample periods. In particular, in 1993, the median market value of companies in which directors hold large stakes is £25 million (£26 million in 1997) compared to £155 million (£188 million in 1997) for the control group. The picture remains the same when I look at the size sub-groups. In both small and large firm sub-groups, directors, individuals and other non-financial shareholders tend to prefer smaller companies. These results are consistent with previous evidence (e.g., Faccio and Lasfer, 2000b) and suggest that managerial holding is low in large companies because of the constraints in managerial wealth and personal borrowing, and the low portfolio diversification that this would imply.

Panel B reports the differences in firm value as measured by Q, the market value of equity *plus* the book value of debt over total assets. In 1993, companies in which fund managers, insurance companies and banks hold large stakes have higher value. In contrast, pension funds appear to invest in low value companies in both sample periods and in both small and large firm sub-groups. These results for pension funds are also consistent with Faccio and Lasfer (2000a). Similarly individuals and other shareholders invest in low Q companies. In both the large and small firm sub-groups, I find that the firms with managerial ownership have higher Q in 1993 and 1997. The question of whether there is a linear relationship between managerial ownership and firm value as measured by Tobin's Q is tested using a piecewise regressions framework in Section 3.5.4.6..

In terms of profitability (Panel C), as measured by return on assets (ROA), insurance companies and banks prefer companies with higher profitability in 1993. In 1997 however, I detect a statistically significant difference in the profitability of control versus test companies only when an insurance company is the shareholder. In 1997, pressure sensitive institutions preferred to invest in companies with higher profitability. Using industry adjusted ROA, the profitability of firms banks choose to invest in the large firm sub-group is statistically significantly higher than the control firms, in both sample periods. Interestingly, when I use industry adjusted ROA, I find significant results for directors. In both sample periods, the firms with managerial ownership have higher industry adjusted ROA in both small and large firm sub-groups.

Panel D reports the differences in leverage. Companies in which financial institutions do not hold large stakes do not appear to use leverage as an alternative mechanism to control the agency conflicts. In 1993, with the exception of companies in which banks hold large stakes, for financial institutions' holdings the difference in leverage between the test and control firms is not significant. In 1997, there is a statistically significant difference in leverage only for the holdings of fund managers (0.14 for test and 0.11 for control firms), in the financial institutions category. For both sample periods, companies in which directors and individuals hold large stakes have lower leverage than the control groups, for both small and large firms.

Panel E reports the differences in the payout ratios. It is interesting to note that companies in which insurance companies and other financial institutions hold

large stakes pay higher dividends in both 1993 and 1997. There also is a difference in payout between companies owned by pressure-resistant versus pressure-sensitive shareholders. In 1993, pressure-resistant shareholders appear to monitor companies in which they hold large stakes by making them disgorge cash in the form of dividends. However, in 1997 the picture is reversed and test companies have higher dividend payout than control companies for pressure-sensitive institutions' holdings. In both sample periods, companies in which other shareholders own large stakes pay significantly lower dividends than the control group. The results are fairly similar when I split the sample into small and large firms.

I note also that pension funds do not hold large stakes in companies that pay high dividends despite the tax credit they could claim on dividend received. This suggests that pension funds do not force companies in which they hold large stakes to pay high dividends or that pension funds do not necessarily tilt their portfolios towards high dividend-paying companies. This finding also prevails among both the large and small firm sub-groups. These results are consistent with Lasfer (1997) and Poterba and Summers (1985) who show that, in the UK, the dividend tax-clientele does not prevail.

I simulate these results using Pearson correlation coefficients. The results are reported in Tables 8.A and 8.B. I note for example, a negative correlation between directors' holdings and firm market value or leverage. The results also show that pension funds' investments are negatively related to firm market value

and Tobin's Q. In most cases, the correlation among the ownership variables is weak.

Table 8. A. Pearson correlation coefficients between the variables used (1993 data).

xasr is holdings by assurance companies, xb is holdings by banks, xctf is holdings by charities and trusts, xdirfam is holdings by directors and their families, xemp is holdings by employees, xfm is holdings by fund managers, xgrp is holdings by a group of institutions under the same financial conglomerate, xicc is holdings by industrial and commercial companies, xindv is holdings by individuals, xins is holdings by insurance companies, xit is holdings by investment trusts, xj is joint holdings, xnom is holdings by nominees, xofi is holdings by other financial institutions, xovs is holdings by overseas companies, xpar is holdings by parent co., xpf is holdings by pension funds, xpub is holdings by public sector, xut is holdings by unit trusts, xven is holdings by venture capital companies, MKTCAP is the market value of equity at year-end, Q is the market value of equity plus book value of debt over total assets, ROA is profit before interest and tax over turnover, MLEV is long-term debt over long-term debt plus market value of equity, PAYOUT is ordinary dividends over earnings. **, *: Significant at 0.01 and 0.05 levels respectively.

	xasr	xb	xctf	xdirfam	xemp	xfm	xgrp	xicc	xindv	xins	xit	xj	xnom	xofi	xovs	xpar	xpf	xpub	xut	xven	MKTCAP	Q	ROA	MLEV
xb	0.036																							
xctf	-0.01	-0.03																						
xdirfam	-0.113***	-0.053	-0.032																					
xemp	-0.019	0.087***	-0.006	0.014																				
xfm	0.078***	0.064**	-0.043	-0.183***	-0.039																			
xgrp	0.036	-0.012	0.001	-0.173***	-0.024	0.089***																		
xicc	-0.055	-0.031	-0.002	-0.120***	-0.006	-0.106***	-0.083***																	
xindv	-0.068**	0.01	-0.017	0.108***	0.006	-0.145***	-0.096***	-0.009																
xins	0.181***	0.077***	-0.035	-0.194***	0.001	0.159***	0.070**	-0.069**	-0.131***															
xit	0.015	0.011	-0.028	-0.032	-0.019	0.055	-0.021	0.019	-0.005	0.004														
xj	-0.015	-0.039	0.004	-0.064**	-0.009	0.026	0.060**	-0.019	-0.036	0.01	-0.018													
xnom	-0.011	0.076***	-0.021	0.009	0.005	-0.048	-0.035	-0.01	0.063**	-0.063**	-0.01	-0.006												
xofi	0.012	-0.015	0.025	-0.017	-0.014	0.008	0.041	0.01	-0.002	-0.025	0.015	-0.036	0.04											
xovs	-0.015	-0.031	-0.02	-0.126***	-0.017	-0.031	-0.01	0.031	-0.046	-0.069**	-0.023	0.101***	-0.002	-0.02										
xpar	-0.082***	-0.11***	-0.021	-0.217***	-0.018	-0.222***	-0.111***	-0.11***	-0.102***	-0.183***	-0.096***	-0.045	-0.060**	-0.048	-0.10***									
xpf	0.03	0.014	-0.028	-0.041	-0.019	0.118***	0.019	0.006	0.008	0.101***	0.048	-0.024	0.062**	-0.004	-0.046	-0.128***								
xpub	-0.013	-0.019	-0.007	-0.032	0.12***	-0.037	0.011	-0.01	-0.021	-0.038	-0.017	-0.011	-0.005	-0.005	-0.025	-0.022	0.004							
xut	-0.022	-0.02	-0.02	-0.021	-0.013	0.077***	-0.011	-0.019	-0.016	0.036	0.135***	0.025	0.005	-0.043	-0.022	-0.062**	0.156***	-0.015						
xven	0.018	-0.008	0.02	-0.002	-0.013	0.007	-0.019	-0.031	-0.009	-0.056	0.091***	-0.01	-0.011	-0.017	-0.009	-0.066**	0.055	-0.016	0.084***					
MKTCAP	-0.05	-0.057	0.015	-0.151***	-0.014	-0.078***	0.084***	-0.062**	-0.066**	-0.043	-0.080***	-0.009	-0.044	-0.041	0.063**	-0.064**	-0.093***	0.089***	-0.048	-0.05				
Q	-0.037	0.031	0.004	0.72**	-0.02	-0.02	-0.014	0.006	-0.057	-0.044	0.004	0.024	0.007	0.017	0.04	-0.132***	-0.016	-0.003	-0.063**	-0.017	0.043			
ROA	-0.002	-0.028	0.008	0.001	0.012	-0.04	0.015	-0.049	-0.052	-0.009	-0.054	-0.038	-0.024	-0.016	0.005	0.024	-0.065**	0.028	-0.046	-0.044	0.072**	-0.01		
MLEV	-0.042	0.032	0.002	-0.110***	0.032	-0.03	-0.049	0.014	-0.035	-0.017	-0.034	-0.005	0.004	-0.002	-0.029	0.306***	-0.041	0.004	0.003	-0.017	-0.032	-0.274***	-0.10***	
PAYOUT	-0.015	-0.019	-0.001	0.046	-0.004	-0.009	-0.028	0.025	-0.039	-0.006	-0.021	-0.002	-0.012	-0.006	-0.012	0.02	-0.018	0.04	-0.012	-0.01	0.008	-0.044	0.01	0.01***

Table 8. B. Pearson correlation coefficients between the variables used (1997 data).

xasr is holdings by assurance companies, xb is holdings by banks, xctf is holdings by charities and trusts, xdirfam is holdings by directors and their families, xemp is holdings by employees, xfm is holdings by fund managers, xgrp is holdings by a group of institutions under the same financial conglomerate, xicc is holdings by industrial and commercial companies, xindv is holdings by individuals, xins is holdings by insurance companies, xit is holdings by investment trusts, xj is joint holdings, xnom is holdings by nominees, xofi is holdings by other financial institutions, xovs is holdings by overseas companies, xpar is holdings by parent co., xpf is holdings by pension funds, xpub is holdings by public sector, xut is holdings by unit trusts, xven is holdings by venture capital companies, Ln(mv) is the log of market value of equity at year-end, Q is the market value of equity plus book value of debt over total assets, ROA is profit before interest and tax over turnover, MLEV is long-term debt over long-term debt plus market value of equity, PAYOUT is ordinary dividends over earnings. **, *: Significant at 0.01 and 0.05 levels respectively.

	xasr	xb	xctf	xdirfam	xemp	xfm	xgrp	xicc	xindv	xins	xit	xj	xnom	xofi	xovs	xpar	xpf	xpub	xut	xven	Ln(mv)	Q	ROA	MLEV
xb	0.06																							
xctf	-0.03	-0.02																						
xdirfam	-0.12**	-0.04	-0.03																					
xemp	0.03	-0.03	-0.01	-0.03																				
xfm	0.05	-0.03	-0.03	-0.24**	0.01																			
xgrp	0.10**	0.03	-0.03	-0.19**	-0.03	0.06																		
xicc	-0.04	-0.03	0.05	-0.09*	0.00	-0.11**	-0.05																	
xindv	-0.10**	0.02	-0.01	0.13**	-0.03	-0.14**	-0.09*	0.04																
xins	0.17**	0.04	-0.04	-0.20**	0.01	0.10**	0.12**	-0.09*	-0.13**															
xit	-0.01	-0.05	-0.02	-0.03	0.03	0.07	-0.02	-0.03	0.01	-0.05														
xj	-0.03	0.07*	-0.01	-0.01	-0.01	0.11**	-0.03	-0.02	-0.03	-0.02	0.04													
xnom	-0.08*	0.12**	0.01	0.01	-0.03	-0.11**	-0.10**	0.00	0.06	-0.08*	-0.09*	-0.02												
xofi	-0.06	0.02	0.13**	-0.02	-0.02	-0.06	-0.01	-0.02	0.01	-0.03	0.06	-0.02	-0.02											
xovs	-0.09*	-0.08*	-0.03	-0.15**	0.00	-0.12**	-0.02	0.07	-0.04	-0.12**	-0.04	0.00	0.04	-0.05										
xpar	-0.04	-0.05	-0.01	-0.09*	-0.01	-0.10**	-0.05	-0.03	-0.01	-0.09*	-0.06	-0.01	-0.03	-0.03	-0.05									
xpf	-0.01	-0.01	-0.02	-0.01	0.16**	-0.02	-0.04	-0.03	0.02	-0.04	0.13**	-0.03	-0.02	-0.04	-0.05	-0.04								
xpub	-0.03	-0.02	0.01	0.00	-0.01	-0.04	-0.02	0.00	0.13**	-0.02	0.03	0.07*	0.00	0.00	-0.03	-0.01	-0.01							
xut	-0.03	-0.02	-0.02	0.03	-0.01	-0.02	-0.04	-0.05	0.02	-0.02	0.17**	0.02	0.01	-0.01	-0.02	-0.03	0.11**	-0.02						
xven	0.01	0.02	-0.02	-0.01	0.03	-0.05	0.00	0.01	0.02	-0.07	0.13**	-0.01	0.09*	0.00	-0.02	-0.03	0.05	-0.02	0.12**					
Ln(mv)	-0.14**	-0.27**	-0.17**	0.02	-0.13**	-0.09*	-0.05	-0.15**	0.11**	0.01	0.02	-0.05	-0.18**	0.00	0.06	-0.01	-0.03	-0.06	-0.27**	-0.40**				
Q	-0.05	-0.08*	0.00	-0.10*	0.02	-0.03	-0.04	-0.03	-0.04	-0.05	0.06	-0.02	-0.09*	-0.01	-0.03	-0.01	-0.02	0.03	-0.06	-0.05	0.29**			
ROA	-0.06	-0.07	-0.05	0.02	-0.02	0.01	0.02	-0.06	0.07*	0.03	-0.04	-0.02	-0.03	0.01	0.00	0.01	0.02	0.03	0.00	-0.10**	0.28**	-0.02		
MLEV	-0.06	-0.01	0.01	0.10*	-0.03	0.04	-0.06	-0.04	-0.04	0.00	0.05	0.02	0.01	-0.03	0.00	0.02	0.01	-0.04	-0.08	-0.06	-0.07	-0.22**	-0.17**	
PAYOUT	0.05	0.01	0.00	0.02	0.00	0.02	0.03	-0.01	-0.05	0.02	-0.06	-0.01	-0.03	0.04	-0.04	-0.01	-0.05	0.00	-0.02	-0.03	0.04	-0.01	0.07	-0.01

Table 9 reports the regression results of Tobin's Q on each ownership variables and other explanatory variables defined in the previous literature.³⁰ I use each ownership variable and its square to assess the extent to which the relationship is non-linear. In Equations (1) to (9) I do not control for other explanatory variables. The results show that the relationship between ownership and firm value as measured by Tobin's Q is in all cases weak and non-existent. For example, the coefficients of the pension fund holdings variable and its squared value are not significant. These results are consistent with Faccio and Lasfer (2000a). Similarly, consistent with Faccio and Lasfer (2000b), the coefficients of directors' ownership variables are not significant. The split of financial institutions into pressure sensitive and pressure-resistant does not help explain firm value. Even when I selected only companies in which pressure-sensitive or pressure-resistant shareholders hold large stakes (Equations (8) and (9)) the relationship is not statistically significant. The results suggest that large shareholding does not affect the value of the company.

The last column of Table 9 reports the results of multiple regressions of Tobin's Q against a set of financial variables and ownership structure. The coefficients of the financial variables, the constant, the R^2 and the F-statistics are the averages of the regressions of Tobin's Q on each ownership variable and financial variables. I did not do the full regressions with all the variables. The results show that the ownership variables are also not statistically significant. The relationship between firm value Q and pressure sensitive or pressure-resistant variables is curve-linear. However, the coefficients are not significant.

³⁰ These variables are used by Lasfer 1997; Faccio and Lasfer, 2000a; Short, 1996; Opler and Titman

By looking at the results so far, I fail to find any evidence of a relationship between ownership and firm value. Additionally, I fail to find any evidence of shareholder monitoring. These results call for additional tests to be performed, which will be the subject of the next section. In the next section I test whether the ownership structure is determined optimally and extend the string of research by Demsetz and Lehn (1985) and Himmelberg *et al* (1999).

(1993); Lang, Stulz and Walking (1991) and Collins and Kothari (1989).

Table 9. Regression Results (1993 data).

The dependent variable is Q measured as the market value of equity *plus* book value of debt over total assets. The explanatory variables include the lagged values of ownership by different categories. To assess the non-linear relationship I use the proportion of shares held by each category and the squared value of that proportion. The explanatory variables include also proxies for size (LnMKT CAP: log of market value of equity), profitability (ROA: return on assets), growth (RDT: research and development costs over turnover), leverage (MLev: long-term debt *over* the sum of long-term debt and market value of equity), directors' pay over turnover (DPT) and payout ratio (PAYOUT). In the last column the coefficients of these proxy variables are the averages from each regression of Q on each of ownership and these variables. The same applies for the adjusted R², F-statistics and the constant term. T-statistics are provided in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Constant	1.26 (28.6)	1.24 (22.4)	1.26 (22.8)	1.32 (25.6)	1.30 (28.5)	1.32 (20.9)	1.32 (20.4)	1.26 (29.3)	1.30 (23.3)	0.40 (2.20)
Bank	0.02 (1.12)									0.001 (0.09)
Bank ²	-0.003 (-0.64)									0.001 (1.65)
Directors		-0.002 (-0.39)								-0.001 (-0.22)
Directors ²		0.0001 (1.23)								0.001 (1.27)
Fund Mgr			0.012 (1.20)							0.005 (0.58)
Fund Mgr ²			-0.001 (-1.64)							-0.002 (-0.80)
Insurance				-0.008 (-0.63)						-0.002 (-2.08)
Insurance ²				-0.00 (-0.11)						0.0008 (1.48)
Pens. Fund					-0.005 (-0.41)					-0.006 (-0.58)
Pens Fund ²					0.00 (0.09)					0.001 (0.26)
Pres-Sensitive						-0.005 (-0.57)		0.17 (1.50)		-0.008 (-1.17)
Pres-Sensitive ²						0.00 (0.34)				0.0002 (1.56)
Pres-Resist							0.001 (0.15)		-0.04 (-1.14)	-0.004 (-0.73)
Pres-Resist ²							-0.00 (-0.58)		0.18 (1.63)	0.0001 (0.77)
LnMKT CAP										0.09 (5.25)
ROA										1.70 (6.30)
RDT										0.81 (5.53)
MLev										-1.48 (-6.32)
DPT										0.34 (2.70)
PAYOUT										-0.04 (-2.19)
R ²	0.0	0.5	0.1	0.00	0.00	0.00	0.00	0.10	0.10	15.2
F	0.70	3.47	1.55	1.00	0.14	0.27	0.61	2.26	1.76	22.88

3.5.4. *Testing for the optimal ownership structure*

By looking at the results presented in the previous sections, I fail to report any evidence of a relationship between ownership and firm value. Moreover, I also fail to report any evidence of shareholder monitoring. Therefore, in this section, I adopt a different approach in order to explore and investigate whether there is a link between ownership structure and firm value.

First and foremost, I test the hypothesis that firms with high institutional ownership are more likely to adopt value-increasing policies, as in Brickley et al. (1988) and Jarell and Poulsen (1987). I also test the contractual hypothesis under which companies adopt an optimal ownership structure to minimise their potential agency costs. I extend the trend of research by Demsetz and Lehn (1985) and Himmelberg et al. (1999) by analysing the relationship between institutional ownership, managerial ownership and firm value. Furthermore, I analyse the determinants of the changes in ownership structure by concentrating on the 764 non-financial companies for which complete ownership and financial data is available in both the 1993 and 1997 data sets, for comparative purposes. To avoid survivorship bias, the sample includes companies for which relevant data is available even if they are currently extinct.

I identify managerial ownership separately. Following Brickley *et al* (1988, 1994), I split the remaining shareholders into pressure-resistant, pressure-sensitive and other investors. The former category includes the holdings by investors that are not likely to have any commercial relationship with the firm. These include fund managers, investment trusts, unit trusts and pension funds (excluding pension funds investing

in their own company). These investors are expected to monitor actively companies in which they hold large stakes because of their size, objectives and investment styles. Failure to monitor will indicate that these investors are passive or are subject to agency costs themselves (e.g., Del Guercio and Hawkins, 1999).

On the other hand, pressure-sensitive investors, i.e., investors with current or potential business relationship with the firm, are not likely to interfere in firm's decision-making because of the potential loss of commercial links with the firms. The remaining investors, such as overseas investors, nominees, individuals and public sector, are not expected to monitor because they are likely to be small and any monitoring activity will be costly and ineffective. Therefore, I test the hypotheses that these different investors are not homogeneous in their monitoring activities.

From a firm's perspective, I expect ownership structure to be optimal and to be determined in such a way as to minimise monitoring costs. Thus, for example, I expect managerial holding to be negatively related to the holdings of pressure-resistant investors, bondholder monitoring and scope for managerial discretionary spending. I account for liquidity that could also result in a negative relationship between managerial holding and blockholding.

As in McConnell and Servaes (1995) and Holderness, Kozner and Sheehan (1999), I test the hypotheses over two sample periods. However, unlike Holderness *et al* (1999) I do not focus only on the determinants of managerial ownership. I analyse the changes in the determinants of ownership structure between the two periods and the relationship between ownership structure and firm value. I also analyse changes

in the firm's ownership structure and test for the hypothesis that such movements are determined by changes in the firm's contractual environment variables.

3.5.4.1. Variables Used

I define a number of observable variables that influence the optimal ownership structure. I extend the specifications used in previous studies (e.g., Demsetz and Lehn, 1985, Himmelberg et al, 1999) by including various explanatory variables to proxy for the scope of managerial discretion, the monitoring role of pressure-sensitive and pressure-resistant blockholders, and to account for the UK institutional framework. Table 10 summarises the list of variables, including those used only for robustness checks.

Ownership Structure: Each type of investor is classified into 'pressure-resistant', 'pressure-sensitive' and 'other investors' categories. Following the Brickley, Lease and Smith (1988) definition, the 'pressure-resistant' group includes unit trusts, investment trusts, fund managers, and pension funds, while the 'pressure-sensitive' group includes charities and trusts, industrial and commercial companies, employees, parent companies, banks, venture capitalists, insurance companies and assurance companies. The 'other investors' category includes all the remaining investors which are nominee holdings, joint holdings, overseas investors, group of institutions, public sector, individuals and other financial institutions.

Performance measures: I use four measures of performance, Tobin's Q, market-to-turnover, return on assets and a one-year abnormal returns. As in previous studies (e.g., Himmelberg *et al*, 1999), I define Tobin's Q as the sum of the market value of equity and book value of debt over total assets. I simulate the results using market

value of equity *plus* total liabilities *over* total assets, market-to-book and one-year raw returns. The results are qualitatively similar.

Size: Firm size has also an ambiguous effect on the scope for managerial entrenchment and the monitoring role of investors. Jensen (1986) argues that larger companies are more likely to suffer from agency costs, which, in turn increases the desire for larger managerial ownership. However, because of the wealth constraint problem, managers cannot hold large stakes in large firms. In addition, as argued by Himmelberg et al (1999), large firms might enjoy economies of scale in monitoring by top management and by rating agencies, leading to a lower managerial ownership. I use the log of firm market value, $\text{Ln}(\text{mv})$, to measure size. I simulate the results by using total assets and sales revenue.

Shareholders' risk aversion: Himmelberg *et al* (1999) argue that, since higher managerial ownership imply less portfolio diversification for managers, the optimal contract involves a trade off between diversification and incentive performance. They suggest a negative relationship between the firm's idiosyncratic risk and optimal managerial ownership. Other investors, on the other hand, are not likely to face similar wealth-constraint than managers. For example, fund managers allocate their assets in such a way as their risk is diversified. Thus, for pressure-resistant or pressure-sensitive investors, the negative relationship between their holdings and the firm's risk profile is not likely to prevail.

Table 10. Description of variables used

<i>Mgt</i>	The total proportion of common equity held by directors and their families as a fraction of common equity outstanding (includes stock options)
<i>Pr</i>	The total proportion of common equity held by pressure resistant investors as a fraction of common equity outstanding. These include holdings of fund managers, investment trusts, unit trusts and pension funds
<i>Ps</i>	The total proportion of common equity held by pressure sensitive investors as a fraction of common equity outstanding. These include holdings of life assurance and insurance companies, banks, employees, industrial and commercial companies, parent companies, venture capital companies and charities, trusts and foundations.
<i>Other</i>	The total proportion of common equity held by other investors as a fraction of common equity outstanding. These include holdings of individuals, nominees, overseas investors, public sector and shares jointly held by more than one type of institution.
<i>Q</i>	The ratio of the value of the firm (market value of equity <i>plus</i> book value of long-term debt <i>over</i> total assets.
<i>M/T</i>	The ratio of the market value of equity <i>over</i> turnover
<i>M/B</i>	The ratio of the market value of equity <i>over</i> shareholders' funds
<i>ROA</i>	The ratio of profit before interest and tax <i>over</i> total assets
<i>AR</i>	The performance of the share over the past year relative to the Financial Times All (FTA) Share index.
<i>Ln(mv)</i>	Log of year-end market value of equity
<i>Sigma</i>	The standard deviation of the returns on the share computed using 5-year monthly returns.
<i>DSigma</i>	A dummy variable equal to unity if the data required to estimate Sigma is available, zero otherwise. I set missing observations of Sigma to zero to maintain sample size and reduce the risk of sample selection bias and include this dummy variable to allow the intercept term to capture the mean of the Sigma for missing values.
<i>Beta</i>	The sensitivity of the share price to general market movement computed by regressing stock returns on market index using 5-year monthly returns.
<i>RD/K</i>	The ratio of R&D expenditure over tangible fixed assets
<i>RDum</i>	A dummy variable equal to unity if R&D data is available, zero otherwise (see definition of Dsigma).
<i>I/K</i>	The ratio of investments in tangible fixed assets (property and plant and machinery) over tangible fixed assets
<i>K/S</i>	The ratio of tangible fixed assets over turnover
<i>Y/S</i>	The ratio of operating income over turnover
<i>Mlev</i>	The ratio of long-term debt <i>over</i> the sum of long-term debt and market value of equity
<i>Yield</i>	The ratio of annual dividend over year-end share price
<i>Age</i>	A dummy variable equal to 1 if the Company has data in Extel (Company Analysis) for 15 years or more, 0 otherwise.
<i>Utilities</i>	A dummy variable equal to 1 for public utility companies (water, electricity, gas and telecommunications), 0 otherwise
<i>Industry</i>	Different dummy variables controlling for each of the primary industrial sectors classified according to the two digit FTSE sector codes

I use the standard deviation of 5-year monthly stock returns (*Sigma*) and the regression coefficient of 5-year stock return on the market index (*beta*) as proxy for volatility. As in Himmelberg *et al* (1999), I set missing value of *Sigma* (4 percent of observations) equal to zero to maintain our sample size and include in the regressions a dummy variable *DSigma* equal to one when *Sigma* is not missing and zero otherwise.

Scope for discretionary spending: Following Himmelberg *et al* (1999), I use the ratio of firm's tangible fixed assets-to-sales to measure the extent to which firms that have more observable fixed investment have lower agency costs because these investments are easy to monitor. The higher the proportion of these investments in the firm's capital, the lower the managerial ownership and the lower the propensity of other categories of investors to monitor.

Himmelberg *et al* (1999) also argue that there is a need to control for other firm's expenditures, which are discretionary, and less easily monitored. As in their study, I define the ratio of R&D over tangible fixed assets, R&D/K, I set missing values into 0 and construct a dummy variable, RDum, equal to one if the firm reports R&D spending, zero otherwise. I account for growth opportunities by using the firm's investment rate, the ratio of investments in tangible fixed assets over tangible fixed assets and I use the ratio of operating income to sales to measure the level of free-cash flow.

In addition to these variables I account for the power of shareholders and bondholders in reducing scope for discretionary spending by including measures of dividend payments and leverage. I use dividend yield, the ratio of dividend over

year-end share price. I simulate these results using payout ratio. I expect a negative relationship between yield and managerial ownership if managerial holding reduces the free cash flow problem. Similarly, the level of monitoring by say, pressure-resistant investors is likely to be reduced if the firm is already paying high dividends.

The impact of leverage on the scope for moral hazard is ambiguous. Harris and Raviv (1988) and Stulz (1988) argue that managers may tend to increase leverage in order to inflate the voting power of their shareholdings, and reduce the discipline of the market for corporate control. In contrast, Fama (1980) and Jensen (1986) argue that, since managers may tend to protect their under-diversified wealth, including human capital and reduce the pressures to pay out a large amount of cash, they may limit the use of debt. I define $Mlev$ as the ratio of total debt over the sum of total debt and market value of equity. I simulate these results using the book value of leverage, defined as the ratio of total debt over the sum of total debt and book value of equity to assess the monitoring role of debt holders.

3.5.4.2. Changes in Ownership Structure

Table 11 presents the descriptive statistics of the ownership structure variables over the sample periods. Table 11, Panel A, reports the proportion of shares owned by each category of investors. As expected, financial companies own the largest proportion of shares in our sample companies. However, the striking results are the changes from 1993 to 1997. The results indicate a significant decrease in share ownership in the late 1990s for all shareholder categories. For example, while managerial holdings amount to 16 percent in 1993, they decreased to 13 percent in

1997. To account for non-linearity in the holdings, I report also the median values. The median managerial ownership decreased from 6.7 percent to 3.6 percent. The differences in means and in medians are all statistically significant, as reported in the last column of Table 11. The only exception relates to financial companies. Their average holdings decreased from 22.1 percent to 21.4 percent but the differences in means and medians are not statistically significant.

Table 11. Descriptive statistics of ownership structure (1993 and 1997).

The last column indicates the p-value of the t-statistics of the differences in means between the 1993 and 1997 data (t-stat) and the Mann Whitney p-value for differences in medians (MW).

Variable	Mean	Median	Minimum	Maximum	p-t-stat/MW
Panel A. Percentage Ownership %					
Managerial 1993	16.1	6.7	0.0	80.9	0.007
Managerial 1997	13.3	3.6	0.0	96.0	0.002
Financial Companies 1993	22.1	19.4	0.0	84.1	0.385
Financial Companies 1997	21.4	18.8	0.0	78.8	0.309
Pressure Resistant 1993	12.5	9.2	0.0	72.8	0.582
Pressure Resistant 1997	12.1	7.8	0.0	78.0	0.068
Pressure Sensitive 1993	10.9	7.3	0.0	61.8	0.006
Pressure Sensitive 1997	9.3	6.2	0.0	70.3	0.004
Other 1993	13.0	5.1	0.0	100.0	0.078
Other 1997	11.3	4.2	0.0	100.0	0.001
Panel B. Real British Pound Ownership (£m)					
Managerial 1993	17.7	1.5	0	2,670	0.250
Managerial 1997	12.1	0.6	0	859	0.001
Financial Companies 1993	69.1	10.2	0	3,226	0.924
Financial Companies 1997	68.1	9.2	0	2,313	0.040
Pressure Resistant 1993	30.5	4.5	0	1,263	0.782
Pressure Resistant 1997	32.3	2.2	0	1,988	0.000
Pressure Sensitive 1993	30.4	3.6	0	1,087	0.258
Pressure Sensitive 1997	24.9	2.0	0	2,198	0.006
Other 1993	61.0	1.2	0	10,661	0.946
Other 1997	63.7	0.7	0	26,602	0.013

Table 11, Panel B, reports the pound value of ownership. As in Holderness *et al* (1999), I compute the £-value of ownership by multiplying the year-end market value of equity by the proportion of shares held by each category of investors but inflate the 1993 figures using the consumer price index to get the ownership value in real terms. The results show a significant decrease in the value of ownership in 1997. For example, the median value of managerial ownership amounts to £1.5m in 1993 compared to £0.6m in 1997. The difference in medians between the two sample periods is statistically significant. All the remaining differences in medians are statistically significant, suggesting that the levels of ownership decreased in the late 1990s.

Why did companies change their ownership structure? Are these changes driven by changes in the fundamental determinants of ownership structure? Have companies moved into a more appropriate optimal level of ownership structure in the late 1990s? In the remaining sections I investigate reasons for these observed changes in ownership structures of our sample firms. I first contrast the determinants of ownership structures over the two sample periods. I then analyse the relationship between ownership structure and firm value in both periods. Finally, I relate changes in ownership structure to changes in the explanatory variables to see whether these changes are consistent with the firm's changes in the contracting variables.

3.5.4.3. Contractual fundamentals of the sample firms

Table 12 reports the descriptive statistics for the financial variables. I report the values for the 1993 and 1997 data in Panels A and B, respectively. I use two measures of size. In terms of market value, the average size of our sample firms in 1993 is £531m compared to £1,084m in 1997. The results indicate that our sample includes in both sample periods small (less than £1million) and large companies (more than £144 billion in 1997).³¹ The difference in means between the two periods is statistically significant ($t=-2.11$) indicating that, on average, the size of our companies in 1997 is higher than that of 1993. However, the difference in medians is not statistically significant and, when I use total assets as a proxy for size, the difference in means is also not significant, suggesting that our sample firms did not increase in size over the two sample periods.

The two measures of debt both indicate that our sample firms have increased their debt financing over the two sample periods. The average total debt (long-term and short-term) in 1997 amounts to £220m compared to £131m in 1993. The differences in means and in medians of both measures between the two sample periods are statistically significant.

³¹ I use all 2100 UK quoted companies. I find that the average (median) market value of equity in 1998 is £752 million (£43 million) with a minimum of £0.044million and a maximum of £144 billion. For the FTSE 100 companies, the average (median) market value of equity is £11,946 million (£5,623 million) with a minimum of £204 million and a maximum of £144 billion. The respective values in 1993 are: £399 million (£43 million) with a minimum of 0 and a maximum of £36 billion for the 1980 quoted UK companies and £5.4 billion (£3.05 billion) with a minimum of £90 million and a maximum of £36 billion for the FTSE 100 companies. This suggests that my sample is representative and it is not tilted towards small or large companies.

The next 4 rows report the descriptive statistics of the performance measures. All these measures indicate a statistically significant decrease in the performance of our sample firms in 1997. For example, in 1993 the average abnormal returns amount to 8.74 percent. In 1997, the average decreased to -22.7 percent. The t-statistic of the differences in means of 15.22 is statistically significant at the 0.01 level.

Table 12. Financial characteristics of the sample firms for both sampling periods.

Please refer to Table 10 for a description of the variables used.

Variable	Mean	Median	Minimum	Maximum
Panel A. 1993 Data				
Market value (£m)	531	53	0	24,380
Total assets (£m)	652	53	0	69,135
Total Debt (£m)	131	7	0	8,023
Long-term loan (£m)	95	2	0	7,865
Tobin's Q	1.36	1.06	0.00	23.23
Market-to-turnover	2.78	0.88	0.01	341.12
Industry adjusted ROA %	0.74	0.96	-120.23	56.22
Annual abnormal returns	8.74	2.95	-85.7	221.0
Sigma %	34.2	30.1	0	217.4
Beta	0.85	0.88	0	2.05
RD/K %	6.6	0	0	910.0
I/K %	25.3	20.6	0	221.1
K/S %	52.1	23.4	0	684
Y/S %	2.32	7.1	-2230	820
Yield %	2.7	2.6	0	121.1
MLev %	10.6	5.9	0	100
Panel B. 1997 data				
Market value (£m)	1,084	55	0	144,104
Total assets (£m)	957	79	0	114,550
Total Debt (£m)	220	14	0	13,755
Long-term loan (£m)	172	7	0	10,918
Tobin's Q	1.19	0.89	0.15	23.30
Market-to-turnover	1.34	0.70	0.08	49.84
Industry adjusted ROA %	1.70	1.86	-263.11	57.63
Annual abnormal returns	-22.7	-26.3	-123.3	384.7
Sigma	39.2	35.2	0	120.5
Beta	0.86	0.92	0	1.2
RD/K %	4.4	0	0	488.5
I/K %	21.0	16.8	0	161.5
K/S %	54.5	25.0	0	937.4
Y/S %	7.2	7.6	-620.0	153.0
Yield %	3.9	3.6	0	40.4
MLev %	16.7	12.6	0	92.0

The next two rows report the levels of risk of our sample firms. In 1993 our sample firms had a sigma of 34 percent and a beta of 0.85. In 1997 sigma increased to 39.2

percent and beta to 0.86. The differences in means and median sigma are statistically significant ($t = 5.10$). While the t-statistic of the difference in mean beta is not statistically significant ($t = 1.10$), the difference in median is statistically significant at 0.05 level. Thus the results indicate that, over the sample period, the risk of our companies has increased significantly.

The next 6 rows report the levels of our proxy variables for the scope for discretionary spending. The relative R&D expenditure amounts to 6.6 percent in 1993 but decreased to 4.4 percent in 1997. However, the differences in means and median are not statistically significant. In contrast, the drop in the investment rate, I/K , from 25 percent in 1993 to 21 percent in 1997 is statistically significant ($t = 4.25$ and *Mann Whitney-p* = 0.00). Although the 'hard' capital ratio, K/S , and the free cash flow measure, Y/S , have increased in 1997, the differences in means and medians between the two periods are not statistically significant.

The last two measures of the firm's scope for discretionary spending, *yield* and *leverage*, have increased substantially over the two sample periods. For example, dividend yield increased from 2.7 percent in 1993 to 3.9 percent in 1997. The t-statistics of the differences in means and medians are significant at the 0.01 level ($t = -10.22$ and *Mann Whitney-p* = 0.00). Similarly, leverage increased significantly from 10.6 percent in 1993 to 16.7 percent in 1997 ($t = -4.29$ and *Mann Whitney-p* = 0.00).

These results could indicate that the drop in ownership is related to the changes in the firms' contractual fundamentals. For example, in 1997 companies in the sample became less profitable, more risky, more debt-financed and pay higher dividends

than in 1993, leading to the drop in managerial ownership. In the next section I explore this issue further by analysing the extent to which the determinants of ownership structure remained the same over the two periods.

3.5.4.4. Determinants of Ownership Structure

Table 13 reports the size characteristics of our companies sorted by ownership bands. The first column of Panel A shows that managers hold shares in 61 percent of companies. The median size of these companies as measured by market value of equity is £29m. In contrast, the median size of the 39 percent of companies in which they don't hold shares is £212m. The difference in medians between the two samples is statistically significant; suggesting that managers, because of their wealth constraint, hold stakes in small companies. In contrast, companies in which the pressure-resistant and the pressure-sensitive investors hold large stakes are not small (column 3 to 6). The differences in the medians between the size of the companies in which these investors hold stakes and the remaining companies in which they don't hold stakes are not statistically significant. Finally, the last two columns of Table 13 indicate that the *other* investors hold stakes in small companies. The same results appear in Panel B with the exception of the pressure-resistant shareholders that hold shares in smaller companies in 1997. The last row of Table 13 indicates that the differences in size of companies in which all the categories of investors hold stakes between 1993 and 1997 are not statistically significant.

Table 13. Size characteristics of ownership bands

The table reports the distribution of the median market value of equity in £m across ownership bands. % is the frequency of ownership relative to the whole 764 companies in the sample, Pr is for pressure resistant investors, Ps is for pressure sensitive investors. The ownership variables are defined in Table 10.

Ownership	<u>Mgt</u>		<u>Pr</u>		<u>Ps</u>		<u>Other</u>	
	%	Median Size £m	%	Median Size £m	%	Median Size £m	%	Median Size £m
Panel A. 1993 Data								
No holdings	39	212	23	59	24	31	36	107
0.01% - 5%	6	59	13	59	16	79	14	62
5% - 10%	11	65	16	63	19	59	13	35
10% - 20%	12	28	25	71	24	65	13	35
20% - 40%	15	23	20	37	13	44	15	22
40% - 100%	16	15	3	18	4	20	9	26
All holdings	61	29	77	52	75	59	64	34
MW-p no vs. all holdings		<0.01		0.302		0.146		<0.01
Panel B. 1997 Data								
No holdings	46	188	33	99	30	40	42	108
0.01% - 5%	9	41	10	40	14	66	12	81
5% - 10%	9	39	11	62	22	57	16	41
10% - 20%	11	32	21	67	20	78	14	32
20% - 40%	13	20	21	45	11	74	9	23
40% - 100%	13	14	4	26	2	15	8	17
All holdings	54	26	67	46	70	65	58	33
MW-p no vs. all holdings		<0.01		<0.01		0.701		<0.01
MW-p 93 vs. 98 all holdings		0.895		0.392		0.810		0.693

As in Demsetz and Lehn (1995) and Himmelberg *et al* (1999), I transform each of the ownership variables into $\ln(\text{Ownership}/(1-\text{Ownership}))$ and refer to this variable as $\ln(O/(1-O))$ in the remaining sections. Table 14 provides the correlation matrix between the variables used. The results indicate a strong and negative relationship between managerial holdings and holdings of other shareholder categories, firm

size, leverage and yield. However managerial holding is positively correlated with the risk measure sigma and measure of scope for discretionary spending, RD/K and free cash flow, I/K . The table also indicates a strong correlation between the holdings of the pressure-sensitive investors and the holdings of the *other* category of investors. In general the correlation results in both sample periods are similar to each other.

Table 14. Correlation matrix.

The variables are defined in Table 10. Ownership (Mgt, Pr, PS and Other) are transformed into $\ln(Ownership/(1 - Ownership))$.

	Mgt	Pr	Ps	Other	Ln(mv)	MLev	Sigma	RD/K	I/K	Yield	Age
Panel A. 1993 data											
Pr	-0.22										
Ps	-0.25	0.05									
Other	-0.15	-0.23	0.17								
Ln(mv)	-0.37	-0.09	-0.09	-0.23							
MLev	-0.17	0.03	0.03	0.08	-0.08						
Sigma	0.15	0.06	0.00	0.08	-0.37	0.05					
RD/K	0.06	-0.02	-0.05	-0.02	0.00	-0.09	0.06				
I/K	0.12	0.07	-0.05	-0.02	-0.04	-0.18	0.14	0.13			
Yield	-0.08	-0.02	0.01	-0.13	0.24	-0.10	-0.35	-0.04	-0.04		
Age	-0.09	0.01	-0.07	-0.08	0.02	-0.04	0.03	-0.03	-0.12	0.12	
K/S	-0.04	-0.04	-0.02	-0.01	0.05	0.20	0.01	-0.01	-0.05	-0.07	-0.04
Panel B. 1997 data											
Pr	-0.20										
Ps	-0.22	-0.05									
Other	-0.13	-0.26	0.17								
Ln(mv)	-0.36	-0.11	-0.05	-0.29							
MLev	-0.13	0.09	-0.03	-0.09	0.07						
Sigma	0.17	0.04	-0.06	0.06	-0.34	0.03					
RD/K	0.07	0.00	-0.02	-0.01	-0.02	-0.10	0.07				
I/K	0.07	-0.02	-0.05	-0.02	-0.06	-0.05	0.21	0.13			
Yield	-0.08	0.02	0.13	-0.13	0.04	0.10	-0.26	-0.10	-0.13		
Age	-0.02	0.03	-0.08	-0.10	-0.02	0.05	-0.12	-0.01	-0.07	0.08	
K/S	-0.05	-0.05	0.02	0.02	0.06	0.05	0.04	0.07	-0.08	-0.08	-0.15

Table 15 reports the regression results of the determinants of ownership structure in 1993 and 1997. The first column indicates a strong and negative relationship between managerial ownership and pressure-resistant, pressure-sensitive, other

investors, firm size and sigma. In 1997, managerial ownership is also negatively related to pressure-resistant, pressure-sensitive, other investors, firm size but sigma is not significant and the utilities dummy is negative and significant.

The next two columns of Table 15 report the determinants of pressure-resistant investors. The holdings of pressure-resistant shareholders are negatively related to the holdings of managers, pressure-sensitive and other investors, firm size, tangible assets over sales, R&D dummy and yield. However, they are positively related to growth opportunities, *I/K*. In 1997, tangible assets over sales and R&D dummy no longer explain the holdings of pressure-resistant investors. The next two columns report the determinants of the holdings of pressure-sensitive investors. As for the previous two ownership categories, the holdings of pressure-sensitive investors is negatively related to the holdings of managers, pressure-resistant investors, firm size and R&D dummy but positively related to the holdings of the *other* category of investors. Finally, the last column reports the holding of *Other* investors. The results indicate a strong negative relationship between their holdings and that of managers, pressure-resistant investors, firm size, R&D dummy and yield but positive relationship with the holdings of pressure-sensitive investors.

In general, the results indicate that the determinants of the optimal ownership structure of our firms have not changed significantly over the two sample periods. All investors appear to hold stakes in small companies and the risk element is only observed for the case of managerial ownership.

Table 15. Determinants of Ownership Structure.

The dependent variable is $\ln(\text{Ownership}/(1-\text{Ownership}))$. The variables are defined in Table 10. T-values are given in parentheses.

Variables	Mgt		Pr		Ps		Other	
	1993	1997	1993	1997	1993	1997	1993	1997
Mgt			-2.32 (-10.20)	-2.20 (-9.25)	-2.04 (-8.47)	-1.46 (-5.86)	-2.64 (-8.50)	-2.07 (-6.32)
Pr	-3.72 (-9.43)	-4.21 (-9.41)			-0.65 (-2.02)	-0.67 (-2.18)	-3.72 (-8.92)	-3.04 (-7.02)
Ps	-3.21 (-7.34)	-3.69 (-6.47)	-0.78 (-2.45)	-1.22 (-3.23)			0.63 (1.52)	1.04 (2.39)
Other	-2.18 (-6.48)	-2.39 (-5.64)	-1.89 (-7.85)	-2.59 (-8.80)	0.46 (1.80)	1.16 (4.38)		
$\ln(\text{mv})$	-0.30 (-8.77)	-0.29 (-8.90)	-0.20 (-7.76)	-0.14 (-5.87)	-0.18 (-6.64)	-0.09 (-4.01)	-0.21 (-6.64)	-0.15 (-5.34)
K/S	-0.06 (-1.18)	-0.03 (-0.44)	-0.08 (-2.65)	-0.04 (-1.09)	0.05 (1.57)	0.02 (0.46)	0.08 (1.62)	0.03 (0.67)
Y/S	0.03 (0.91)	0.21 (0.64)	-0.03 (-0.45)	-0.41 (-1.20)	0.07 (2.07)	0.01 (0.53)	0.06 (1.40)	-0.04 (-0.28)
Sigma	-0.006 (-2.03)	-0.005 (-1.47)	-0.002 (-0.66)	-0.002 (-0.51)	-0.002 (-0.90)	-0.005 (-1.88)	-0.001 (-0.36)	0.006 (1.69)
DSigma	0.03 (0.10)	0.35 (1.02)	0.002 (0.01)	-0.09 (-0.36)	0.17 (0.83)	0.29 (1.47)	-0.32 (-1.09)	-0.56 (-1.94)
RD/K	0.18 (0.95)	0.10 (0.93)	0.07 (0.49)	0.05 (0.63)	0.46 (1.20)	0.03 (0.39)	0.02 (0.11)	0.38 (1.50)
RDum	-0.14 (-1.13)	-0.10 (-0.72)	-0.18 (-2.35)	-0.03 (-0.37)	-0.18 (-2.00)	-0.05 (-0.63)	-0.19 (-1.61)	-0.33 (-2.59)
I/K	-0.01 (-0.05)	-0.09 (-0.36)	0.47 (2.29)	-0.04 (-0.18)	0.04 (0.18)	-0.30 (-1.66)	0.45 (1.55)	-0.45 (-1.92)
Yield	-0.92 (-1.03)	-3.60 (-1.71)	-5.15 (-2.10)	-2.82 (-2.24)	2.30 (0.92)	1.38 (1.19)	0.41 (0.45)	-3.85 (-1.96)
Utilities	0.40 (1.31)	-0.57 (-1.98)	-0.008 (-0.04)	0.23 (0.98)	0.02 (0.09)	-0.24 (-1.13)	0.13 (0.48)	0.16 (0.48)
MLev	-0.68 (-1.47)	-0.60 (-1.65)	0.23 (0.78)	0.20 (0.83)	-0.17 (-0.55)	-0.13 (-0.55)	-0.37 (-0.92)	-0.59 (-1.88)
Adj. R ²	0.36	0.361	0.222	0.246	0.184	0.159	0.25	0.254
p-value F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5.4.5. Ownership structure and firm value

Table 16. Correlation matrix between firm value and ownership structure

Please refer to Table 10 for a description of the variables used. *** and **: significant at 0.01 and 0.05 levels.

	Mgt	Pr	Ps	Other
Panel A. 1993 data				
Q	0.12***	-0.06	-0.07**	-0.06
M/T	0.04	-0.05	-0.04	0.01
M/B	0.08***	-0.02	-0.07**	-0.05
ROA	0.00	-0.08**	0.00	-0.01
AR	0.11***	-0.01	0.04	0.11***
Panel B. 1997 data				
Q	-0.09***	-0.12***	-0.04	-0.02
M/T	-0.07**	-0.12***	0.03	0.11***
M/B	-0.03	-0.06	-0.06	0.11***
ROA	-0.10***	-0.03	0.03	-0.02
AR	-0.04	-0.02	-0.06	-0.02

Table 16 reports the correlation matrix between various measures of firm's performance and ownership structure. Panel A is based on 1993 data. The results show a strong and positive relationship between managerial holdings and various measures of firm performance such as Tobin's Q, market-to-book and abnormal returns. The results indicate that, on average companies in which managers hold large stakes in 1993 perform better than other companies. The next column reports a negative relationship between pressure-resistant holding and firm value. Although most of the correlation coefficients are not significant, the results indicate that pressure-resistant shareholders invest in low performing companies. This is really what we would expect to see. Since pressure-resistant institutions do not have any current or potential business dealings with the companies that they invest in, they have the power to not only oppose management, but also to lead companies to better performance. Brickley et al. (1988) find evidence in support of this view and report

that institutional shareholders who do not have business interests with the managers of the firms that they invest in are more likely to vote against antitakeover amendments. Similarly, pressure-sensitive investors appear to target low performing companies in 1993. The last column indicates that *Other* shareholders invest in companies that generate high abnormal returns in 1993.

Panel B reports the results based on 1997 data. The results show a significant shift in the performance of companies in which managers hold large stakes. These companies underperformed substantially. Companies in which pressure-resistant investors invested have also underperformed. The last column indicates a positive relationship between the ownership of *Other* investors and market-to-book and market-to-sales.

Table 17 reports the results of regressions between firm value as measured by Tobin's Q and ownership structure. In Equations (1), I report the direct relationship between firm value and level of ownership. In Equations (2) I account for other potential explanatory variables. The first column indicates that the relationship between firm value and managerial ownership is strong but non-linear. Even when I introduce other explanatory variables, the coefficients of both measures of managerial ownership are significant. The results suggest that in 1993, the relationship between firm value and managerial ownership is curve-linear, increasing up to managerial ownership of 27 percent and then decreasing. The results based on the 1997 data (columns 3 and 4) show, however, that the relationship between managerial ownership and firm value disappeared. In both Equations (1) and (2), the coefficients of managerial ownership are not significant.

These results are consistent with those reported by Sudarsanam et al. (1996) who find that managerial shareholding has a positive coefficient for the linear and a negative coefficient for the quadratic form when other potential explanatory variables are taken into account. These coefficient signs are also consistent with the findings of Morck et al. (1988), Servaes (1991) and Palia (1993).

When I regressed Q against managerial ownership alone, I find a coefficient of -0.61 ($t = -2.43$), indicating that managerial ownership destroys value, which is also consistent with the results of Sudarsanam (1996) that at high levels of shareholding, management entrenchment seems to dominate. Buck et al. (1999) also find evidence in support of the hypothesis that managerial ownership, through its entrenchment effect, causes managers to be more inclined towards opposing retrenchment strategies which serve to increase shareholder value.

Table 17. Relationship between firm value and ownership structure.

I regress the firm's Tobin's Q on the transformed dependent variable $\ln(\text{Ownership}/(1-\text{Ownership}))$ and other explanatory variables. Table 10 describes the variables used. T-values are given in parentheses.

	1993		1997		1993		1997		1993		1997		1993		1997	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Mgt	0.81 (3.35)	0.70 (3.45)	-0.67 (-0.90)	0.54 (0.69)												
Mgt ²	-0.0003 (-1.91)	-0.0002 (-1.68)	0.11 (0.09)	-1.17 (-1.06)												
Pr					-0.65 (-1.64)	-0.32 (-1.09)	-1.17 (-3.22)	-0.67 (-2.04)								
Ps									-0.82 (-1.99)	-0.37 (-1.19)	-0.54 (-1.22)	0.11 (0.27)				
Other													-0.43 (-1.61)	0.07 (0.31)	-0.14 (-0.54)	0.38 (1.47)
Ln(mv)		0.18 (7.39)	0.22 (10.1)	0.14 (6.21)	0.21 (10.5)	0.14 (6.20)	0.22 (10.8)							0.142 (6.35)	0.23 (10.8)	
K/S		0.004 (1.08)	-0.11 (-2.69)	0.04 (1.11)	-0.12 (-2.85)	0.004 (1.11)	-0.11 (-2.74)							0.004 (1.17)	-0.12 (-2.86)	
Y/S		-0.08 (-2.29)	-0.07 (-2.42)	-0.08 (-2.22)	-0.08 (-2.55)	-0.08 (-2.18)	-0.07 (-2.46)							-0.08 (-2.24)	-0.08 (-2.59)	
Sigma		0.005 (2.21)	0.009 (2.98)	0.005 (1.96)	0.008 (2.83)	0.005 (1.91)	0.009 (2.92)							0.005 (1.98)	0.009 (2.87)	
DSigma		-0.32 (-1.56)	-0.37 (-1.51)	-0.29 (-1.38)	-0.31 (-1.27)	-0.28 (-1.35)	-0.36 (-1.47)							-0.29 (-1.37)	-0.28 (-1.15)	
RD/K		0.13 (0.73)	0.33 (2.87)	0.16 (0.91)	0.33 (2.91)	0.16 (0.93)	0.33 (2.87)							0.17 (0.94)	0.33 (2.89)	
RDum		-0.015 (-0.18)	0.06 (0.63)	-0.04 (-0.48)	0.06 (0.58)	-0.05 (-0.53)	0.06 (0.57)							-0.04 (-0.46)	0.07 (0.68)	
IK		0.94 (4.49)	0.48 (2.23)	0.98 (4.63)	0.46 (2.16)	0.95 (4.50)	0.47 (2.21)							0.97 (4.57)	0.49 (2.27)	
Yield		-3.37 (-3.33)	-8.8 (-5.82)	-2.56 (-3.11)	-8.82 (-5.83)	-2.55 (-3.06)	-8.82 (-5.78)							-2.53 (-3.06)	-8.58 (-5.65)	
MLev		-2.04 (-6.66)	-0.80 (-2.79)	-2.20 (-7.19)	-0.09 (-4.34)	-2.21 (-7.23)	-0.78 (-2.73)							-2.22 (-7.26)	-0.75 (-2.62)	
Industry	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Adj. R ²	0.02	0.234	0.01	0.233	0.02	0.221	0.12	0.24	0.04	0.221	0.001	0.232	0.002	0.22	0.00	0.234
p-of F	0.00	0.00	0.05	0.00	0.10	0.00	0.00	0.00	0.05	0.00	0.22	0.00	0.11	0.00	0.59	0.00

The next four columns report a negative relationship between firm value and the holdings of pressure-resistant investors. The results indicate that companies in which pressure-resistant investors hold large stakes underperform, in particular in 1997. The results also imply that the pressure-resistant shareholders do not monitor companies in which they hold large stakes. Given that this category of investors includes pension funds, the results are consistent with Faccio and Lasfer (2000a) who show that pension funds in the UK are not effective monitors. The last 8 columns show that, in general the relationship between firm value and pressure-sensitive investors and/or *Other* investors is, in general weak and did not change significantly over the two sample periods.

3.5.4.6. Managerial ownership and firm value

In this section, I investigate the relationship between management ownership and firm value. I first briefly introduce the theoretical background, followed by an outline of the empirical evidence provided. This is kept brief intentionally, since these topics were discussed in detail in the literature review sections of Chapters 2 and 3. I then go on to describe the variables used in the analysis and present the findings.

According to the convergence-of-interests hypothesis, firm value should increase as managerial ownership increases (Berle and Means, 1932; Jensen and Meckling, 1976). However, according to the entrenchment hypothesis, significant managerial ownership comes with its costs (Demsetz, 1983; Fama and Jensen, 1983). The predictions of the entrenchment hypothesis are not as clear-cut as the convergence-of-interests hypothesis. Theoretically, entrenchment might occur even at relatively

small stakes since managers' power could stem from a number of factors³² other than their mere voting power. Conversely, entrenchment might be negligible at high levels of managerial ownership, in a firm with activist shareholders.

At this point, empirical studies shed some light onto the issue of what exactly constitutes a high or a low level of managerial ownership. US studies report that management is aligned at low and high levels of ownership, while entrenchment takes place in the zone in between. Morck et al. (1988) report a positive relationship between firm value and managerial ownership when stakes held by managers fall into the 0%-5% range and the more than 25% range, while they report a negative relationship in the 5%-25% range. McConnell and Servaes (1990,1995) find a positive relationship in the 0%-40% range and a negative relationship in the more than 40% range. Kole (1995) suggests that differences in firm size could explain these differing results. He argues that a positive relationship could exist between performance and ownership at high levels of managerial ownership when the sample is tilted towards small firms.

For the UK, Short and Keasey (1999) report evidence presenting a non-linear relationship between management ownership and firm performance. For UK management buy-outs however, Thompson, Wright and Robbie (1992) find a linear relationship. Dahya et al.(1998) provide evidence supporting the hypothesis that entrenchment can occur even at low levels of ownership. They report that when top

³² These can include factors such as the manager's tenure with the firm and status as a founder, or even his/her personality.

executives' ownership stakes exceed 1 percent, they seem to be detached from the discipline of the internal control market.

In order to test the convergence-of-interest and entrenchment hypotheses, I investigate the relationship between management ownership and firm value as measured by Tobin's Q. Following Morck et al. (1988) and McConnell and Servaes (1990,1995), I construct a number of managerial ownership variables and estimate piecewise linear regressions allowing for slope changes at different points. I also control for additional variables which have been used in the above studies and might jointly affect managerial ownership and Q. Additionally, industry dummies controlling for each of the primary industrial sectors classified according to the two-digit FTSE sector codes are included in the analysis. I conduct separate analysis using the 1993 and 1997 ownership data. To see how firm size affects the results, I split the sample into small and large companies based on their median market capitalisation. Table 18 presents the results.

Table 18. Piecewise linear OLS regressions of managerial ownership and firm value

Mgt0to5 equals managerial stake if it is <5% or equals 5% if managerial stake ≥ 5%; Mgt5to25 equals 0 if managerial stake < 5%, equals managerial stake minus 5% if 5% ≤ managerial stake < 25%, equals 20% if managerial stake ≥ 25%. Mgt0to40 equals managerial stake if it is < 40% or equals 40% if managerial stake ≥ 40%; MgtOver40 equals 0 if managerial stake < 40% or equals managerial stake minus 40% if managerial stake ≥ 40%. Y/S is for ratio of operating income over turnover, LTDTA is for long-term debt over total assets, RD/K is for the ratio of R&D expenditure over tangible fixed assets, Ln(mv) is for log of year-end market value of equity, Yield is for ratio of annual dividend over year-end share price. Industry is for dummies controlling for two-digit FTSE sector codes. P-values are given below the regression coefficients.

	1993 ownership data				1997 ownership data			
	Large	Small	All	All	Large	Small	All	All
Panel A. Ownership Variables following Morck et al. (1988)								
Constant	1.37	0.94	1.25	-0.76	1.41	0.78	1.23	-1.19
	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.001
Mgt0to5	0.09	0.07	0.06	0.09	0.11	0.003	0.02	0.06
	0.050	0.077	0.070	0.000	0.045	0.915	0.555	0.029
Mgt5to25	-0.03	-0.02	-0.03	-0.02	-0.03	-0.01	-0.02	-0.01
	0.159	0.058	0.013	0.029	0.203	0.417	0.168	0.310
MgtOver25	0.06	0.02	0.03	0.02	0.002	0.001	0.002	0.01
	0.000	0.002	0.000	0.000	0.916	0.761	0.802	0.444
Y/S				-0.11				0.01
				0.005				0.282
LTDTA				-0.36				1.45
				0.324				0.000
RD/K				0.31				1.94
				0.083				0.000
Ln(mv)				0.17				0.20
				0.000				0.000
Yield				-2.14				-9.12
				0.012				0.000
Industry	no	no	no	yes	no	no	no	yes
Adj R ²	0.092	0.026	0.026	0.119	0.011	0.009	0.004	0.299
P-value of F	0.000	0.005	0.000	0.000	0.241	0.381	0.379	0.000
Panel B. Ownership Variables following McConnell & Servaes (1990,1995)								
Constant	1.44	1.07	1.32	-0.45	1.48	0.75	1.24	-1.03
	0.000	0.000	0.000	0.116	0.000	0.000	0.000	0.002
Mgt0to40	0.01	-0.003	-0.004	0.003	0.004	0.009	-0.003	0.005
	0.310	0.500	0.352	0.343	0.675	0.016	0.514	0.280
MgtOver40	0.10	0.03	0.04	0.03	-0.02	-0.01	-0.01	-0.0003
	0.000	0.001	0.000	0.000	0.517	0.242	0.526	0.974
Y/S				-0.11				0.01
				0.003				0.249
LTDTA				-0.40				1.43
				0.271				0.000
RD/K				0.32				1.95
				0.076				0.000
Ln(mv)				0.15				0.19
				0.000				0.000
Yield				-2.27				-9.20
				0.008				0.000
Industry	no	no	no	yes	no	no	no	yes
Adj R ²	0.095	0.029	0.028	0.112	0.001	0.018	0.003	0.296
P-value of F	0.000	0.001	0.000	0.000	0.809	0.052	0.369	0.000

In Table 18, Panel A., I use the ownership variables of Morck et al. (1988). The results are broadly consistent with their findings. For both 1993 and 1997, I find a

positive relationship between managerial ownership and firm value in the 0%-5% and over 25% ranges, and a negative relationship in the 5%-25% range, which persists for both small and large firms. In terms of statistical significances, however, there is a clear distinction between 1993 and 1997. For 1997 ownership data, the F-statistics for the joint hypothesis that all 3 of the managerial ownership variables' coefficients are zero are insignificant for large firms, small firms and the full sample. However, when I take into account the control variables, Mgt0to5 becomes significant at the 5 percent level.

In Table 18, Panel B., I use the ownership variables which were used by McConnell and Servaes (1990,1995). The results are mixed. When I enter only the ownership variables into the regression, the signs of the coefficients are not consistent for 1993 and 1997. Taking into account the control variables, consistent with McConnell and Servaes, I find a positive relationship in the 0%-40% range and a negative relationship in the over40% range, albeit statistically insignificant.

On the whole, it is possible to say that the results are broadly consistent with that of Morck et al. (1988). It is important to note that, the potential difficulty with this analysis arises due to the arbitrariness of the specification, which also holds true for the Morck et al. study. Therefore, repeated testing with alternative specifications would be useful. Another important finding is the difference in the picture for 1993 and 1997, the determinants of which will be explored in the next section.

3.5.4.7. Determinants of Changes in Ownership Structure

Table 19 provides a correlation matrix between changes in the ownership variables, size and firm value. Column 1 shows a strong and negative correlation between

changes in managerial ownership and changes in holdings of pressure-resistant investors, pressure-sensitive investors and *Other* shareholders. The change in managerial ownership is also negatively related to changes in firm size, as measured by market value of e

value of equity into changes in the number of shares and changes in the price per share as reflected in the cumulative average returns (CAR) from year-end 1993 to year-end 1998. The results indicate that the change in managerial ownership is negatively related to the change in the number of shares, suggesting that companies in our sample have increased their capital but managers have not subscribed to the new issues. In contrast, the relationship between the change in managerial ownership and the cumulative abnormal returns is positive suggesting that managers have increased their holdings in companies that generate high returns. The relationship between the change in managerial ownership and change in Q is weak. I simulated for other measures of performance, such as return on assets and annual abnormal returns. The relationship is always negative but not significant. However, these results may be driven by the joint impact of size as column 5 reports a positive and significant correlation between changes in Q and changes in the market value of equity.

Column 2 of Table 19 reports the correlation coefficient between changes in the holdings of pressure-resistant investors and the remaining variables. The results show a strong negative correlation with changes in the holdings of pressure-sensitive investors, *Other* investors and firm size. The correlation with changes in the number of shares, CAR and changes in Q is negative but weak.

Column 3, reports a strong and positive correlation between changes in the holdings of pressure-sensitive investors and changes in the holdings of *Other* investors and negative correlation with changes in firm value, Q. Finally, Column 4, indicates a strong negative correlation between changes in the holdings of *Other* investors and stock returns, CAR.

Overall, the results show that changes in the firm's ownership structure are consistent with the contractual hypothesis. Companies consider ownership by different categories as substitute means of resolving agency conflicts. However, further analysis is required to isolate the joint impact of changes in size and Q on the changes of the ownership structure.

Table 19. Correlation matrix-- changes in ownership variables, size and firm value

Δ is for change from 1993 to 1998; mgt, pr, pr and other are for holdings by managers, pressure resistant, pressure sensitive and other investors (see Table 10 for definitions); CAR_{93-98} is for cumulative average returns from year-end 1993 to year-end 1998; NS is for number of shares, Mv is for market value of equity and Q is for market value of equity *plus* book value of long-term debt *over* total assets. ***, **, and * significant at 0.01, 0.05 and 0.10 levels, respectively.

	Δ Mgt	Δ Pr	Δ Ps	Δ Other	Δ Mv	Δ NS	CAR_{93-98}
Δ Pr	-0.13***						
Δ Ps	-0.21***	-0.11***					
Δ Other	-0.30***	-0.22***	0.18***				
Δ Mv	-0.08**	-0.07**	-0.01	-0.03			
Δ NS	-0.20***	-0.03	0.06	0.05	0.30***		
CAR_{93-98}	0.06*	-0.05	-0.05	-0.06*	0.76***	-0.40***	
Δ Q	-0.01	-0.02	-0.06*	-0.01	0.65***	0.09***	0.50***

Table 20 extends these results by taking into account all the potential factors that may affect changes in ownership structure. In Equation (1) I include changes in the firm market value of equity as an explanatory variable. In Equations (2) and (3) I

split market value of equity into changes in the number of shares and cumulative average returns and include only a subset of explanatory variables to correct for multicollinearity problem.

The first column of Table 20 shows that changes in managerial ownership variable is negatively related to changes in the holdings of other categories of investors, in firm size, and changes in firm's idiosyncratic risk. However, it is positively related to changes in the relative proportion of tangible fixed assets (K/S) and Q , the firm value. The results imply that managers decrease their holdings when other categories of investors increase their stakes, company value increases, the variability of stock returns (σ) increases, company value decreases and when firm's tangible fixed assets decrease.

Table 20. Regression results on the determinants of changes in ownership structure

Please refer to Tables 10 and 19 for a description of the variables used. T-values are given in parentheses

	Mgt			Pr			Ps			Other		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Constant	-0.03 (-4.71)	-0.02 (-5.22)	-0.03 (-5.22)	-0.007 (-1.09)	-0.002 (-0.35)	-0.004 (-0.90)	-0.02 (-3.44)	-0.013 (-2.56)	-0.014 (-2.49)	-0.017 (-2.40)	-0.021 (-3.40)	-0.023 (-3.50)
Δ Mgt				-0.27 (-6.46)	-0.25 (-5.56)	-0.23 (-5.23)	-0.16 (-4.73)	-0.17 (-4.70)	-0.18 (-4.78)	-0.33 (-7.50)	-0.32 (-7.31)	-0.32 (-7.32)
Δ Pr	-0.23 (-6.46)	-0.22 (-5.67)	-0.21 (-5.47)				-0.11 (-3.36)	-0.13 (-3.78)	-0.13 (-3.82)	-0.27 (-6.63)	-0.26 (-6.43)	-0.26 (-6.45)
Δ Ps	-0.22 (-4.73)	-0.21 (-4.40)	-0.221 (-4.62)	-0.17 (-3.36)	-0.20 (-3.78)	-0.20 (-3.79)				0.138 (2.62)	0.143 (2.72)	0.138 (2.62)
Δ Other	-0.26 (-7.50)	-0.22 (-6.19)	-0.227 (-6.29)	-0.25 (-6.63)	-0.21 (-5.30)	-0.21 (-5.30)	0.08 (2.62)	0.11 (3.53)	0.11 (3.32)			
Δ Mv	-0.042 (-5.46)			-0.03 (-3.40)			-0.001 (-0.14)			-0.018 (-2.07)		
Δ NS		-0.04 (-3.99)			-0.026 (-2.70)			-0.00 (-0.07)			-0.005 (-0.61)	
CAR ₉₃₋₉₈			-0.006 (-0.86)			-0.002 (-0.32)			-0.009 (-1.72)			-0.006 (-1.01)
Δ K/S	0.02 (2.59)	0.021 (2.27)	0.018 (1.94)	0.01 (1.18)			-0.006 (-0.82)			-0.01 (-1.13)	-0.14 (-1.57)	-0.015 (-1.68)
Δ Sigma	-0.04 (-2.40)			0.002 (0.12)	0.04 (2.01)	0.03 (1.54)	0.008 (0.58)	0.03 (1.84)		0.003 (0.14)		
Δ RD/K	-0.03 (-1.30)			0.02 (0.89)	0.046 (1.64)	0.04 (1.46)	-0.014 (-0.64)			-0.04 (-1.50)	-0.042 (-1.45)	-0.043 (-1.48)
Δ I/K	0.002 (0.39)			0.005 (0.91)			0.003 (0.80)	0.007 (1.48)	0.007 (1.49)	0.005 (0.80)		
Δ Yield	0.04 (0.23)			-0.28 (-1.51)	-0.35 (-1.93)	-0.32 (-1.69)	-0.22 (-1.48)		-0.27 (-1.72)	-0.45 (-2.28)	-0.45 (-2.45)	-0.47 (-2.54)
Δ MLev	-0.006 (-0.17)	0.05 (1.58)		-0.03 (-0.89)			0.007 (0.23)			-0.04 (-1.02)		
Δ Q	0.05 (4.00)	0.02 (2.02)	0.018 (1.47)	0.02 (1.57)			-0.01 (-1.09)			0.014 (1.05)		
Adj. R ²	0.192	0.18	0.144	0.116	0.113	0.101	0.081	0.106	0.108	0.164	0.173	0.173
p-of-F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

These results are consistent with the contractual hypothesis. They suggest that large companies enjoy economies of scale in monitoring by rating agencies, leading to a lower optimal level of managerial ownership, thus the negative relationship between changes in firm market value and changes in managerial ownership. In addition, the negative relationship between changes in managerial ownership and changes in σ suggest that companies trade-off managerial portfolio diversification and incentives for performance. This, in turn, is reflected in the positive relation between changes in managerial ownership and changes in firm's value Q and changes in tangible fixed assets, K/S .

The second and third columns of Table 20 reports the results based on changes in the number of shares and cumulative returns. The results show that it is not the change in share prices that explains movements in managerial ownership but, rather, changes in the number of shares issued by the company. As companies repurchase (issue new) shares, managerial holding increases (decreases) suggesting that managers do not participate in such activities, probably as a result of insider information and poor long-term performance of new issues documented in the previous literature (e.g., Levis, 1995, Loughran and Ritter, 1997). Therefore, the dilution effect explains changes in managerial ownership rather than the sales of equities by managers.

Columns 4 to 6, Table 20, report the results of the changes in holdings of pressure-resistant investors. The results indicate that changes in the holdings of pressure-resistant shareholders are negatively related to changes in the ownership of other groups, firm market value, new shares issued and changes in yield but positively

related to changes in variability of stock returns, *Sigma*. The relationship with changes in firm value *Q* is weak. There is also an impact of the dilution effect on the changes in the holdings of pressure-resistant investors as the coefficient of change in the number of shares is negative and significant (column 5).

The last 6 columns report the results of the changes in the holdings of pressure-sensitive investors and *Other* investors. I note the strong and positive relationship between changes in the two holdings but a negative relationship with changes in the holdings of managers and pressure-resistant shareholders. The relationship with changes in other variables, including size is, in most cases, weak, with the exception of the negative relationship with changes in the dividend yield.

3.5.4.8. Sensitivity analysis

In general, the results provide strong evidence for the contractual hypothesis whereby companies opt for an optimal level of ownership structure that minimises agency costs. However, this may be driven by the sample period and by the proxy variables used in the analysis. In this section I address these potential problems.

3.5.4.8.1. Are the results sample-period specific?

I have analysed changes in the managerial ownership over a relatively long period using a large sample of UK companies. Previous similar studies are either single-year cross-sectional analysis (e.g., Faccio and Lasfer, 2000b) or have used a smaller number of companies (e.g., Short and Keasey, 1999).³³ However, a potential

³³ For example, Short and Keasey, 1999 analyse the relationship between managerial ownership and firm value using a sample of 225 companies over the 1988-1992 period.

concern is whether 1993 and 1997 are anomalous years for ownership structure. I was unable to collect ownership data for other years because of the tedious process involved, but I can compare our results to those obtained in previous studies.

I report a strong relationship between managerial holding and firm value in 1993 and a weak relationship in the late 1990s. The results in the early 1990 are consistent with Short and Keasey (1999) who report a strong non-linear relationship between managerial ownership and firm value. However, in the late 1990s, Faccio and Lasfer (2000b) show that the relationship between firm value and managerial ownership is relatively weak. Thus our results appear to be consistent with both these studies. Our results are also unlikely to be sample-period specific, as UK large shareholders are usually long-term investors. For example, The Financial Times (1998) reports that 98 percent of top finance directors surveyed believe that the majority of investors are long term shareholders. Faccio and Lasfer (2000a) find that in more than 83 percent of cases, pension funds held large stakes in the same companies in 1992 and in 1996. The average holdings also remained the same over the two periods.

3.5.4.8.2. Simulation of the results using alternative proxy variables

Since the literature does not offer single measures of firm size, scope for discretionary spending, free cash flow, managerial risk aversion and firm value, I need to test the sensitivity of the reported results by using a number of alternative variables to proxy for the hypotheses.

In terms of size, I simulate the results using total log of assets or log of sales. The results are qualitatively similar to those reported above. For example, when I use

change in total assets as a proxy for size in Table 20, I find a coefficient of -0.03 ($t = -3.30$) in the change of managerial ownership equation, -0.02 ($t = -2.18$) in the change of pressure-resistant equation, 0.001 ($t = 0.18$) in the change of pressure-sensitive equation and -0.022 ($t = -2.21$) in the change of the holdings of *Other* investors equation. Similar results are obtained using change in sales.

I have also simulated the results in Table 20 using change in beta as a measure of risk. I find a coefficient of -0.03 ($t = -2.12$) in the managerial ownership equation, 0.00 ($t = 0.03$) in the pressure-resistant equation, 0.02 ($t = 1.73$) in the change of pressure-sensitive equation and -0.05 ($t = -2.86$) in the change of the holdings of *Other* investors equation.

3.6. Discussion and conclusions

The findings clearly show that, the financial characteristics of the companies in which different types of shareholders hold large stakes can reliably be identified. These characteristics, although have some common points, in the overall picture tend to be different among different investor types. The results suggest that certain types of investors prefer companies with certain financial attributes.

Additionally, I show that the ownership structure of the sample companies has changed significantly in the last decade. I show that the median managerial ownership has decreased from 6.7 to 3.6 percent, 9.2 to 7.8 percent for pressure-resistant investors, 7.3 to 6.2 percent for pressure-sensitive investors and from 5.1 to 4.2 percent for the remaining shareholders. I then explain the rationale behind this change. I find that the fundamental determinants of ownership structure have not changed. In both 1993 and 1997 periods, ownership structure can be explained by proxy variables that measure size, scope for discretionary spending and risk aversion. All investors appear to hold stakes in small companies and the risk element is only observed for the case of managerial ownership. I also find a negative relationship between the ownership variables themselves, where, for example, companies with high pressure-resistant investors have low managerial ownership. The results suggest that companies adopt an optimal ownership structure that minimises agency conflict.

Interestingly, I not only find a decrease in median ownership but also a decrease in the number of investing institutions in 1997 (significant at 1 percent level). That is, there were fewer institutions per se with an equity stake of 3 percent or more in the

sample firms. The rise of passive investing could help explain this picture. According to the Myners' Report (2001), "approximately 20-25 per cent of UK institutional funds are now passively managed" (p.81)³⁴. He further adds that there has recently been a trend in institutional investing towards increased use of index-benchmarking with tight limits on tracking error in order to minimise divergence from the benchmark. This could explain the decrease in the notifiable interests of 3% or more reported by institutions, since there is less scope for innovative investment strategies and for stock picking.

However, I report that the relationship between ownership structure and firm value has shifted significantly in the last decade. For example, I find a strong relationship between managerial holding and firm value in 1993 but this relationship became weak in the late 1990s. The analysis of the changes in ownership structures between the two periods shows that changes in firms' risk, profitability and size contributed significantly to the decrease in ownership over the two periods. In addition, I report that it is not size *per se* that affect managerial ownership and pressure-resistant shareholders but the dilution of ownership when companies issue new equity to which managers do not subscribe.

When I analyse managerial ownership in a piecewise regressions framework, I find evidence in support of the entrenchment hypothesis. The results are consistent with those reported by Morck et al. (1988). I find a positive relationship between

³⁴ He describes passive investing as "a low-cost alternative to active management. Instead of seeking to exploit pricing inefficiencies (to 'beat the market'), passive managers normally hold everything in an index, in exactly the weighting it appears in that index, and hope to benefit from growth across

managerial ownership and firm value in the 0%-5% and over 25% ranges, and a negative relationship in the 5%-25% range, which persists even when firm size is accounted for.

The analysis is, however, limited into 1993 and 1997 because of data collection problems. Additionally, given the large sample size, it was not possible to incorporate into the analysis the enterprise aspect of corporate governance (Short et al., 1999; Wright and Chiplin, 1999) or alternative governance mechanisms (Agrawal and Knoeber, 1996). The extent to which these factors will strengthen or alter our analysis is a subject of further research.

the market. ... Some passive managers do not hold exactly the index, but use replication techniques with the intention of producing the same effect." (p.81).

Chapter 4. Market response to trading by institutional investors

4.1. Introduction

The influence of institutional investors on the trading volumes of equity markets is well documented and widely recognised. For example, in 1989, it was estimated that nearly 70 percent of the trading volume on the New York Stock Exchange (NYSE) was due to trading by institutional investors and their member firms (Schwartz and Shapiro (1990)). There are also several theories on whether their trading moves markets away from the equilibrium level of prices. However, most of the studies to date focus on the US equity markets. Therefore, this study aims to help fill this rather large gap in the literature regarding the market response to trading by institutional investors in the UK.

In this chapter, I test the hypothesis that institutional investors time their trades and the market expects good or bad news to follow from such trades. I analyse abnormal returns to detect any pre-trade herding behaviour, as well as any permanent share price impact in the post-event period. Taking a different perspective from previous literature on trading, I argue that, when institutional investors acquire large stakes in companies, they are expected to lead such companies to a better performance and, therefore, share prices of these companies increase in expectations of the outcome of such monitoring. In contrast, a selling activity by institutional investors should result in a decrease in share prices because it will signal bad news and an end of blockholder monitoring.

In the sections that follow, I firstly review the literature to-date on trading and summarise some of the issues which make up the building blocks of the theoretical work. In doing so, I specifically address the different factors that may lead an investor to trade, as well as the different views on institutional investment behaviour and /or strategies. I then explain the different hypothesis identified by previous studies as the source of the market response to trading, and move on to review the empirical evidence reported in the literature on trades. Next, I ask the question whether purchasing blocks of shares can be considered as a route to monitoring³⁵, which really explains how the work presented in this chapter ties in to the other chapters of the thesis. Additionally, I outline some of the main characteristics, rules and requirements of the London Stock Exchange which are relevant within the context of this study. Finally, I describe the data and methodology, present the findings and conclude.

4.2. What leads investors to trade?

There are several different factors that may lead an investor to trade. The trade itself can be a combination of the different investment styles (active vs. passive, value vs. growth, etc.) , order placement strategies (market vs. limit orders) or trading strategies (contrarian, herding, etc.) available to investors. Conversely, a buy or a sell transaction might merely be carried out for portfolio rebalancing purposes.

³⁵ Following Maug (1998), the word “monitoring” is used here and throughout the thesis to encompass all value enhancing activities, including intervention in company’s operations and

A sell transaction could also represent an “exit” behaviour. Hirschman (1971) suggests that when shareholders are not satisfied with the performance of the board and the firm, a potential for shareholder activism arises which will consequently lead to one of the 3 different types of investor behaviour, namely, “exit”, “voice” and “loyalty”. He explains that “exit” involves selling their shares and voting with their feet, while “voice” involves holding their shares and voicing their dissatisfaction. Although “loyalty” also involves holding their shares, in this case they chose to do nothing about their dissatisfaction. If an investor has a piece of information that he or she believes might move the company’s share price upwards when publicly known, then he or she might be motivated to buy this company’s shares. However, it could also be that the investor has received adverse information about the company and is selling its stock to reduce his exposure. If this is the case, Bhide (1993) suggests that liquid markets can hinder effective corporate governance. However, Maug (1998) suggests that there is no conclusive evidence for the argument that increased stock market liquidity leads to a decline in monitoring activities. He explains that a large blockholder, when faced with poor corporate performance, has to chose between selling the stock or intervening and that this potential conflict can actually be alleviated if stock markets are sufficiently liquid to allow the blockholder to purchase additional shares in order to use this power to influence (or even replace) incumbent management.

This argument brings us to the corporate control aspect of owning large blocks of shares. Barclay and Holderness (1991) suggest that, block trades, even when they

information acquisition to pinpoint possible problem areas that may need intervention. Accordingly, “monitoring” is used synonymously with “intervention” and “shareholder activism”.

do not lead to the acquisition of the whole firm, are potential corporate control activities if they provide the buyer with sufficient voting power to 'have a say' in the composition of the top management team. They argue that a mere 10-15 percent block ownership can bring about substantial corporate control. However, surely, not all blockholding will be motivated by the desire to influence management. It might also be the case that the block buyer, an Industrial or Commercial Company (ICC), is in pursuit of synergies through vertical or horizontal strategic integration with the company.

By the same token, not all sell transactions will be motivated by some adverse information. Although 'paper profits' are nice to have, a professional money manager will eventually want to sell the stock in order to realize these gains. Soon after this sell transaction, the same investor might buy shares in the same company but this time for a different client. Scholes (1972) disagrees and suggests that since investment companies and mutual funds invest considerable time and effort into research and maintain close contacts with brokers and underwriters, their move away from a stock is more than likely to be based on adverse private information³⁶. On the other hand, he estimates that a vast majority of estates, trusts, individuals, banks and insurance companies sell for reasons other than possessing adverse information. He explains that these investors are not likely to closely follow the day-to-day operations of the firm and might sell the company's stock for a broad range of reasons from "meeting tax obligations, making philanthropic donations or

³⁶ Scholes (1972) quotes (in footnote 31) the Report of Special Study of Securities Markets of the Securities and Exchange Commission (1963): "An official of a large mutual fund selling organization stated to the study that the funds sponsored by it sometimes used secondary distributions to dispose of 'sick' situations rapidly" to support his point (p.201).

other distributions to legatees” (for an estate) to “consumption needs” (for an individual investor) (p.200). However, it is important to remember that Scholes’ work is based on secondary distributions, which run by a different mechanism than a simple buy or sell transaction. Also his data covers the period 1947 to 1965 for the NYSE stocks, which might make his results not only time-specific but also context-specific.

Whatever the motives behind the buying or selling of stocks, there is evidence of a move in share prices caused by the trade. The next section reviews the theory and empirical studies regarding the market response to trades.

4.3. Market response to block trades

In a simplistic framework, when a blockholding changes hands, this transaction should have no effect whatsoever on the firm value. After all, there is a buyer for every seller and given that these investors are rational and informed decision makers, there should be nothing fundamentally wrong with the company. Therefore, I would not expect equilibrium prices to move in response to this trade. However, Chan & Lakonishok (1993) suggest the general opinion of the public is that institutional trading does occur frequently and involves considerable chunks of stock with an equally substantial effect on the prevailing prices in the market. Empirical literature agrees on the finding that in seller-initiated block trades, mean temporary and permanent price effects are both present, whereas in buyer-initiated block trades only permanent price effects are observed (Kraus and Stoll (1972); Ball and Finn (1983); Ryngaert (1983)). Measurement of block size, definition of a large

block and the definition of price effects differ considerably in reaching the above conclusions.

4.3.1. Definition of a block trade

There are several different views on what exactly constitutes a block. Holthausen et al. (1987) describe that for the NYSE, any trade that involves at least 10,000 shares is classified as a block. The market participants, however, refer to a 10,000-share trade as a “vanilla block”, implying that “ little or no price effect should be observed for a transaction of that size for large firms” (p.244). In the London Stock Exchange, however, assuming that the delayed publication rules for trades can be used as a proxy for the Exchange’s views on what constitutes a block, it is possible to say that a trade size greater than 6 times Normal Market Size (NMS)³⁷ can be considered a block trade.

In the literature, alternative measures of block size comprise; transaction volume of at least 5,000 shares (Holthausen et al., 1987), percentage of common stock represented by the trade of at least 5 percent (Barclay and Holderness (1991)) and a beneficial interest of 5 percent³⁸ or more of a firm’s outstanding shares (McConnell and Servaes (1990); Bethel et al. (1998)). A recent development in the literature has been the identification of trades as packages. Chan and Lakonishok (1993, 1995) define a ‘buy (sell) package’ as the investment manager’s successive purchases

³⁷ The Normal Market Size (NMS), as defined by the London Stock Exchange, is 2.5 % of the average daily number of shares traded in the stock over the past year. Stocks with an NMS of at least 2,000 shares are classified as more liquid and stocks with an NMS less than 2,000 shares are classified as less liquid. The NMS Multiple equals the trade size divided by the NMS.

³⁸ The 5% threshold follows the Securities and Exchange Commission’s filing procedures.

(sells) of the stock for which a five-day no-trade period marks the end of the package.

These various measurements can dramatically affect the data on which these empirical studies are based. Holthausen et al. (1987) report that when sampling the largest blocks in terms of the dollar value, they end up with the block trades involving the larger firms. However, when they sample the largest blocks based on the percentage of equity or the block volume relative to 'normal' daily trading volume³⁹, they are left with the smaller firms⁴⁰.

Throughout this thesis, the definition of a block comprised an equity stake of at least 3 percent in the company⁴¹. In this chapter however, any increase or decrease in the stake (above the 3% threshold) that causes the total to move up or down to the next percentage point has been identified as a trade and included in the data set. Both the definition of a block and the definition of a trade used in this study have been dictated by legal disclosure requirements, as explained in detail in Section 4.5.3.. At this point, it is important to recognise the issue that, by using these threshold levels driven by legal disclosure requirements, the study could be missing out on important details. For example, even when the institutional investor holds 2.9

³⁹ They define 'normal' trading volume as the median daily volume for the previous 21 days. They use a fairly short period in this definition due to the seasonality characteristics of volume.

⁴⁰ Firm size is measured in terms of the quintile of the average month-end market value of the firm's equity during 1982.

⁴¹ However, where identifiable, I have also included ownership less than 3 percent, as can be seen by looking at the minimum values in Tables 4.A and 4.B.. For a detailed discussion of the issue of threshold level of ownership and how it has affected this and other studies in the literature, please refer to Chapter 3, Section 3.4.

percent of the equity stake, which comes up as ‘no notifiable interest in the company’ according to the RNS of the CAO, the institution could indeed be exercising considerable monitoring over the company. However, it was not possible to overcome this threshold level problem which is also shared by nearly all UK and US studies in the literature.

4.3.2. Views on institutional investment behaviour

The theories on the impact of institutional trading on share prices are based on 3 main views. According to the first view, institutional trading increases the long run price volatility in the market by destabilising stock prices and causing them to move away from their fundamental values. This view assumes that institutional trading tends to involve a large volume of shares changing hands, which is accompanied by a large shift in share prices in response to the trade. Additionally, the off-balancing effect is intensified by ‘parallel trading’ that may be common among large institutional investors. Lakonishok et al. (1992) quote a pension fund manager to explain this problem: “Institutions are herding animals. We watch the same indicators and listen to the same prognostications. Like lemmings, we tend to move in the same direction at the same time. And that, naturally exacerbates price movements” (Wall Street Journal (October 17, 1989)).

Parallel trading, also termed as herding, simply refers to the correlation that might exist between institutional trades. It could be caused by institutions interpreting other institutions’ trades as conveying information to the market (Banarjee (1992); Bikhchandani, Hirshleifer and Welch (1992); Shiller and Pound (1989)), agency

conflicts in the performance evaluation of investment managers⁴² (Scharfstein and Stein (1990)) or by similar type of institutional responses to the same 'exogenous signals' (Lakonishok et al. (1992)). Yet Lakonishok et al. (1992) point out that not all herding is bad. They explain that herding may actually have a stabilising effect on stock prices and make the market more efficient, assuming that institutions trade in response to the same fundamental information and help quickly bring the prices to the new equilibrium level or counter some irrational expectations of individual investors.

However, supporters of this view defend their argument by putting forward the fact that institutions' trading strategies are not always based on fundamental information about the firm. They point out that it is a well known fact that contrarian strategies⁴³ are being used in the fund management industry as well as various other short-term strategies based on technical analysis and feedback trading. Positive-feedback trading, also known as trend chasing, refers to buying winners and selling losers with the expectation that the current movement in stock prices will continue. This strategy is well researched in the behavioural literature (Andreassen and Kraus (1988)) and may lead to a superficial movement in the stock prices away from their equilibrium level (De Long et al. (1990); Cutler, Poterba and Summers (1990)). An

⁴² Since money managers' performance evaluation is usually based on 'peer group' comparisons, it could be tempting to invest in a similar portfolio as other money managers. By this way, a money manager could avoid extreme under-performance at a cost to the client.

⁴³ In simple terms, contrarian strategies are based on buying currently unpopular assets. Therefore, the short-term performance of these stocks might be appalling, especially when compared to a popular benchmark such as the FTSE-100 Index. Opponents of this strategy argue that it may put excessive strain on the fund manager and consequently lead to short-termism.

added incentive in using this strategy is avoiding embarrassment when all goes wrong, in other words, 'window-dressing' (Lakonishok et al. 1991). Lakonishok et al. (1992) warn that not all positive-feedback trading is destabilising and it might achieve just the opposite in a setting whereby stocks under-react to news.

This brings us to the second view of institutional investment behaviour which posits that institutional investors are rational decision-makers who not only actively seek more information about the companies that they invest in but also have the advantage of utilising the services and supervision of advisers and fund managers which all help them gain a clearer picture of the fundamentals. Given this setting, supporters of this view would expect institutional investors to follow negative-feedback strategies by "buying stocks that have fallen too far and selling stocks that have risen too far" (Lakonishok et al. (1992), p.27).

The third and final view is one of a compromise between the above two extremes. It rejects the arguments of both of the previous views and suggests that the structure, the objectives and the investment strategies of institutional investors is so diverse that it would be a gross over-generalisation to pigeon-hole them as trend-chasers, negative feedback traders, etc. It recognises the heterogeneity of institutional investors and suggests that their investment strategies might actually counterbalance each other.

However, these views alone do not directly explain the movement in stock prices associated with institutional trading as observed by the empirical studies and it is important to review the potential sources of the market response.

4.3.3. Sources of the market response

The 'price pressure hypothesis', 'imperfect substitution hypothesis' and 'information hypothesis' are the main sources of the impact of trading, which have been identified by the literature. This section will explain each of these sources in turn.

4.3.3.1. The price pressure hypothesis

The price pressure hypothesis, also termed the short-run liquidity hypothesis, suggests that when investors buy or sell large volumes of stock it would be impossible to achieve this without moving the markets, regardless of how large or efficient to particular Stock Exchange might be.

Scholes (1972) explains that as the size of the trade increases, it might be necessary to offer a "sweetener" in order to convince investors to buy the additional shares now available in the market (p.180). He suggests that these additional shares will only be held at a lower price than the prevailing price in the market, given the excess demand curve for shares is downward sloping. Holthausen et al. (1987) further explain that the price concession given by the seller of a large block has two components: compensation for inventory costs and compensation for search costs. The inventory costs may include a risk premium, the size of which may depend on the size of the block and the return variance of the stock (Ho and Stoll (1981)). The search costs on the other hand, are likely to be much lower in liquid markets. Likewise, an investor who initiates the purchase of a large block may need to pay a

premium which reflects the difficulty of finding sufficient number of sellers willing to immediately part with their holding.

This hypothesis suggests that the price effect is temporary and the transaction prices subsequently return to the equilibrium level (Demsetz (1968); Kraus and Stoll (1972); Stoll (1978); Ho and Stoll (1981). Dann, Mayers and Raab (1977) report that this “rebound” can be observed, on average, within 15 minutes subsequent to the transaction.

4.3.3.2. The imperfect substitution hypothesis

The imperfect substitution hypothesis is based on the assumption that investors determine their future consumption streams by selecting different combinations of risky assets to include in their consumption-investment program. The risky asset is just one of the several alternatives available to the investors and is priced in a way that the expected return on similar assets will resemble each other. Therefore, should a particular asset promise higher expected returns simply due to an increased availability in the market, this arbitrage opportunity would soon be dissipated by market participants. As Scholes (1972) explains, “Since assets are substitutes in investor portfolios, the pure price effects [of investor purchases and sales] must be very small” (p.182). According to this hypothesis, we would expect the drop in the stock’s price to accommodate a large-quantity sell to be negligible.

However, the imperfect substitution hypothesis suggests that if there are insufficient close substitutes for a particular firm’s stock, a seller might be faced with a downward-sloping demand curve, which will necessitate discount in stock price for

the transaction to take place. Likewise, a buyer might be faced with an upward-sloping supply curve which will mean that for the large transaction to occur a premium will be necessary. This hypothesis predicts a permanent price effect⁴⁴ or at least a slower price 'rebound' than that of the price pressure hypothesis.

4.3.3.3. Information hypothesis

The information hypothesis suggests that the purchase or sale of securities might convey information to the market which may translate into a movement in stock prices. In this case, the markets are responding to the additional information signalled by the trade itself. It also suggests that, due to the hefty costs of looking for information valuable enough to help the investor beat the market, we would expect the seller of a large block of shares to have more information than a seller of a trivial quantity. That is, we would expect large block trades to include a greater amount of information than a trade carried out merely for portfolio-adjustment purposes. Hence, selling a large block of shares is likely to cause a downward pressure on the stock price that is not just a 'sweetener' but rather a permanent price adjustment. The permanent price effect will take place even when there are close substitutes to the firm's stock which will lead to perfectly elastic demand curves (Kraus and Stoll (1972); Scholes (1972); Mikkelsen and Partch (1985)).

The dilemma that remains is that, we would expect an informed block-seller to believe that the stock is over-valued, whereas we would expect the informed block-buyer in this transaction to believe that the stock is under-valued. However, they cannot both be right. Scholes (1972) explains that the information effect of a large

⁴⁴ The permanent effect depends on the size of the block (Mikkelsen and Partch (1985)).

block transaction will depend on the identity of the buyer or the seller since certain categories of investors (such as insiders) are expected to have more information about the company than others. Many studies use the size of the transaction as a proxy for the information conveyed by the trade. However, Kyle (1985), in his rational expectations model, hypothesizes that informed traders are more likely to maximise their trading profits by unfolding their trades gradually in the presence of liquidity (noise) traders. Chan and Lakonishok (1993) present evidence consistent with this view and report that although their sample of transactions comes from large money managers, the size of a typical trade is surprisingly small. They interpret this finding by suggesting that the large money managers “trade strategically to reduce the influence of short-run liquidity costs or information effects” (p.177).

4.3.4. Empirical evidence

Chan and Lakonishok (1993) analyse 1,215,387 transactions made by 37 large money management firms between 1986 and 1988, in the NYSE and the AMEX. They report that most of these transactions involve the largest stocks, which is a finding consistent with that of Lakonishok, Shleifer, Thaler and Vishny (1991). In calculating the effects of the trade (and classifying them as permanent and temporary) they follow Holthausen et al. (1987), however, they report a smaller price impact for both purchases and sales of stock. Buy transactions yield a principal-weighted average price increase of 0.22 percent, while sell transactions yield a price decline of 0.14 percent. They suggest the market response from the opening price to the trade price can be explained by short-run liquidity costs, prior

release of information and positive-feedback trading by money managers. They find an asymmetric response between purchases and sales, consistent with Holthausen et al. (1987), Kraus and Stoll (1972), and Keim and Madhavan (1993). They report that market capitalisation and relative trade size play a role in the market impact of a trade; larger permanent price changes are associated with the purchases involving smaller firms. However, the most dominant influence on the price impact of trades turns out to be the identity of the money manager.

When Chan and Lakonishok (1995) modify their definition of block trades as multi-day packages, they report higher price impact associated with institutional trades. They find that the principal-weighted price change from the open to the close on the trade date is 1 percent for buy and -0.3 percent for sell-packages⁴⁵. They also find that the asymmetry between the price impacts of buys and sells still holds.

On the other hand, Barclay and Holderness (1991) analyse 106 negotiated trades of at least 5 percent of the common stock from 1978 through 1982 and report average abnormal stock price increases of 16 percent associated with the initial public announcement of the block trade. They find even higher abnormal returns when the blockholder gains control of the firm, faces no resistance from management for attempting to influence corporate policies and eventually fully acquires the firm. They suggest that the information effects alone would not be able to produce these results and they attribute the positive abnormal returns to the specific skills and incentives of the block purchaser, as well as more valuable managerial and monitoring skills. However, their results may not be directly comparable with other

⁴⁵ The corresponding figures in their 1993 paper are 0.34% for buy and -0.04% for sell-packages.

studies due to the fact that they focus only on negotiated block trades. They acknowledge that, in their sample, a block trade does not change the concentration of ownership and the only thing that changes with the trade is the identity of the blockholder. In fact, none of their block trading parties was an institutional investor, possibly due to the legal requirements on diversification imposed on them.

Finally, Lakonishok et al. (1992) adopt a slightly different approach to identifying the institutional trades and look at the changes in the end-of-quarter portfolio holdings of 341 institutional money managers (managing the funds of 769 all-equity tax-exempt funds, most of which are pension funds) between 1985 and 1989. Their results suggest both the stabilising and the destabilising view on institutional investors are inaccurate. They provide evidence contrary to the popular belief that a large change in institutional excess demand is the driving force behind stock price movements. They find some evidence of herding and positive-feedback strategies in smaller stocks. However, they point out that most of the holdings of the institutions in their sample are concentrated in large stocks. They conclude that “institutional investors pursu[e] a broad diversity of trading styles that, to a large extent, offset each other” (p.24).

4.4. Purchasing blocks of shares: a route to activism?

It is a known fact that, in the 1990s, activist investors purchase significant blocks of shares and exert influence over company policies. This movement has not been limited to only large institutional shareholders such as CALPERS and other public pension funds, but we have also seen individuals such as Carl Icahn, Kirk Kerkorian, Bennett LeBow and Bob Monks use their block shareholding to bring

about operational, financial and governance changes in large corporations. In fact, with the rise of block share purchases, the frequency of hostile takeovers and leveraged buyouts as a means of disciplining managers has declined substantially (Maug (1998); Bethel et al. (1998)). We now see a trend towards trying to gain higher portfolio returns through shareholder monitoring and governance related activities.

Poorly performing firms are potential targets of activism. Investors who own large blocks of shares may attempt to discipline managers by mounting a proxy contest, initiating adverse publicity, and in extreme cases, replacing management or taking over the firm (Butz (1994); Morck, Shleifer and Vishny (1989); Shleifer and Vishny (1986); Manne (1965)). By this way, the investors can be able to implement changes in corporate policy in order to improve firm performance and create shareholder wealth.

We would expect investors to purchase blocks of shares when the expected benefits of doing so outweigh the expected costs (Demsetz & Lehn (1985)). Bethel et al. (1998) explain that the potential benefits of holding a block of shares in a firm are mainly in the form of capital gains and the dividends received given that the blockholder can force policies upon the managers in order to improve company performance. The potential costs, on the other hand, are due to the loss of portfolio diversification and the allocation of resources to monitor management, mount proxy contests and ward-off potential legal challenges that may arise as a result of the blockholding. Bethel et al. (1998) add that managers can adopt defensive

mechanisms that serve to diminish the net benefit of block share purchases and forcing changes in corporate policies.

However, corporations are not totally helpless and there are several defensive mechanisms which come to the rescue against these activist shareholders. Bethel et al. (1998) identify two main categories of defensive mechanisms. The first category works by “diminishing blockholders’ voting power, thereby preventing large investors from using proxy contests or otherwise exercising their voting power to pressure managers to change corporate policy” (p.608). Dual class share structures and employee share ownership schemes (ESOPs) are examples of this type of defensive mechanism. The second category works by creating “legal obstacles, thereby raising the cost of launching takeovers” (Bethel et al. (1998) p.608; Butz (1994); Shleifer and Vishny (1986)). Examples of this type of mechanism are anti-takeover charter amendments and re-incorporating in states with anti-takeover statutes.

Jarrell and Poulsen (1988) have reported negative share price effects on the announcement of dual-class share structures. However, the evidence for ESOPs is not as straight forward. Despite the fact that ESOPs are widely recognised as a means of facilitating performance-based incentives to employees, it is also argued that they may imbalance the voting structure and leave more power in the hands of incumbent management (Bethel et al. (1998)). In empirical studies, ESOPs have indeed been associated with decreases in firm value (Chang and Mayers (1992); Gordon and Pound (1990)) and decreases in operating profitability (Mikkelsen and Partch (1994)). As for anti-takeover charter amendments, negative stock price

reaction to its announcement has been reported (Jarrell and Poulsen (1987); Ryngaert (1988); Malesta and Walkling (1988)). However, there is inconclusive evidence on whether anti-takeover amendments, such as supermajority provisions, classified board provisions, poison pills and preferred stock authorisations, can actually deter takeovers. Finally, negative average returns have been reported for firms incorporated in states with anti-takeover statutes in effect (Karpoff and Malesta (1989); Szewczyk and Tsetsekos (1992)).

The question remains whether we would observe block purchases as a route to shareholder activism more frequently, if it were not for the defensive mechanisms. However, we do know that purchasing blocks of shares can actually be a preferred route to activism by looking at the changes that occur in the firms subsequent to the block trade.

4.5. The London Stock Exchange

The London Stock Exchange has a number of features that differentiates it from the other International Exchanges. This section attempts to summarise some of these features that may be relevant within the context of this study.

4.5.1. Characteristics

After the 'Big Bang' in October 1986, several important changes have occurred in the London Stock Exchange (LSE). One of these changes has been the introduction of a system whereby competing market makers sustain a continuous presence in the market and act as counter party to equity transactions. This represents a substantial move towards a more order-driven system.

The LSE also has a policy of ensuring the proper checks and controls are in place in order to protect investors, while at same time trying to avoid making these rules and regulations so rigid that it may scare-off companies who want to achieve a listing⁴⁶. The ability and the relative ease of institutional investors in buying and selling large blocks of shares in a single transaction is actually one of the factors that bring a competitive advantage to the LSE when compared with other stock exchanges (Board and Sutcliffe, 1995). Board and Sutcliffe (1995) explain that this system requires the market makers to take quite substantial inventory positions, which increases the risk that they are subjected to. Therefore, market makers demand protection against this additional inventory risk. Protection can take several forms some of which can be delaying the publication of a large trade or the development of Inter Dealer Broker Systems (IDB) which provides a private, order-driven method by matching buys and sells and allowing the surplus to be traded among the other market makers.

4.5.2. Delayed publication

Despite the obvious advantage of offering protection to market makers, delayed publication can in fact be detrimental to the transparency of the market due to the information asymmetries that arise among the market participants.

Since the Big Bang the delayed publication policies for unusually large trades at the LSE have changed quite a bit. Prior to January 1991, although the volume of trades was published immediately, the publication of prices could be delayed for up to 24

⁴⁶ Views expressed by Nicola Humpage, London Stock Exchange at the Expo'99, 23 November 1999, London.

hours for alpha stocks over £100,000 and 3 minutes for all other trades. From 14 January 1991, the publication of price and volume for trades larger than 3 times Normal Market Size (NMS)⁴⁷ could be delayed for up to 90 minutes, while the delay allowed for all other trades remained the same. On 13 December 1993, an additional delay was allowed on top of the previously prevailing level and the market makers could choose to delay publication of trades larger than 75 times NMS from 90 minutes to 5 business days, or until 90 percent of the position has been unwound, whichever is sooner.

On 1 January 1996, in a move towards increasing the transparency of the market, the delayed publication of trades between 3 and 6 times NMS was abolished. Also, all IDB trades now had to be published with a delay of at most 3 minutes. Additionally, the delay period for trades greater than 75 times NMS was brought down from 90 minutes to 60 minutes (the minimum requirement).

Board and Sutcliffe (1997) report that subsequent to the delayed publication changes in 1996, there has been a decrease of 43 percent in the value of all trading subject to publication delay. They also find a 75 percent jump in the proportion of trading published immediately. They conclude that we can now expect to see the information effects of trades between 3-6 times NMS swiftly compounded in the stock prices⁴⁸.

⁴⁷ For the calculation of this measure, please refer to footnote 37.

⁴⁸ In 1996, trades greater than 6 times NMS make up 2% by number and 34% by value of all trades in the market.

4.5.3. Disclosure requirements

On 18 September 1993, amendments, affecting both listed and unlisted companies, to the Companies Act (1985) (CA85) came into force in order to reflect the influence of the EU Transparency Directive 88/627/EEC. The regulations apply only to share capital with voting rights intact and require that any equity stake of at least 3 percent in a public company or an equity stake that no longer exceeds this threshold must be communicated to the company in the form of a written notification within two days of the change. Any increase or decrease in the stake (above the 3% threshold) that causes the total to move up or down to the next percentage point necessitates a new notification. The company then needs to make appropriate changes to its share register within a period of 3 days subsequent to the date of receipt of the notification. Additionally, listed companies are required to inform the Company Announcements Office (CAO) of the London Stock Exchange as soon as they receive such notification. The information reported to the CAO needs to contain, among other details of the change in shareholding, the date of receipt of the notification and, if known, the date of the transaction.

For both the executive and non-executive members of the board of directors, however, any interest and any subsequent changes has to be disclosed and reported to the CAO in due course, with the date of the disclosure as well as the date of the transaction.

4.6. Data and methodology

4.6.1. Data collection

The data on changes in shareholding was collected from Extel Financial-Company Research. This database provides all the news items disclosed by the companies to the Regulatory News Service (RNS) Division of the Company Announcement Office at the London Stock Exchange. The disclosure requirement originates from the Continuing Obligations Section of the Listing Rules (Yellow Book). Disclosure requirements regarding the changes in the shareholding makes reference to the CA85 for the specific percentage change figures to be used as guidelines. Please refer to Section 4.5.3. for a detailed account of the disclosure requirements for shareholding.

Company Research provides the news items exactly as they were submitted by the company to the RNS and subsequently disseminated by the RNS to all listed and member firms on-line real-time. The news item 'Shareholding in Company' is given as text (a short paragraph) with the date of the announcement (which is also the date that the company becomes aware of the change, by the mechanism explained in Section 4.5.3. above), name of the shareholder and the new percentage of share stake held. For nearly all 'Shareholding in Company' news items, the date of the transaction was not given.

There were several potential problems involved in this presentation of the news items. Firstly, it does not have a standard wording format, which necessitates individually sifting through the paragraph for the data needed for the study.

Secondly, it only gives the current percentage of shares held by the shareholder and does not specify the amount of the change from the previous level. This problem was overcome by collecting data for the year (1992) preceding the sample period (1993-1998) and computing the percentage change each announcement represents when compared with the announcement just before it.

Thirdly, the same shareholder's name appeared in several different formats making the comparisons unreliable. For example, the same fund manager can appear under the names: "PDFM", "Phillips and Drew Fund Management", "Phillips and Drew Fund Management Limited", "Phillips and Drew Fund Management Ltd", "Phillips and Drew". In addition, a number of typographic errors (e.g. "Philips", "Druw", "Manegement", etc.), are found in the names. As a result it was impossible to make the computer recognise that these actually are the same companies and a computer search, of say the first three characters, resulted in many errors. Therefore, all the shareholder names were reviewed and replaced by code numbers. There are 1,504 individual institutions identified by the study. Finally, there was also variation in Company Names which was again solved by giving each company in the sample a unique number.

All news items titled "Shareholding in Company" was extracted from Company Research from 1993 through to end of 1998 and was rearranged as described above. When it is an individual holding the shares, the news items do not specify whether the individual is a director or not. Given that the sample is all listed companies in the London Stock Exchange, it was not feasible to try and check each individual's

identity. Therefore, all news items with individual's names were dropped from the analysis.

The share prices and market index (FTSE-All Share) used in the event study was collected from Primark-Sequencer database, which provides the share prices adjusted for capital changes.

4.6.2. Sample

After eliminating all events with unavailable or incomplete data for the full estimation cum event windows, the final sample consists of 16,726 events for 876 companies (including currently extinct companies) from 1993 through 1998. I identify separately, 8,590 buy and 8,136 sell trades undertaken by occupational pension funds, fund managers, insurance companies, banks, industrial and commercial companies and investment trusts.

4.6.3. Methodology

I use a unique data set that lists all block trades from 1993 to 1998 to test the hypothesis that institutional investors time their trading and the market expects good or bad news to follow from such trades. First, I analyse the pre-trade abnormal returns determine whether institutional trades are driven by herding behaviour. I then analyse the abnormal returns on the day the trades occur to assess the extent to which such trades affect the equilibrium share prices. Finally, I analyse the post-event abnormal returns to test the hypothesis that the share price impact is permanent. In addition, I take a different perspective from the previous literature and argue that, when institutional investors acquire large stakes in companies, they

are expected to lead such companies to a better performance and, therefore, share prices of these companies increase in expectations of the outcome of such monitoring. In contrast a selling activity by institutional investors should result in a decrease in share prices because it will signal bad news and an end of blockholder monitoring.

Brown and Warner (1985) Event Study Methodology was used to compute Ordinary Least Squares (OLS) Market Model, with the parameters (α and β) calculated from the 250 day estimation window (event days: (-290,-41)). The event period consists of the 81-day period around the announcement day, day '0'. The event and estimation periods were chosen in order to facilitate comparisons with the findings reported by Bethel et al. (1998) and Barclay and Holderness (1991). For hypothesis testing, the t-statistic was computed by dividing the excess return by its estimated standard deviation. The Scholes and Williams (1977) procedure was used to correct for non-synchronous trading.

The FTSE-All Share Index was used to compute the return on the market (R_m). The company share prices were adjusted for capital changes and the dividend-adjusted, observed simple arithmetic returns (R_i) were calculated for each security.

The data provided by the RNS reports the new ownership levels following a trade subject to the LSE regulations explained in Section 4.5.3.. Therefore, it was not possible to adopt the 'trade packages' approach used by Chan and Lakonishok (1993, 1995), since an institution (such as a large investment management firm) willing to release their records of actual trading data was not available. Additionally, it was not possible to adopt the 'net trades' approach used by the

Odean (1999) study, for which the actual trading data was provided by a nationwide discount brokerage house.

The findings are presented in the section that follows. The results obtained using the OLS market model were also simulated using mean-adjusted and market-adjusted returns models (Brown and Warner, 1985). The different models yield similar results in general. It was not necessary to simulate results using Barber and Lyon (1997) methodology since the market response I aim to detect does not involve the long-run abnormal stock returns.

4.7. Empirical results

4.7.1. Descriptive statistics

There are a total of 16726 events, with 8590 (51%) buy transactions and 8136 (49%) sell transactions. The number of buy and sell trades in each year is presented in Panel A, Table 21. Despite the increasing trend in the number of trades towards the end of the sample period, there is no evidence of clustering.

Table 21. Number and Size of Trades for the Sample Period (1993-1998)

	1993	1994	1995	1996	1997	1998	Total
Panel A: Number of Trades							
Buys	694	1001	1505	1767	1797	1826	8590
Sells	1063	814	1365	1596	1666	1632	8136
Total	1757	1815	2870	3363	3463	3458	16726
Panel B: Size of Trades							
Average % of Share Capital Traded	2.38%	3.10%	2.32%	2.18%	2.10%	1.99%	
Median % of Share Capital Traded	1.42%	1.26%	1.01%	0.97%	0.97%	0.93%	
Average £ Value of Trade (£'million)	11.1	11.6	17.2	13.0	11.1	9.5	
Median £ Value of Trade (£'million)	1.3	1.1	1.1	1.0	1.1	1.1	

Also in Table 21 (Panel B) we see that, the average size of the trade, as measured by the percentage of share capital traded, ranges between 1.99 percent (in 1998) and 3.10 percent (in 1994), while the median ranges between 0.93 percent (in 1998) and 1.42 percent (in 1993). The average £ value of the trade ranges between £9.5 million (in 1998) and £17.2 million (in 1995), while the median ranges between £1.1 million (in 1994-1995 and 1997-1998) and £1.3 million (in 1993).

Table 22 presents the descriptive statistics separately for all trades, for buys and for sells. The average percentage of share capital traded is greater for sell transactions (2.58%) than for buy transactions (1.97%), which also holds true when comparing the medians. Accordingly, the average percentage of shares held by the institutional shareholders immediately after the trade is smaller for sells (6.43%) than buys (10.11%), which is what we would expect. The average market capitalisation of companies which were the subject of a buy trade (£605 million) is similar to those of a sell trade (£628 million). The average £ value of the trade is greater for sells (£13.8 million) than for buys (£10.8 million).

Table 22. Descriptive Statistics for Trades

	Mean	Min	25th Percentile	Median	75th Percentile	Max
Panel A: All Trades						
% of share capital traded	2.27%	0.01%	0.37%	1.01%	3.02%	57.26%
% of shares held after the trade	8.32%	0.00%	3.92%	6.80%	12.10%	76.73%
Market Capitalisation (£million)	616	0.03	37	133	493	51,897
£ value of the trade (£million)	12.3	0.0	0.3	1.1	4.4	4,613.9
Panel B: Buys						
% of share capital traded	1.97%	0.01%	0.39%	0.96%	1.97%	57.26%
% of shares held after the trade	10.11%	2.86%	5.07%	9.08%	13.26%	76.73%
Market Capitalisation (£million)	605	0.03	38	135	500	46,454

£ value of the trade (£'million)	10.8	0.0	0.3	1.0	4.1	3,354
Panel C:Sells						
% of share capital traded	2.58%	0.01%	0.34%	1.11%	3.40%	57.26%
% of shares held after the trade	6.43%	0.00%	0.00%	4.78%	10.84%	72.73%
Market Capitalisation (£'million)	628	0.03	36	132	487	51,897
£ value of the trade (£'million)	13.8	0.0	0.3	1.2	4.9	4,614

Fund Managers are by far the largest category of shareholders according to the number of trades carried out during the sample period. As can be seen in Table 23, they account for 41 percent of all buy trades (3528 out of 8590) and 39 percent (3153 out of 8136) of all sell trades. Another striking picture in this table is the dominance of the Overseas Institutions who account for 14 percent of all buys and 10 percent of all sells.

Table 23. Number of Trades for Each Type of Institutional Buyer / Seller

% of Share Capital Traded	<3%	3%-5%	5%-10%	10%-15%	15%-20%	>=20%	Total
Panel A: All Trades							
Fund Managers	5136	602	350	462	99	32	6681
Insurance Companies	2056	647	112	16	3	0	2834
Overseas Institutions	1595	237	96	27	6	21	1982
Banks	734	209	63	89	10	3	1108
Industrial & Commercial Companies	627	101	52	17	7	9	813
Investment Trusts	558	173	57	13	1	2	804
Pension Funds	373	192	54	7	3	3	632
All Other Institutions*	1285	356	116	97	10	8	1872
Total	12364	2517	900	728	139	78	16726
Panel B: Buys							
Fund Managers	2880	234	177	175	50	12	3528
Insurance Companies	1073	172	52	4	1	0	1302
Overseas Institutions	1024	78	41	14	3	11	1171
Banks	343	56	27	37	5	3	471
Industrial & Commercial Companies	437	37	16	4	3	4	501
Investment Trusts	384	49	18	4	1	1	457
Pension Funds	180	46	18	2	1	2	249
All Other Institutions*	704	102	54	43	4	4	911
Total	7025	774	403	283	68	37	8590
Panel C: Sells							
Fund Managers	2256	368	173	287	49	20	3153
Insurance Companies	983	475	60	12	2	0	1532
Overseas Institutions	571	159	55	13	3	10	811
Banks	391	153	36	52	5	0	637
Industrial & Commercial Companies	190	64	36	13	4	5	312
Investment Trusts	174	124	39	9	0	1	347
Pension Funds	193	146	36	5	2	1	383
All Other Institutions*	581	254	62	54	6	4	961
Total	5339	1743	497	445	71	41	8136

(*) All Other Institutions category includes trades by Life Assurance Companies (90 buys and 40 sells), Charities Trusts and Foundations (13 buys and 13 sells), Unit trusts (45 buys and 72 sells), Joint (111 buys and 73 sells) and Nominee Accounts (20 buys and 31 sells), Other Financial Institutions (122 buys and 138 sells) and Groups (475 buys and 524 sells), Venture Capital Companies (30 buys and 63 sells), and the Public Sector (5 buys and 7 sells).

4.7.2. *Abnormal returns*

Table 24 summarizes the Abnormal Returns on each day of the event period for the buy and the sell transactions. Buy transactions experience statistically significant positive abnormal returns of 0.13 percent and 0.14 percent on event days -1 and 0 , respectively. The sell transactions on the other hand, experience consecutive positive abnormal returns starting from day -7 through to day 0 . The highest one-day abnormal return of 0.35 percent is achieved on day -2 . A graphical presentation of this table is provided in Figure 3.

Figure 4 depicts the Cumulative Abnormal Returns (CARs) for event window $(-40, +40)$. For buy trades, the CARs are negative until day 1 . The increasing trend starts from day -3 and continues until day 8 . For sell trades, the CARs follow a general upward trend from the start of the event window, with bigger increments between days -4 and 0 and they fluctuate around a 2.75 percent level after the announcement day.

There seems to be some evidence of a “buy under-valued, sell over-valued” strategy being followed. For sells, there is no downward pressure on prices and there is even some positive post-announcement drift, which contradicts with what short-run liquidity hypothesis would suggest and supports the substitution hypothesis. This evidence is consistent with Chan and Lakonishok (1993) who explain that money managers might be involved in strategic trading in a way that will minimize the short-run liquidity and information effects.

Table 24. Abnormal Returns in Event Window (-40,+40)

Using OLS Market Model with Scholes & Williams (1977) Adjustment; N=16726 events

Day 0 is the Announcement Day of the Trade; ***,**,*: significant at 0.01,0.05 and 0.10 levels, respectively.

Day	Buys	t-statistic	Sells	t-statistic	Day	Buys	t-statistic	Sells	t-statistic
-40	-0.07%	-1.094	-0.03%	-0.524	1	0.06%	0.947	0.08%	1.377
-39	-0.02%	-0.236	0.00%	-0.028	2	0.02%	0.317	0.00%	0.040
-38	-0.03%	-0.408	0.00%	0.078	3	0.02%	0.260	0.01%	0.220
-37	-0.03%	-0.427	0.03%	0.591	4	0.05%	0.749	0.04%	0.740
-36	-0.01%	-0.181	0.00%	-0.011	5	0.04%	0.644	-0.01%	-0.199
-35	-0.03%	-0.521	0.01%	0.204	6	0.07%	1.082	0.02%	0.400
-34	-0.02%	-0.330	0.02%	0.376	7	0.03%	0.410	0.02%	0.339
-33	0.04%	0.546	0.02%	0.330	8	0.02%	0.362	0.02%	0.356
-32	-0.02%	-0.340	0.01%	0.225	9	-0.04%	-0.672	-0.03%	-0.462
-31	0.00%	0.010	0.01%	0.134	10	0.00%	0.008	-0.02%	-0.282
-30	-0.02%	-0.368	0.02%	0.287	11	0.00%	-0.045	0.03%	0.480
-29	-0.02%	-0.359	0.01%	0.228	12	-0.03%	-0.475	0.01%	0.100
-28	-0.01%	-0.084	0.05%	0.808	13	-0.03%	-0.416	0.00%	-0.012
-27	-0.01%	-0.121	0.08%	1.355	14	0.03%	0.421	-0.05%	-0.846
-26	0.00%	-0.003	0.04%	0.632	15	0.05%	0.737	0.01%	0.155
-25	-0.03%	-0.383	0.00%	0.081	16	-0.02%	-0.324	-0.01%	-0.247
-24	-0.03%	-0.472	0.02%	0.377	17	-0.02%	-0.258	-0.01%	-0.099
-23	0.00%	0.010	0.02%	0.381	18	-0.02%	-0.354	0.00%	-0.010
-22	-0.01%	-0.182	0.05%	0.980	19	-0.03%	-0.398	-0.04%	-0.679
-21	-0.02%	-0.356	-0.01%	-0.215	20	-0.03%	-0.499	-0.03%	-0.598
-20	-0.04%	-0.626	0.05%	0.909	21	0.01%	0.147	0.01%	0.185
-19	-0.01%	-0.151	0.10%*	1.713	22	0.03%	0.516	-0.01%	-0.096
-18	0.00%	0.050	0.03%	0.516	23	-0.02%	-0.290	0.03%	0.512
-17	0.01%	0.167	0.11%*	1.920	24	-0.02%	-0.237	0.00%	0.023
-16	-0.04%	-0.592	0.10%*	1.784	25	-0.02%	-0.241	0.00%	0.087
-15	-0.02%	-0.258	0.04%	0.731	26	-0.01%	-0.223	0.05%	0.943
-14	0.01%	0.128	0.09%	1.604	27	-0.02%	-0.240	0.02%	0.427
-13	0.01%	0.148	0.03%	0.464	28	-0.03%	-0.456	0.03%	0.560
-12	0.04%	0.590	0.07%	1.276	29	0.03%	0.385	0.05%	0.907
-11	-0.02%	-0.264	0.06%	1.113	30	0.00%	0.024	0.00%	0.032
-10	0.02%	0.286	0.05%	0.911	31	-0.02%	-0.349	0.04%	0.633
-9	0.01%	0.173	0.09%	1.638	32	-0.03%	-0.496	-0.02%	-0.340
-8	0.03%	0.466	0.03%	0.591	33	-0.02%	-0.310	0.00%	0.058
-7	-0.05%	-0.697	0.12%**	2.202	34	-0.02%	-0.340	0.00%	-0.033
-6	-0.05%	-0.829	0.10%**	1.771	35	-0.03%	-0.500	-0.02%	-0.305
-5	0.03%	0.460	0.14%**	2.525	36	0.00%	0.052	-0.01%	-0.182
-4	0.04%	0.611	0.20%***	3.644	37	-0.03%	-0.473	-0.05%	-0.818
-3	-0.03%	-0.382	0.21%***	3.815	38	-0.03%	-0.469	0.00%	-0.033
-2	0.06%	0.937	0.35%***	6.241	39	-0.02%	-0.367	-0.03%	-0.494
-1	0.13%**	1.998	0.19%***	3.482	40	-0.02%	-0.272	0.00%	0.088
0	0.14%**	2.143	0.10%**	1.816					

Figure 3. Abnormal Returns in Event Window (-40,+40)

OLS Market Model with Scholes and William (1977) Adjustment. N=16726 events.

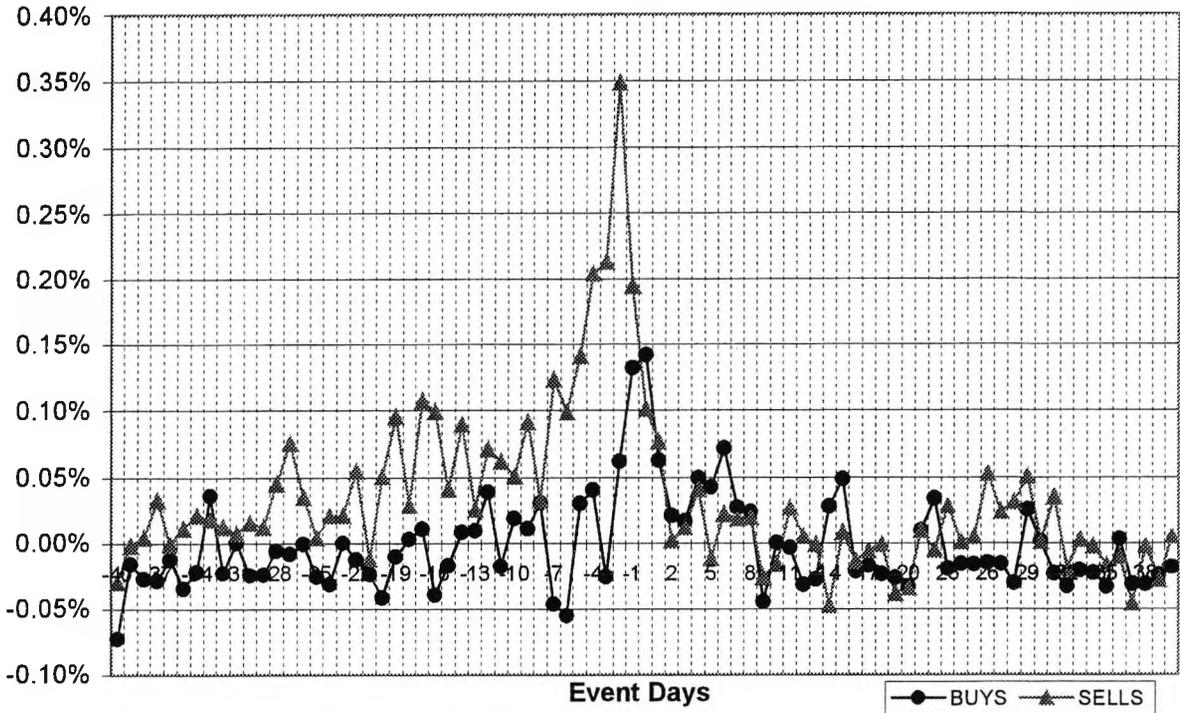
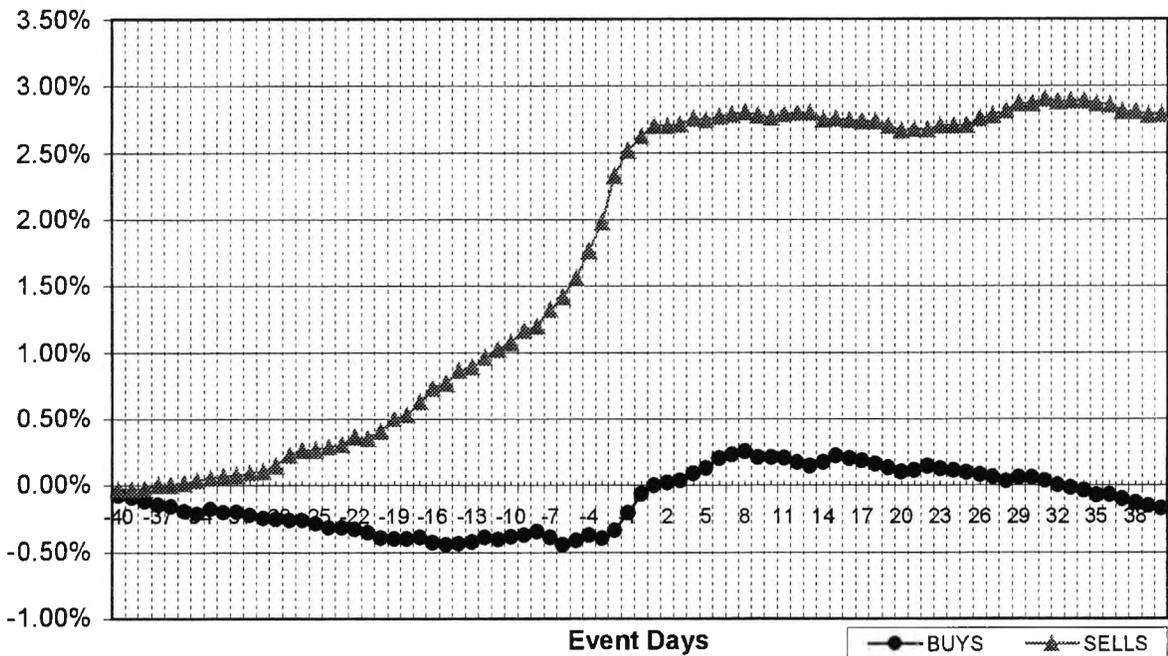


Figure 4. Cumulative Abnormal Returns for Event Window (-40,+40)

OLS Market Model with Scholes and William (1977) Adjustment. N=16726 events.



For buys, however, it could be the buying behaviour that is driving prices upwards from day -3 and a positive post-announcement drift can be observed even up to day 8. There seems to be a price reversal from day 8 onwards. Therefore, the positive abnormal returns just before announcement could be due to liquidity effects and the positive abnormal returns just after the announcement could be due to information effects, both of which are temporary effects.

The results for buy trades are consistent with the findings of Chan and Lakonishok (1995). The CARs they have reported for buy trades (equal-weighted) follow a similar pattern of negative CARs just before the commencement of trade package⁴⁹, cutting the x-axis (0%) half-way into the trade package and yielding positive CARs afterwards. The only difference is that they do not find evidence of a price reversal, whereas I find negative CARs after day 33.

Also, the results for sell trades are somewhat similar to that of Chan and Lakonishok (1995). The CARs they have reported for sell trades (equal-weighted) also seem to follow a run-up to day 0, although of a much smaller magnitude (0.37%). They interpret this finding as consistent with prior evidence (Lakonishok and Smidt (1987)) that “volume (and hence both buying and selling activity) tends to rise after increases in the stock price” (p.1158, Chan and Lakonishok (1995)). However, they find a drop in CARs at the start of the sell package which recovers

⁴⁹ They define a buy trade package as successive purchases of the same stock by the same money manager with a break of less than 5 days in between the individual trades and the event dates they use are based on actual trade dates. However, in my sample, day 0 corresponds to the announcement day, which can actually be 2 days after the trade took place, due to the legal notification period allowed for the shareholders to inform the company of the trade. Hence, if I could determine the exact trade date, these results might resemble each other even more.

on the last day of the package. This rapid rebound seems to be in support of the price pressure hypothesis. Whereas I find a slower fluctuation which may provide mild support for the imperfect substitution hypothesis.

4.7.3. Confounding events

In order to determine whether there are any confounding events that could possibly be driving these results, I have extracted all news announcements disseminated on the RNS, for each company between 1993 and 1998. There are a total of 68 different categories of announcements, some of which are; mergers, acquisitions, joint ventures, rights issues, AGM, divestments, board changes, capital changes, corporate reorganisations, dividends and results.

Figure 5. CARs excluding confounding trading events in $[-3,+3]$ (N: 11,639).

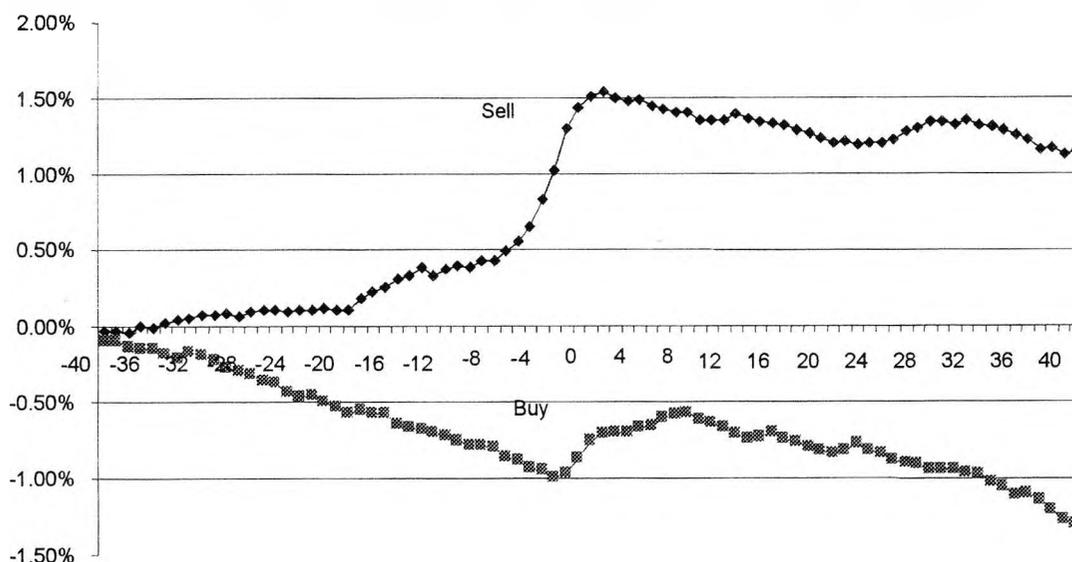


Figure 5 reports the results excluding confounding trading events falling into the $[-3,+3]$ window around the date of the first trade (day0). This brings down the number of events analysed from 16,726 to 11,693. The overall picture is very

similar to Figure 4. The abnormal returns before the sell orders increase significantly by 1.54 from day -40 to day 0 before decreasing to about 1.10% up to day +40. In contrast, before the buy orders share prices decrease but recover slightly between day -1 to day 8 and then drift down.

Elimination of all events with another announcement made by the firm falling into the (-10,+10) window brings down the number of events analysed to 11,069. Despite this elimination, the picture remains pretty much the same, as can be seen in Figure 6. The CARs for sells even exceed the 3 percent level after day 0.

Figure 6. CARs excluding confounding events in (-10,+10) window (N= 11069).

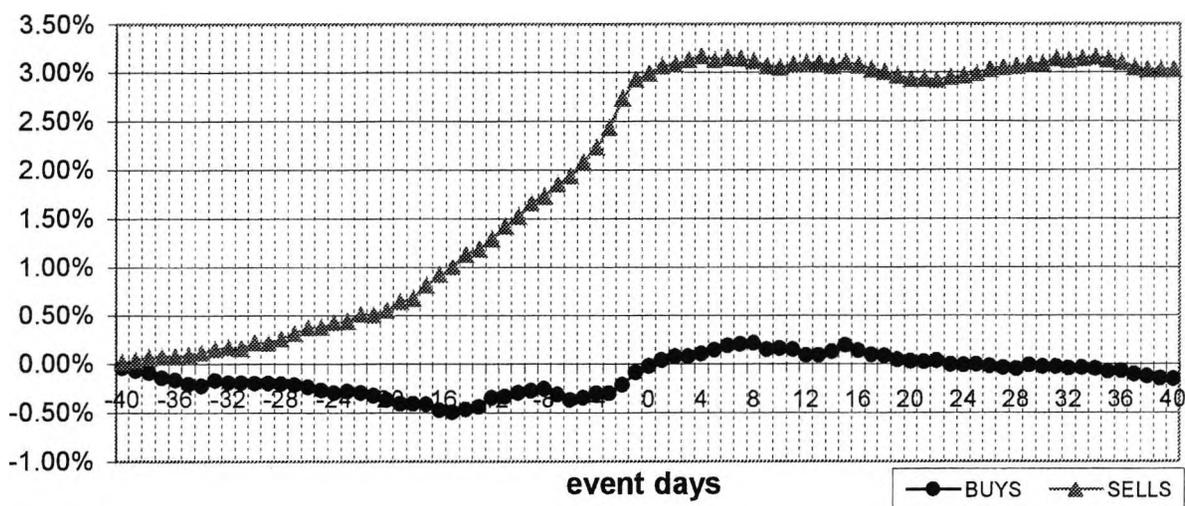


Table 25 summarises selected AR and CAR measures including and excluding confounding trading events, separately for buy and sell transactions. Panel A. reports the results for the sample as a whole. Around the event period (day 0 or $CAR_{-1,+1}$) share prices of buy and sell orders increase significantly. There is also no statistical difference in means between the event date abnormal returns of the sell and buy trades, suggesting that institutional investors affect positively the equilibrium share prices when they buy and sell large stakes. In contrast, in the pre-event period, there is a significant difference between the buy and sell orders: the $CAR_{-40,-2}$ are significantly negative for the buy orders (-0.33%) and positive for the sell orders (+2.33%). The differences in means between the pre-buy and the pre-sell cumulative abnormal returns are significant at 0.01 level ($t = -8.88$). These results suggest that, on average, institutional investors time their trades: they buy when share prices are low and sell when they are high. The last column shows that the post-event abnormal returns ($CAR_{+2,+40}$) are not significant, implying that institutional investors cannot predict the future price behaviour of the shares they are selling or buying.

Panel B. reports the results when the confounding trading events (confounding trades that occur over the period -3 to $+3$) are excluded. The results mimic those reported in Panel A. In the event period share prices increase after the buy and sell orders. In the pre-event period share prices decrease before the buy order and increase before the sell order. In the post-event period share prices decrease significantly after both the buy and sell orders.

Table 25. Selected returns including and excluding confounding trading events

*, **, *** significant at 0.10, 0.05 and 0.01 level, respectively.

	N	Day ₀	CAR _{-40,-2}	CAR _{-1,+1}	CAR _{+2,+40}
Panel A. All Institutions All Events					
Buy	8590	0.14***	-0.33*	0.35***	-0.16
Sell	8136	0.10**	2.33***	0.38***	0.08
<i>t-test of difference</i>		0.99	-8.88***	-0.49	-0.90
Panel B. All Institutions Excluding Confounding Trading Events					
Buy	5922	0.12***	-0.97***	0.25***	-0.58***
Sell	5771	0.08**	1.30***	0.24***	-0.41*
<i>t-test of difference</i>		0.90	-6.83***	0.20	-0.53

Exclusion of confounding trading events for selected CAR measures of major institutional investors (reported in Table 27) also causes no significant change in the results reported. Therefore, there is not enough evidence to suggest that confounding events drive the results.

4.7.4. Changes in publication rules

To find out whether the behaviour of CARs could be affected by the different transparency rules in the Stock Exchange, I have split the data into 3 periods according to the date of the change in the trade delay rules. In Period 1 (pre-13 December 1993), the maximum allowable delay is 90 minutes, which is only available to trades larger than 3 times NMS. In Period 2 (13 December 1993 - 31 December 1995), the maximum allowable delay becomes 5 business days that is available for trades larger than 75 times NMS. Finally, in Period 3 (1 January 1996-onwards), although the maximum allowable delay remains the same, the lower bound is decreased from 90 minutes to 60 minutes for trades larger than 75 times

NMS. However, the publication delay of trades between 3 and 6 times NMS was abolished.

In Period 1, both buys and sells behave in a similar way before the announcement takes place. However, after the announcement of the trade, buys continue to yield positive abnormal returns, whereas there seems to be a downward price pressure for sells.

The general trend displayed by CARs in Periods 2 and 3 are similar to each other. However, in Period 3, the CARs for buys never manage to become positive despite positive abnormal returns between days -3 and 8.

Overall, looking at the CARs, the change in trade publication rules does not seem to have much influence on the market response to buy and sell trades in Periods 2 and 3. However, CARs in Period 1 seem to behave differently than the other two periods.

Figure 7. CARs- Period 1 (pre-13 Dec. 1993) (N=1758 events).

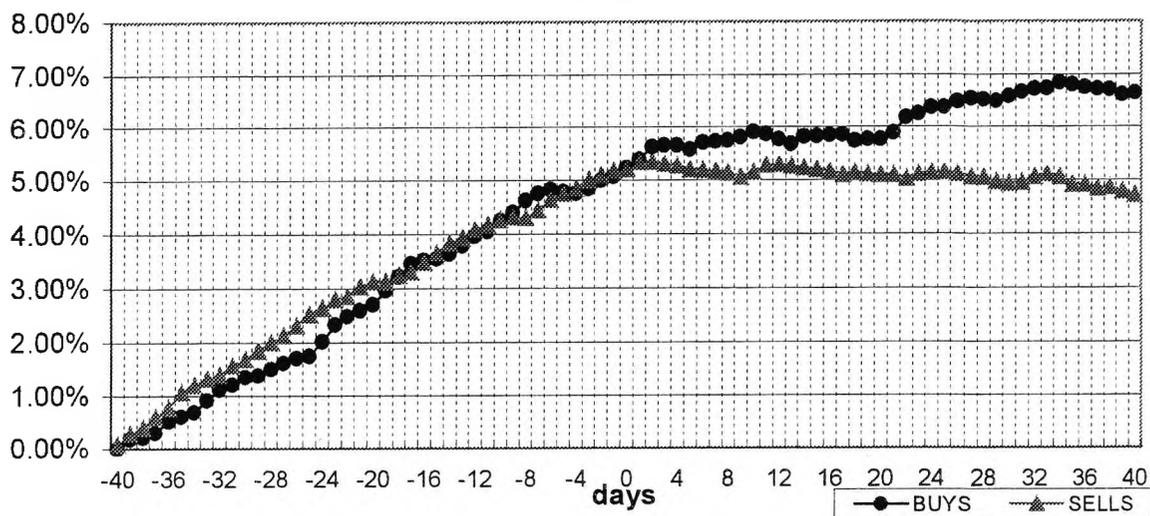


Figure 8. CARs- Period 2 (13 Dec. 1993 – 31 Dec. 1995) (N=4693 events).

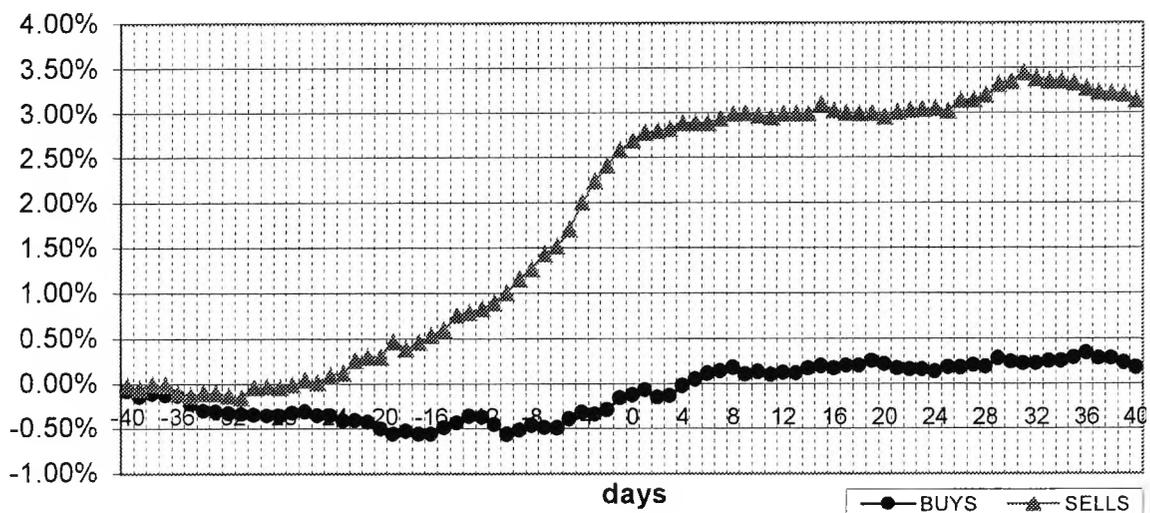
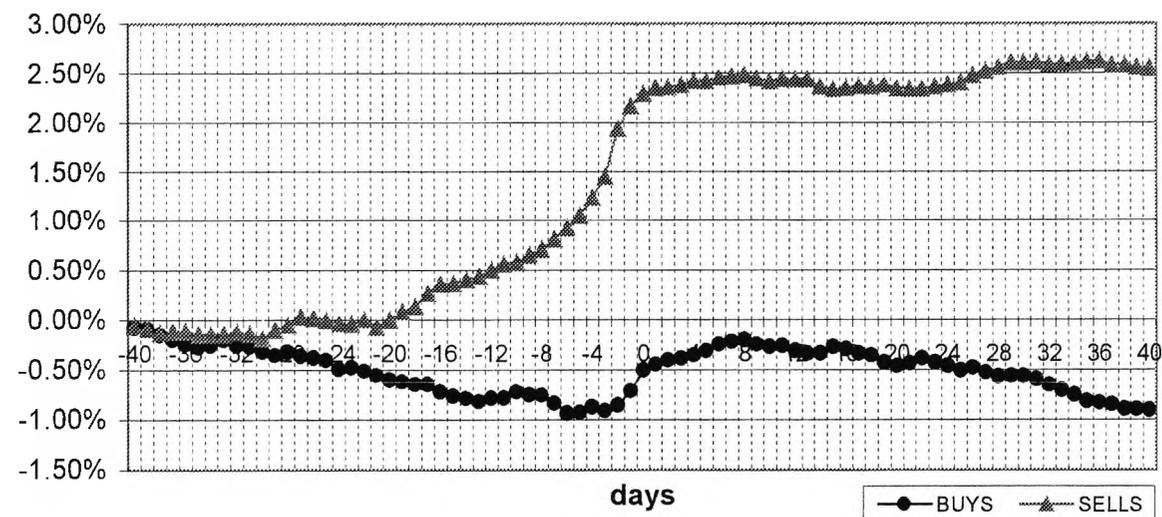


Figure 9. CARs- Period 3 (1 Jan. 1996 – onwards) (N=10304 events).



4.7.5. Do institutional investors behave homogenously?

The analysis up to this point assumes that institutional investors are homogenous. However, previous studies show that some category of investors, such as banks, investment trusts and insurance companies, may be pressure sensitive while others, such as occupational pension funds, may be pressure resistant (e.g., Brickley, Lease and Smith, 1988, 1994). This pressure-sensitive versus pressure-resistant distinction for institutions is described in more detail in Chapter 3, Section 3.3..

Therefore, I split the sample into 8 categories of institutional investors and compute for each the abnormal returns around the buy and sell trades. Table 26 reports the abnormal performance over the [-5 to +1] period by category of institutional investor and size of the trade. Panel A reports the results for the sample as a whole and shows that all trades result in positive abnormal performance. However, the abnormal returns are not linearly related to the size of the trade. For pressure sensitive institutional investors, the abnormal performance is in most cases positive and significant. In contrast, for pension funds, the pressure resistant institutional investors, the abnormal performance is in most cases not significant.

Table 26. Cumulative Abnormal Returns (-5,+1) for Major Institutional Categories

Using OLS Market model with Scholes & William (1977) Adjustment (***, **, * : significant at 0.01, 0.05, 0.10 levels, respectively)

	SIZE OF THE CHANGE IN SHARE STAKE					
	0 to 3%	3 to 5%	5 to 10%	10 to 15%	15 to 20%	20% and more
Panel A: All Institutions						
All Trades	0.66%***	1.46%***	1.53%***	1.20%***	0.49%***	1.44%***
Buys	0.34%***	1.09%***	0.84%***	0.99%***	-0.89%***	1.21%***
Sells	1.08%***	1.64%***	2.09%***	1.28%***	1.78%***	1.77%***
Difference (Buys-Sells)	-0.74%***	-0.56%	-1.25%*	-0.29%	-2.66%**	-0.56%
t-statistic (p-value)	-4.881 (0.000)	-1.390 (0.165)	-1.918 (0.055)	-0.443 (0.658)	-1.956 (0.052)	-0.304 (0.762)
Panel B: Fund Managers						
All Trades	0.73%***	1.34%***	0.79%**	0.89%***	-0.30%	-0.17%
Buys	0.42%***	1.36%***	0.72%*	0.65%	-1.00%	-0.83%
Sells	1.14%***	1.33%***	0.87%*	1.04%***	0.42%	0.24%
Difference (Buys-Sells)	-0.72%***	0.03%	-0.15%	-0.39%	-1.43%	-1.07%
t-statistic (p-value)	-3.042 (0.002)	0.042 (0.967)	-0.171 (0.864)	-0.485 (0.628)	-0.893 (0.374)	-0.362 (0.720)
Panel C: Insurance Companies						
All Trades	0.52%***	1.05%***	2.70%***	0.64%	8.04%**	n/a
Buys	0.32%**	0.58%*	2.08%***	1.03%	-0.43%	n/a
Sells	0.75%***	1.21%***	3.23%***	0.51%	12.28%	n/a
Difference (Buys-Sells)	-0.43%	-0.63%	-1.15%	0.52%	-12.70%	n/a
t-statistic (p-value)	-1.307 (0.191)	-0.837 (0.403)	-0.421 (0.675)	0.149 (0.883)	-1.558 (0.363)	n/a
Panel C: Overseas Institutions						
All Trades	0.43%***	0.49%	2.83%***	2.14%	6.84%	0.07%
Buys	-0.08%	-0.04%	0.95%***	3.71%***	-2.88%***	0.17%
Sells	1.34%***	0.74%*	4.26%***	0.45%	16.55%*	-0.04%
Difference (Buys-Sells)	-1.43%***	-0.78%	-3.32%	3.26%	-19.44%	0.21%
t-statistic (p-value)	-3.007 (0.003)	-0.564 (0.573)	-1.471 (0.145)	0.971 (0.341)	-1.704 (0.164)	0.088 (0.931)
Panel D: Banks						

Table 26. Continued--

All Trades	0.50%***	1.27%***	0.24%	-0.02%	-1.17%	-2.05%
Buys	0.39%	2.03%***	1.43%	-0.69%	-1.24%	-2.05%
Sells	0.60%**	1.00%**	-0.66%	0.45%	-1.10%	n/a
Difference (Buys-Sells)	-0.21%	1.03%	2.09%*	-1.15%	-0.14%	n/a
t-statistic (p-value)	-0.389 (0.698)	1.078 (0.282)	1.741 (0.087)	-0.777 (0.439)	-0.045 (0.966)	n/a

Panel E: Industrial and Commercial Companies

All Trades	0.59%***	1.60%***	1.05%	-1.35%	5.58%	8.64%**
Buys	0.24%	2.78%***	0.17%	5.43%	4.64%	11.61%*
Sells	1.39%***	0.91%	1.44%	-3.44%*	6.28%	6.26%
Difference (Buys-Sells)	-1.15%	1.87%	-1.27%	8.88%**	-1.64%	5.35%
t-statistic (p-value)	-1.304 (0.193)	1.156 (0.250)	-0.568 (0.572)	2.150 (0.048)	-0.321 (0.761)	0.663 (0.529)

Panel F: Investment Trusts

All Trades	1.38%***	4.83%***	4.04%***	3.06%**	1.09%	7.89%
Buys	0.98%***	3.23%***	0.67%	1.97%	1.09%	2.28%
Sells	2.26%***	5.46%***	5.59%***	3.54%*	n/a	13.51%
Difference (Buys-Sells)	-1.28%	-2.23%	-4.92%	-1.57%	n/a	-11.22%
t-statistic (p-value)	-1.472 (0.142)	-1.025 (0.307)	-1.284 (0.205)	-0.188 (0.854)	n/a	n/a ^a

Panel G: Pension Funds

All Trades	0.13%	1.63%***	0.45%	2.10%	0.52%	7.52%
Buys	-0.02%	-1.19%	-0.33%	-2.64%	0.97%	3.84%
Sells	0.28%	2.51%***	0.84%	3.99%**	0.29%	14.90%
Difference (Buys-Sells)	-0.30%	-3.70%**	-1.18%	-6.63%	0.68%	-11.07%
t-statistic (p-value)	-0.392 (0.695)	-2.041 (0.043)	-0.539 (0.592)	-1.904 (0.115)	0.122 (0.922)	-0.819 (0.563)

(^a) Cannot be computed due to N=1 for both groups.

Table 27. Selected Abnormal Returns for Major Institutional Investors.

Excludes confounding trading events. *, **, *** significant at 0.10, 0.05 and 0.01 level, respectively.

	N	Day ₀	CAR _{-40,-2}	CAR _{-1,+1}	CAR _{+2,+40}
Panel A. Fund Managers					
Buy	2159	0.12**	-1.12***	0.24**	-0.50
Sell	2024	0.02	2.22***	0.09	-0.26
<i>t-test of difference</i>		1.41	-6.08***	1.13	-0.49
Panel B Insurance Companies					
Buy	988	0.10	-0.92*	0.20	-0.96**
Sell	1117	0.11	1.75***	0.26**	1.05**
<i>t-test of difference</i>		-0.09	-3.90***	-0.33	-2.99***
Panel C. Investment Trusts					
Buy	344	0.27**	-1.47	0.82***	1.44
Sell	279	0.21**	4.59***	0.95***	-1.38
<i>t-test of difference</i>		0.31	-3.64***	-0.32	1.93**
Panel D. Overseas Investors					
Buy	821	0.14*	-1.76***	0.23	-0.89
Sell	603	0.08	-1.63**	0.40**	-0.45
<i>t-test of difference</i>		0.44	-0.12	-0.66	-0.46
Panel E. Banks					
Buy	348	0.03	1.11	0.26	-1.69**
Sell	499	0.04	0.29	0.19	-1.98***
<i>t-test of difference</i>		0.09	0.71	0.27	0.26
Panel F. Industrial and Commercial Companies					
Buy	386	0.34**	-1.04	0.34	-1.35*
Sell	230	0.02	0.58	0.20	0.07
<i>t-test of difference</i>		1.28	-1.08	0.40	-1.04
Panel G. Pension Funds					
Buy	180	-0.05	1.85	0.15	-0.90
Sell	306	0.40	-0.49	0.64*	-1.05
<i>t-test of difference</i>		-1.28	1.23	-1.02	0.08
Panel H. Other Investors					
Buy	695	0.04	-1.16*	0.08	0.17
Sell	713	0.07	0.86	0.06	-1.45
<i>Test of difference</i>		-0.26	-1.86*	0.08	1.29

The most striking results are reported in Table 27 which shows the behaviour of share prices around the announcement of the trades for the same 8 categories of investors. Panel A presents the results for the trades undertaken by fund managers. Although the abnormal returns on the date of the buy orders are positive and significant, they are positive but not significant on the sell orders. These investors appear to time perfectly their trades. Before they buy share prices decrease significantly by 1.12%, while before they sell, shares prices increase abnormally by an average of 2.22%. The difference in means abnormal returns between the $CAR_{40,-2}$ of the buy and sell orders is statistically significant ($t = -6.08$). However, despite their ability to time their trades, fund managers do not appear to be able to predict the behaviour of share prices as in the post-event period [+2 to +40], share prices decrease not significantly by 0.5% after they buy and by 0.26% after they sell.

Table 27, Panel B reports the results for insurance companies. There is no statistical difference between the event date abnormal returns of the buy and sell orders. Like fund managers, insurance companies appear to time their trades: The $CAR_{40,-2}$ are negative before they buy and positive before they sell. However, in the post-event period share prices carry on decreasing after they buy and increasing after they sell.

Table 27, Panel C. shows the results of trades undertaken by investment trusts. Share prices increase significantly on the event date for both buy and sell orders. Before they sell share prices increased substantially by 4.59%. However, before they buy, there is no indication of a run-up in share prices. Finally, in the post-

event period, share prices do not carry on increasing significantly after they buy or decreasing after they sell, suggesting that, they also cannot predict the behaviour of share prices.

For the remaining investors the trades are not strategically undertaken. Banks, industrial and commercial companies, pension funds and other investors do not appear to have a significant effect on the equilibrium share prices when they trade. They also do not time their trades and the post-trade cumulative abnormal returns are, in most cases, not significant, suggesting that these investors cannot predict the behaviour of share prices.

In Table 27, the negative CARs for the post purchase window (+2,+40) for the buy trades of fund managers (-0.50%), insurance companies (-0.96%), banks (-1.69%) and pension funds (-0.90.%) are in accordance with the findings of Bethel et al. (1998) who report a slightly negative average market adjusted return for the 200-day post purchase window for firms undergoing block purchases by financial investors. Additionally, the findings for fund managers, agrees with Marsh (1990) who argues that because their portfolio is measured relative to a market index or to another fund's performance, the only means of outperforming is through spotting and buying undervalued shares while selling overvalued ones.

4.8. Discussion and conclusions

In this chapter, using a unique data set, I analysed the market reaction to block trades undertaken by a number of institutional investors in the UK. In the data set I have compiled a total of 8,590 buy orders and 8,136 sell orders over the period

1993 to 1998. The results show that, on average, the market reacts positively to both sell and buy orders. However, I find significant differences in the trading patterns across institutional investors. For example, fund managers and investment trusts time their trades while pension funds adopt momentum strategies as they buy after share price run-up and sell when share prices decrease. The post-purchase results for buy orders are in line with those reported for the [1, +200] day event window by Bethel et al. (1998) for block purchases by financial investors.

The overall results do not provide support for the monitoring hypothesis but suggest that block trades reflect the trading strategies of institutional investors and that some institutions are better than the others in timing their trading strategies.

Overall, the results for buy trades are consistent with the findings of Chan and Lakonishok (1995) in that cumulative abnormal returns are negative before the trade, cut the x-axis around the trade date and subsequently become positive, except for a price reversal after day 33. For sell trades I find a run-up to the date of the trade (day 0) of a smaller magnitude than that reported by Chan and Lakonishok (1995). The negative cumulative abnormal returns for the (+2,+40) window for buy trades of fund managers, insurance companies, banks and pension funds is consistent the findings of Bethel et al. (1998). Additionally, the results for the trading pattern followed by fund managers is consistent with Marsh (1990) who suggests that the UK fund management industry,

characterised by the pressure to outperform arising from the quarterly performance measurement exercise, tends to follow contrarian strategies.

Chapter 5. What happens after institutional trades?

5.1. Introduction

In this chapter the operational, financial and governance changes that take place following buy transactions are examined with the intention of detecting any post-purchase monitoring activity exercised by institutional shareholders.

Jensen and Ruback (1983) were the first to suggest that block trades can be viewed as 'control transactions'. They identified two fundamentally different control transactions: one in which relatively passive shareholders chose among offers for control of the firm and the other in which "activist stockholders are the parties who (alone or in coalition with others) buy control of a company and hire and fire management to achieve a better resource utilisation" (p.6). They suggest that the paradigm of the active investor is best suited to viewing block trades. Barclay and Holderness (1991) agree with this view and argue that "negotiated block trades should be added to the list of corporate control events" (p.862). They suggest that firm value associated with a block trade is not determined solely by the change in fractional ownership but also by the blockholder's specific managerial or monitoring skills.

Adopting a similar point of view, Bethel et al. (1998) look at block trades within the framework of the market for partial corporate control. Building on the conclusion of Demsetz and Lehn (1985) that block purchases can occur so long as the expected benefits of doings so outweigh the expected costs, Bethel et al. also suggest that the potential benefits of block purchases, in the form of

dividends and capital gains will be “especially significant if a block purchase can influence policy so as to improve firm performance” (p.607). They also explain that the potential costs, on the other hand, involve decreased portfolio diversification and new expenditures related with resources to monitor management, mount proxy contests and so forth. Therefore, in order to get a complete picture of the partial corporate control transaction, it is crucial to analyse block trades not just by looking at the stock market reaction around the trade date, but also by looking at the changes that occur in the firm following the trade.

With this objective in mind, in an attempt to directly test the hypothesis that institutions buying blocks of shares pressure firms to improve performance when the benefits of such action outweigh the costs involved, I examine operational, financial and governance changes in the firm following block purchases by institutional shareholders.

This analysis is crucial in complementing and further exploring the findings in the previous two chapters. In Chapter 3, I analysed the relationship between performance and shareholding by looking at the holdings of different types of investors. However, these holdings might be considered as being “old”, in the sense that these shareholders might have had a stake in the company for a very long time, which could lead to a failure to observe the effects of shareholder monitoring. Therefore, concentrating on the “fresh” holdings, that is recently acquired shares, could help circumvent this problem and offer us a new perspective towards finding evidence of shareholder monitoring and activism at

work. In Chapter 4, I examined changes in stock prices around the date of the announcement of buy and sell transactions by institutional investors to see whether the announcement of these trades affect the market's perception of the value of the firm due to the shareholder monitoring expected. However, it is important to track whether this expected monitoring is actually realised by looking at what types of changes occur in the company subsequent to the buy transactions, which will be the subject of the sections that follow.

5.2. Changes subsequent to the block trade

A number of studies in the literature have reported empirical evidence on the presence of operational, financial and governance changes that follow block trades. In this section I will briefly highlight the findings reported in the 2 most relevant studies⁵⁰.

Barclay and Holderness (1991) examine trades of at least 5 percent of the common stock of NYSE- or AMEX-listed corporations between 1978 and 1982. Their sample comprises 106 block trades involving 97 corporations. They find that top manager and director turnover following the trades are far higher than the average level we would expect in a public corporation⁵¹. 33 percent of the firms in their sample replace their CEOs within a year and an additional 19 percent replace their CEOs in the following year. They report a 37 percent

⁵⁰ For a detailed account of the empirical studies and the changes that come about subsequent to targeting by shareholder activists, please refer to Gillan and Starks (1998).

⁵¹ Comment (1985) reports a 5% annual turnover rate for CEOs of 2731 NYSE- or AMEX-listed corporations between 1975 and 1980. Warner et al. (1988) find an annual turnover rate of 18% for top management among larger firms.

turnover rate for chairman of the board in the year following the trade and only 26 percent of the firms have their chief executive and chairman unchanged within 2 years following the block trade. They also report high turnover among other members of the top management team and directors. However, it is important to note that financial institutions are not included in their sample of block buyers. Their sample of block buyers comprised corporations (79 percent) and individuals (21 percent) only.

Bethel et al. (1998) report results consistent with those of Barclay and Holderness (1991). Using a sample of 425 firms from the 1980 Fortune 500 list, between 1980 and 1989, they find that CEO turnover of firms which have experienced an activist⁵² block purchase has increased from 10.7 percent in the two years before the block purchase to 22.3 percent in the two years after the block purchase. They also report that block share purchases by activists are followed by increases in divestitures and share repurchases and decreases in mergers and acquisitions. Following the purchase, the rate of divestitures increased from 46 percent to 65 percent, share repurchases increased from 13 percent to 33 percent and corporate mergers and acquisitions decreased from 51 percent to 35 percent. Therefore, it would be fair to say that activists do not hesitate to exercise shareholder power either by means of voting or in other

⁵² Bethel et al. define "blockholder" as "a direct owner of a beneficial interest of 5% or more of a firm's outstanding shares". They define activist blockholders as those investors "who announce their intention of influencing firm policies or who are known for activist policies in the past" (p.611).

possible ways in order to increase the 'fit /focus' or to improve the financial strength of the company.⁵³

However, it is worth noting that the picture is quite different for financial block trades, which include trades by banks, pension funds, money managers and individuals who do not adopt a public activist position. They find no statistically significant difference between the periods before and after the block share purchases. They suggest that one possible way of interpreting this finding could be that financial investors are not necessarily passive but just prefer "quiet diplomacy" in order to bring about changes in the firm (p.626). An alternative explanation could be that financial investors are just good investors capable of identifying "unrecognised turnaround candidates or firms that are willing and able to self-restructure" (p.628). Bethel et al. also report that, an examination of the share price performance over a 200-day post-purchase window for firms experiencing financial block purchases revealed a slightly negative average market adjusted return, which does not provide much support for the argument

⁵³ John and Ofek (1995) suggest the "fit-focus" hypothesis, which rests on rather puritanical assumptions. They argue that "in an efficient capital market in which management seeks to maximise value" there are 2 major motives for divestment (p.105). According to the first motive, the asset may have a better 'fit' within the buying firm; that is, the buying firm may be able to operate the asset more efficiently. Hence value can be created by the sell-off and the two firms can "split the difference" (Sicherman and Pettway, 1992). The second motive is an attempt to increase 'focus' on the core business of the firm through selling irrelevant assets. This is especially important in a situation where the divested asset starts to generate negative synergies for the firm, which can be avoided by means of an asset sale. This can further enable an improved allocation of the firm's resources (Linn and Rozeff, 1984; Weston et al., 1990). The general framework underlying the 'fit-focus' hypothesis was originally proposed by Hite et al. (1987) who suggest that irrespective of the use of proceeds, stockholders should benefit from sell-offs.

that financial block purchasers possess a “superior stock selection ability” (p.628).

5.3. Data and methodology

The news data used in this chapter was extracted from Extel Company Research CD-Roms. This information is supplied to Extel by the Regulatory News Service (RNS) of the London Stock Exchange. By accepting to abide by the rules and regulations of listing compiled in the ‘Yellow Book’, all quoted companies are obliged to provide timely and accurate information to the RNS regarding the news items falling under the relevant categories.

For all non-financial UK-listed companies, all news items regarding corporate divestitures, corporate mergers, corporate acquisitions, capital changes, employee layoffs, CEO changes, president changes and board changes were extracted for the period January 1993-December 1998. This involved a tedious process of downloading each company’s news items for each year one-by-one as well as writing a computer program to arrange the raw data and to perform the analysis. Following Bethel et al. (1998), only those buy transactions that are preceded by 24 months of inactivity are included in the sample. Additionally, data on buy transactions for years 1993 and 1998 were dropped from the sample to facilitate the one-year period ‘before vs. after comparisons’. Also, I exclude from analysis those cases with incomplete or missing news data in Extel. This leaves me with 645 buy events from 1994 through to the end of 1997, for 512 companies.

The contents of all the news item categories are straight forward with the exception of 'capital changes'. The news items in this category comprised share buybacks, share splits and scrip dividends. I have reviewed the detailed breakdowns of the news items for 5 randomly selected companies and have come across announcements of scrip dividends much more frequently than share buybacks and share splits⁵⁴. However, it is impossible to make a generalisation as to what the 'capital changes' category comprised for my sample of 512 companies. Moreover, within the confines of this study, it is not feasible to include in the analysis the detailed breakdowns of the news items, due to the overwhelming number of downloads it would require in addition to the extremely complex computer program to overcome the inconsistent wording used in the text files. Therefore, I leave this matter as an issue for future studies in this research area.

I analyse the financial, operational and governance changes that take place in the company following the buy trades, first by a comparison based on the type of institution buying the shares. I compare the pressure-sensitive vs. pressure resistant institutions and to further analyse which particular type of institution could be driving the results, I compare the top 3 institutions with the highest number of block trades under each of the pressure categories. I use the Brickley, Lease and Smith (1988) definition for the pressure-resistant vs. pressure-sensitive distinction. I compare the frequency of changes during the one-year period before

⁵⁴ Please refer to Lasfer (1997) for a thorough account and analysis on the use of scrip dividends in the UK and to Lasfer (2000) for the institutional framework under which share repurchases occur in the UK and in Europe.

and after the buy transactions by using a Wilcoxon signed-rank test. To measure the presence of a significant difference in the occurrence of an event when comparing buy transactions made by different the types of institutions, I use a Mann-Whitney U test and a Kruskal-Wallis test was used where appropriate. Secondly, I perform a comparison between financial and non-financial blockholders to detect any patterns that might emerge and also to be able compare results with that of Bethel et al. (1998). Finally, I try to answer the question of whether there are any size effects involved, and analyse separately those trades in which the new percentage ownership as a result of the trade is 5 percent or more vs. less than 5 percent of the outstanding ordinary shares of the company. In the following section I present the findings based on the above analysis.

5.4. Empirical results

In the sample there are 232 buy trades for 1994, 102 for 1995, 215 for 1996 and 96 for 1997. The average (median) size of the buy trade is 3.4 percent (1.3 percent) and the average new ownership level is 9.9 percent (9.1 percent) of the outstanding ordinary shares of the company.

Table 28 presents the results of the comparison of financial, operational and governance changes that take place in the company following the purchases by pressure-resistant vs. pressure-sensitive institutions. Purchases by pressure-resistant institutions are followed by an increase in the rate of divestitures and an increase in the rate of capital changes. The rate of divestitures rose from 23 percent to 29 percent during the year following the purchase, which is a

statistically significant increase at the 5 percent level. The rate of capital changes has increased from 20 percent to 27 percent in the year subsequent to the purchase, which is also statistically significant at the 5 percent level.

On the other hand, purchases by pressure-sensitive institutions are followed by a statistically significant (at the 1 percent level) change in the rate of capital changes only. There is an 11 percent increase in the rate of capital changes in the year subsequent to the purchase. This is higher than the 6 percent increase in the rate of capital changes following purchases by pressure-resistant institutions.

When I try to see whether there is any statistically significant difference between the 2 institutional categories, the picture is quite interesting. Although I was able to find an increase in the rate of divestitures following purchases by pressure-resistant institutions, I fail to reject the null hypothesis that the rate of corporate divestitures both before and after the purchase is the same for both pressure groups. As for the frequency of capital changes, there is a statistically significant difference at the 5 percent level between the two pressure groups, which shows that pressure-sensitive institutions tend to bring about capital changes in the company in the year following the purchase more frequently than that of pressure-resistant institutions. The frequency of capital changes after the purchase is 35 percent for the pressure-sensitive, while it is 27 percent for the pressure-resistant group.

Finally, although I do not find any evidence of an increase in the frequency of CEO changes following the purchase by each of the pressure groups, I reject the null hypothesis that frequency of CEO changes after the purchase is the same

between the two groups. In only 11 percent of the purchases by the pressure-resistant group, a CEO change took place within the year following the trade, as opposed to a 20 percent for the pressure-sensitive group.

Upon further investigation I find that the statistically significant difference in capital changes before and after the purchase is driven by unit trusts for the pressure-resistant group and insurance companies for the pressure-sensitive group. Out of the 7 purchases by unit trusts, 3 have been followed by capital a change, which gives a frequency of 43 percent for the one-year period after the share purchase, significant at the 10 percent level. For purchases by insurance companies, the frequency of capital changes increase from 22 percent before purchase to 38 percent after purchase⁵⁵, significant at the 1 percent level, which still holds when I look at only those purchases after which the new ownership level is at least 5 percent of the outstanding ordinary shares of the company⁵⁶. However, for block purchases where the block traded itself is at least 5 percent, capital changes are no longer significant both before and after the block purchase and across block purchases by different institutions.

In order to see how firm size affects these results, I split the sample in to small and large companies based on market capitalisation. Firms with market capitalisation less than the median of the whole sample are classified as small, and those with market capitalisation equal to or greater than the median are classified as large. The results of this analysis are presented in Table 29.

⁵⁵ Please refer to Table 30 for a detailed analysis including other institutions.

⁵⁶ Please refer to Table 32 for a detailed analysis including other institutions.

For blocks purchased by pressure-resistant institutions, I find a statistically significant difference in the frequency of corporate divestitures and capital changes, before vs. after the trade involving shares of small firms. The rate of corporate divestitures increased from 14 percent to 21 percent and the rate of capital changes increased from 13 percent to 21 percent during the one-year period following the trade. When the purchased block belongs to a large firm, however, I fail to detect any statistically significant change following the trade.

For blocks purchased by pressure-sensitive institutions, however, there are no statistically significant changes before vs. after the trade involving the shares of both small and large firms, with the only exception being an increase in capital changes from 31 percent to 45 percent following the block purchase of shares in large companies. It is difficult to interpret this finding due to the types of events that are included in the capital changes category, as explained in detail in Section 5.3..

From a monitoring point of view, one possible explanation could be that pressure-sensitive institutions do not bother to bring about changes in small firms and do not have the courage to bring about changes in large firms due to their current or potential business interests with the firm. We would expect pressure-resistant institutions to be more likely to bring about operational and corporate governance changes following their block purchases. However, I find that this only holds true for block purchases involving shares of small firms. Another explanation could be that, since the overall level of the rate of operational and corporate governance change items included in the analysis is generally higher

for large firms already, both the pressure-resistant and pressure-sensitive institutions do not think it is necessary to further force any changes following their block purchases.

The overall level of corporate divestitures, acquisitions, capital changes, employee layoffs and board changes is higher for large companies, both before and after the purchases of pressure resistant institutions. This is also echoed for pressure sensitive institutions. The overall level of corporate divestitures, acquisitions, capital changes, CEO and board changes are higher for large companies, for blocks purchased by pressure sensitive institutions. Therefore, it is fair to say that there exists a difference between small and large companies in terms of the rate of operational and corporate governance changes both before and after block purchases, regardless of whether the purchasing institution is pressure-resistant or pressure-sensitive. This finding is in line with the empirical studies documenting the size anomaly for the LSE (Levis, 1985, 1988). In the next section, I shall try to find out what could be driving these results by comparing the top 3 institutions with the highest number of purchases under each of the pressure categories.

Table 28. Changes in Operations and Corporate Governance after share purchases

The table compares changes in operations and corporate governance during the one-year period before and after the buy trade. Following Bethel et al. (1998), only the buy transactions that are preceded by 24 months of inactivity are included in this analysis. The Brickley, Lease and Smith (1988) definition is adopted for the pressure-resistant vs. pressure-sensitive distinction. A Wilcoxon signed-rank test is used to measure the presence of a statistically significant change before and after the buy transaction. A Mann-Whitney U test is used to measure the presence of a significant difference in the occurrence of an event when comparing buy transactions made by pressure-resistant versus pressure-sensitive institutions. Measures of change are based on data supplied to Extel Company Research by the Regulatory News Service of the London Stock Exchange. N stands for number of buy transactions.

	Pressure-Resistant Institutions (N:316)	Pressure-Sensitive Institutions (N:208)	Mann-Whitney p-value
Corporate divestiture			
Frequency before	22.8%	27.9%	0.186
Frequency after	28.8%	27.9%	0.821
p-value (before v. after)	0.049	1.000 ^(a)	
Corporate Merger			
Frequency before	0.3%	0.5%	0.766
Frequency after	0.6%	1.0%	0.673
p-value (before v. after)	0.317	0.564	
Corporate Acquisition			
Frequency before	40.8%	45.2%	0.323
Frequency after	43.0%	44.2%	0.788
p-value (before v. after)	0.463	0.808	
Capital changes			
Frequency before	20.3%	24.0%	0.305
Frequency after	26.6%	34.6%	0.049
p-value (before v. after)	0.048	0.011	
Employee layoffs			
Frequency before	0.6%	0.0%	0.251
Frequency after	0.6%	0.5%	0.821
p-value (before v. after)	1.000 ^(a)	0.317	
CEO change			
Frequency before	13.3%	17.8%	0.160
Frequency after	11.4%	19.7%	0.009
p-value (before v. after)	0.439	0.593	
President change			
Frequency before	0.3%	1.4%	0.148
Frequency after	0.0%	0.5%	0.218
p-value (before v. after)	0.317	0.317	
Board change			
Frequency before	67.4%	69.2%	0.661
Frequency after	68.0%	69.2%	0.774
p-value (before v. after)	0.850	1.000 ^(a)	

(a): the frequencies of the change before and after the purchase are equal to each other.

Table 29. Changes in Operations and Corporate Governance after share purchases- by company size

The table compares changes in operations and corporate governance during the one-year period before and after the buy trade. Following Bethel et al. (1998), only the buy transactions that are preceded by 24 months of inactivity are included in this analysis. The Brickley, Lease and Smith (1988) definition is adopted for the pressure-resistant vs. pressure-sensitive distinction. A Wilcoxon signed-rank test is used to measure the presence of a statistically significant change before and after the buy transaction. A Mann-Whitney U test is used to measure the presence of a significant difference in the occurrence of an event when comparing buy transactions made involving shares of small firms versus large firms. Measures of change are based on data supplied to Extel Company Research by the Regulatory News Service of the London Stock Exchange. N stands for number of buy transactions.

	Pressure-Resistant Institutions			Pressure-Sensitive Institutions		
	Small Co. (N = 184)	Large Co. (N = 132)	MW p-value	Small Co. (N =87)	Large Co. (N = 121)	MW p-value
Corporate divestiture						
Frequency before	13.6%	35.6%	0.000	24.1%	30.6%	0.308
Frequency after	20.7%	40.2%	0.000	20.7%	33.1%	0.050
p-value (before v. after)	0.053	0.386		0.532	0.612	
Corporate Merger						
Frequency before	0.0%	0.8%	0.238	1.1%	0.0%	0.238
Frequency after	0.5%	0.8%	0.813	1.1%	0.8%	0.814
p-value (before v. after)	0.317	1.000		1.000	0.317	
Corporate Acquisition						
Frequency before	33.2%	51.5%	0.001	31.0%	55.4%	0.001
Frequency after	36.4%	52.3%	0.005	27.6%	56.2%	0.000
p-value (before v. after)	0.414	0.869		0.513	0.884	
Capital changes						
Frequency before	12.5%	31.1%	0.000	13.8%	31.4%	0.003
Frequency after	21.2%	34.1%	0.011	20.7%	44.6%	0.000
p-value (before v. after)	0.016	0.599		0.221	0.024	
Employee layoffs						
Frequency before	0.0%	1.5%	0.094	0.0%	0.0%	1.000
Frequency after	0.5%	0.8%	0.813	1.1%	0.0%	0.238
p-value (before v. after)	0.317	0.564		0.317	1.000	
CEO change						
Frequency before	10.9%	16.7%	0.135	17.2%	18.2%	0.861
Frequency after	9.2%	14.4%	0.156	12.6%	24.8%	0.030
p-value (before v. after)	0.532	0.622		0.371	0.182	
President change						
Frequency before	0.5%	0.0%	0.397	2.3%	0.8%	0.381
Frequency after	0.0%	0.0%	1.000	0.0%	0.8%	0.396
p-value (before v. after)	0.317	1.000		0.157	1.000	
Board change						
Frequency before	60.3%	77.3%	0.002	63.2%	73.6%	0.112
Frequency after	60.0%	78.8%	0.001	60.9%	75.2%	0.028
p-value (before v. after)	1.000	0.739		0.695	0.739	

5.4.1. Institutional Sub-groups

Table 30 provides a comparison of financial, operational and governance changes that take place in the company following purchases by the top 3 buyers under each of the pressure-resistant and pressure-sensitive categories. I use a Wilcoxon signed rank test to detect the presence of a statistically significant difference in the frequency of the changes before and after the purchase. I use a Kruskal-Wallis test to detect the presence of a statistically significant difference in the frequency of the changes across the different types of institutional investors' purchases as well as those within each pressure category. I will first describe the findings within each sub-group and then move on to an overall comparison.

Among the institutions within the pressure-resistant category, the purchases of investment trusts do not lead to any statistically significant difference in any of the change items subsequent to the trade. For fund managers however, I detect an increase in the frequency of board changes, significant at the 10 percent level ($P=0.104$), from 68 percent during the year before the trade to 74 percent in the year subsequent to the trade. This 74 percent is significantly different, at the 1 percent level, from the rate of board changes after purchases by investment trusts and pension funds.

Additionally, following purchases by pension funds, I find a statistically significant increase in the frequency of corporate divestitures and a decrease in the frequency of corporate acquisitions and board changes. This is really what we would expect to see, since it can be considered as an indication of institutional shareholder monitoring by bringing about "corporate refocusing" which has been

documented to have a positive stock market response (Afshar et al., 1992) as well as a positive effect on firm's operating performance (Haynes et al., 2001) in the UK. The rate of corporate divestitures increased from 7 percent in the year before purchase to 26 percent in the year after the purchase, while the rate of corporate acquisitions decreased from 56 percent to 30 percent and the rate of board changes decreased from 74 percent to 52 percent during the same period, statistically significant at the 10 percent, 5 percent, and 5 percent levels, respectively. The frequency of capital changes both before and after the purchase and among the purchases of different types of pressure-resistant institutions is no longer statistically significant.

Among institutions within the pressure-sensitive category, I detect an increase in the frequency of capital changes, significant at the 1 percent level, from 22 percent during the year before the trade to 38 percent in the year subsequent to the trade by insurance companies. As for purchases by banks, I find a statistically significant decrease in the frequency of CEO changes, from 34 percent during the year before the trade to 11 percent in the year following the trade, significant at the 1 percent level. Finally, for purchases by industrial and commercial companies I find that corporate divestitures have decreased from 32 percent to 19 percent during the year subsequent to the trade, significant at the 10 percent level.

Regarding the incidence of changes among purchases by all 6 institutions, I reject the hypothesis that, during the year subsequent to the purchase, the rate of corporate acquisitions (at 10 percent level), CEO changes (at 10 percent level) and board changes (at 1 percent level) across purchases by institutional subgroups is the same.

Table 30. Changes in Operations and Corporate Governance after share purchases- by type of institution buying

The table compares changes in operations and corporate governance during the one-year period before and after the buy trade. Following Bethel et al. (1998), only the buy transactions that are preceded by 24 months of inactivity are included in this analysis. The Brickley, Lease and Smith (1988) definition is adopted for the pressure-resistant vs. pressure-sensitive distinction. A Wilcoxon signed-rank test is used to measure the presence of a statistically significant change before and after the purchase. A Kruskal-Wallis test is used to measure the presence of a statistically significant difference in the frequency of the changes of interest across the different types of institutional investors' purchases. Measures of change are based on data supplied to Extel Company Research by the Regulatory News Service of the London Stock Exchange. N stands for number of buy transactions.

	Pressure Resistant Institutions				Pressure Sensitive Institutions			Overall	
	FM (N:225)	IT (N:57)	PF (N:27)	KW p-value	INS (N:120)	B (N:38)	ICC (N:37)	KW p-value	KW p-value
Corporate divestiture									
Frequency before	26.7%	14.0%	7.4%	0.018	30.0%	15.8%	32.4%	0.182	0.024
Frequency after	31.6%	19.3%	25.9%	0.179	31.7%	21.1%	18.9%	0.202	0.237
p-value (before v. after)	0.179	0.405	0.096		0.739	0.527	0.096		
Corporate Merger									
Frequency before	0.4%	0.0%	0.0%	0.830	0.8%	0.0%	0.0%	0.732	0.943
Frequency after	0.9%	0.0%	0.0%	0.688	0.8%	0.0%	2.7%	0.483	0.744
p-value (before v. after)	0.317	-	-		1.000	-	(a)		
Corporate Acquisition									
Frequency before	41.3%	29.8%	55.6%	0.071	52.5%	36.8%	29.7%	0.027	0.018
Frequency after	46.7%	36.8%	29.6%	0.132	51.7%	31.6%	37.8%	0.059	0.078
p-value (before v. after)	0.146	0.206	0.035		0.876	0.564	0.366		
Capital changes									
Frequency before	23.1%	15.8%	11.1%	0.209	21.7%	21.1%	37.8%	0.117	0.124
Frequency after	27.1%	24.6%	22.2%	0.821	38.3%	31.6%	35.1%	0.742	0.227
p-value (before v. after)	0.299	0.225	0.257		0.002	0.248	0.808		
Employee layoffs									
Frequency before	0.9%	0.0%	0.0%	0.688	0.0%	0.0%	0.0%	-	0.779
Frequency after	0.4%	0.0%	3.7%	0.110	0.8%	0.0%	0.0%	0.732	0.370
p-value (before v. after)	0.564	-	(a)		(a)	-	-		
CEO change									
Frequency before	15.1%	10.5%	7.4%	0.412	15.8%	34.2%	10.8%	0.017	0.021
Frequency after	12.4%	8.8%	11.1%	0.740	23.3%	10.5%	18.9%	0.226	0.055
p-value (before v. after)	0.376	0.739	0.655		0.128	0.007	1.000		
President change									
Frequency before	0.4%	0.0%	0.0%	0.830	0.0%	2.6%	5.4%	0.055	0.019
Frequency after	0.0%	0.0%	0.0%	(a)	0.8%	0.0%	0.0%	0.732	0.669
p-value (before v. after)	(a)	-	-		(a)	(a)	(a)		
Board change									
Frequency before	67.6%	64.9%	74.1%	0.704	70.0%	68.4%	73.0%	0.907	0.936
Frequency after	73.8%	50.9%	51.9%	0.001	70.0%	65.8%	75.7%	0.643	0.008
p-value (before v. after)	0.104	0.117	0.034		1.000	0.705	0.763		

(a): the number of cases is not sufficient to achieve a reliable comparison.

5.4.2. Size effects

In an attempt to explore the size effects that might be driving the results, I first compare the purchases in which the size of the block purchased is equal to 5 percent or more vs. less than 5 percent of the outstanding ordinary shares of the company. Secondly, I compare the purchases in which the new ownership percentage is equal to 5 percent or more vs. less than 5 percent of the outstanding ordinary shares of the company. I analyse these two different measures of size first by using the full sample, then by the pressure distinction and finally by the type of institution under each pressure category. The cut-off point of 5 percent allows direct comparisons between the findings of this study and of previous research.

When I compare block purchases in which the size of the block traded is equal to 5 percent or more (N:131) with those that are less than 5 percent (N:514) of the company's outstanding ordinary shares, I find that for trades less than 5 percent, there is an increase in the frequency of capital changes from 20 percent for the one-year period before the purchase to 31 percent for the one-year period after the purchase, significant at the 1 percent level. I also reject the hypothesis that the rate of capital changes after the purchase (31% for <5% and 19% for $\geq 5\%$ group) is the same for the two size groups at the 1 percent level. However, for any of the other measures of change I fail to find any significant differences between the size groups and between the rates before and after the purchase.

Table 31. Changes in Operations and Corporate Governance after share purchases- by size of new % ownership

The table compares changes in operations and corporate governance during the one-year period before and after the buy trade. Following Bethel et al. (1998), only the buy transactions that are preceded by 24 months of inactivity are included in this analysis. A Wilcoxon signed-rank test is used to measure the presence of a statistically significant change before and after the buy transaction. A Mann-Whitney U test is used to measure the presence of significant difference in the occurrence of an event when comparing buy transactions in which the new % ownership amounts to 5% or more vs. less than 5% of the company's issued ordinary share capital. Measures of change are based on data supplied to Extel Company Research by the Regulatory News Service of the London Stock Exchange. N stands for number of buy transactions.

	New % Ownership		Mann-Whitney p-value
	5% or more (N =466)	Less than 5% (N =179)	
Corporate divestiture			
Frequency before	25.50%	27.90%	0.536
Frequency after	30.90%	25.70%	0.195
p-value (before v. after)	0.035	0.572	
Corporate Merger			
Frequency before	0.40%	0.60%	0.829
Frequency after	0.40%	1.10%	0.319
p-value (before v. after)	1.000	0.564	
Corporate Acquisition			
Frequency before	41.2%	46.4%	0.235
Frequency after	42.5%	45.3%	0.526
p-value (before v. after)	0.607	0.799	
Capital changes			
Frequency before	20.4%	22.3%	0.584
Frequency after	28.1%	30.7%	0.512
p-value (before v. after)	0.003	0.063	
Employee layoffs			
Frequency before	0.6%	0.0%	0.282
Frequency after	0.4%	0.6%	0.829
p-value (before v. after)	0.655	0.317	
CEO change			
Frequency before	17.4%	12.3%	0.114
Frequency after	14.4%	14.5%	0.962
p-value (before v. after)	0.178	0.516	
President change			
Frequency before	0.9%	0.6%	0.698
Frequency after	0.0%	0.6%	0.107
p-value (before v. after)	0.046	1.000	
Board change			
Frequency before	69.1%	65.4%	0.363
Frequency after	70.4%	63.7%	0.101
p-value (before v. after)	0.624	0.710	

Table 31 displays the results of the comparison between block purchases in which the new ownership percentage is equal to 5 percent or more vs. less than 5 percent of the outstanding ordinary shares of the company. I find that when the new stake held equals 5 percent or more, corporate divestitures occur more frequently while president changes occur less frequently subsequent to the purchase. The rate of corporate divestiture increases from 26 percent to 31 percent and the rate of president change decreases from 0.9 percent to 0 percent following the purchase, which are both significant changes at the 5 percent level. For capital changes, although I detect a statistically significant increase before vs. after the purchase, I cannot reject the hypothesis that the incidence subsequent to the purchase is the same for both of the size groups. Finally, for the 5 percent or more category the frequency of board changes following the purchase is 70 percent, which is higher than the 64 percent for the less than 5 percent category ($P=0.101$), although there is no statistically significant difference in both rates before vs. after the purchase.

Looking at the size effects for the pressure-sensitive vs. pressure-resistant block purchases, I first compare the pressure groups when the block traded is greater than or equal to 5 percent. There are 79 block purchases by pressure-resistant and 25 by pressure-sensitive institutions and none of the p-values for Wilcoxon and Mann-Whitney U-tests are significant. Secondly I compare the pressure groups when the new ownership level is equal to 5 percent or more. There are 250 block purchases for pressure-resistant and 126 for pressure-sensitive institutions. The results are very similar to those reported in Table 28, except for the difference in

the rate of capital changes for block purchases by the pressure-resistant category which is no longer significant.

Analysing the effect of size for the block purchases made by the different institutions, I find that sample size is greatly reduced when I use the size measure based on the traded block itself. There are 72 block purchases where the block traded is 5 percent or more of the outstanding ordinary shares of the company for fund managers. The corresponding figure is 12 for banks, 10 for insurance companies and 3 each for investment trusts, pension funds and industrial and commercial companies. None of the p-values for the Kruskal-Wallis or the Wilcoxon test statistics are significant, except for the CEO changes decreasing from 33 percent before block purchase to 8 percent following purchases by banks ($P=0.083$).

Table 32 presents the findings for block purchases after which the new ownership level is 5 percent or more of the outstanding ordinary shares of the company, by the type of institution buying. The results are very similar to those in Table 30. However, now pension funds are the only pressure-resistant institution whose purchases lead to a statistically significant difference subsequently. Following block purchases by pension funds, there is a 50 percent increase in the rate of divestitures which is significant at the 5 percent level. Also, I reject the null hypothesis that, the rate of divestitures after block purchases by pressure-resistant institutions is equal to each other, at the 10 percent level.

Table 32. Changes in Operations and Corporate Governance for Block Purchases after which new ownership level $\geq 5\%$ - by type of institution buying

The table compares changes in operations and corporate governance during the one-year period before and after the block purchase which makes the new ownership level equal 5 percent or more of the outstanding ordinary shares of the company. Following Bethel et al. (1998), only the buy transactions that are preceded by 24 months of inactivity are included in this analysis. A Wilcoxon signed-rank test is used to measure the presence of a statistically significant change before and after the buy transaction. A Kruskal-Wallis test is used to measure the presence of a statistically significant difference in the frequency of the changes of interest across the different types of institutional investors' block purchases. Measures of change are based on data supplied to Extel Company Research by the Regulatory News Service of the London Stock Exchange. N stands for number of block purchases.

	Pressure Resistant Institutions				Pressure Sensitive Institutions				Overall KW p-value
	FM (N:205)	IT (N:31)	PF (N:8)	KW p-value	INS (N:58)	B (N:34)	ICC (N:26)	KW p-value	
Corporate divestiture									
Frequency before	28.3%	9.7%	0.0%	0.021	24.1%	14.7%	38.5%	0.108	0.032
Frequency after	33.2%	16.1%	50.0%	0.086	25.9%	20.6%	19.2%	0.747	0.126
p-value (before v. after)	0.204	0.414	0.046		0.808	0.527	0.096		
Corporate Merger									
Frequency before	0.5%	0.0%	0.0%	0.909	0.0%	0.0%	0.0%	-	0.979
Frequency after	1.0%	0.0%	0.0%	0.826	0.0%	0.0%	0.0%	-	0.909
p-value (before v. after)	0.317	-	-		-	-	-		
Corporate Acquisition									
Frequency before	42.0%	22.6%	50.0%	0.102	55.2%	41.2%	23.1%	0.022	0.024
Frequency after	46.8%	25.8%	25.0%	0.051	50.0%	35.3%	26.9%	0.106	0.057
p-value (before v. after)	0.189	0.655	0.157		0.513	0.564	0.705		
Capital changes									
Frequency before	23.9%	16.1%	0.0%	0.194	17.2%	20.6%	30.8%	0.375	0.381
Frequency after	26.3%	22.6%	12.5%	0.630	37.9%	29.4%	42.3%	0.561	0.232
p-value (before v. after)	0.541	0.480	0.317		0.005	0.366	0.317		
Employee layoffs									
Frequency before	1.0%	0.0%	0.0%	0.826	0.0%	0.0%	0.0%	-	0.909
Frequency after	0.5%	0.0%	0.0%	0.909	1.7%	0.0%	0.0%	0.596	0.848
p-value (before v. after)	0.564	-	-		0.317	-	-		
CEO change									
Frequency before	16.1%	12.9%	12.5%	0.875	15.5%	29.4%	15.4%	0.226	0.484
Frequency after	13.2%	12.9%	12.5%	0.998	22.4%	11.8%	19.2%	0.450	0.574
p-value (before v. after)	0.366	1.000	1.000		0.317	0.034	0.705		
President change									
Frequency before	0.0%	0.0%	0.0%	-	0.0%	2.9%	7.7%	0.118	0.002
Frequency after	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	-	-
p-value (before v. after)	-	-	-		-	0.317	0.157		
Board change									
Frequency before	69.3%	71.0%	75.0%	0.929	67.2%	67.6%	76.9%	0.650	0.961
Frequency after	74.6%	58.1%	50.0%	0.062	70.7%	61.8%	80.8%	0.281	0.147
p-value (before v. after)	0.179	0.285	0.317		0.617	0.414	0.705		

5.4.3. *Multivariate Analysis*

In this section, I conduct a multivariate analysis in order to detect whether there is any post-purchase monitoring activity exercised by institutional shareholders. I look at operational and corporate governance changes, that occur in the company following the block purchase by different types of institutional shareholders, in a multivariate framework and include control variables in the analysis. Additionally, based on the difference between small and large firms in the overall incidence rate of operational and governance changes included in the analysis, as documented in Section 5.4., I split the sample into small and large firms.

I run binary logistic regressions in which the dependent variable takes on a value of 1 if an operational or governance change occurs in the one-year period following the block purchase and 0 otherwise. The independent variables comprise *Identity of Block Buyer* and a number of control variables including *Size of Company*, *Size of the transaction*, *Performance variables* and a *Volatility variable*. As the *Identity of Block Buyer*, I include the top 7 institutions which account for 557 of the 645 (86 percent of the total) block purchases. In order to take into account the *Size of the Company*, I use the logarithmic transformation of market capitalisation (LNMKTCAP). For the *Size of the transaction*, I use the percentage change in the level of ownership (PCTCHNG) and the new level of ownership percentage (OWNSHPCT) as a result of the purchase. To take into account the stock market response to the block purchase, I use *Performance variables* which comprise cumulative abnormal returns in the pre-purchase period (CAR[-40,-6]), the event window (CAR[-5,+1]) and the post-purchase

period (CAR[+2,+40]). Following Grinblatt and Keloharju (2001), the stock's average squared daily abnormal returns over the prior 60 trading days was used as a proxy for the stock's volatility. Finally, I include dummy variables for each year analysed (1994-1997), as well as a *Pressure Dummy* which takes into account the pressure classification (pressure-resistant vs. pressure-sensitive institution) of the block buyer⁵⁷. Table 33 presents the results of this analysis. Corporate Mergers, Employee Layoffs and President Changes which occur during the one-year period subsequent to the purchase are excluded from analysis due to the number of events being too small to facilitate a reliable analysis.

I report the results for the small firm sub-group in Table 33, Panel A, and the results for the large firm sub-group in Panel B. The most important finding in both these panels is that the identity of the block buyer is irrelevant in terms of the operational and governance changes that take place following the block purchases. The coefficients of all 7 of the *Identity of Block Buyer* variables are statistically insignificant for both the small and large firm sub-groups. Moreover, the coefficients of the *Pressure Dummy* in all the regressions are statistically insignificant, implying that whether the buying institution is pressure-resistant or pressure-sensitive is also irrelevant.

⁵⁷ The coefficients and p-values for the year dummies and the pressure dummy in the binary logistic regression analysis are not reported in Table 33 due to space reasons. For both small and large firms, the coefficients of these variables are not statistically significant. The only exception is the year dummies for 1994 and 1996 (significant at the 1 percent level) for both small and large firms and the dummy for 1995 (significant at the 10 percent level) for large firms only, where the dependent variable is capital changes. However, it is difficult to interpret this finding due to the nature of the different events included in the capital changes category, as explained in Section 5.3..

For the small firm sub-group, I find that as the new ownership percentage as a result of the trade increases, the likelihood of a corporate divestiture during the year following the trade also increases. I also find a positive relationship between the volatility of the stock and the rate of corporate divestitures subsequent to buy trades. Additionally, as the cumulative abnormal returns in the post-purchase window [+2,+40] increase, the likelihood of a corporate divestiture decreases. For capital changes and CEO changes, the only statistically significant coefficients are for the performance variable CAR [+2,+40]. Increases in the CARs for the [+2,+40] post-purchase window, increase the likelihood of capital and CEO changes occurring.

For the large firm sub-group, the size of the company (LNMKTCAP) is statistically significant for all the change items. I find that as the size of the company increases, changes in operations and corporate governance are more likely to occur within the one-year period following the block purchase. Additionally, I find that as the CARs in the post-purchase window [+2,+40] and the volatility of the stock increases, the likelihood of board changes also increases.

It is important to note that the major limitation of this analysis lies in the performance variables for the post-purchase period, since it is difficult to determine whether the firm's performance increased the likelihood of the change event occurring or the change event itself had an effect on firm's performance. Using long-run performance measures would help alleviate this problem, however, given my sampling period long-run data was unavailable.

Table 33. Changes in Operations and Corporate Governance - Multivariate Analysis

Binary logistic regressions where the dependent variable takes on a value of 1 when the change in operations or corporate governance occurs during the one year following the buy trade. Following Bethel et al. (1998), only the buy transactions that are preceded by 24 months of inactivity are included in this analysis. Dummy variables are included for each year analysed and the pressure category of the buying institution (the Brickley, Lease and Smith (1988) definition is adopted for the pressure-resistant vs. pressure-sensitive distinction). Measures of change are based on data supplied to Extel Company Research by the Regulatory News Service of the London Stock Exchange.

Panel A: Small Firms (Mkt.Cap.<median) (N:322)										
Independent Variables	Corporate divestiture		Corporate Acquisition		Capital changes		CEO change		Board change	
	coeff.	p-value	coeff.	p-value	coeff.	p-value	coeff.	p-value	coeff.	p-value
<i>Intercept</i>	1.25	0.621	-2.83	0.234	-3.90	0.173	-8.59	0.722	6.57	0.659
<i>Size of Company</i>										
LNMKTCAP	-0.16	0.235	0.09	0.448	0.13	0.394	0.05	0.793	0.04	0.751
<i>Size of the transaction</i>										
OWNSHPCT	6.29	0.026	-1.89	0.496	-1.72	0.586	-1.00	0.772	2.10	0.388
PCTCHNG	-4.77	0.149	-1.57	0.621	-1.05	0.810	-5.72	0.306	-2.64	0.331
<i>Identity of Block Buyer</i>										
FM	-0.72	0.474	1.21	0.289	0.37	0.739	5.96	0.803	-6.58	0.655
IT	-0.60	0.558	0.93	0.425	0.58	0.610	5.44	0.820	-7.04	0.633
PF	0.29	0.795	-0.47	0.729	0.71	0.570	4.83	0.840	-7.04	0.633
INS	-0.64	0.543	0.79	0.500	-0.03	0.979	5.80	0.809	-6.57	0.656
B	-0.45	0.669	0.70	0.557	0.94	0.421	6.00	0.802	-6.87	0.641
ICC	-2.16	0.147	-0.79	0.610	0.31	0.822	7.12	0.766	-5.95	0.687
OVS	-0.85	0.561	-1.03	0.508	-5.95	0.627	0.14	0.996	-8.46	0.567
<i>Performance Variables</i>										
CAR [-40,-6]	-1.59	0.108	0.59	0.530	-1.62	0.161	-0.55	0.697	-0.94	0.262
CAR[-5,+1]	0.36	0.860	-0.83	0.643	-3.59	0.104	-1.16	0.677	-0.49	0.779
CAR[+2,+40]	-1.61	0.062	-0.44	0.559	1.90	0.080	2.20	0.074	-0.43	0.557
<i>Volatility Variable</i>										
AVGARSQ[-59,0]	133.16	0.092	-194.13	0.373	-116.71	0.551	-9.98	0.900	-19.31	0.746
<i>Chi-square</i>	30.01	0.052	24.61	0.174	66.96	0.000	17.96	0.525	19.72	0.412
<i>-2 Log likelihood</i>	301.98		384.84		248.54		194.89		413.05	
<i>Cox & Snell R²</i>	0.089		0.074		0.188		0.054		0.059	

Table 33 (cont.d)--

Panel B: Large Firms (Mkt. Cap. >=median) (N:323)										
Independent Variables	Corporate divestiture		Corporate Acquisition		Capital changes		CEO change		Board change	
	coeff.	p-value	coeff.	p-value	coeff.	p-value	coeff.	p-value	coeff.	p-value
<i>Intercept</i>	-15.61	0.671	-1.08	0.937	-4.54	0.741	-11.74	0.393	-12.75	0.729
<i>Size of Company</i>										
LNMKTCAP	0.45	0.000	0.33	0.002	0.42	0.001	0.32	0.014	0.28	0.047
<i>Size of the transaction</i>										
OWNSHPCT	2.19	0.245	2.63	0.181	1.29	0.531	0.69	0.788	-2.57	0.205
PCTCHNG	0.77	0.816	-4.47	0.172	-2.51	0.529	0.53	0.905	-1.52	0.701
<i>Identity of Block Buyer</i>										
FM	6.32	0.863	-5.73	0.672	-4.57	0.735	3.06	0.821	9.32	0.799
IT	6.14	0.867	-5.29	0.696	-4.66	0.731	4.04	0.766	6.78	0.853
PF	5.39	0.883	-5.38	0.690	-5.97	0.659	3.62	0.789	7.72	0.833
INS	6.29	0.864	-5.18	0.701	-4.39	0.745	4.11	0.761	8.41	0.818
B	-0.71	0.985	-5.81	0.667	-3.94	0.771	2.67	0.844	9.87	0.788
ICC	5.50	0.881	-5.55	0.681	-4.35	0.747	3.06	0.821	8.73	0.812
OVS	6.50	0.859	-6.26	0.644	-6.13	0.651	4.02	0.767	9.50	0.796
<i>Performance Variables</i>										
CAR [-40,-6]	0.65	0.579	-0.46	0.681	0.50	0.714	0.06	0.968	1.41	0.365
CAR [-5,+1]	-1.97	0.346	-1.77	0.422	-3.70	0.188	-5.60	0.056	-2.68	0.400
CAR [+2,+40]	-0.89	0.470	2.09	0.071	-0.63	0.650	-0.33	0.827	2.48	0.097
<i>Volatility Variable</i>										
AVGARSQ[-59,0]	122.44	0.428	-84.28	0.575	251.07	0.330	380.56	0.109	1170.67	0.061
<i>Chi-square</i>	38.99	0.004	24.31	0.185	124.91	0.000	25.18	0.155	39.10	0.004
<i>-2 Log likelihood</i>	387.36		419.04		303.35		284.09		307.53	
<i>Cox & Snell R²</i>	0.114		0.073		0.322		0.075		0.115	

5.4.4. Comparison of findings

In this section I compare my findings to those reported in previous studies by Barclay and Holderness (1991) and Bethel et al. (1998).

The sample of block buyers used in the study by Barclay and Holderness is composed of corporations (79 percent) and individuals (21 percent). Therefore, in order to compare their work with this study, the industrial and commercial companies (ICCs) category would be the closest possible to their group of block buyers. Additionally, they only include trades of at least 5 percent of the company's common stock. However, in my sample there are only 3 block purchases by ICCs where the size of the block traded is at least 5 percent, which makes it difficult to make reliable comparisons.

A compromise can be made by comparing their results with those in Table 32 which give the frequency of CEO and president changes for block purchases after which the new ownership level is at least 5 percent of the outstanding ordinary shares of the company. The incidence of CEO changes during the one-year period following the block purchase by an ICC is 19 percent which is considerably less than the 33 percent that they have reported. Additionally, there are no president changes during the year following the block purchase by ICCs for my sample, while they have reported a 37 percent change. It is worth noting that the frequency of CEO, president and board changes following the block purchase are not statistically significantly different from the before purchase

levels in this study. However, I cannot compare this finding with the Barclay and Holderness study since they have not reported statistical significances.

In order to compare the results of this study with those of Bethel et al. (1998), I simulate results using the financial blockholder category that they have used.⁵⁸ Table 34 presents the results of this analysis. While they find no statistically significant difference between the periods before and after the block share purchases, I find an increase in the rate of corporate divestitures and capital changes for my full sample. However, when I look at only the purchases where the block traded is at least 5 percent of the outstanding ordinary shares of the company, I also fail to find any statistically significant difference before and after the block purchase.

Even if I assume that pressure-resistant institutions are more likely to be engaged in activist policies than pressure-sensitive ones, and compare the results in this study for purchases by pressure-resistant institutions where the block traded is at least 5 percent to those of Bethel et al., I do not find any difference in any of the change items before and after the block purchase.

⁵⁸ Bethel et al. have also included individuals who do not adopt a public activist position in the financial blockholder category, however, I was unable to collect data on individuals' trades due to the reasons explained in Chapter 4, Section 4.6.

Table 34. Changes in Operations and Corporate Governance after share purchases- financial blockholders

The table compares changes in operations and corporate governance during the one-year period before and after the buy trade. Following Bethel et al. (1998), only the buy transactions that are preceded by 24 months of inactivity are included in this analysis. A Wilcoxon signed-rank test is used to measure the presence of a statistically significant change before and after the buy transaction. A Mann-Whitney U test is used to measure the presence of significant difference in the occurrence of an event when comparing buy transactions made by financial versus non-financial blockholders. Measures of change are based on data supplied to Extel Company Research by the Regulatory News Service of the London Stock Exchange. N stands for number of buy transactions.

	Financial Blockholders (N: 484)	Non-Financial Blockholders (N: 161)	Mann-Whitney P-value
Corporate divestiture			
Frequency before	24.0%	32.9%	0.025
Frequency after	28.9%	31.1%	0.608
P-value (before v. after)	0.044	0.668	
Corporate Merger			
Frequency before	0.4%	0.6%	0.737
Frequency after	0.6%	0.6%	1.000
P-value (before v. after)	0.564	1.000	
Corporate Acquisition			
Frequency before	43.2%	41.0%	0.627
Frequency after	43.8%	41.6%	0.628
P-value (before v. after)	0.805	0.889	
Capital changes			
Frequency before	20.5%	22.4%	0.607
Frequency after	29.5%	26.7%	0.492
P-value (before v. after)	0.000	0.327	
Employee layoffs			
Frequency before	0.4%	0.6%	0.737
Frequency after	0.6%	0.0%	0.317
P-value (before v. after)	0.655	(a)	
CEO change			
Frequency before	15.5%	17.4%	0.57
Frequency after	14.3%	14.9%	0.839
P-value (before v. after)	0.560	0.527	
President change			
Frequency before	0.4%	1.9%	0.069
Frequency after	0.2%	0.0%	0.564
P-value (before v. after)	0.564	0.083	
Board change			
Frequency before	68.0%	68.3%	0.935
Frequency after	68.2%	69.6%	0.744
P-value (before v. after)	0.937	0.785	

(a): the number of cases is not sufficient to achieve a reliable comparison.

5.5. Discussion and conclusions

In this chapter I examine the operational, financial and governance changes that take place following buy transactions with the intention of detecting any post-purchase monitoring activity exercised by institutional shareholders. Since I concentrate on the recently acquired stakes, I would expect to see evidence of monitoring by looking at the incidence of changes that occur in the company subsequent to the share purchases.

I compare the pressure-sensitive vs. pressure resistant institutions and to further analyse which particular type of institution could be driving the results, I compare the top 3 institutions with the highest number of block trades under each of the pressure categories. I also inquire whether there are any size effects involved by splitting the sample into small and large firms, and also analyse separately those trades in which the new percentage ownership as a result of the trade and the size of the block traded is 5 percent or more vs. less than 5 percent of the outstanding ordinary shares of the company. Finally, I conduct a multivariate analysis taking into account control variables for the size of the company, size of the transaction, performance and volatility of stock returns.

In general, the findings agree with those reported for financial companies' block purchases by Bethel et al. (1998). I find that subsequent to purchases by pension funds, the frequency of corporate divestitures increased from 7 percent during the one-year period before purchase to 26 percent during the one-year period after

the purchase. On the contrary, the frequency of corporate divestitures decreased from 32 percent before to 19 percent after purchase by industrial and commercial companies. Following purchases by banks, I find that the incidence of CEO changes decreased from 34 percent before to 11 percent after purchase. These results are also robust when I look only at those trades in which the new ownership level is at least 5 percent. However, looking only at block trades in which the size of the block purchased is at least 5 percent, the above results are no longer significant, except for the decrease in the rate of CEO changes from 33 percent before to 8 percent after purchase by banks.

Therefore, the overall findings suggest that there is evidence of shareholder monitoring following share purchases by pressure-resistant institutions, largely driven by pension funds, during the year subsequent to the trade. However, for block purchases of at least 5 percent of outstanding ordinary shares of the company I fail to detect any direct influence of the trade, in terms of changes in operations and corporate governance, which really is contrary to what I would expect. I find an interesting case for block purchases by banks, for which one possible explanation could be that they tend to prefer buying blocks of shares in companies whose CEOs they know and approve of. Alternatively, it might be that, the decision to increase their exposure to the firm-specific risk is based on who the CEO is.

The most striking results are achieved in the multivariate analysis where I find that the identity of the block buyer (i.e. whether it is a fund manager, a pension fund, etc. purchasing the block) and the pressure category (i.e. whether it is a

pressure-resistant or pressure-sensitive institution purchasing the block) are irrelevant in the likelihood of changes in operations and corporate governance occurring within the one-year period following the block purchase. Therefore, I fail to find any evidence of monitoring by institutions in terms of bringing about changes in the firm subsequent to their buy trades. However, it could also be that either the analysis incorporates insufficient means of capturing institutional investor monitoring or that the institutions' fear of public confrontation, as suggested in the Myners' Report (2001), makes them reluctant to bring about major changes in the firms that they purchase blocks of shares.

Another possible explanation could be that such changes occur as part of a corporate restructuring programme. That is, if the firms were already in the process of implementing a restructuring programme, it would only be natural to not detect any statistically significant changes in the firm following the block purchases (Keasey and Wright, 1993). As Barnes, Davidson and Wright (1996) point out, based on their interviews with the managers/directors responsible for divestment programmes in major UK firms, there was indeed "...extensive activity in the mid-1990s to unwind underperforming and ill-fitting acquisitions completed in the later 1980s." (p.668). Additionally, examining the determinants of divestment across a large sample of UK firms, Haynes, Thompson and Wright (2000) conclude that corporate divestment "...is a purposeful response to exogenous change in a manner broadly consistent with both the agency theoretic and strategic views of the firm." (p. 1201).

On the whole, it would be possible to say that the findings support the “quiet diplomacy” (p.626) view coined by Bethel et al. (1998). In other words, institutional investors may not necessarily be passive but just prefer to use an indirect route to bring about changes in the firm.

Chapter 6. Conclusion

In this study I examined, through an empirical approach, the impact of institutional shareholders on the performance of UK corporations, with specific reference to the monitoring role of the different types of institutional investors. In Chapter 3, I analysed and compared the shareholding in all UK non-financial companies quoted in the London Stock Exchange in 1993 and 1997 in order to understand whether different types of shareholder groups monitor companies in which they hold large stakes. In Chapter 4, I analysed the market response to the trades of institutional investors, using a unique data set of 8,590 buy orders and 8,136 sell orders during the 1993-1998 period, in order to see whether these trades convey information to the market regarding the expected monitoring or are merely a result of the trading strategies followed. In Chapter 5, I examined a number of operational, financial and governance changes that take place during the one-year period before and after the share purchases by institutional investors with the intention of detecting post-purchase monitoring evidence.

The findings document that certain types of institutional investors prefer to invest in companies with certain financial attributes, which supports the view that it would be wrong to treat institutional investors as a single large group of investors with a similar disposition towards monitoring. Also, I report that the relationship between ownership structure and firm value has shifted significantly in the last decade. The results suggest that companies adopt an optimal ownership structure that minimises potential agency conflicts, given their nexus-of-contracts.

Additionally, the findings for institutional trades do not provide support for the monitoring hypothesis but suggest that block trades reflect the trading strategies of institutional investors and that some institutions are better than the others in timing their trades. Moreover, although there is evidence of shareholder monitoring following purchases by pressure-resistant institutions, largely driven by pension funds, during the year subsequent to the trade, I fail to detect significant changes in operations and corporate governance for block purchases of at least 5 percent of the outstanding ordinary shares of the company. In a multivariate analysis framework, I find that the identity of the block buyer (i.e. whether it is a fund manager, a pension fund, etc. purchasing the block) and the pressure category (i.e. whether it is a pressure-resistant or pressure-sensitive institution purchasing the block) are irrelevant in the likelihood of changes in operations and corporate governance occurring within the one-year period following the block purchase. Therefore, I fail to find any evidence of monitoring by institutions in terms of bringing about changes in the firm subsequent to their buy trades. The findings in all sections are generally consistent with those documented by the Myners' Report (2001). I also find evidence in support of the size anomaly⁵⁹, however, from a monitoring perspective adopted throughout the thesis, the results remain unchanged.

A number of factors could be driving these results. First and foremost, it could be that the analysis incorporates insufficient means of capturing institutional investor monitoring in the UK. As the Myners' Report (2001) points out, UK

⁵⁹ Please refer to Levis (1985, 1988 and 1989) for a thorough review of the literature as well as detailed analysis and empirical evidence of the size anomaly in the UK.

institutional investors, already in a difficult position due to regulatory requirements such as becoming an 'insider' in case of having access to price-sensitive information, prefer to avoid public confrontation in their relationship with the firms they invest in. Therefore, evidence of monitoring may not be clearly visible from the outside, given the UK institutional investment framework. Secondly, the limitations brought about by the UK regulatory framework and disclosure requirements regarding threshold level of notifiable interests, and trading activity, could be affecting the results since entrenchment may occur at even low levels of ownership. Thirdly, the operational and corporate governance change events used in the literature as an indication of the presence of monitoring, could actually be a form of corporate restructuring⁶⁰ and hence part of the bigger picture. Finally, although there are similarities between the US and UK in terms of having a market-based governance system, the results could be driven by significant differences especially in the areas of concentration of institutional ownership, indirect means of monitoring (Black and Coffee, 1994; Short and Keasey, 1997), takeover defences (Holl and Kyriazis, 1997) and board composition (Dahya et al., 2002). Therefore, although a monitoring view taking into account "firm/situation specific corporate governance" (Short et al., 1999, p.346) could have been more appropriate, it simply was not feasible given the large sample size of this study.

On the whole, the findings support the view that institutional investors in the UK prefer to use indirect means in bringing about changes in the firm, also referred

⁶⁰ Please refer to Barnes, Davidson and Wright (1996) for a review of the strategies and motivations for corporate restructuring.

to by previous literature as “quiet diplomacy” (Bethel et al., 1998), monitoring through “behind the scenes” action (Stapledon, 1996) and institutional network with “club-like dynamics” (Short and Keasey, 1997).

However, it is important to note the limitations of this study. Firstly, the analysis is limited to 1993 and 1997 for ownership data because of data collection difficulties and to the 1993-1998 period for trading and corporate change events because of data availability problems. Additionally, it was not possible to account for the case in which investors reinvest their funds and the post-sales long-term performance of the sample companies. The analysis of trades could have been significantly improved if it were possible to identify both the buyer and the seller for each block trade. However, this data was not available in a machine-readable format and, given the sample size of this study, was impossible to compile manually. It would be also be interesting to find out whether the results for post-purchase monitoring would change if a period of greater than one-year following the trade is used. Furthermore, it would have been interesting to see whether the results would change when alternative corporate governance mechanisms are included in the analysis. Last but not least, taking into account not just the monitoring but also the enterprise aspect of corporate governance could have been particularly useful to analyse the situation in the UK. The extent to which these factors will strengthen or alter the analysis is a subject of further research.

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