Institutional Investors, Corporate Financial Decisions and Performance in UK Firms

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ABSTRACT

The purpose of this thesis is to provide deeper insights into our understanding of the influence of ownership structure on corporate financial decisions and corporate performance in the UK market. Specifically, we investigate the corporate governance role of financial institutions in their invested companies. Our study provides two main contributions: first, it explores the significant heterogeneity across institutional investors according to their trading behaviour; and second, it takes into consideration the complicated ways in which institutional monitoring interacts with other governance mechanisms. Using an original and very detailed dataset for a large sample of UK listed companies, our analysis shows that institutional investors to some extent influence the whole corporate sector in terms of director pay, dividend policy and firm performance. Although institutional investors, as a whole, make no appreciable difference to director pay, we find that dedicated institutions (institutions with expected long investment horizons) not only restrain the pay level, but also strengthen pay-performance link. In addition, our analysis suggests that ownership concentration and dividend policy might act as substitutes in reducing agency costs and information asymmetry. We detect more significant dividend smoothing behaviour in firms controlled by financial institutions, which one would expect to suffer from greater agency costs and information asymmetry than firms controlled by directors and other individual shareholders. Finally, we find that institutional ownership is associated with better firm performance, and that institutional

ownership and executive ownership can be complementary governance mechanisms with respect to performance.

Chapter 1

Introduction

The need for corporate governance arises from potential conflicts of interest among stakeholders in the corporate structure. Berle and Means (1932) addressed these conflicts by examining the separation of ownership and control. One of the most debated aspects involves managers and shareholders.[1] When there are asymmetric information and imperfect contractual relations between managers and shareholders, mangers have an incentive to act in their own interest, usually at the expense of the shareholders. For example, management might adopt sub-optimal strategies that include continuing projects that are not maximising value, expropriating funds from the company to maximise their own utility function (e.g. luxury projects, empire building and transfer pricing), engaging in activities that make managers indispensable, manipulating performance measures and resisting takeovers.[2]

The consequences of these divergences are often referred to as agency costs, which are conventionally defined as the costs of structuring, bonding and monitoring an incentive contract between the principal (shareholder) and the agent (manager). Following Jensen and Meckling (1976), there has been a great deal of empirical work providing evidence that financial decisions and, hence, firm performance are significantly affected by the presence of agency conflicts (Ozkan and Ozkan, 2004; Gomper et al., 2003). The underlying notion in this strand of the literature is that managers' self interest, which is reinforced by the

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[1] The conflicts of interests might also exist between debtors and shareholders (e.g., Myers, 1977), or between large shareholders and small shareholders (e.g., La Porta et al., 1999)

[2] See Jensen and Meckling (1976), Jensen (1986), Shleifer and Vishny (1989), Shleifer and Vishny (1997) and Tirole (2006) for reviews of how managers may not act in the firm's best interests.

absence of strong corporate governance,[3] can lead firms to adopt sub-optimal financial policies to the detriment of shareholders.

In this regard, several elements of firm ownership structure have been suggested as tools for potential corporate governance in resolving a manager–shareholder conflict. One ownership characteristic that may be an important instrument in monitoring management is the presence of large external shareholders (Shleifer and Vishny, 1986). The fact that using managerial ownership helps to align the agent to the interests of the principal is also well documented in the literature (Jensen and Meckling, 1976).[4] Other internal mechanisms may be found in the financial decisions of firms.[5] A recent source for the monitoring of firms has come from institutional investors, which can also decrease agency costs in this area. Pozen (1994) discussed many methods that institutional owners are using to affect managerial decision making, ranging from informal discussions with management to proxy fights for control of the company. The involvement of institutional shareholders in corporate governance is expected to influence corporate financial decisions and consequently corporate performance (Agrawal and Knoeber, 1996; Faccio and Lasfer, 2000).

Corporate governance has been a long-standing issue for debate, and this was given fresh impetus, at least in the UK, by a number of well-publicised corporate problems from the 1980s onwards. These involved the build-up of huge

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[3] Corporate governance is defined as a broad term for a range of corporate controls and accountability mechanisms designed to protect the interests of shareholders.

[4] Nonetheless, since Demsetz (1983) and Fama and Jensen (1983), a growing body of studies have started to recognise that increasing shareholding also delivers increased voting power and effective control over the firm, which managers may use to extract resources from the firm.

[5] See, for example, Easterbrook (1984) and Gugler (2003) for dividend payment, Jensen (1986) and Firth (1995) for debt financing and Murphy (1999) and Hartzell and Starks (2003) for managerial compensation.

excess capacities, unscrupulous managers expropriating stakeholders' funds, a weak link between executive compensation and company performance and unusually high and downwardly inflexible dividend payments. Although the popular belief is that British institutions are passive investors because they rarely cast their votes at annual general meetings (Plender, 1997), recent anecdotal evidence seems to suggest that, even if institutional shareholders do not publicly intervene, they do act behind the scenes (IMA Survey, 2004; NAPF Survey, 2005). The controversial role of UK institutional investors in corporate governance warrants more research in this area; previous studies were mainly undertaken under the US framework (Bushee, 1998; Hartzell and Starks, 2003). Despite the fact that the US and UK governance systems are both market-based, the two countries differ in two aspects: first, institutional ownership in the UK is much higher than in the US;[6] and more importantly, unlike their US counterparts, UK institutional investors are not known for using their voting rights or raising proposals when a firm's corporate governance is bad. Thus, testing the influence of institutional investors on corporate governance in a dominated market like the UK's will strengthen the evidence that has been provided to-date.

These arguments provide the basis for the research that is conducted in this thesis. The purpose of this thesis is to provide deeper insights into our understanding of the influence of ownership structure on corporate financial decisions and performance in the UK market. Specifically, this thesis investigates the corporate governance role of financial institutions in their invested companies.

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[6] Institutional investors collectively own around 80 percent of market shares in the UK (National Statistics, 2007), primarily by insurance companies (14.7%), pension funds (12.7%) and overseas investors (40%).

It also explores how the involvement of institutional investors varies with circumstances, and how these changes can alter their influence on company governance and financial decisions. However, it has been difficult to conduct irrefutable tests on the effects of institutional holdings. There is no consensus on the exact nature of the relationship between institutional ownership and corporate governance, or how this relationship affects a firm's financial decisions and performance. The evidence concerning whether institutional investors provide effective monitoring is mixed.[7]

One explanation for the lack of consensus is the difficulty in differentiating between institutional investors, which are clearly not a homogeneous group, and the monitoring ability might thus differ across institutions. A typical way to classify institutional investors is by their legal type and their claimed susceptibility to management influence (Brickley et al., 1988; Faccio and Lasfer, 2000).[8] However, the UK has few regulatory firewalls that separate mutual funds from insurers on the one hand, and commercial banks from investment banks on the other. Insurers often run a separate mutual fund business and vice-versa. In addition, most commercial banks have investment banking subsidiaries, which possibly suggests that the typical classification is not appropriate for a UK study. Another frequently expressed concern is that institutional investors systematically adopt a time horizon that is too short to make them effective monitors. Several U.S. studies suggest that institutions with high portfolio turnovers (and hence

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[7] Parrino et al. (2003) suggest that institutional investors influence board decisions, whereas there are studies that find no evidence of a monitoring role exerted by institutional investors (Faccio and Lasfer, 2000; Renneboog, 2000).

[8] Insurers and banks are thought to be more vulnerable to managers because of possible commercial relationships with firms, while pension funds managers are thought to be more independent.

expected short investment horizons) are less likely to specialise in monitoring and influencing efforts (Bushee, 1998; Jennings, 2005; Chen et al., 2005). To our best knowledge, no UK study concerning institutional monitoring addresses this issue yet.

Another difficulty in conducting tests on the effects of institutional shareholdings lies in modelling the complicated interactions of different governance mechanisms. Most literature treats the ownership structure, the board and financial characteristics as independent mechanisms. There might be substitutionary or complementary ways, however, of reducing agency costs and enhancing firm performance such that the impact of one mechanism may depend on the chosen level of another. For example, dividends need not constitute an additional control device when alternative mechanisms (e.g. shareholders' monitoring) are at work, otherwise this may simply lead to unnecessary liquidity constraints and risks of under investment (Renneboog and Szilagyi 2007). There is a great need to understand the links among corporate governance mechanisms. Although progress has been made recently, there does not yet appear to be sufficient clarity concerning both their substitutability and complementarity.

Our study uses a uniquely constructed dataset that includes detailed and up-to-date information on the ownership structure, board structure and other financial characteristics for a large sample of UK listed companies. There are three important aspects of our study, which differentiate it from previous studies. First of all, distinct from most UK literature, we explicitly consider the significant heterogeneity with regard to the monitoring ability across institutional investors. Following prior U.S. research (Bushee, 1998; Wahal and McConnell, 2000), we

classify institutional investors based on their observed investment and trading behaviours. We classify institutions into two groups: (1) "transient" institutions, which buy and sell their investments frequently and exhibit a high portfolio turnover; and (2) "dedicated" institutions, which leave their positions unchanged for a considerable length of time and have a low portfolio turnover.[9] Financial institutions with a portfolio turnover in the top 25% (bottom 75%) of the turnover distribution[10] are considered to be transient (dedicated) institutional investors with little or no commitment to monitoring and disciplining activities. Our work sheds light on the heterogeneity in monitoring across institutional investors, which in turn has important implications for the debate about the proper degree of institutional involvement in corporate governance.

Second, we attempt to take into consideration the complicated ways in which institutional monitoring interacts with other governance mechanisms. Following previous research (Cosh and Hughes, 1997; Hartzell and Starks, 2003), we investigate whether the presence of significant institutional shareholding leads to lower director pay levels, but a stronger pay-performance link; we also examine the substitutability of dividend policy and shareholder control in mitigating agency cost and information asymmetry. In addition, we analyse the potential interactions between the monitoring of institutional investors and the governance mechanisms in the board, e.g. the incentive effect provided by director ownership and the supervisory role of non-executive directors.

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[9] For an investment company, a portfolio turnover rate is an annualised rate found by dividing the lesser of purchases and sales by the average of portfolio assets (e.g. Bloomberg.com).

[10] We find that the turnover of institutions in the UK is quite low, with a median turnover of 0. Out of 1802 institutions, only 561 institutions traded their significant shareholdings (>3%) in non-financial listed firms in the years 2003 and 2004.

Finally, to conduct our empirical investigation, we employ sophisticated cross-sectional and panel data methodologies that help control for the endogeneity problem, which can arise in this context for several reasons, e.g. reverse causality, unobserved heterogeneity. When the panel data is available, we employ the Generalised Method of Moments (GMM) estimation procedure suggested by Arellano and Bond (1991) and Blundell and Bond (1998); otherwise, we use the average cross-sectional regression approach of Ragan and Zingales (1995) to control for endogeneity. We believe that our method provides us with robust empirical results.

We start this thesis by looking into how the governance role of institutional investors affects two important corporate financial decisions: director pay and dividend policy. Director pay is a key governance tool in resolving a manager-shareholder conflict (Murphy, 1999). Using performance-sensitive pay contracts, shareholders attempt to provide directors with incentives that help align the interests of both managers and shareholders. On the other hand, dividend asserts cash payments to shareholders and also helps to reduce agency problems (Easterbrook, 1984). As an external governance mechanism, the presence of institutional investors is expected to encourage or discourage other governance mechanisms, depending on whether they act as complements or substitutes. Subsequently, we test the theory that the involvement of institutional investors in governance and a board's decision making would influence the management quality and firm performance.

The thesis is organised as follows. Chapter 2 empirically examines the determinants of director pay for a sample of publicly traded, non-financial firms

in the UK. To conduct our investigation, we include in our empirical analysis 563 non-financial listed firms over the period 2000 to 2004. Although there are some UK studies examining the impact of institutional investors on the determination of director pay, the results of these are mixed.[11] In addition, prior studies also ignore the heterogeneity across institutional investors. Chapter 2 aims to address this gap by providing a detailed investigation of the role of institutional investors on UK director pay. More specifically, our analysis attempts to provide insights in the following two questions: first, does ownership by financial institutions exert any influence on director pay level and the pay-performance link? And secondly, does the presence of dedicated (transient) institutional investors impact director pay more or less significantly?

Using cash compensation as the dependent variable in our cross-sectional regressions, our analysis reveals that company size and cash holdings are significant firm-specific characteristics in explaining the pay levels for both CEOs and executive directors. We also find that institutional investors, as a whole, make no appreciable difference either to pay level or pay-performance sensitivity. However, after we group institutions into the "dedicated" and "transient" categories using their portfolio turnover, we find evidence suggesting that dedicated institutions restrain the level of director pay and strengthen the pay-performance link. This is consistent with our expectation that dedicated institutions are more involved in corporate governance and serve a better monitoring and disciplining role than other institutions. We argue that our

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[11] For example, Cosh and Hughes (1997) examine the link between executive pay and firm characteristics in the UK and find no appreciable influence of institutional investors. More recently, examining 414 large UK companies, Ozkan (2006) finds that institutional ownership has a significant and negative impact on CEO compensation.

analysis provides new insights and helps to explain why the extant literature on the role of institutional monitoring has produced insignificant results.

Using a dataset from 2000-2006, the primary objective of Chapter 3 is to investigate whether any systematic relationship exists between the dividend choices of UK firms and their controlling shareholders. Given that strong shareholders exert their control power, there might be no need for the dividend policy to constitute an additional monitoring or signalling device. For firms that are controlled by directors and individual shareholders, neither major conflicts of interest nor large information symmetry is present between management and the owners (Gulger, 2003).[12] In contrast, the direct involvement of the controlling financial institutions in the management of the firm is less likely than for individual shareholders (Faccio and Lang, 2002; Gugler, 2003). Hence, dividend can be a valuable monitoring or signalling device. We hypothesise that firms controlled by financial institutions are more likely to be dividend payers, paying relatively stable but not low dividends, compared to firms controlled by director-owners and other individuals.

We use a random-effect probit model and Linter's (1956) partial adjustment model (PAM) to investigate whether the identity of a controlling shareholder group affects dividend policy. To control for endogeneity, we apply a GMM-in-system estimation for the PAM, which includes lagged differences of the variables as instruments for the equations in levels, in addition to using levels as instruments for the difference. The analysis shows some interesting patterns in

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[12] When the directors are the largest shareholders, they bear the major part of the costs and receive the major part of the benefits of their actions. This further translates into more flexible payout policies since dividend as a monitoring and signalling device is less valuable. Similar patterns should persist in individual-controlled firms.

UK firms' dividend behaviour. Although there is no consistent evidence suggesting that firms controlled by financial institutions are more likely to be dividend payers, we detect significant dividend smoothing behaviour in these firms. In contrast, it appears that firms controlled by directors and other individuals formulate their dividend payout policy based on their earning income and other firm-specific characteristics.

Chapter 4 examines the link between institutional ownership and firm performance. Our study examines whether institutional ownership makes any appreciable difference to firm performance, either directly or indirectly. We assume that institutional investors affect the efficiency of governance mechanisms[13] regarding the board by moderating their relationships with firm performance. We also consider additional factors that might provide disincentives to institutional monitoring. For example, a free-rider problem may exist and, in the presence of other external large shareholders, institutions are able to take more of a "back seat". In addition, institutional investors might be coerced into voting with the executives; nonetheless, institutions that hold an influential stake could probably overcome any conflicts and use their clout to appropriate corporate business. We thus further our study by developing another hypothesis: that the influence of institutional investors on firm performance will be more significant if no other large external shareholding is present, or if there is a single institutional shareholding larger than the executive ownership.

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[13] We specifically analyse the potential interactions between the monitoring of institutional investors and two governance mechanisms regarding the board: the incentive effect provided by director ownership, and the supervisory role of non-executive directors.

Our analysis shows that institutional ownership is associated with better firm performance, and this association is more significant when no other large (>5%) shareholding is present. We also find that the presence of institutional ownership strengthens the link between executive ownership and performance significantly when no other large external shareholder is present, or when there is a single institutional shareholding higher than the executive ownership. Our finding is consistent with the institutional monitoring hypothesis and suggests complementarity between institutional investors and executive directors with respect to firm performance; it also indicates that institutional monitoring might be subject to a free-rider problem and executive pressure. Finally, with regards to non-executive directors, we detect no evidence suggesting that institutional investors make non-executive directors work more effectively.

Chapter 5 presents the main conclusion of this work. Generally speaking, our work shows that institutional investors can influence the whole corporate sector, e.g. in terms of executive compensation and dividend payout. A second finding is that institutional investors are far from being a homogeneous group, and the general insignificance attained by previous empirical studies is thus partly due to pooling the different kinds of institutions. Thirdly, we show the need for future studies to consider the complicated ways governance mechanisms interact with each other. In particular, we emphasise several promising avenues for future research.

Our work clearly benefits researchers and policy-makers, who will gain from our insights about the corporate governance role of financial institutions. What may be less obvious is the benefit to the shareholders. The key benefit to

individual shareholders is probably that our work helps them to understand how ownership structure affects a company's financial decisions and performance. They could adjust their investments accordingly, e.g., they might turn to companies with high dedicated institutional ownership if they believe dedicated institutional investors provide good monitoring. On the other hand, institutional investors could benefit from our research as well. Knowing that their shareholdings can significantly affect investee companies' financial decisions and performance, more institutional investors might exert their monitoring on the management, hence contribute to better corporate governance and finally, better firm performance.

Chapter 2

Institutional Investors and Director Pay: An Empirical Study of UK Companies

2.1 Introduction

Executive compensation has been the subject of extensive prior research. Concerns have been expressed about the escalation in executive compensation both in the UK and the US because executive pay increases have outstripped rises in general earnings and these increases have not always been consistent with the underlying performance of firms (Gregg et al., 2004). The objective of this chapter is to investigate the role of institutional investors in influencing executive director pay in the UK. In doing so, our analysis attempts to provide insights into two important questions. First, does financial institutional ownership exert any influence on director pay? Second, does institutional ownership make director pay more closely linked to firm performance?

The existing literature suggests that institutional investors can provide direct monitoring and disciplining over managers, which is more difficult for other investors who are typically smaller, more passive and less-informed (Del Guercio and Hawkins, 1999; Hartzell and Starks, 2003). It is argued that institutional investors can be more effective monitors because they are subject to lower costs because of economics of scale in collecting information (Diamond, 1984) and can use various formal and informal mechanisms to influence management (Cubbin and Leech, 1983).

There is a large body of literature examining the role of financial institutions in the determination of director pay. However, the results are mixed. For example, Cosh and Hughes (1997) show that the presence of major financial institutions among owners make no appreciable difference to either the level of pay or the sensitivity of pay to performance in the UK. Recently, Ozkan (2006) provides

evidence that institutional ownership in UK companies has a significant and negative impact on CEO compensation. For US companies, Hartzell and Starks (2003) find that the pay-for-performance sensitivity of executive pay increases with institutional ownership.

One of the important aspects of our analysis is to address heterogeneity across institutional investors with respect to their investment horizons. Bushee (1998) and Wahal and McConnell (2000) argue that shareholders' investment horizons might affect the extent to which corporate managers are effectively monitored. Using US data, Shin (2005) provides evidence suggesting that the investment horizons of institutional investors influence CEO compensation. We classify financial institutions into dedicated (long-horizon) and transient (short-horizon) categories using their portfolio turnover in non-financial firms. Financial institutions with portfolio turnover in the top 25% (bottom 75%) of the turnover distribution are considered to be transient (dedicated) institutional investors with little or no commitment to monitoring and disciplining activities. We expect dedicated (transient) institutions to exert more (less) influence on both director pay and pay–performance relationship.

To conduct our analysis, we incorporate information on 563 non-financial firms during the period 2000–2004. Using cash compensation as our dependent variable, we find that size and cash holdings are significant in explaining both CEO and executive director pay. Institutional investors, as a whole, make no appreciable difference in director pay and pay–performance relationship. However, there is evidence that dedicated institutional investors not only restrain director pay but also strengthen pay–performance relationship in firms where they

have significant stakes. There is no evidence pointing to a similar impact exerted by transient financial investors.

The rest of the chapter is structured as follows. Section 2.2 provides a review of the strand of literature that examines director pay and institutional monitoring. In Section 2.3 we describe how we differentiate institutional investors. Section 2.4 presents the data and methodology. Section 2.5 presents the results and Section 2.6 concludes.

2.2 Director pay, performance and the role of financial institutions

2.2.1 Director pay

There is a strand of the literature examining the relationship between director pay and corporate performance. It is argued that director pay is an important corporate governance tool in resolving the manager–shareholder conflict. Using pay-for-performance pay contracts, shareholders attempt to provide directors with incentives that help align the interests of managers and shareholders.

Prior empirical research on the pay–performance link is extensive. Using a sample of 1049 US firms during the period 1974–1986, Jensen and Murphy (1990) find that a $1000 increase in shareholder wealth leads to a $3.25 increase in CEO pay. However, the UK findings do not lead to clear-cut conclusions. Conyon and Gregg (1994) and Conyon and Leech (1994) find a weak performance–pay link. On the other hand, Main and Bruce (1996) include executive options in total compensation and find a more significant relation between pay and performance. Recently, using both total board pay and highest

director pay for a sample of large UK firms, Gregg et al. (2004) provide evidence for a weak relation. Finally, Ozkan (2006) finds that performance has a positive but insignificant impact on director pay.

In addition to performance, there are other factors that shape director pay. It is argued that larger firms may employ better-qualified and hence better-paid managers. In addition, director ownership may lead to greater managerial discretion and hence potentially play an important role in determining director pay. Firms with larger cash holdings also tend to reward their directors higher cash compensations. Finally, dividend and leverage policies can be used as corporate governance mechanisms and hence can be seen as substitutes to compensation in alleviating the agency conflict between managers and shareholders.

2.2.2 Institutional monitoring

It is widely acknowledged that financial institutions differ from individual investors because they generally hold larger stakes and manage large pools of investment funds (Ozkan, 2006). It is argued that they can be effective monitors as they have cost advantages because of economies of scale and diversification (Diamond, 1984). Additionally, large institutional investors can use various formal and informal mechanisms such as their voting power, shareholder activism, and election of board members to influence management. Large institutional investors also have more power and expertise, and act more rationally. Therefore, they are more effective than dispersed individual investors in influencing the boards (Cubbin and Leech, 1983). However, prior research also

points out that monitoring by institutional investors may not be effective as there are potential liquidity costs (Coffee, 1991: Maug, 1998); free-rider problems with other shareholders, conflicts of interest and strategy alignment (Pound, 1988). Finally, agency problems within the funds themselves might prevent them from being effective corporate monitors.

The evidence on whether institutional investors provide effective monitoring is mixed. Parrino et al. (2003) suggests that institutional trading influences board decisions whereas there are studies that find no evidence of a significant monitoring role exerted by institutional investors (Faccio and Lasfer, 2000; Renneboog, 2000).

As large shareholders, financial institutions would be expected to implement a pay-setting procedure that would more closely align the interests of managers and shareholders. For example, they can do so by strengthening the pay–performance link and/or restraining the level of pay. Cosh and Hughes (1997) examine the link between executive pay and firm characteristics in the UK and find no appreciable influence of institutional investors. More recently, examining the level of CEO compensation for a sample of 414 large UK companies, Ozkan (2006) finds that institutional ownership has a significant and negative impact on CEO compensation. Studying a sample of US firms, Hartzell and Starks (2003) find that institutional ownership is positively related to pay–performance sensitivity and negatively related to pay. Khan et al. (2004) find that higher level of concentration is associated with lower level of pay.

2.2.3 Institutional investors in UK

The issue of the determination of executive pay has been a major element in UK corporate governance reform. Since Cadbury Report (2006), reforms have concentrated on trying to encourage the establishment of pay-setting procedures that are transparent, rewarding success and penalising failure. Greenbury Report (1995) in particular suggests greater disclosure of executive pay and stronger scrutiny over the setting of director pay and emphasizes that incentive pay should have strict performance criteria. The Directors Remuneration Report Regulation 2002 is now in force, requiring the directors of a company to prepare a pay report that is expected to be "clear, transparent and understandable to shareholders". One of the significant changes in relation to the rights of institutional shareholders came in 2003 when shareholders were given the right to vote on executive deals at annual meetings. This has undoubtedly led to greater accountability of companies to their shareholders and facilitated the role for shareholders in approving pay packages. Additionally, the presence of institutional investors in the UK is significant. Around 80% of UK equity is held by financial institutions, primarily by insurance companies (17.2%), pension funds (15.7%) and overseas investors (32.6%) (ONS, 2004). Also, the concentration of share voting in institutional hands and the more widely spread use of proxy voting encourages more institutions' participation in the corporate governance system.

2.3 Which institutions matter?

2.3.1 Theoretical and empirical background

A frequently expressed concern is that institutional investors systematically adopt a time horizon that is too short to make them an effective monitor. Institutions can affect compensation through investing and trading decisions as well as direct involvement. Prior research highlights the choices that institutions face between exerting monitoring effort for shared gain versus simply trading for private gain (Maug, 1998). Whether institutional investors undertake monitoring is determined by the trade-off between the benefits of monitoring and its costs to institutional investors. Monitoring costs arise from activities in gathering firm-specific information and building a relationship with the management. We hypothesize that long-term institutions with significant ownership in firms are more likely to exert monitoring and influencing efforts in firms rather than trading.

2.3.2 Classification of financial institutions

To examine the ability and incentives of institutional investors to monitor, we explore institutions' investment horizons. Since institutions may build a reputation as long-term investors and hence be able to credibly signal to company management their intent to hold for long-term, we base the measure of investment horizons on the expected, rather than actual, holding period for an institutional stake in a firm. Expected holding period can be reasonably inferred from an institution's portfolio turnover level. In line with Bushee (1998), we classify all institutions that hold significant shares in listed non-financial companies into two groups: (1) "transient" institutions, which buy and sell their investments more frequently and exhibit a high portfolio turnover; (2) "dedicated" institutions,

which have their positions unchanged for a considerable length of time and have a low portfolio turnover.

We calculate portfolio turnover for each institutional investor. Following Wahal and McConnell (2000), we measure investors' portfolio turnover using publicly available information from 2003 and 2004. It is measured as the total market value of shares traded in non-financial listed firms where they have significant stakes (>3%) during the year *t* divided by the total market value of its portfolio in these firms at the end of the year *t* − *1*. We calculate the institutional turnover for year 2003 and 2004 separately and then take the average value using the following formula:

$$PortTurn_{jt} = \frac{\sum_{i=1}^{N} \left| Shr_{jit} AvgP_{it} - Shr_{jit-1} AvgP_{it} \right|}{\sum_{i=1}^{N} Shr_{jit-1} AvgP_{it}}$$

where Shr_{jit} is the number of shares owned by institution *j* in $firm_i$ at the end of year *t*, $AvgP_{it}$ is the average price for stock *i* at year *t*. *N* is the number of firms where institution *j* has significant stakes. We use $AvgP_{it}$ in both numerator and denominator to smooth out extreme movements in equity prices.

We obtain the trading record and ownership of 1802 institutional investors. We find that the turnover of institutions in UK is quite low with an average turnover of 0.04. In other words, every year an average institution trades (i.e., purchases or sells) only 4% of their stakes in non-financial listed firms. Moreover, we observe that out of 1802 institutions, only 561 institutions traded in non-

financial listed firms in year 2003 and 2004. We classify these institutions as: (1) transient institutions if their portfolio turnover lies in the top 25% of the turnover distribution; and (2) dedicated institutions otherwise. We identify 1354 dedicated institutions and 448 transient institutions.

2.4 Empirical model, data and methodology

2.4.1 Model and hypotheses

We expect that the presence of financial institutions and their trading behavior influence the determination of director pay and the relationship between pay and performance. We predict that dedicated institutions restrain director pay and make the pay–performance link stronger. In testing these predictions we model institutional monitoring as a governance mechanism that restricts the level of director pay. Our main explanatory variable is institutional ownership concentration defined as the sum of all significant financial institutional shareholdings in the firm greater than 3%.

Our baseline model considers only the direct impact of performance and institutional ownership on director pay. To test whether institutional holdings affect the pay–performance link we interact institutional holdings and firm performance, allowing us to test if the impact of performance on director pay depends on the level of institutional ownership. If institutional investors restrain director pay then we expect the estimated coefficient of institutional ownership to be negative. Moreover, the estimated coefficient of the interaction term is expected to be positive if institutional investors provide monitoring to make pay

more sensitive to performance. We repeat the same analysis by grouping financial institutions on the basis of their portfolio turnover.

In conducting our analysis we carefully consider the issue of endogeneity. We estimate our model using the average values, except the dependent variable, in an attempt to mitigate problems that might arise due to short-term fluctuations and extreme values. We measure director pay in 2004, and the explanatory variables over the period 2000–2003. Using past values reduces the likelihood of observed relations reflecting the effects of director pay on other firm-specific factors including institutional ownership and performance.

2.4.2 Dependent variable-directors' pay

Murphy (1999) draws a distinction between cash pay, which includes base salary and annual bonus, and total pay, which also includes incentive components such as stock options and long-term incentive plans. The salary plus bonus pay measure has been widely used in prior research (Jensen and Murphy, 1990; Conyon and Gregg, 1994), while recently researchers also include share options (Ozkan, 2006; Ozkan, 2007). In this chapter, we consider only cash based compensation and do not include either option grants or other non-cash pay items. There are several reasons for this. First, the quality of disclosure of details of executive pay has been highly uneven, so collecting uniformly complete and reliable data across large sets of companies is often hampered. Second, Murphy (1999) demonstrates that existing attempts to value executive stock options have obvious shortcomings. Finally, there has been a tendency for director pay to become increasingly complicated, in terms of the number of pay components and

the complexity of each. Even where poor disclosure and cross-firms heterogeneity are not a problem, there are still concerns relating to the valuation of certain pay elements, such as the long-term incentive plans which partially replaced executive options in the second half of 1990s.

It should be noted that the exclusion of non-cash items in total compensation is a potential weakness. However, we do not expect the main conclusions of our analysis to change significantly as a result of the exclusion of non-cash compensation. This is because it is reported in Ozkan (2006) that cash pay constitutes about 70% of total compensation for UK CEOs. Also, the same study finds a significant relation between pay and institutional ownership only when compensation is defined in terms of cash pay.

2.4.3 Independent variables

We use Tobin's Q as our performance measure. We also include in our analysis a set of corporate governance and control variables. Besides institutional ownership, we use two other variables to control for ownership structure, namely CEO ownership and the shareholdings of all executive directors. In addition, we include control variables such as size, leverage, cash flow and dividend. Finally, industry dummies are included to control for pay similarities within industries and preferences institutional investors have for particular industries. Definitions for the variables used in the analysis are given in Table 2.1.

- *Insert Table 2.1 Here* –

2.4.4 Data description

For our empirical analysis, we use a sample of publicly traded firms over the period 2000–2004. We obtain information from two different sources. Information on firm's ownership and director pay is derived from the Hemscott Guru Academic Database, which provides detailed information on all directors of UK listed companies, and trading record for all large shareholders. The data for accounting variables and the market value of equity come from Datastream database.

Our initial sample is the set of all firms for which data are available on both Hemscott and Datastream. The final sample has been constructed as follows. First, we exclude financial firms. Second, firms are dropped if the data for any independent variable is missing. These criteria provide us with a total of 563 firms, with at least one pay variable: CEO pay and/or executive average pay. Among 563 firms, we only have 529 observations for CEO pay since 34 firms do not have a CEO. There are 546 observations for the executive average pay. Not every executive director's pay is available from Hemscott and the average pay is considered to be unavailable even if one member's pay data is missing. This explains why the number of observations drops from 563 to 546 for executive average pay.

Table 2.2 presents a summary of descriptive statistics. It reveals that the average value of Tobin's Q is 1.68 (median 1.28), and the logarithm of total assets is 11.74 (median 10.81). For director ownership, the average CEO ownership is 4.98% (median 0.36%) and the average executive ownership is 10.47% (median 2.88%). As for institutional ownership, the mean value of institutional ownership

is 30.34% (median 29.02%), while the average dedicated institutional ownership is 16.27% (median 12.88%), and the average transient institutional ownership is 14.06% (median 11.63%). We also observe that the average values of cash holdings, cash dividend payouts and leverage are respectively 19%, 2% and 23% (the corresponding median values are 11%, 1% and 14%). Finally, the average (median) CEO cash pay (i.e. base salary plus cash bonus) is £285,000 (£213,000) whereas the average (median) cash pay for executive director is £226,000 (£198,000). These values are smaller than the corresponding values in Ozkan (2006) that also include financial firms in the sample. Clearly, financial firms are typically larger and managers in such firms attain higher pay.

- Insert Table 2.2 here -

2.5 Empirical results

2.5.1 Univariate analysis

In this section, we report univariate mean-comparison test results of the sample subgroups categorized on the basis of above and below median values for performance, ownership structure and other firm characteristics. Using a t-test, we test the hypotheses that firms with above median values of these characteristics differ from firms with below median values with respect to director pay. We find that firms with above median performance have logarithm CEO pay (executive average pay) of 12.23 (12.10), and those with below median performance have logarithm CEO pay (executive average pay) of 12.17 (12.00). These differences

are statistically significant at the 10% level. The results for size, dividend, institutional holdings, transient institutional ownership, and the ratio of dedicated institutional ownership to total institutional ownership are also found to be statistically significant. Specifically, firms with above median value of size, dividend payouts, total institutional ownership and transient institutional ownership have higher pay levels. There is also evidence that firms with above median values of CEO/executive ownership and the dedicated institutional ownership ratio seem to have lower pay levels. The results are generally in line with our expectations and support our prediction that the presence of transient institutional investors does not lead to lower director pay level (Table 2.3).

- Insert Table 2.3 here -

2.5.2 Multivariate analysis

In this section, we provide a multivariate regression analysis to investigate the relationship between director pay and several firm-specific characteristics by focusing on the impact of institutional ownership on director pay. As explained earlier, in doing so we consider two important aspects. First, we test whether institutional ownership exerts any impact in determining the level of director pay. Second, we examine whether the relation between pay and performance depends on institutional ownership and the type of institutional shareholders.

The results presented in Table 2.4 relate to the level of CEO cash pay and are based on a cross sectional regression approach. We start by estimating our baseline model (Model 1). In general, the estimated coefficients are in line with

the hypothesized signs and the existing findings in the literature. Specifically, the results reveal that there is a positive and significant relation between performance and compensation. Additionally, larger firms and firms with greater liquid assets seem to pay their CEOs more.

- Insert Table 2. 4 here -

Surprisingly, we do not find any significant influence exerted on the level of pay by CEO ownership, dividend payout and leverage. The insignificant impact of CEO ownership on pay may be due to the possibility that directors are awarded with more stocks or stock options instead of cash and director ownership is therefore more likely to be positively related to long-term pay rather than cash compensation. In Model (2), we also add institutional ownership among explanatory variables where no differentiation is made among institutional investors. Moreover, we interact it with the performance variable, Tobin's Q, to test if the impact of performance on pay varies with the level of institutional shareholdings. The results do not provide any significant relation between pay and institutional ownership. Furthermore, the interaction effect is also insignificant.

These findings possibly suggest that total institutional ownership does not play an important role in determining director pay. Our findings are in line with Cosh and Hughes (1997), who find that institutions as major shareholders make no appreciable difference to either the level of pay or its relationship to firm performance. However, Ozkan (2006) reports that there is a negative and

significant relation between director pay and institutional ownership. As mentioned earlier, Ozkan's (2006) sample consists of larger firms and its findings may reflect the fact that larger firms are more likely to receive attention from financial institutions. In fact, when we consider only large firms (above median size firms) in the analysis we obtain similar results. Also, we have additional control variables such as dividend and leverage, which may play important governance roles in monitoring and disciplining managers. Last but not least, our analysis controls for endogeneity by adopting an average cross-sectional analysis whereas in Ozkan's (2006) only data for 1 year is incorporated in the empirical model.

We next test whether the impact of institutional ownership on director pay is associated with investment horizon by splitting financial institutions into "dedicated" and "transient" institutions. We expect that dedicated institutions, potentially with longer investment horizons, and hence lower monitoring costs and higher monitoring benefits, would exert more governance influence. As a result, they would restrain director pay and strengthen pay–performance relationship. The results of this exercise are reported in Model (3) of Table 2.4. The results regarding other firm-specific characteristics are somewhat different from those reported in Models (1) and (2) where no differentiation is made amongst institutional ownership. Specifically, although size and cash are still positively and significantly related to pay, performance does not seem to exert any significant influence on director pay. Moreover, the impact of leverage on director pay is now significantly negative. More interestingly, the results reveal that the ownership by dedicated institutions restrains cash compensation to CEOs.

The estimated coefficient of dedicated institutional ownership, INSTD, is negative and significant. Additionally, there is strong evidence that the pay–performance relationship is also impacted by the level of dedicated ownership. That is, the sensitivity of director pay to firm performance is stronger at higher levels of dedicated institutional ownership. That is, dedicated institutional investors enhance pay–performance relationship.

The findings regarding transient institutional ownership are mixed. Although we observe a significant positive relation between transient institutional ownership and director pay, there is no significant impact of transient institutions on pay–performance relationship. This possibly points to the passiveness of transient institutional investors, increasing managerial discretion which in turn leads to higher director pay.

In general, our findings so far suggest that institutional investors' investment horizons matter in disciplining director pay. Although total institutional ownership does not seem to affect director pay significantly, dedicated institutions restrain director pay while there is an opposite effect of transient institutional ownership on the level of cash compensation. Finally, in Model (4) we replace dedicated and transient institutional ownership variables with a new variable, DE_RATIO, which measures the relevance importance of dedicated institutional ownership with respect to total institutional ownership. The DE-RATIO is defined as the ratio of dedicated institutional ownership to total institutional ownership and is expected to capture more precisely the influence of dedicated institutional investors in the presence of other institutional owners. The findings are in support of our predictions and earlier findings. Specifically, it

seems that as the relative importance of dedicated ownership decreases the level of director pay, providing support for the view that dedicated institutions are better monitors than other institutional owners with shorter investment horizons. Additionally, there is strong evidence that director pay becomes more sensitive to firm performance in the presence of strong dedicated institutional investors.

In Table 2.5 we present new regression results using an alternative definition for cash compensation. Specifically, instead of using only CEO cash compensation as our dependent variable, we incorporate the logarithm of average cash pay to all executive directors including CEOs. In general, the results are very similar to those reported in Table 2.4. That is, size and cash remain as the main firm characteristics affecting significantly cash compensation of directors. Ownership by executive directors does not exert significant influence on the level of executive pay. Also, rather surprisingly, pay–performance relationship is not always significant. The results suggest that in firms with greater dividend payouts to shareholders cash compensation to executive managers are significantly larger. Although this is not supported by earlier findings, the positive coefficient of dividend payouts may suggest that dividends can be a signal for the future prospects of firms where better prospects lead to higher compensation.

- Insert Table 2.5 here -

Although the direct effect of dedicated institutional ownership is not significant in determining executive cash compensation, the ratio of dedicated ownership to total institutional ownership is found to be negatively related to

director pay. Also, its indirect (conditional) effect on total executive pay through pay–performance relationship seems to be important. The results suggest that executive directors pay becomes more sensitive to firm performance at higher levels of dedicated ownership (Model 3). More specifically, the estimated coefficient of the interaction term between pay and dedicated ownership is positive and significant. This indicates that executive directors pay is more closely linked to performance when dedicated institutional ownership is greater. However, these findings are not supported when we replace the institutional ownership variables with the ratio of dedicated ownership to total institutional ownership (Model 4).

2.5.3 Robustness checks

We have carried out several robustness checks. First, using total institutional ownership, we split the sample into high and low institutional ownership firms and we re-estimate our basic model for the two sub-samples separately. There is some evidence suggesting a link between pay and performance when the total institutional ownership is higher than the median. Additionally, we split the sample using dedicated institutional ownership and repeat the above exercise. We find strong evidence that the relationship between pay and performance is positive and significant only for firms in the high-dedicated institutional ownership sample. In line with our earlier interpretation, this finding provides further evidence for the view that pay-performance relationship is stronger in firms with institutional investors who have interests in monitoring managers. Finally, we split the sample using transient institutional ownership. The

coefficient of performance remains insignificant throughout all regressions using both definitions of cash compensation. Consistent with our earlier analysis, there is no evidence suggesting that transient institutional ownership affects pay–performance relationship.

The robustness tests we have conducted above provide further support for our earlier findings. Specifically, the dedicated institutional investors strengthen pay–performance link in firms where they have significant stakes (>3%), while transient institutional investors do not have a significant impact on pay–performance relationship.

Finally, we incorporate alternative performance measures in the analysis. Instead of using Tobin's Q as our performance indicator we also consider return on assets (ROA). The results remain very similar to the results we obtain using Tobin's Q and hence are not reported separately.

2.6 Conclusion

This chapter has investigated the role of institutional investors in determining director pay in publicly listed non-financial UK companies. The focus has been on the distinction between institutional shareholders regarding their investment horizons. We have investigated whether institutional investors, in particular dedicated ones, impact the level of director pay and influence pay–performance relation. To do so, we have adopted an average cross-sectional analysis in an attempt to control for endogeneity and the effects of extreme short-term changes in the main variables of interest.

Our findings suggest that firm size and cash holdings exert a positive and significant influence on executive director pay. However, other firm-specific characteristics such as leverage and dividend payout do not seem to have a significant impact on director pay. No sufficient evidence was found to support the hypothesis that institutional investors as a whole constrain director pay and strengthen pay–performance relation, supporting to some extent the argument that institutional investors in the UK are passive and ineffective in monitoring. However, when we split the institutions according to their trading characteristics we are able to provide evidence suggesting a positive role that dedicated institutional investors with long investment horizons can play. We find that dedicated institutional ownership not only restrains the director pay level, but also strengthens pay–performance relationship in firms where they have significant stakes. This finding is consistent with our expectation that dedicated institutions are more involved in corporate governance and serve a better disciplining role than other institutional investors with short investment horizons.

Table 2.1
Variables, definitions and data sources

Variable	Definition and Source
Dependent Variables	
CEOP	Chief executive director's (CEO) cash pay *(Hemscott)*
EX-AP	Average cash pay of all executive directors, including CEO *(Hemscott)*
LNCEOP	The logarithm of CEO cash pay *(Our own calculation)*
LNEX-AP	The logarithm of average cash pay of all executive directors, including CEO *(Our own calculation)*
Independent Variables	
Tobin's Q	The ratio of book value of total assets minus the book value of equity plus the market value of equity to book value of total asset *(Our own calculation)*
CEO-OWN (%)	The percentage of equity ownership owned by CEO *(Hemscott)*
EX-OWN (%)	The percentage of equity ownership owned by executive directors *(Hemscott)*
INSTT	The sum of institutional shareholdings greater than 3% *(Hemscott)*
INSTD	The sum of shareholdings greater than 3% held by dedicated institutions *(Our own calculation)*
INSTA	The sum of shareholdings greater than 3% held by transient institutions *(Our own calculation)*
DE-RATIO	The ratio of dedicated institutional ownership over total institutional ownership *(Our calculation)*
SIZE	The logarithm of total assets *(Datastream)*
CASH	The ratio of total cash and equivalent items to total assets *(Datastream)*
DIV	The ratio of total cash dividend to total assets *(Datastream)*
LEV	The ratio of total debt to total assets *(Datastream)*

Table 2.2
Descriptive statistics for director pay, performance, ownership structure and control variables of the final sample used in our study.

Variable	Mean	Min	Median	Max	S.D.
Director Pay					
CEOP (1000's)	285	5	213	5000	286
EX-AP(1000's)	226	5	198	901	232
Performance					
Tobin's Q	1.68	0.19	1.28	14.32	1.40
Ownership					
CEO-OWN (%)	4.98	0	0.36	58.53	9.97
EX-OWN (%)	10.47	0	2.88	74.53	15.16
INSTT (%)	30.34	0	29.02	84.33	18.07
INSTD (%)	16.27	0	12.88	73.57	13.58
INSTA (%)	14.06	0	11.63	67.45	12.11
DE-RATIO (%)	0.54	0	0.53	1	0.29
Control Variables					
SIZE	11.74	6.07	10.81	16.78	1.77
CASH	0.19	0	0.11	1	0.21
DIV	0.02	0	0.01	0.41	0.04
LEV	0.23	0	0.14	2.74	0.51

The sample size is 563 firms for the fiscal year 2004. We measure director pay (the dependent variable) in 2004, and the explanatory variables over the period 2003 to 2000. However, for institutional ownership data is available only for two years, 2003 and 2002. Definitions of the variables are given in Table 1.

Table 2.3
Univariate Results

	Panel A			Panel B		
	CEO Pay mean			Executive Average Pay mean		
	Above variable median	Below variable median	T-test (mean compensation)	Above variable median	Below variable median	T-test (mean compensation)
Performance						
Tobin's Q	12.23	12.17	0.79	12.10	12.00	1.73*
Ownership						
CEO-OWN	12.06	12.36	-3.83*			
EX-OWN				11.90	12.18	-5.27*
INSTT	12.31	12.09	2.75*	12.15	11.95	3.65*
INSTD	12.19	12.20	-0.08	12.06	12.04	0.36
INSTA	12.38	12.02	4.92*	12.22	11.87	6.58*
DE-RATIO	12.03	12.41	-4.92*	11.92	12.20	-5.23*
Control Variables						
SIZE	12.58	11.80	11.29*	12.42	11.66	16.66*
CASH	12.21	12.18	0.43	12.02	12.06	-0.75
DIV	12.46	11.94	6.99*	12.23	11.86	6.98*
LEV	12.16	12.24	-1.09	12.03	12.06	-0.51

This table presents mean comparisons of director pay- analyzing high (above median) versus low (below median) performance, ownership structure and other firm characteristics such as size, cash holding, dividend and leverage. Definitions of variables are given in Table 1. * Indicates statistical significance at the 10% level.

Table 2.4
Cross-sectional CEO pay regressions on performance, institutional ownership (and interaction item between them), and other firm characteristics

		Dependent Variable: **LNCEOP**			
Independent Variables	Predicted	Model 1	Model 2	Model 3	Model 4
Tobin's Q	+	0.054**	0.054	-0.042	-0.026
		(2.54)	(0.14)	(-0.79)	(-0.60)
CEO-OWN		-0.005	-0.004	-0.004	-0.006
		(-1.23)	(-1.08)	(-1.01)	(-1.16)
INSTT	-		-0.001		
			(-0.27)		
Q*INSTT	+		0.001		
			(0.85)		
INSTD	-			-0.011***	
				(-2.75)	
Q*INSTD	+			0.005***	
				(2.60)	
INSTA	-			0.009**	
				(2.46)	
Q*INSTA	+			-0.001	
				(-0.95)	
DE-RATIO	-				-0.322***
					(-2.70)
Q* DE-RATIO	+				0.122**
					(2.31)
SIZE	+	0.253***	0.251***	0.243***	0.237***
		(9.62)	(9.37)	(8.89)	(8.26)
CASH	+	0.572***	0.562***	0.619***	0.577***
		(2.75)	(2.70)	(2.96)	(2.72)
DIV	+/-	1.522	1.532	1.331	1.330
		(1.27)	(1.28)	(1.14)	(1.11)
LEV	-	-0.074	-0.073	-0.088**	-0.083
		(-1.60)	(-1.55)	(-2.18)	(-1.35)
R^2		0.25	0.27	0.27	0.25
$\overline{R}^2$		0.22	0.24	0.24	0.22

Model 1 is the baseline model while model 2, 3, 4 add different ownership and performance interaction items. This table presents cross-sectional regressions predicting CEO. All regressions include industry dummy variables. T-statistic values are reported in parentheses. Definitions of the variables are given in Table 1. ***, ** and * indicates significance at 1%, 5% and 10% level, respectively.

Table 2.5
Cross-sectional executive pay regressions on performance, institutional ownership (and interaction item between them), and other firm characteristics

		Dependent Variable: **LNEX-AP**			
Independent Variables	Predicted	Model 1	Model 2	Model 3	Model 4
Tobin's Q	+	0.052***	0.024	-0.001	0.015
		(3.59)	(0.69)	(-0.02)	(0.43)
EXE-OWN		-0.002*	-0.002	-0.035	-0.001
		(-1.73)	(-1.23)	(-1.50)	(-1.02)
INSTT	-		0.001		
			(0.41)		
Q*INSTT	+		0.001		
			(0.75)		
INSTD	-			-0.005	
				(-1.60)	
Q*INSTD	+			0.003**	
				(2.08)	
INSTA	-			0.008***	
				(3.43)	
Q*INSTA	+			-0.001	
				(-0.76)	
DE-RATIO	-				-0.232***
					(-2.78)
Q* DE-RATIO	+				0.057
					(1.32)
SIZE	+	0.246***	0.244***	0.237***	0.239***
		(12.89)	(12.74)	(12.48)	(12.06)
CASH	+	0.283*	0.278*	0.306**	0.286*
		(1.95)	(1.88)	(2.08)	(1.91)
DIV	+/-	1.319**	1.332**	1.185**	1.190*
		(2.08)	(2.12)	(2.02)	(1.93)
LEV	-	-0.029	-0.028	-0.035	-0.022
		(-1.02)	(-1.02)	(-1.50)	(-0.52)
R^2		0.45	0.45	0.47	0.45
$\overline{R}^2$		0.43	0.43	0.44	0.43

Model 1 is the baseline model while model 2, 3, 4 add different ownership and performance interaction items. This table presents cross-sectional regressions predicting executive pay. All regressions include industry dummy variables. T-statistic values are reported in parentheses. Definitions of the variables are given in Table 1. ***, ** and * indicates significance at 1%, 5% and 10% level, respectively

Chapter 3

Control Structure and Dividend Policy: An Empirical Investigation Using UK Panel Data

3.1 Introduction

The issue of dividend is a bit of puzzle in the theory of firms. Miller and Modigliani (1961) argue that, under the restrictive conditions of perfect capital markets, any mix of retained earnings and payout will not affect firm value. Moreover, dividends are taxable to many investors, while firms can reduce taxes by holding and re-investing their profits. However, this has proven to be futile as in the majority of the cases investors do demand some type of a dividend payment ("the dividend puzzle", Black, 1976). There have been several explanations for this puzzle. From the agency perspective, dividend asserts cash payment to shareholders and hence helps to reduce agency problems, either by eliminating the free cash flow (Jensen, 1986) or by increasing the frequency of external capital raising and associated monitoring by investment bankers and invertors (Easterbrook, 1984). Hence the divided payment may be a bonding mechanism pre-committing managers to pursue value maximisation. Moreover, information asymmetries between firms and outside investors can lead to a signalling role for a dividend: managers have superior information about the firm than outsider investors, and they can use a dividend to "signal" the well-being of the firm.

The interaction of dividend policy and control structure has recently gained a great deal of attention in academic research. Shareholders who control firms usually impose their preferred payout ratios on all the shareholders; there has been evidence that strong shareholders actively pursue specific payout outcomes (Allen et al., 2000; Gulger, 2003). In addition, whether s firm's dividend policy is effective in reducing agency costs and information asymmetry may depend on the firm`s control structure. Given that strong shareholders exert their control power.

there may be no need for the dividend policy to constitute an additional monitoring or signalling device (La Porta et al., 2000; Goergen et al.. 2004). There are also a few empirical studies focusing on the relationship between dividend payout and control structure. For German firms, Gugler and Yurtoglu (2003) document that the dividend payout ratio and the extent of dividend smoothing decrease with the power of the largest shareholder. Moh'd et al. (1995) find that, in the US, more dispersed ownership results in higher payout ratios. Using UK data, Renneboog and Trojanowski (2006) find that the presence of strong block holders or a block holder coalition lower payout level and considerably weakens the relationship between corporate earnings and payout dynamics. The identity of the block shareholder also affects the payout ratios. For example, Moh'd et al. (1995) document that larger managerial ownership translates into lower dividend payout ratios, while larger institutional stakes are associated with higher payout. Using UK data, Short et al. (2002) obtain a similar result.

The shareholder-oriented governance regime of the UK is a natural choice for an investigation of this issue. The UK stands apart from other OECD countries in two key respects: first of all, the majority of firms in the UK pay dividends, and these dividend yields are unusually high and considered to be downwardly inflexible; secondly, the rate of share ownership by financial institutions is higher (Khan, 2006; Da Silva, 2006). Institutional investors collectively own around 80 percent of market shares (National Statistics, 2007). In this situation, attention has focused on the alleged role of institutional investors in forcing firms to maintain high dividends, particularly in the face of falling profits in the UK recession of

the late 1980s/early 1990s (Short et al., 2002). In October 2002, Michael McLintock, the chief executive of M&G (a part of Prudential, one of the most important institutional investors in the UK), wrote a letter to the major UK companies about the importance of maintaining dividends despite shrinking profits (FT, 2002). Besides the largest voting block, that of institutional investors, the second most important category of shareholder in the UK is the directors (Goergen and Renneboog, 2001). This raises an interesting question: do the dividend patterns reflect the ownership and control structures? One key to understanding dividend policy in the UK is, therefore, to identify the controlling shareholders. The hypotheses addressed in this chapter draw on the idea that dividends and shareholder control act as alternative monitoring and signalling devices. Therefore, different forms of shareholder control may give rise to the setting of different dividend policies.

Using a UK dataset from 2000 to 2006, the primary objective of this study is to investigate whether any systematic relationship exists between the dividend choices of the UK firms and their controlling shareholders. Our study contributes to the literature on dividend policy in several areas: firstly, this chapter re-opens the debate on the substitutability of dividend and shareholder control in mitigating agency cost and information asymmetry. We group the ownership data in a way that reflects the different control categories of owners and hypothesise that the inclination to pay dividend and smooth dividend depends on the identity of the controlling shareholder coalition. For firms controlled by director-owners and individuals, there are neither major conflicts of interest nor large information symmetry between management and the owners (Gulger, 2003). As such,

dividend stability is less valuable and management is more likely to adjust dividend when necessary. In contrast, firms controlled by financial institutions face greater agency costs and information asymmetry; management thus has a stronger incentive to use dividend as a monitoring and signalling device. In addition, due to the need of some financial institutions for regular dividend income, their invested firms are likely to be dividend payers, paying relatively smoothed but not low dividends (Renneboog and Trojanowski, 2007; Renneboog and Szilagyi, 2007).

Secondly, we employ two multivariate analyses to investigate how dividend behaviour is affected by the controlling shareholders. In the first stage, following Benito and Young (2001), we explain the likelihood that a firm pays dividend using random effect Probit models. Consistent with Benito and Young (2001), Hu and Kumar (2004) and Ferris et al. (2006), our results suggest three fundamentals that affect the decision to pay dividend in the UK: earning, size and growth potential. Larger firms with higher earning income but fewer growth opportunities are more likely to be dividend payers. However, unexpectedly, there is no evidence to suggest that firms controlled by institutional investors are more likely to pay dividends. In the second stage, we use partial adjustment models (PAM) to explain the dynamics of dividend change. We find that institution-controlled firms engage in dividend smoothing, while firms controlled by director-owners and other individuals are found to be flexible dividend payers and make payout decisions based on current earnings rather than historical dividend levels.

In addition, we explicitly consider the endogeneity problem in the empirical analysis of dividend payout. The endogeneity issue is important in this context for two reasons: first, it is highly likely that observable and unobservable shocks affecting dividend payout can also affect some of the firm-specific characteristics such as earning and leverage; second, it is also possible that observed relations between dividend and potential determinants reflect the effects of dividend on the latter, rather than vice-versa. To control for the endogeneity, we employ a panel data analysis combined with the Generalised Method of Moments (GMM) estimation procedure. Specifically, we apply a GMM-in-system estimation, which includes lagged differences of the dependent variables as instruments for the equations in levels, in addition to using levels as instruments for the differences.

The remainder of this chapter is organised as follows; Section 3.2 highlights some theoretical and empirical background about dividend policy; Section 3.3 develops our hypotheses based on the key features of the ownership structure in the UK; Section 3.4 describes the data; Sections 3.5 and 3.6 detail the econometric methodology, as well as presenting key results and possible explanations in light of existing theory and evidence; and Section 3.7 concludes.

3.2 Theoretical background

Until recently there was a great deal of talk about the impending death of dividends (Fama and French, 2001). However, a confluence of events has conspired to make bosses and investors think again. Investors have grown more sceptical about accounting profits in the wake of Enron and WorldCom and now require evidence of profitability in the form of a dividend check. Furthermore,

some big firms, specifically technology firms, have piled up so much cash that it seems to burn a hole in their pockets (Economist, 2004[14]). In this section we review various theories stipulating that factors such as agency cost, information asymmetries and taxes determine a firm's payout decision.

3.3.1 Agency cost

Our chapter takes an agency perspective as a starting point for explaining dividend policy. A key source of agency conflicts stems from a firm's policy in dividing profit between dividend and retained earning. Directors' interests may not be perfectly aligned to the interests of shareholders, as their corporate objective may be growth rather than value. Jensen (1986) argues that dividend payments help to dissipate cash, which might otherwise be wasted in non-value maximising projects, therefore reducing the extent of over-investment by directors. Shleifer and Vishny (1986) present a model of firm valuation where the payment of dividends serves to reduce agency costs. Born and Rimbey (1993) also suggest that high dividend is used as a self-disciplining mechanism. Higher dividend payout increases the likelihood that the firm will have to sell common stock in primary capital markets, which in turn leads to an investigation of management by capital suppliers (Easterbrook, 1984). Recent theoretical work by Fluck (1999) also presents agency-theoretical models of dividend behaviour where directors pay dividends in order to avoid disciplining action by shareholders.

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[14] Issue July 22th, 2004. Microsoft's dividend - Bill's millions.

3.3.2 Information Asymmetry

Signalling theories of dividend relax the assumption of symmetry information between investors and directors. Information asymmetry between firms and outside investors can lead to a signalling role for dividends: directors have superior information about the firm than outsider investors, and they can use dividend to "signal" the well-being of the firm and promote confidence (Ross, 1977; Miller and Rock, 1985). Lintner (1956) makes the observation that directors are particularly concerned with the stability of dividend because they strongly believe that the market puts a premium on firms with a stable dividend policy. Asymmetry of information allows directors to smooth dividend and they have a strong incentive to do so since: (1) a steady flow of dividend may suffice to convince external shareholders that the company is performing well; and (2) a dividend cut will trigger adverse market reaction. This is further supported by a recent survey carried out by Brav et al. (2005), which finds extreme reluctance on the part of the management to cut dividends; 90% of firms strongly agreed that they smooth dividends from year to year.

3.3.3 Tax

In their intriguing study, "Disappearing dividends: changing firm characteristics or lower propensity to pay", Fama and French (2001) document a large decline over the period 1978-1998 in the number and percentage of industrial firms that paid dividend. Unlike the US, firms in the UK do not demonstrate a decreasing propensity to distribute funds to shareholders (Renneboog and Trojanowski, 2007). The tax code effect might partly account for the discrepancies in payout

between UK and US firms. The US has a classical company tax system whereby dividends are taxed twice: the first time on the corporate level (via corporate tax), and a second time on the shareholder level (via income tax). In contrast, the UK has used a partial imputation system since 1973, in which part of the corporation tax is taken into account when calculating a shareholder's liability to income tax on company dividend (Short et al., 2002). Hence the tax treatment of dividend is more favourable than a classical system. Another particular feature of the UK imputation was that, until July 1997, tax-exempt investors (mainly pension funds, but also charities) could claim a full cash refund from the tax authorities. This has created a strong preference for earnings to be paid in dividends rather than to be retained in the company (Bond et al., 1996). However, there has been a substantial change to the taxation of corporate income source, with tax credits on dividend payments to pension funds being abolished in July 1997 and Advanced Corporation Tax (ACT) ending in April 1999. Consequently, the valuation of the dividend income for tax-exempt investors was sharply reduced, leaving them indifferent about the choice between dividends and retained earnings (Bell and Jenkinson, 2002).

3.3 Hypotheses development

3.3.1 Shareholders and dividend policy

The extent to which the dividend policy is effective in reducing the expected agency costs and information asymmetry may depend on the firm`s ownership and control structure. In what follows, we discuss the plausible effects of the two

most important shareholders categories in the UK (i.e. the financial institutions and the directors) on dividend policy.

3.3.1.1. Director-owners

Agency theory suggests that management is reluctant to pay dividends, preferring instead to retain resources under their control. In an agency context, directorial ownership can be used as a proxy for the alignment of interests between directors and shareholders. However, the relation between dividend payout ratio and directorial ownership could be non-monotonic (Schooley and Barney, 1994; Farinha, 2003). At a lower level, a directorial stake helps to align the interests of management and shareholders (Jensen et al., 1992); dividend policy thus becomes less desirable as a discipline and motivation tool. At a higher level of directorial ownership, inside ownership increase is associated with additional, entrenchment-related agency cost (Morck et al., 1988), and as such the scrutiny placed on the firm by a higher dividend becomes necessary again. Eventually, when directorial ownership becomes sufficiently high, the interests of directors and shareholders can be effectively aligned. Directors bear a substantial part of the costs and receive a substantial part of the benefits from their actions. In addition, as a particular category of individual shareholders, directors are insiders who possess superior information on the firm's prospects. Their willingness to invest can serve as a signal that helps to resolve the information asymmetry (Lehand and Pyle, 1977). In short, substantially high directorial ownership can act as a substitute monitoring and signalling device to dividend policy and makes dividend policy redundant. Eckbo and Verma's (1993) empirical evidence indicates that the cash

dividend is almost always zero when director-owners have absolute voting control of the firm.

3.3.1.2. Institutional Investors

In the presence of large external shareholders, managerial discretion can be curbed to some extent and agency costs between managers and shareholders are reduced because large shareholders have the ability and incentive to monitor and discipline management (Shleifer and Vishny, 1986). This would in turn imply a lesser role for any corporate payout policy to address the agency problem. On the other hand, given the superior information that large shareholders are likely to have concerning the future prospect of the firm (because of their easy access to and control of the management), the market may interpret the presence of large shareholders as a signal of good prospects. From the signalling perspective, in the presence of large shareholdings, the management's incentive to use dividend as a signalling device is weakened.

Compared to individual shareholders, institutional investors are likely to have a greater preference for systematic dividend payout. First of all, in contrast to other shareholders, there is evidence that UK institutional investors monitor the companies they invest in less actively (Franks et al., 2001; Faccio and Lasfer, 1999). Dividend policy hence serves as a valuable corporate control device. In addition, the existence of "prudence man" rules and asset-liability management considerations may lead to situations where institutional investors strongly prefer a particular form of payout (Del Guercio, 1996). Institutions need funds to match

their liabilities on an ongoing basis, such as funding pensions or paying out insurance policies; high and stable dividends facilitate the flow of funds to and from their portfolios (Short et al., 2002; Renneboog and Trojanowski, 2005). In terms of signalling, institutions have to keep a certain distance from management to avoid the regulation of "inside-trading", and management therefore still have the incentive to use dividend as a signalling device.

3.3.2 Hypotheses

Although agency theory and the signalling effect of dividend predict substantial and smooth dividends, dividends could be low and flexible provided that an incumbent shareholder group with a powerful monitoring ability and superior information is present. This argument recognises that dividends need not constitute an additional controlling and signalling device when alternative mechanisms are at work; otherwise they may simply lead to unnecessary liquidity constraints and risks of under-investment (Renneboog and Szilagyi 2007). The identity of the controlling shareholders can thus influence the firm's incentive for dividend payout; one key to understanding dividend policy in the UK is, therefore, to identify the controlling shareholders. Following Gugler (2003), we conjecture that the inclination to pay dividend and smooth dividend depends on the identity of the controlling group.[15]

We take Crespi and Renneboog's (2003) approach and assume that all the shareholders of a particular type (e.g. financial institutions) form a coalition, and

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[15] For all the shareholders we do not consider tax client effects, because after the recent tax reform in the UK, dividend income for most shareholders is always at a tax disadvantage relative to capital gains. Rather, we conjecture that dividend behaviour is predicted simply by the relative level of agency cost and information asymmetry under the control of each shareholder group type.

such coalitions then participate in a voting game with the intention to influence (or even determine) the payout policy. For instance, financial institutions might prefer a particular pattern of payout, while other groups of owners, e.g. directors, may care less about this. We group the ownership data in a way that reflects different control categories of owners. The criterion for an organisation is the largest shareholder category of a company. An additional means for this is a combined stakes higher than 10%[16] in the company.

Agency costs and information asymmetry could be substantially different depending on the type of controlling shareholder. For director-owner controlled firms, neither a major conflict of interest nor large information asymmetry between management and owners is present. Directors are the largest shareholders, and they therefore bear the major part of the costs and receive the major part of the benefits of their actions. This further translates into more flexible payout policies, since dividend as a monitoring and signalling device is less valuable in those firms. Similar patterns should persist in firms controlled by other individual shareholders. The direct involvement of the controlling individual shareholder in the management of the firm is more likely than that of financial institutions (Faccio and Lang, 2002; Gugler, 2003). The marginal control and signalling benefit of dividend should be very low in firms controlled by wealthy private individuals with strong monitoring skills and incentives (Renneboog and Szilagyi, 2007). Renneboog and Trojanowski (2007) find that payout levels in the UK are lowest in firms that are controlled by individual

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[16] Leech (2002) suggests that, given the dispersed ownership structure of UK firms, the equity stake needed to incite a shareholder to participate actively in monitoring is not that large. 10% is used in our chapter as a threshold to define shareholders that have a controlling power in UK firms.

investors. On the other hand, in firms controlled by institutional investors, agency cost and information asymmetry is more severe than in firms controlled by directors and other individuals. According to the expected "ranking" of shareholder types in their preference for dividends and how efficiently they mitigate agency cost and informational asymmetry, we develop our hypotheses:

H1: Firms controlled by financial institutions (IC firms) are more likely to be dividend payers compared to firms controlled by director-owners and other individuals (MC firms).

H2: Firms controlled by financial institutions (IC firms) adjust dividend to current income to a less extent and pay relatively smoothed dividend compared to firms controlled by director-owners and other individuals (MC firms).

3.4 Data Description

Our sample covers UK firms listed on the London Stock Exchange. We exclude financial firms because the nature of their financial decisions is different, being determined by different factors. Control structure is derived from the *Hemscott Guru Academic Database.* Accounting data has been collected from Datastream Database. According to these criteria, we select 482 firms that are quoted at the London Stock Exchange for which there are 7 years accounting data available over the period 2000-2006.[17] The reason for choosing this period is that the tax

[17] Ownership data is only available from the years 2002-2005. Given that ownership structure is relatively stable over time, we define a firm as an IC (MC) firm if the controlling shareholders have been institutional investors (manager-owners and other individuals) from 2002-2005.

credits on dividend payments to pension funds were abolished in July 1997 and Advanced Corporation Tax (ACT) ended in April 1999. By selecting this period, we try to capture the latest relation between payout policy and control structure in the UK firms. Overall, the sample consists of a balanced panel data of 3374 firm-year observations. Table 3.1 provides a precise definition of our data.

-Insert Table 3.1 here-

3.4.1 Statistics Summary

Some descriptive statistics are summarised in Table 3.2, Panel A. On average, the dividend to book is 0.02, while the earning to book is 0.01. The average values of dividend per share-DPS and earning per share-EPS are 5.49 and 10.02. Finally, the average log value of total asset is 11.12; average leverage and Tobin's Q are 17% and 2.11 respectively. In general, these values are in line with those reported in other studies for UK firms (Ozkan and Ozkan, 2004; Short and Keasey, 1997). Around 33% (=1098/3374) of the company-year observations involve zero dividend payment, with 37% (=1255/3374) showing dividend payment equal to, or in excess of, net earning.

For firms with a positive net income, Panel B shows that the average values of dividend to book (dividend per share) and earning to book (earning per share) are 0.03 (7.06) and 0.07 (17.86). The median dividend-payout ratio (the ratio of dividend payment to net income) over the period is 34%, but there is considerable variation around the median. In this, 19% (=454/2370) of the company-year

observations involve zero dividend payment and 11% (=253/2370) dividend payments equal to, or in excess of, net earning.

Panel C in Table 3.2 provides time-series summary statistics. Average dividend to book (dividend per share) drops from 0.024 (5.38) in 2000 to 0.019 (4.86) in 2002, and rebounds gradually in later years. It reaches 0.020 (6.76) in 2006. This reflects the turbulence in the underlying economy during that period (i.e. the so-called "early 2000s recession", which affected most western countries in 2000-03). Correspondingly, we observe that earning to book (earning per share) changes in the same direction, though more dramatically: it starts at 0.016 (8.67) in 2000, drops to -0.020 (5.70) in 2002 and reaches a new high of 0.033 (16.39) in 2006.

-Insert Table 3.2 here-

Compared to the change in underlying earnings, dividend payments in the UK are relatively smooth over time and are characterised by frequent small adjustments, which corroborates our earlier argument of the dividend-smoothing hypothesis. This is clearly shown in Chart 3.1. Chart 3.2 shows the distribution of dividend for all firms, both MC firms and IC firms. Graph (a) shows that the average dividend to book value of MC firms starts lower but ends higher than that of IC firms. From Graph (b) we observe that, on average, IC firms pay a higher dividend per share than MC firms, although there is a convergence at the end of our sample period. Given that the economy recovered strongly after 2003, these

graphs might indicate that MC firms adjust their dividends to the underlying income more quickly than IC firms.

-Insert Chart 3.1 here-

-Insert Chart 3.2 here-

In the context of dividend omission, only 95 firms in our sample did not pay any dividends throughout the whole sample period, whereas 260 firms always paid a strictly positive dividend (not reported in the table). Chart 3.3 illustrates the proportion of companies paying dividends in our sample period. In 2000, the proportion of dividend-paying companies stood at 70%, but this decreased to 66% by 2003, recovering gradually to 68% later. Ferris (2006) found that the percentage of dividend payers in the UK declined over the period 1988-2002; our results suggest a rebound after 2002, which mirrors the recovery of the economy (and corporate earning increase). Moreover, Chart 3.3 shows that IC firms are more likely to make positive payouts than MC firms, although the difference becomes less significant in later years. For example, in 2000, 74% IC firms made a positive dividend payout while only 62% of MC firms paid a dividend. However, in 2006, the proportion of dividend payers of IC and MC firms are 68% and 66% respectively. Following estimation of the basic models for the incidence of dividend omission, we examine the dividend omission in a later section.

-Insert Chart 3.3 here-

3.4.2 Mean comparison for different groups

Table 3.3 presents mean comparisons of firm characteristics. Panel A stratifies the sample according to whether the firms pay a dividend or not. Companies that omit to pay a dividend are on average making a negative profit with an earning to book (earning per share) of -0.07 (-1.07), compared with an average return of 0.05 (15.37) among dividend-payers. There is also a considerable difference between the dividend non-payers and payers in terms of size, growth opportunities and financial leverage. Zero-payout firms are smaller in size, have higher growth potential and are less leveraged.

Panel B of Table 3.3 provides summary statistics according to the controlling shareholder groups. When we use dividend to book to proxy dividend, we observe no significant difference between IC firms and MC firms. However, when we compare their average dividend per share, we find that IC firms pay a higher dividend with a dividend per share of 5.84, compared with an average dividend per share of 4.43 for MC firms. Interestingly, there is a much smaller difference between IC firms and MC firms in terms of earnings (either measured through earning to book or earning per share). Finally, it seems that IC firms tend to be bigger firms with higher growth opportunities and higher leverage ratio when compared to MC firms.

-Insert Table 3.3 here-

Finally, we also report the results of the Pearson's correlation of our variables in Table 3.4. Dividend to book is positively correlated with income and

size, but negatively related to leverage. In addition, the correlations between dividend per share and earning per share, size and leverage are significantly positive; while the correlation between dividend per share and Tobin's Q is significantly negative. Corporate earnings (both earning to book and earning per share) are positively correlated with firm size, but negatively correlated with Tobin's Q. There is also some evidence suggesting that IC (MC) firms are associated with higher (lower) dividend per share, compared to other companies. Finally, our results suggest that IC (MC) firms tend to be larger (smaller), having higher (lower) growth potential and being more (less) levered.

-Insert Table 3.4 here-

3.5 Random-effect Probit regression

The question of when a firm omits the dividend is a central issue in dividend policy. A dividend omission is sensitive because, although people might disagree over the proper level of dividend, it is more difficult to argue that a zero payout represents adequate "reward" to shareholders (Correia da Silva et al., 2006). We model dividend payout as "events", considering dividend omissions. The dependent variable equals 1 if a firm paid a dividend in a particular year and 0 otherwise. There are several methods to analyse regression models where the dependent variable is 0 or 1. The simplest procedure is just to use the "linear probability" model. However, there are lots of problems with this procedure. The most important criticism is that the predicted value can easily lie outside the

interval (0, 1) and prediction errors can be very large (Maddala, 2001). An alternative approach is to assume that we have a regression model

$$Y_{it}^{*} = \alpha_i + X_{it}\beta + \varepsilon_{it}$$

where "i" indexes companies and "t" indexes years. α_i denotes the unobserved company-specific component that is assumed random across companies. while ε_{it} represents random error. Y_{it}^{*} is not observed, and is commonly called a "latent variable". What we observe is a dummy variable Y_{it} defined by

$$Y_{it} = 1 \text{ if } Y_{it}^{*} > 0$$

$$= 0 \text{ otherwise}$$

A positive dividend payout ($Y_{it} = 1$) is observed when the latent variable Y_{it}^{*} crosses a threshold, which is here normalised to zero. The probit and logit models differ in their specification of the distribution of the error term ε_{it}. The difference between this specification and the linear probability model is that in the linear probability model we analyse the dichotomous variables as they are, whereas in this specification we assume the existence of an underlying latent variable for which we observe a dichotomous realisation. In this case, if the observed dummy variable is whether or not the firm pays a positive dividend, Y_{it}^{*} will be defined as "the propensity or ability to pay dividend". Note that there is both "propensity" and "ability" involved, and thus the explanatory variable would contain variables that explain both these elements. A positive (negative) coefficient sign indicates that the explanatory variable is positively (negatively) associated with the likelihood of payout.

Previous work (Benito and Young, 2001; Fama and French, 2001) has documented systematic difference between the samples of paying and non-paying

companies with respect to characteristics such as earning, size, growth and leverage. Earning is relevant because firms may face financial constraints to pay dividends when their earnings are poor. An important reason cited by firms not paying dividend is "poor earnings" (Baker, 1989). DeAngelo and DeAngelo (1990) and DeAngelo et al. (1992) document that a significant proportion of firms that have losses over a five-year period tend to omit their dividend entirely. As size can be a proxy for firm maturity and agency cost (Grullon et al., 2002), firms of a small size are consequently more likely to pursue a dividend retention strategy. The influence of leverage could be twofold: in the short term, an increase in indebtedness could finance an increase in dividend; but in the long run, debt-related payouts reduce firm liquidity and constrain payout to shareholders (Hu and Kumar, 2004). Finally, firms lacking growth opportunities are more likely to pay dividends back to shareholders, ceteris paribus. We include these control variables in our empirical specification. We also control for industry-specific and year-specific effects. In addition, we employ two ownership dummy variables, IC and MC. IC (MC) equals one when the financial institutions (the director-owners and other individuals) collectively own the largest and higher than 10% stakes in the firm, and zero otherwise. Following Benito and Young (2001), we use a random effect probit[18] model to investigate the relationship between dividend payment likelihood and the control structure. A random effect term that allows for various unobservable differences in the propensity to pay

[18] As a robustness check, we also did Logit regressions (for an example, see Hu and Kumar, 2004). The results are very similar to the Probit analysis and are not reported.

dividend across companies augments the standard probit model for a binary event. Table 3.5 reports the results.

Overall, with the possible exception of the role of control shareholders, all the significant explanatory variables influence dividend payout likelihood in a manner consistent with the predictions. We find dividend payers, relative to non-payers, tend to be larger, more profitable and have fewer growth opportunities (measured through Tobin's Q). This suggests that the probability of a dividend payout increases with the severity of agency problem. No evidence suggests that higher leveraged firms are more likely to omit a dividend payout. Unexpectedly, there is no evidence supporting our earlier conjecture that institution-controlled (IC firms) firms are more likely to be dividend payers than the firms controlled by director-owners and other individuals (MC firms). In line with Renneboog and Szilagyi (2007), the results from column (1) even suggest that the payout likelihood increases when director-owners and other individuals hold effective control.

We also estimate our model for MC and IC firms. The results are reported in columns (2) and (3) respectively. We observe that for MC (IC) firms, the "size coefficient" (earning coefficient) is higher compared to that for IC (MC) firms. This might suggest that size (earning) affects MC (IC) firms' payout decisions to a large extent. On the other hand, the negative value of "Tobin's Q coefficient" is lower for MC firms, which might indicate that they are more likely to omit the dividends when the growth potential is high. Surprisingly, we find that the "leverage coefficient" is significantly negative for MC firms, but significantly positive for IC firms. Contrary to our expectation, IC firms with higher leverage

ratios are more likely to make positive payouts, suggesting that some IC firms might go into debt to make positive dividend payouts.

To sum up, the results uniformly show that larger, more profitable firms with lower growth potential are more likely to be dividend payers, which is consistent with other studies. No evidence supports our hypothesis that IC firms are more likely to be dividend payers than MC firms; some evidence even suggests that MC firms are more likely to be the dividend payers. Our results also indicate that earning (size and growth potential) affect IC (MC) firm`s payout decisions to a large extent. More importantly, we find that less leveraged MC (IC) firms are more (less) likely to be dividend payers.

-Insert Table 3.5 here-

3.6 Dynamic panel data regressions

In the previous section we examined the likelihood of a positive dividend payout. In this section, we study another interesting question regarding the dividend decision: the dividend change in a dynamic setting.

3.6.1 Model setting

Some research studies suggest that, in the dividend decision, directors focus on the change in current payout patterns but not the dividend level (Marsh and Merton, 1987). The work by Lintner (1956) and Fama and Babiak (1968) on US dividend policy suggests that directors change dividend primarily in response to

unanticipated and non-transitory changes in their firm's earnings. Moreover, directors are believed to have a long-term payout target ratio, but the market imperfections such as information asymmetry and transaction costs may prevent them from adapting rapidly to new circumstances. Therefore, managers adjust ("smooth") payout gradually to earning shocks over several years. We use Lintner's (1956) partial adjustment model (PAM) to explain the dynamics of dividend change to allow for the possible delays in the response of firms in adjusting their dividend payout. For any year t, the dividend payout of firm i is assumed to be related to earning E_{it} by a desired payout ratio τ_i

$$D^*_{it} = \tau_i E_{it}$$

$$\Delta D_{it} = \alpha_i + \sigma_i (D^*_{it} - D_{i,t-1}) + \varepsilon_{it}$$

$$D_{it} = \alpha_i + \sigma_i \tau_i E_{it} + (1 - \sigma_i) D_{i,t-1} + \varepsilon_{it}$$

where D^*_{it} is the target payout of firm i in period t, τ_i the target payout ratio, E_{it} is the current earning, ΔD_{it} is the change in dividend payments from period $t-1$ to t, α_i is the firm specific effect, σ_i is a speed of adjustment coefficient, $(1-\sigma_i)$ is the extent of dividend smoothing, $D_{i,t-1}$ is the lagged dividend and ε_{it} is the error item. Here the implicit target payout ratio is given by $\tau_i = \sigma \tau_i / (1-\sigma_i)$. Thus, τ and $(1-\sigma)$ are the key parameters to test our hypotheses as these determine the dividend payout bundle, i.e. dividend target level and dividend smoothing. A lower level of $(1-\sigma)$ indicates a speedier adjustment to target payout level, whereas a lower value of τ indicates less need to payout dividends optimally (Gugler, 2003).

Partial-effect specifications are dynamic panel data models with the lagged dependent variable as a repressor. Hence, traditional estimators, such as fixed-

effect within-estimators, are biased (Baltagi, 2001). This bias is most severe when the time dimension of the panel is relatively small. The inferences based on such estimates are likely to lead to spurious conclusions. The more appropriate methodological approach is a dynamic panel data estimation technique. Several GMM-type estimators have proposed a first-differenced equation where the differences are instrumented by lagged levels of the regressors (Arellano and Bond, 1991). Blundell and Bond (1998) later improve this estimation technique by developing the "GMM-in-system estimator". More specifically, the Blundell and Bond (1998) estimation technique employs lagged differences of the dependent variable as instruments for equations in levels, in addition to using levels as instruments for the differences. This gives consistent parameters in short panels, provided that the instruments used are valid. It also displays good finite sample persistence even when the variables show persistence. The consistency of the GMM estimators also depends on the assumption that there is no serial correlation in ε_{it}, so that $\Delta\varepsilon_{it}$ should indicate significant negative first order serial correlation and no second order correlation. Tests for serial correlation in the first differenced residuals, denoted as m1 and m2, are reported in the results. The Sargan test of over-identifying restrictions under the joint null that instruments are valid and the model is correctly specified is also reported in the results. We estimate the models applying this so-called GMM-in-system estimator using PcGive 10 (Doornik and Hendry, 2001).

In order to test our conjectures pertaining to the impact of controlling shareholders, we apply a partial adjustment model (PAM) to IC (institution-controlled) and MC (director-owners and other individual-controlled) firms

separately and compare the key coefficients of our interests. According to our hypotheses, MC firms are supposed to have less incentive to smooth dividends, while IC firms are more likely to do so. We first estimate our basic model, followed by the fully developed one including all the determinants.

3.6.2 Preliminary regression results

Almost all of the studies done after Linter's study have used per share data (Grinstein and Michaely, 2005; Correia da Silva, 2006). As Grinstein and Michaely suggest, we rely heavily in the dividend dynamic model on the time-series property of dividend, and firms typically use past dividend per share in the following periods. The use of per share data has the advantage of omitting the impact of any capital variation, in terms of either capital structure or capital amount (Ben Naceur et al., 2006). Table 3.6 reports GMM estimates of the basic dynamic dividend models using dividend per share (DPS) as the dependent variable. The estimates reported are the output of a two-step optimisation procedure. Time dummies and industry dummies are included among the independent variables. For all regressions, the p-value of the Sargan test and the m1 and m2 statistics do not appear to reject the null instrument validity and correct model specification.

When we pool all the firms together in the regression (column 1), the coefficient of the lagged dividend $(1-\sigma_i)$ is positive and significantly different from zero. This is consistent with the widely observed practice of firms adjusting dividend payments gradually over time, in line with the "smoothing" behaviour

noted by Linter (1956). The adjustment coefficient σ_i is 0.47, midway between 0 and 1. This is consistent with the view that firms may trade-off between two different types of costs: costs of making adjustment to their target ratios, and costs of being in disequilibrium (Ozkan, 2001).

We then re-estimate our model using only MC firms (regression 2). In line with Renneboog and Szilagyi (2007), our results suggest that, when directors form a controlling coalition of shareholders, there is a significant reduction in the smoothing coefficient. Regarding t-statistics, surprisingly, for MC firms the coefficient of the lagged dividend (DPS) falls short of statistical significance, although it is positive as expected. As expected, the strong presence of director-owners and other individual shareholders weakens the "path dependence" of the dividend. In contrast, when we re-estimate the model for IC firms, we find an increase in the smoothing coefficient, as shown in column 3. The coefficient of the lagged dividend for IC firms increases to 0.54, compared to a value of 0.40 for MC firms. The significant dividend smoothing behaviour under the control of institutional investors may be symptomatic of the agency problem and information asymmetry in the invested firms.

For all regressions, the "impact coefficient", i.e. the effect of earning on dividend, is positive and significant at a 1% level, which lends support to the prediction that firms with higher incomes would pay out more dividends as a result of their cash abundance. In addition, the "impact coefficient" for MC (IC) firms is relatively higher (lower), which is consistent with our expectation that MC (IC) firms adjust dividends to a greater (smaller) extent dependent on current incomes. Generally, these results are consistent with the expected "ranking" of

shareholder types in how efficiently they mitigate informational asymmetry and agency costs.

-Insert Table 3.6 here-

3.6.3 Regression results of a fully developed model

However, bearing in mind that, excepting the prior dividends and current earning, many other variables are well known to be significant in determining dividend and our model could be mis-specified if we exclude them. We add a fixed set of regressors (X) to control for firm specific characteristics, i.e. firm size (measured through total asset), growth opportunities (measured through Tobin's Q) and leverage, and also for year and industry effects. Thus the regression equation describing the extended partial-adjustment model can be written as:

$$D^*_{it} = \tau_i E_{it} + \gamma X_{it}$$

$$\Delta D_{it} = \alpha_i + \sigma_i (D^*_{it} - D_{i,t-1}) + \varepsilon_{it}$$

$$D_{it} = \alpha_i + \sigma_i \tau_i E_{it} + (1 - \sigma_i) D_{i,t-1} + \sigma_i \gamma X_{it} + \varepsilon_{it}$$

We allow for the possibility that current and past shocks (e.g. board turnover) to dividend behaviour also affect total asset, Tobin's Q and leverage. All explanatory variables are assumed to be endogenous in the extended model. Moreover, to achieve consistency with other variables (e.g. leverage ratio), we normalise the dividend and earning by the book value of total assets. Thus in the following analysis we estimate the current dividend to book as the dependent variable. Table 3.7 reports the results.

In regression 1, the Sargan test indicates that (at the conventional 5% significance level) the reported estimates for pooled firms fail to match the moment conditions. Therefore we do not interpret the corresponding estimation results, and report them for reasons of comparison only. We then re-estimate our model using only MC firms (regression 2) and IC firms (regression 3). Both regressions pass the Sargan test, and the m1 and m2 statistics do not reject the null instrument validity and correct model specification.

Consistent with our previous findings, regression (2) shows that, for MC firms only, the current earning is statistically significant and positively influences the current dividend. MC firms are more sensitive to current earnings than prior dividends and any changes in earnings are directly reflected in dividends. This confirms our conjecture that MC firms do not follow stable dividend policies. When IC firms are considered (regression 3), the lagged dividend has a significantly positive impact on the current dividend level, which supports dividend policy stability in IC firms. Surprisingly, for IC firms the coefficient of the current earning falls short of statistical significance, although it is positive as expected. This might suggest that IC firms adopt a stable dividend policy to allow shielding of payout from earning shocks.

In addition, consistent with Khan (2006), we also detect strong evidence that larger firms are the ones that tend to pay out higher dividends. One interesting result stems from the estimated coefficient of size, which is higher for MC firms than for IC firms. This indicates that size affects MC firms' payout levels to a large extent. Additionally, the significant and negative coefficient of Tobin's Q indicates MC firms' reluctance to pay high dividends when they are going

through a fast-growing stage. In contrast, the coefficient of Tobin's Q for IC firms is insignificant and positive, revealing that IC firms with more growth opportunities do not pay lower dividends.

Above all, we find that firms in the UK are far away from having a homogeneous behaviour in terms of dividend. Under both model specifications, we obtain some consistent results. First of all, MC firms seem not to care about the level of last year's dividend; thus, they do not smooth their dividend policy. In contrast, IC firms attempt to maintain stable dividend payments. In addition, the current earning income affects IC firms' dividend to a much smaller extent, compared to its influence on MC firms. Our analysis suggests that the presence of a coalition of institutional investors as the controlling shareholder weakens the relationship between corporate earning and payout level, but strengthens the dividend "path dependence". This is probably due to the fact that IC firms suffer from higher agency costs and information asymmetry; regular dividend payout is hence regarded as a valuable governance and signalling device.

Our findings also explain the gap between the dividend levels of MC firms and IC firms observed in chart 3.2. Although the average dividend of IC firms is much higher at the beginning of the sample period, since MC firms adjust dividends to the earnings more quickly, the gap becomes narrower when the economy booms and earning increases.

-Insert Table 3.7 here-

In our previous work we found that the trading behaviour of institutional investors affects their monitoring incentive and ability. From this point of view. the presence and monitoring of dedicated institutional investors, i.e. investors with long-term investment horizons, would reduce agency cost and information asymmetry effectively. Hence, firms controlled by dedicated institutional investors are expected to pay relatively unsmoothed dividend compared to firms controlled by transient institutional investors. However, since dedicated institutions get very few capital gains from equity trading, they might have to rely on stable dividend income for asset-liability management considerations. As such, any prediction must be ambiguous. While we further divide IC firms according to whether or not they are controlled by dedicated or transient institutional investors, there is no evidence to suggest that firms are less engaged in dividend smoothing when the controlling shareholders are dedicated institutional investors (not reported here).

3.6.4 Robustness test

Firstly, in addition to the Sargan test for the validity of the instrument set, we carefully investigated whether the variables used in the analysis are predetermined or strictly exogenous with respect to the error term. In order to test for the possibility that X_{it} is predetermined with respect to the error term, we started using instruments dated t-2 for each variable included in the instrument set. Later, $X_{i,t-1}$ was added to the existing instruments. In the presence of measurement error, the estimate of the coefficients of X is expected to fall (see,

for example, Ozkan (2002) for a more detailed discussion). This procedure is carried out for each variable and we detect none of them is pre-determined to the error term. We also investigated the possibility of strict exogeneity of variables with respect to the error term by including current values. Again we detected a fall in the estimates of the coefficients. We therefore conclude that no variable is strictly exogenous with respect to the error term.

3.6.5 Additional test: cross-sectional regressions

In order to provide deeper insights into the impact of ownership on dividend policy, we present some additional tests. To do so, we estimate a cross-sectional dividend model[19] using the average values of each of the firm characteristics (including ownership variables) over three years in an attempt to mitigate problems that might arise from short-term fluctuations. We measure dividend, the dependent variable, in 2006 and the explanatory variables over the period from 2002-2005. Table 3.8 presents the estimation results for the cross-sectional dividend model. In column (1), we report regression results for the basic model. In line with our previous analysis, our results confirm that large size, high earning and low leverage ratio are associated with high dividend payout. No evidence suggests that Tobin's Q significantly affects dividend payout. In column (2) we incorporate ownership variables into the model, namely MANO, INSTT and OTHL, which are directorial ownership, institutional ownership and other individual ownership of the firm. There is no evidence to suggest that institutional

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[19] We do not employ a dynamic panel data model since, because the ownership data is only available from 2002-2005, the time dimension of the panel is quite small.

ownership has a significant impact on the dividend level. In contrast, the coefficients of directorial ownership and other individual ownership are negatively significant. This underpins the notion that higher directorial ownership and other individual ownership lead to lower dividend levels. In column (3), we also add the square of directorial ownership and the cube of directorial ownership to test a non-linear model. However, the total insignificance of directorial ownership suggests little support for a non-linear relationship between directorial ownership and dividend level. So far we detect no evidence to support a positive relation between institutional ownership and dividend level. In the last regression we split the institutional ownership into dedicated institutional ownership (INSTD) and transient institutional ownership (INSTA), and find that dedicated institutional ownership is significantly associated with lower dividend level. This is consistent with our belief that dedicated institutional investors are more active corporate monitors, and dividend policy is regarded as a less valuable monitoring and signalling device.

-Insert Table3.8 here-

3.7 Conclusion

This chapter investigates whether dividend behaviour is affected by control structure; in particular, we exam the conventional wisdom that dividend and shareholder control can be substitutes in mitigating agency cost and information asymmetry. Using a panel of UK firms from 2000-2006, we use a random-effect

probit model and partial adjustment models to investigate whether the identity of a controlling shareholder group affects dividend behaviour.

Specifically, we attempt to find answers to the following questions: first, does control structure affect the dividend policy or not? And second, what are the main factors that determine dividend policy making?

In the first section, a random effect probit model is applied. We detect no evidence to suggest that firms controlled by financial institutions (IC firms) are more likely to be dividend payers than other firms, specifically than firms controlled by director-owners and other individuals (MC firms). Consistent with previous studies, our results find three fundamentals that affect the decision to pay dividends in the UK: earning, size and growth potential (measured through Tobin's Q). Larger firms with higher earning but fewer growth opportunities are more likely to be dividend payers.

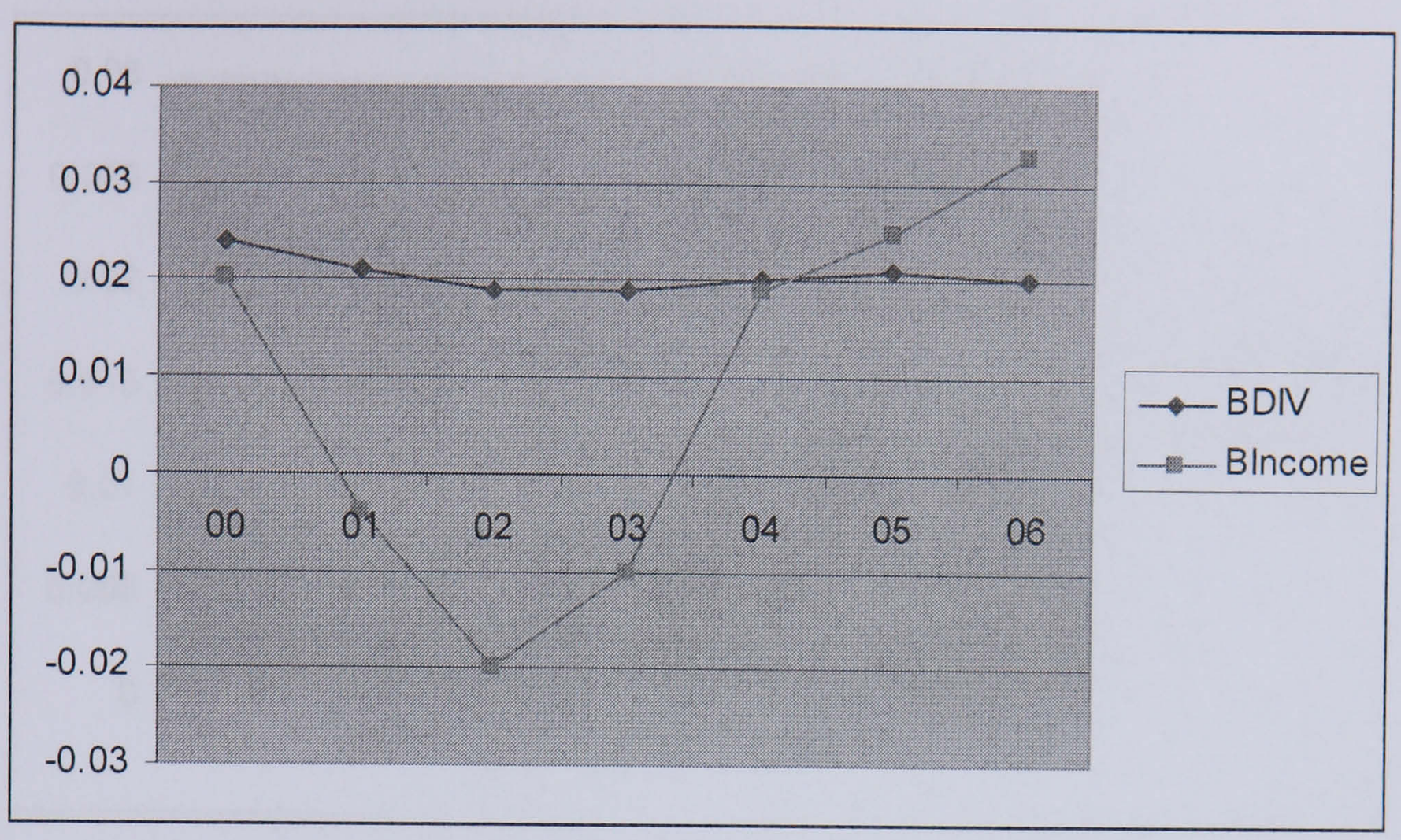
In the dividend dynamic analysis, we first use the basic partial-adjustment model as suggested by Linter (1956). We find that IC firms significantly engage in dividend smoothing, while MC firms do not. In addition, MC (IC) firms adjust dividends to a greater (smaller) extent relative to current incomes. This is consistent with our hypothesis that IC firms interpret dividend policy less flexibly than MC firms because they face higher agency cost and information asymmetry. Secondly, through a fully developed model, we highlight some firm specific factors that may influence the dividend payout level. For example, larger firms pay out more dividends and higher growth potential deprives MC firms (but not IC firms) from higher dividends.

In the light of these findings, this study is important. It highlights some features of UK dividend policy that are not captured by previous studies. It is worth noting that firms in the UK are far from having homogeneous behaviour in terms of dividend. This study also provides a road map for further research on the role of institutional investors in dividend policy. Nevertheless, there is much work left to do. The relationship between dividends and ownership structure is of central importance and is worth further analysis. More progress could also be achieved by using specific ownership data in the dynamic model setting. Similarly, clientele effects[20] need to be thoroughly investigated.

[20] Different groups of investors, or clienteles, prefer different policies, e.g. retirees need dividends for income. Differential taxes on capital gains and dividend is also one of the main causes of this effect. A firm`s past dividend policy determines its current clientele of investors. The clientele effect assumes that investors are attracted to different company policies, and that when a company's policy changes, investors will adjust their stock holdings accordingly.

Chart 3.1
Dividend and income

(A) BDIV and BINC



(B) DPS and EPS

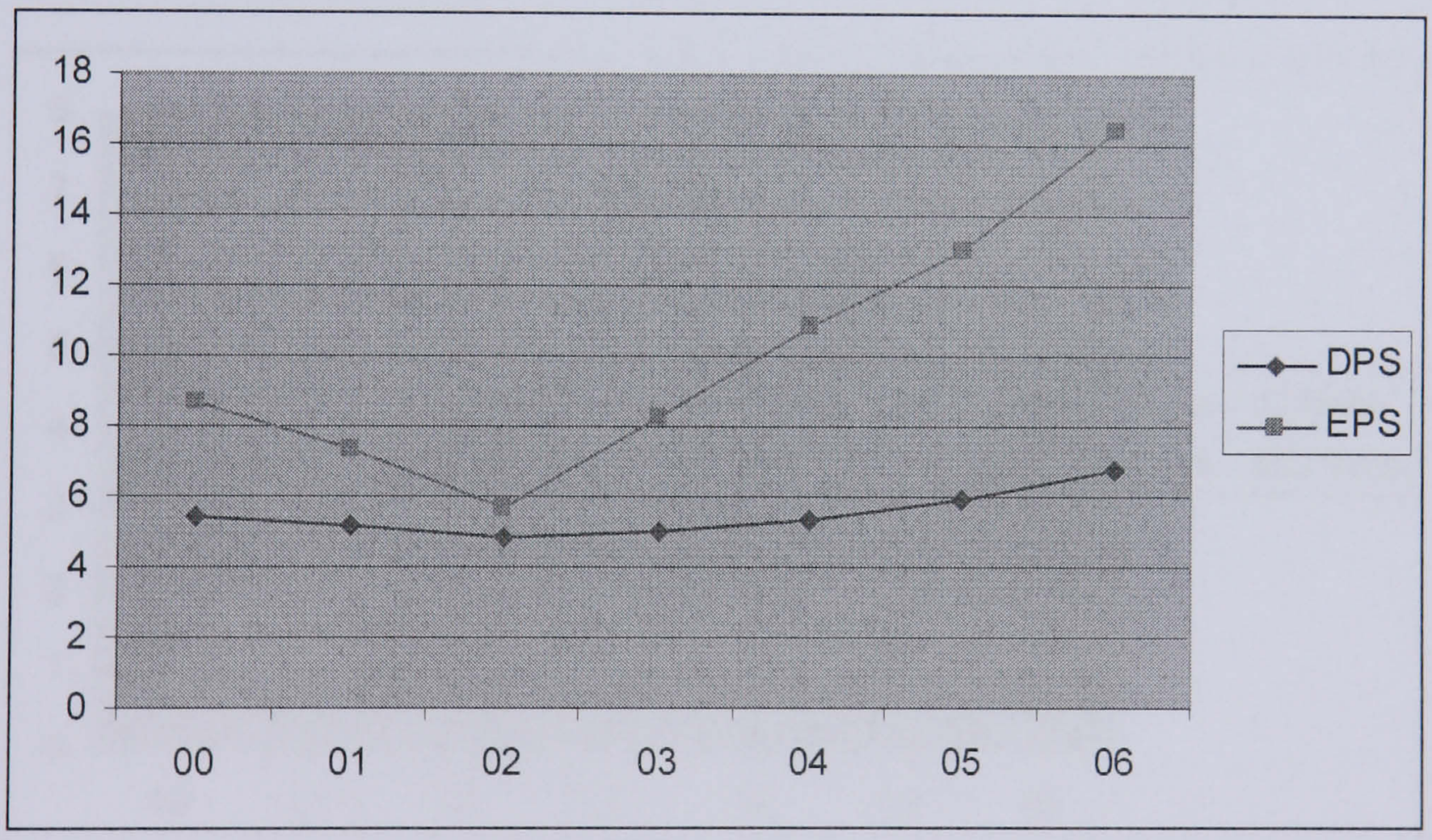
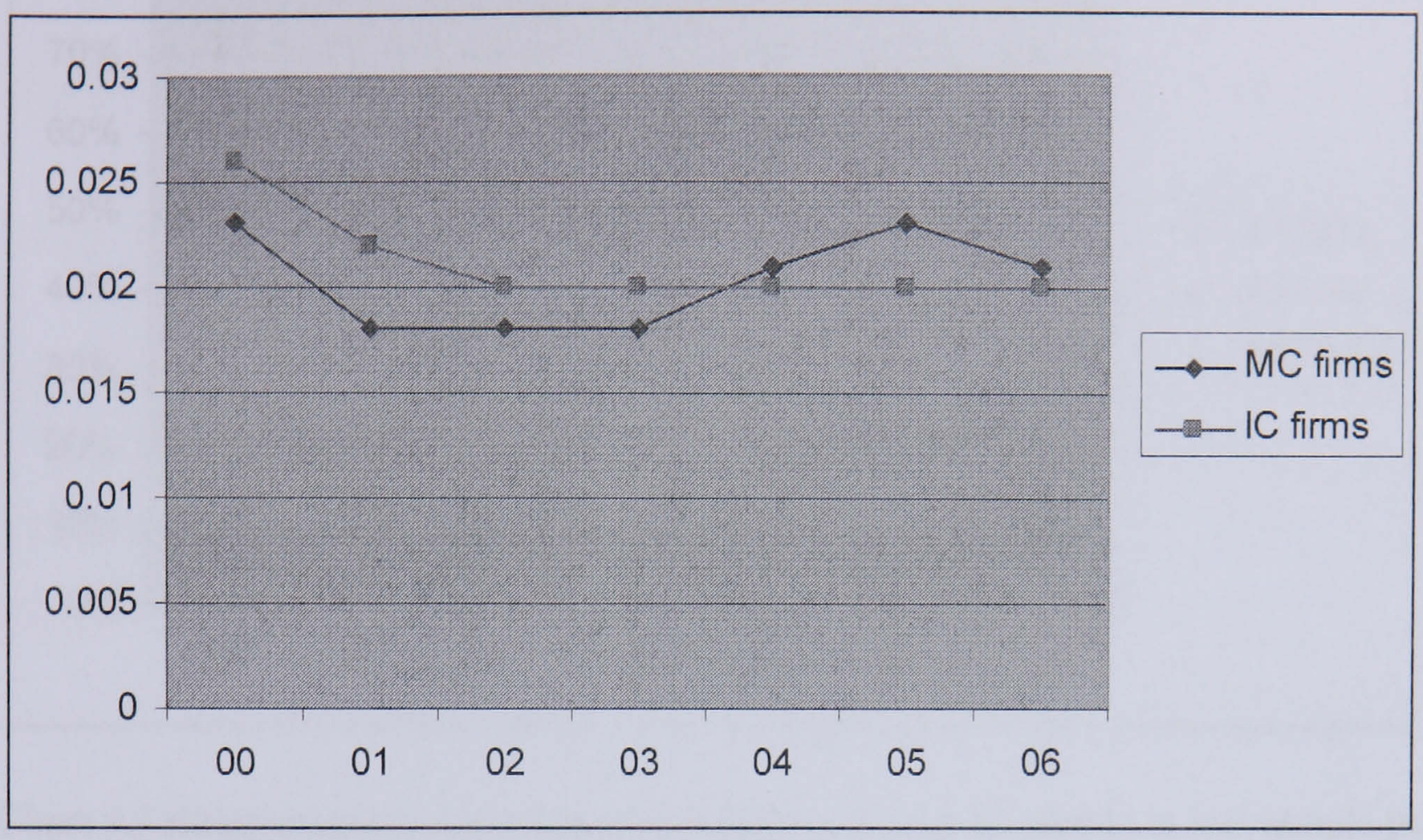


Chart 3.1 illustrates the underlying income and dividend payout level in our sample period. Graph (A) shows the level of BDIV (dividend to book) and BINC (income to book) in the sample period, while Chart 3.1 (B) shows the level of DPS (dividend per share) and EPS (earning per share) in the sample period.

Chart 3.2
Distribution of dividend

(A) Distribution of BDIV



(B) Distribution of DPS

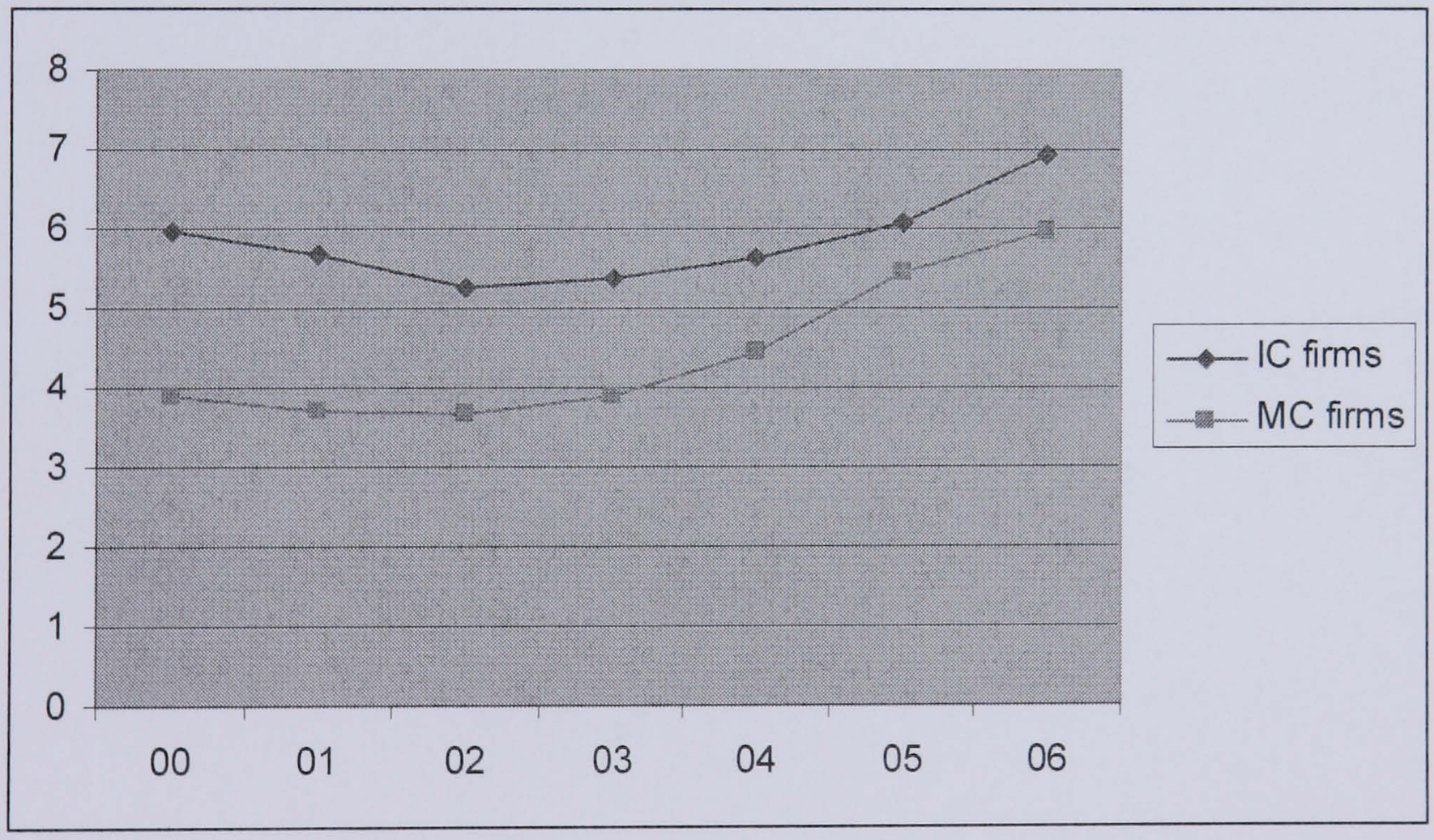


Chart 3.2 shows the distribution of dividend for MC firms and IC firms. Graph (a) shows the distribution of BDIV (dividend to book) for MC firms and IC firms. Graph (b) shows the distribution of DPS (dividend per share) for MC firms and IC firms.

Chart 3.3
Proportion of sample companies making a positive payout

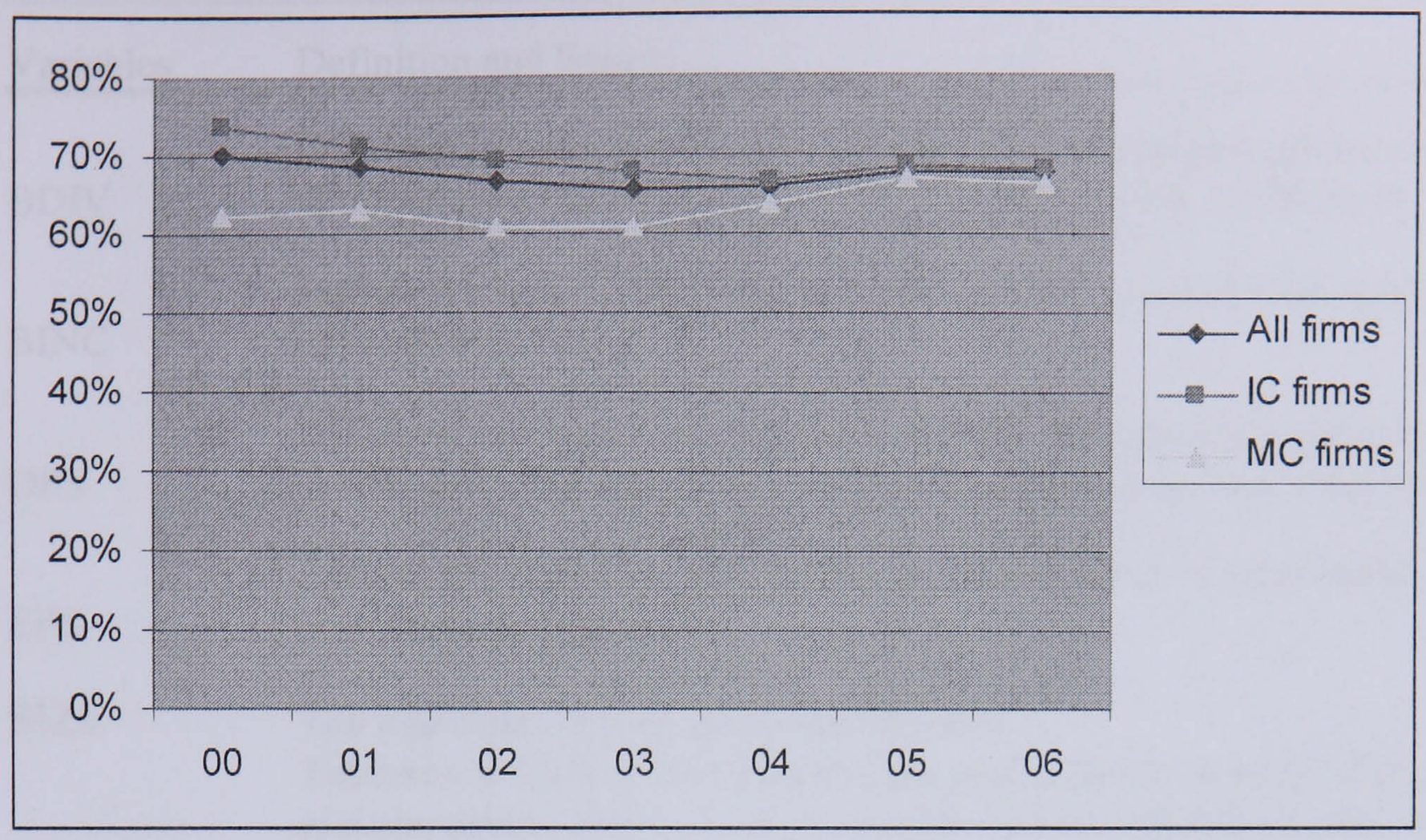


Chart 3.3 illustrates the proportion of companies paying dividends in our sample period. It shows that IC firms are more likely to make positive payouts than MC firms, although the difference becomes less significant in later years.

Table 3.1
Variables, definition and data sources

Variables	Definition and Source
BDIV	Dividend to book, i.e. the sum of ordinary dividend and preference dividend over the book value of total asset (our own calculation)
BINC	Income to book, i.e. net income over the book value of total asset (our own calculation)
DPS	Dividend per share, i.e. the sum of ordinary dividend and preference dividend over the number of outstanding shares (our own calculation)
EPS	Earning per share, i.e. net income over the number of outstanding shares (our own calculation)
SIZE	The logarithm of total asset (Datastream)
Tobin's Q	The ratio of book value of total assets minus the book value of equity, plus the market value of equity to book value of total asset (our own calculation)
LEV	Total debt over total asset (Datastream)
MC	The dummy variable equal to 1 if the controlling shareholders are managers and other individuals and equal to 0 otherwise (our own calculation)
IC	The dummy variable equal to 1 if the controlling shareholders are financial institutions and equal to 0 otherwise (our own calculation)

Table 3.2
Financial characteristics of sample firms (N=482) from 2000-06

Panel A: Summary statistics

	Mean	Min	Median	Max	S.D.
BDIV	0.02	0	0.02	0.69	0.03
BINC	0.01	-0.67	0.04	0.78	0.13
DPS	5.49	0	2.20	80.05	8.08
EPS	10.02	-94.65	4.37	190.09	22.77
SIZE	11.12	6.25	11.10	15.27	1.73
Tobin's Q	2.11	0.11	1.46	21.42	3.17
LEV	0.17	0	0.13	0.99	0.17

Panel B: Description of dividend and earning variables for firms with positive income

	Mean	Min	Median	Max	S.D.
BDIV	0.03	0	0.02	0.58	0.03
BINC	0.07	0	0.06	0.78	0.06
DPS	7.06	0	4.00	80.05	8.76
EPS	17.86	0	9.95	190.09	24.41

Panel C: A time-series examination of dividend and earning (means) variables

Variables	00	01	02	03	04	05	06
BDIV	0.024	0.021	0.019	0.019	0.020	0.021	0.020
BINC	0.016	-0.004	-0.020	-0.010	0.019	0.025	0.033
DPS	5.38	5.14	4.86	5.00	5.36	5.95	6.76
EPS	8.67	7.30	5.70	8.25	10.85	13.00	16.39

The table reports summary statistics for key accounting variables (dividend, earning and control variables) for 482 non-financial firms quoted on the London Stock Exchange from 2000-2006. Definitions of the variables are given in Table 1.

Table 3.3
Mean comparisons of firm characteristics

Panel A: Characteristics of dividend-payer and non-payers

Variables	Dividend-payer (obs=1938) Mean	Non-payers (obs=996) Mean	t-statistics of difference in means
BDIV	0.03	0	31.57*
BINC	0.05	-0.07	26.38*
DPS	8.14	0	26.93*
EPS	15.37	-1.07	18.29*
SIZE	11.64	10.05	29.80*
Tobin's Q	1.79	2.77	-12.51*
LEV	0.18	0.14	5.94*

Panel B: Characteristics of MC-firms and IC-firms

Variables	IC firms (N=337) Mean	MC firms (N=130) Mean	t-statistics of difference in means
BDIV	0.02	0.02	1.1
BINC	0.01	0.01	-0.90
DPS	5.84	4.43	4.02*
EPS	9.88	9.77	0.02
SIZE	11.50	10.12	21.86*
Tobin's Q	2.18	1.96	2.56*
LEV	0.17	0.14	5.46*

This table presents mean comparisons of firm characteristics. Panel A analyses dividend-payer versus non-payers. Panel B analyses MC firms versus IC firms. Definitions of variables are given in Table 1. * Indicates statistical significance at the 10% level.

Table 3.4
Correlation matrix

	1	2	3	4	5	6	7	8	9
1.BDIV	1								
2.BINC	0.30*	1							
3.DPS	0.55*	0.26*	1						
4.EPS	0.19*	0.47*	0.68*	1					
5.SIZE	0.17*	0.28*	0.37*	0.29*	1				
6.Q	-0.01	-0.13*	-0.08*	-0.08*	-0.20*	1			
7.LEV	-0.05*	-0.03	0.07*	-0.02	0.26*	-0.07*	1		
8.MC	-0.01	0.02	-0.07*	-0.01	-0.35*	-0.04*	-0.10*	1	
9.IC	0.03	-0.01	0.06*	-0.01	0.33*	0.05*	0.07*	-0.93*	1

This table presents the Pearson Correlation matrix for the main variables used in our analysis. * indicates the correlation is significant at the 5% level (two tailed).

Table 3.5
Probit regression analysis of a firm's decision to pay dividends

Explanatory Variable	Predicted	All firms (1)	MC firms (2)	IC firms (3)
BINC	+	3.836***	3.549***	3.917***
		(16.85)	(8.56)	(14.03)
SIZE	+	0.339***	0.374***	0.322***
		(18.08)	(10.36)	(14.22)
Tobin's Q	-	-0.113***	-0.171***	-0.106***
		(-7.35)	(-4.56)	(-6.09)
LEV	+(-)	0.228	-0.393	0.374*
		(1.41)	(-1.22)	(1.88)
MC	-	0.425***		
		(2.84)		
IC	+	0.204		
		(1.42)		
Intercept	+(-)	-3.345***	-3.077***	-2.985***
		(-13.17)	(-8.42)	(-11.36)
Year effects		Yes	Yes	Yes
Log-likelihood		-1570.15	-451.44	-1064.31
Wald test		772.55	198.66	537.18
Companies		482	130	337
Nr of Observations		3374	910	2359

$Y_{it}^* = \alpha_i + X_{it}\beta - \varepsilon_{it}$ where "i" indexes companies and "t" indexes years. α_i denotes the unobserved company-specific component that is assumed random across companies, while ε_{it} represents random error. Y_{it}^* is not observed, and is commonly called a "latent variable". What we observe is a dummy variable Y_{it} defined by

$Y_{it} = 1$ *if* $Y_{it}^* > 0$

$= 0$ otherwise

A positive dividend payout ($Y_{it} = 1$) is observed when the latent variable Y_{it}^* crosses a threshold, which is here normalised to zero. Table 6 presents the results of the Probit regressions of the likelihood of dividend payments estimated over the period 2000-2006. The dependent variable (Y_{it}) is an index equal to 1 if the payout yield is positive, and is set equal to 0 otherwise. A positive (negative) coefficient sign indicates that the variable is positively (negatively) associated with the likelihood of payouts at the margin. T-statistic values are reported in parentheses. Definitions of the variables are given in Table 1. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 3.6
Basic partial-adjustment model explaining dividend dynamics

		Dependent variable-dividend per share (DPS)		
Explanatory Variable	Predicted	All firms (1)	MC firms (2)	IC firms (3)
DPS_{t-1}	+	0.530**	0.400	0.538***
		(4.78)	(1.63)	(4.33)
EPS	+	0.150***	0.208***	0.123***
		(5.52)	(3.66)	(4.55)
Constant	+(-)	0.577	-3.651	1.820*
		(0.54)	(-0.57)	(1.71)
Year effects		Yes	Yes	Yes
Industry effects		Yes	Yes	Yes
m1		-4.44	-2.12	-3.67
m2		-1.58	0.20	-1.42
Wald (joint)		74.37**	52.12**	67.13**
Sargan (d.f.)		46.02 (38)	35.76 (38)	45.07 (38)
Nr of firms		482	130	337

$DPS_{it} = \alpha_i + \sigma_i \tau_i EPS_{it} + (1-\sigma_i) DPS_{i,t-1} - \varepsilon_{it}$, where τ_i the target payout ratio, EPS_{it} is the current earning per share, $D_{i,t-1}$ is the lagged dividend per share, α_i is the firm specific effect, σ_i is a speed of adjustment coefficient, $(1-\sigma_i)$ is the extent of dividend smoothing and ε_{it} is the error item. This table presents the GMM-in-system estimation results for 489 non-financial firms in the UK. The sample period is from 2000 to 2006. A complete set of year dummies is included among explanatory variables for all estimations, but coefficient estimates are not shown. m1 and m2 are tests for the absence of first-order and second-order serial correlation in the residuals. Sargan statistics is a test of the over-identifying restrictions, asymptotically distributed as χ^2 (k) under the null of valid instruments, with degree of freedom (k) reported in parentheses. A Wald test of joint significance is reported as well. ** and * indicate significance at the 5% and 10% levels, respectively.

Table 3.7
Fully developed partial-adjustment model explaining dividend dynamics

Dependent variable- dividend to book (BDIV)				
Explanatory Variable	Predicted	All firms (1)	MC firms (2)	IC firms (3)
$BDIV_{t-1}$	+	0.118**	0.124	0.105***
		(2.27)	(1.46)	(2.80)
BINC	+	0.020*	0.024**	0.010
		(2.25)	(2.20)	(1.25)
SIZE	+	0.003**	0.005**	0.003**
		(2.21)	(2.20)	(2.25)
Tobin's Q	-	0.0002	-0.001*	0.0003
		(0.70)	(-1.69)	(1.36)
LEV	+/-	0.0002	-0.011	0.005
		(0.04)	(-0.93)	(0.83)
Constant	+(-)	-0.016	-0.049*	-0.022
		(-1.09)	(-1.92)	(-1.24)
Year effects		Yes	Yes	Yes
Industry effects		Yes	Yes	Yes
m1		-3.31	-1.81	-3.42
m2		-0.71	-0.19	-0.53
Wald (joint)		22.81**	22.75**	26.12**
Sargan (d.f.)		131.1 (95)	106.6 (95)	118.4 (95)
Nr of firms		482	130	337

$BDIV_{it} = \alpha_i + \sigma_i \tau_i BINC_{it} + (1-\sigma_i) BDIV_{i,t-1} - \sigma_i \gamma X_{it} + \varepsilon_{it}$ where τ_i the target payout ratio, $BINC_{it}$ is the current earning to book, $BDIV_{i,t-1}$ is the lagged dividend tp book, α_i is the firm specific effect, σ_i is a speed of adjustment coefficient, $(1-\sigma_i)$ is the extent of dividend smoothing and ε_{it} is the error item. X_i is a fixed set of regressors to control for firm specific characteristics, i.e. firm size, Tobin's Q and leverage, year and industry effects. This table presents the GMM-in-system estimation results for 489 non-financial firms in the UK. The sample period is from 2000 to 2006. A complete set of year dummies is included among explanatory variables for all estimations, but coefficient estimates are not shown. m1 and m2 are tests for the absence of first-order and second-order serial correlation in the residuals. Sargan statistics is a test of the over-identifying restrictions, asymptotically distributed as χ^2 (k) under the null of valid instruments, with degree of freedom (k) reported in parentheses. A Wald test of joint significance is reported as well. ** and * indicate significance at the 5% and 10% levels. respectively.

Table 3.8
Cross-sectional regressions of dividend on ownership and other firm characteristics

Explanatory Variable	Predicted Sign	(1)	(2)	(3)	(4)
BINC	+	0.107***	0.115***	0.116***	0.116***
		(9.23)	(9.48)	(9.48)	(9.44)
SIZE	+	0.001**	0.0003	0.0001	-0.0001
		(2.20)	(0.42)	(0.12)	(-0.13)
Tobin's Q	-	0.002	0.002	0.002	0.002
		(1.10)	(1.10)	(1.12)	(1.10)
LEV	+(-)	-0.027***	-0.027***	-0.026***	-0.024***
		(-3.59)	(-3.74)	(-3.67)	(-3.71)
MANO	-		-0.014**	-0.051	-0.012*
			(-2.11)	(-1.43)	(-1.93)
$MANO^2$				0.122	
				(0.93)	
$MANO^3$				-0.097	
				(-0.77)	
INSTT	+/-		-0.001	-0.001	
			(-0.12)	(-0.19)	
INSTD					-0.015*
					(-2.22)
INSTA					0.016
					(1.49)
OTHO	-		-0.019**	-0.019**	-0.017*
			(-2.09)	(-2.02)	(-1.85)
R^2		0.27	0.27	0.27	0.28
Nr of firms		482	482	482	482

$BDIV_{it} = \alpha_i + BINC_{it}\beta_i + X_{it}\delta + V_{it}\eta + \varepsilon_{it.}$ The table presents cross-sectional regressions predicting dividend payout level. X_i is a set of regressors to control for firm specific characteristics, i.e. firm size, Tobin's Q and leverage, year and industry effects. V_i is a set of regressors to control for firm ownership structure, i.e. MANO (managerial ownership), INSTT (institutional ownership), INSTD (dedicated institutional ownership), INSTA (transient institutional ownership) and OTHO (other external shareholdings). The dependent variable is BDIV, which is measured in 2006 as the dividend to book. The means of the independent variables are measured over the period 2002-2005. All regressions include industry dummies. T-statistic values are reported in parentheses. ***. ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Chapter 4

Institutional Investors, Board of Directors and Firm Performance

4.1 Introduction

Being the most important shareholders in the UK, activism of institutional investors and what this means with respect to the management of companies has become a hot topic.

Separation of ownership and control has resulted in managerial dominance and concentration of power among corporate elites. Boards are viewed by the marketplace as being too closely allied with management (Brown Jr., 1998). Due to the constraints of time, knowledge and group process, many boards find it hard to accomplish what the public and shareholders expect of them: directors are often not aware of shareholder concerns (Solomon, 2007), and they often cannot refashion the firm because they are subject to its old routines and embedded information (Roe, 2004). A further problem arises when executive directors hold large stakes and can entrench themselves easily. The effectiveness of governance mechanisms in the board typically also requires the presence of large investors that have the leverage to rein in some managerial agency costs and to bring necessary organisational change to the firm (Stapledon, 1996; Roe, 2004).

Institutional investors, by virtue of their size, are an exception compared to the small, apathetic shareholders envisioned by Berle and Means (1932), and thus become the natural candidates to watch the management. Institutional investors are presumed to be capable of influencing the board's decision-making either by carrying out actions directly or acting through proxies such as directors, and thus supervising the management quality and firm performance. McConnell and Servaes (1990) and Clay (2002) find that institutional investor ownership is significantly and positively related to firm performance and the positive

relationship between performance and managerial ownership is strengthened in the presence of large institutional shareholders. Cornett et al. (2007) also find some evidence of the complementarity of institutional investors and outside directors with respect to firm performance.

In this chapter, we examine the relationship between institutional ownership and corporate performance for a sample of UK firms in the years 2004 and 2005. Our work contributes to the current literature on several grounds.

First of all, our study exams whether institutional ownership makes any appreciable difference to firm performance, both directly and indirectly. We specifically analyse the potential interactions between the monitoring of institutional investors and two governance mechanisms in the board: the incentive effect provided by director ownership, and the supervisory role of non-executive directors. Most performance literature treats institutional investors and the board of directors as independent mechanisms. There might be substitutionary or complementary ways, however, of reducing agency costs and enhancing firm performance such that the impact of one mechanism depends on the chosen level of the other. From our point of view, a close scrutiny of institutional investors could bring a managerial quality increment and hence an improvement in performance. That is to say, institutional monitoring makes the board of directors work more effectively and thus contributes indirectly to better firm performance without changing the board's ownership and structure. In this chapter, we assume that the presence of institutional investors affects the efficiency of the governance mechanisms in the board (i.e. director ownership and outside directors) by moderating their relationships with firm performance.

Secondly, we consider additional factors that might provide disincentives to institutional monitoring. For example, a free-rider problem may exist between institutional shareholders and other external shareholders. It is argued that the direct involvement of the controlling individual shareholders in the management of the firm is more likely than for financial institutions (Faccio and Lang, 2002). In the presence of other external large shareholders, institutions are able to take more of a "back seat". In addition, the monitoring of institutional investors might be vulnerable to pressure from the executives. Institutional investors might be coerced into voting with the executives; nonetheless, institutions that hold an influential stake could probably overcome the conflicts and use their clout to appropriate corporate business. We therefore further our study by developing another hypothesis: that both the direct and indirect impact of institutional investors on firm performance will be more significant when: (1) no other large external shareholding is present; and (2) when there is a single institutional shareholding larger than executive ownership.

Finally, in our study we differentiate between executive ownership and non-executive ownership. Equity ownership as an incentive mechanism might work differently for executive directors and non-executive directors. The primary role of executive (inside) directors is decision management, while that of non-executive (outside) directors is decision control. The greater the degree of shares concentrated in the hands of corporate controllers, such as non-executive directors, the more effective their control should be. In contrast, the consequences of a high executive shareholding are less clear. While low levels of executive ownership align the interests of executives with those of shareholders, higher

executive ownership might lead to managerial entrenchment. Some research suggests that there is a curvilinear relation between firm performance and the fraction of shares owned by insiders (Morck et al., 1988; McConnell and Servaes. 1990). However, very few performance papers have attempted to assess separately the influence of share ownership by executive directors and non-executive directors, and these reach different conclusions (Morck et al., 1988; Bhagat and Black, 2002; Mura, 2007).

Our empirical study finds some evidence suggesting that institutional ownership affects firm performance both directly and indirectly. However, the relationship is a complex one. The analysis shows that higher institutional ownership is associated with better firm performance (measured through ROA and Tobin's Q), and the difference is more significant when no other large (>5%) shareholder is present. Furthermore, after we split the sample firms, we find that institutional ownership only strengthens the link between executive ownership and performance if no other large external shareholding is present, or if there is a single institutional shareholding higher than the executive ownership. Our findings underpin the institutional monitoring hypothesis and suggest some complementarity between institutional investors and executive directors with respect to firm performance. Our analysis also suggests that institutional monitoring is subject to the free-rider problem and executive pressure. In the context of non-executive directors, there is no evidence to suggest that the presence of institutional investors makes them work more effectively (e.g. a strengthening of the link between the proportion of non-executive directors and firm performance).

The rest of this chapter is structured as follows: Section 4.2 provides the theoretical and empirical background relating to institutional investors, the board of directors and firm performance; Section 4.3 discusses corporate governance in UK and its implications; Section 4.4 presents the hypotheses and data; Section 4.5 presents key results and possible explanations in the light of existing theory and evidence; and Section 4.6 concludes.

4.2 Theoretical and empirical background

Recently, believers in the link between good corporate governance and greater shareholder value received highly visible evidence to support their views. A 2003 study by US academics, Gomper et al., found that a fund that had bought companies with top ranked governance and sold short the bottom companies throughout the 1990s would have outperformed the market by 8.5% percent a year. In the UK, research by Deutsche Bank (2004) shows a link between corporate governance and share price performance for FTSE 350 companies in the UK from 2002-2003: the top 10 percent of companies by governance structure outperformed the bottom 10 percent by 25 percent over the period. This provides evidence to back up the consensus view that good corporate governance is not only relevant to managing the risk, but also to adding value.

In this section, we discuss some governance mechanisms with regards to the board of directors and institutional investors, and discuss their potential influence on firm performance.

4.2.1 The board of directors

Cadbury Report (1992) states that the role of the board is "setting the company`s strategic aims, providing the leadership to put them into effect, supervising the management of the business and reporting to the shareholders on their stewardship". There are two important internal governance mechanisms in the board: the incentive effect provided by director ownership, and the supervisory role of non-executive directors.

4.2.1.1 Alignment and entrenchment effect of director ownership

An important internal governance mechanism is director ownership, which is traditionally viewed as providing a direct economic incentive for directors to fulfil their fiduciary responsibilities (Bhagat and Carey, 1999). In this way, director ownership alleviates the agency conflicts in the firm, resulting in higher performance (Jensen and Meckling, 1976). This convergence-of–interest model suggests that there is a linear relationship between director ownership and firm performance. However, the roles of the two dimensions of director ownership, executive ownership and non-executive ownership, in governance problems plausibly differ. Many researchers have questioned the effectiveness of non-executive directors as monitors, arguing that they are motivated to act in the interests of other shareholders only if they have a significant investment in the firm (Jensen, 1993). The greater the degree of shares concentrated in the hands of corporate monitors, such as non-executive directors, the more effective their monitors should be. In contrast, the consequences of a higher executive shareholding are less clear. As decision makers, it is possible that too large an

ownership stake leads executives to misuse their power to derive private benefits from their positions and entrench themselves at the expense of other investors (Morck et al., 1988). This might lead to managerial entrenchment whereby other shareholders are unable to influence their actions. For example, Crespi-Claders and Renneboog (2003) suggest, given that executive directors have similar private benefits of control, that they may combine their shareholdings into one voting block and try to obstruct any attempts to remove them. For the UK, Franks et al. (2001) show that disciplinary actions against management are undertaken in the wake of poor performance, but directors with a large stake can successfully impede overhauls of the board. Some researchers suggest that there might be a curvilinear relation between the Tobin's Q of the firm and the fraction of shares owned by insiders (Stulz, 1988; Morck et al., 1988; McConnell and Servaes, 1990).

4.2.1.2 Supervisory potential of the board

The board also serves to mitigate manager-shareholder conflict. This mechanism is composed of executive (inside) directors and non-executive (outside) directors. Although the board of directors is supposed to limit management's self-serving behaviour, directors who are also executives are obviously not objective monitors. Non-executive directors, on the other hand, are "delegated monitors", charged by shareholders who oversee management's use of firm resources (Hart, 1995). In addition, non-executives, who are not full-employees of the firm, have the incentive to develop a reputation as decision control experts (Fama and Jensen, 1983; Renneboog, 2000). The supervisory activity of the board should depend on

the weight of the outsiders (non-executives). Some authors document a positive relationship between the proportion of outsiders in the board and firm performance (Daily and Dalton, 1992; Beatty and Zajac, 1994); some also suggest that outside directors provide a monitoring function in extraordinary or crisis situations (Romano, 1993; Cotter et al., 1997). In contrast, many studies find little evidence suggesting that firms with a majority of outside directors perform better (Hermalin and Weisbach, 1991; Agrawal and Knoeber, 1996). Despite the fact that empirical and anecdotal evidence fails to obtain consistent results, the trend is clear: non-executive directors have increased as a proportion of the board and dominate important committees. Recently, a number of forces external to the firm, such as the increasingly active role of large shareholders, have forced outside directors to seriously consider their responsibilities. After all, they are primarily agents of the shareholders, not managers' advisors.

4.2.2 Institutional investors

Owners, if not actively managing themselves, are probably the most powerful external force affecting a firm's strategy and performance. Although generally speaking it is the managers and directors who are best tasked with running the corporation, it is contended that shareholders should have a significant voice in some of the important or high profile decisions. Several studies, including Black (1992b) and Pound (1988), have contended that institutional shareholders perform a monitoring function similar to that of block-holders.

4.2.2.1 Institutional investors and performance

Institutional activism is a new phenomenon, as institutional investors have only recently achieved the size and the focus to affect the management of companies significantly. Although institutional investors cannot, do not want to and should not watch every step a manager takes, they could add value to a firm in many areas. Institutional investors can potentially encourage valuable actions and stop some of the bad actions. They can potentially add value by, among other things, motivating the board of directors (which we will elaborate on later) and stopping value-decreasing charter amendments, discouraging diversifications that benefit managers but not shareholders and encouraging value-producing takeovers and preventing bad takeovers.[21] The monitoring role of institutional investors suggests that companies in which they hold large stakes have better corporate governance and ultimately higher values than widely held companies.

There are some concerns about institutional oversight. Controlling shareholders might expropriate from minority shareholders or pursue interests of special interest groups (La Porta et al., 1999); after all, institutions are themselves managed by money managers who need watching (Romano, 1993; Murphy and Van Nuys, 1994). But there are several other factors that limit the downside risk from increasing institutional power: first, as agents, money managers won't take the legal chances that a single shareholder might because they only keep a fraction of the gains and face personal risk if they breach legal rules; second, an institutional voice usually requires a number of institutions, including different

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[21] In line with Stapledon (1996) and Jennings (2005), we define monitoring as "any form of involvement, direct or indirect, at firm level of industry-wide, by institutions in corporate governance". In this definition, the direct versus indirect distinction refers to whether institutions themselves carry out the actions or prefer to act through proxies such as the board of directors.

types of institutions, and so money managers can monitor each other's actions to some extent; finally, corporate managers can watch their observers and, if the institutions abuse their power, corporate managers can complain loudly and often to the law-makers (Black, 1992a; Pinto, 2006). To our best knowledge, the accumulated evidence concerning the consequences of institutional investor activism shows that much of the alleged adverse effects of institutional voice have not materialised so far.

The gains from institutional shareholders are likely to be subtle, not dramatic. The gains may also occur indirectly, in ways that are hard to verify in quantitative studies. There is some modest evidence that institutional investors perform a monitoring function, or at least that their presence correlates with improved performance. McConnell and Servaes (1990) and Clay (2002) find that institutional investor ownership is significant and positively related to Tobin`s Q. Nesbitt (1994), Smith (1996) and Del Guercio and Hawkins (1999) also found that institutional activism had a significant positive impact on the financial performance of companies. On the other hand, Agrawal and Knoeber (1996), Karpoff et al. (1996), Duggal and Miller (1999), Faccio and Lasfer (2000) and Jennings (2005) find no such significant relationship. The evidence, taken as a whole, is suggestive rather than conclusive. Institutional oversight might add value to investee firms, but we do not yet know how much value it adds.

4.2.2.2 Institutional investors, the board of directors and firm performance

As owners, large institutional shareholders have the incentive to exercise close oversight, control management and corporate decision-making in order to

redress the power imbalance, reduce agency cost and increase shareholder wealth (Ingley et al., 2004). They can thus affect firm performance by actively participating, monitoring or ratifying the board's decisions, and ensuring that only shareholder value-adding projects are implemented. As owners, large institutional shareholders have the incentive to exercise close oversight, control management and corporate decision-making in order to redress the power imbalance, reduce agency cost and increase shareholder wealth (Ingley et al., 2004). They can thus affect firm performance by actively participating, monitoring or ratifying the board's decisions, and ensuring that only shareholder value-adding projects are implemented. However, the influence of institutional owners is usually "latent" rather than "active";[22] much of the promise of shareholder monitoring lies in informal effects to monitor corporate managers or communicate a desire for change in a company's management or policies. The targeted board would react to the voice of institutional investors presumably because their campaigns could indicate incipient disquiet among the firm's shareholder base, and managers don't want to activate another corporate governance mechanism, such as a takeover, a proxy fight or a melt-down of the company's stock price (Roe, 2004).

Studies examining the influence of institutional investors on managerial quality provide conflicting results. Investigating proxy contests, Pound (1988) reports results indicating that institutions do not act as efficient monitors and are more likely to vote in favour of the management. Faccio and Lasfer (2000) find that, in the UK, pension fund holdings do not lead companies to introduce more

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[22] Active power, usually in hands of a firm's executives, is the power literally to control key decisions regarding products, markets and investment; latent power, in contrast, is the power to ascertain certain decision choices (Herman, 1981).

independent non-executive directors or outperform their counterparts. In contrast, Noe (2002) demonstrates that a core group of institutional investors can naturally develop the goals of monitoring the corporation and preventing managers from engaging in opportunism. Ingley et al. (2004) also claim that mechanisms to increase shareholder voice and loyalty help the board function effectively and may increase both efficiency and fairness for all stakeholders. There is also empirical evidence showing that firm value and managerial ownership relation changes substantially when institutional ownership is considered jointly. In examining the relationship between performance and managerial ownership, McConnell and Servaes (1990) find a curvilinear relationship between them, and the inclusion of institutional ownership increases the inflection point of the curve, which might suggest that institutional ownership reinforces the positive effect of managerial ownership on corporate value. Short and Keasey (1997) also find that a positive relationship between performance and managerial ownership is strengthened in the presence of large institutional shareholders, a result they suggest is consistent with the efficient institutional monitoring hypothesis. More recently, using US data from 1988-1999, Clay's work (2002) shows the incentive effect of higher managerial ownership dominating the entrenchment effect everywhere once institutional ownership is controlled for, which shows a complementary relation between managerial and institutional ownership for firm value.

4.2.2.3 Disincentives to institutional monitoring

There are additional factors that might provide disincentives to institutional monitoring and intervention; the governance actions of institutions may be seen as conditioned by a free-rider problem and executive pressure.

As Roe (1990) has pointed out, it is not just the separation of ownership and control that gives rises to an agency problem between shareholders and managers, but also the atomistic or diffuse nature of corporate ownership. While "free-riding" may be an option for each institution, for institutions collectively the situation is less tenable. A collective action problem seems manageable for the large British institutions. The world of British institutions is close-knit; the existence of a communication network and the long-term nature of mutually advantageous relationships between City institutions may contribute to an environment in which cooperation can take place and free riding is reduced (Black and Coffee, 1994; Short and Keasey, 1997). However, we still have to consider why institutions would monitor the management when they can free ride on other external large shareholders. The absence of a generally accepted mechanism for cost sharing among shareholders, institutional investors and other large shareholders (corporations, individuals and families), presents a major obstacle to such collective action. In the presence of other large external shareholders, institutions may be able to take more of a "back seat". Hence the potential of institutional monitoring might be independent of other large shareholders, due to the free-rider problem.

Moreover, there are inevitable conflicts of interest among various corporate stakeholders groups, and the most fundamental of these between owners and the management (Shleifer and Vishny, 1997; Paris, 2001). The corporate governance

preferences of management (specifically the executives) do not always align well with those of shareholders, and one motivation for executives to hold common stocks of their company is to increase their influence in setting the firm's general strategies (DeAngelo and DeAngelo, 1985). Although investors are becoming more active, their monitoring is susceptible to managerial interference. Many institutions that choose not to exit have succumbed to managerial pressures to support voting proposals that are not in the shareholders' interests (Kostant, 1999). Greater stock ownership by managers and executives increases the power of internal consistency and decreases the power of external consistency in influencing a firm's strategies. Nonetheless, strong institutions that hold an influential stake could probably overcome the conflicts and use their clout to appropriate corporate business. Short and Keasey (1997) find that the presence of large institutional shareholders strengthens the relation between performance and managerial ownership more significantly if a single institutional shareholding is larger than the managerial ownership.

4.3 Governance characteristics in the UK

The ownership structure in the UK is characterised by dispersed ownership, strong managers and the prevalence of institutional investors. Moreover, directors of UK companies perform more of an advisory than a monitoring role (Franks and Mayer, 2000), i.e. the powers to enforce fiduciary responsibilities on directors are weak. Non-executive directors of UK companies are not expected to play as active a monitoring role as their US counterparts. Despite the fact that the Cadbury Report (1992) lead to substantial changes in the board structure by

increasing the proportion of non-executive (outsider) directors on the board, there has not been much evidence relating to the effectiveness of those non-executive directors (Ozkan, 2006). In addition, British non-executive directors may not be independent; according to the Higg Report (1999), almost half of the non-executives surveyed were recruited to their roles through personal contacts or friendship. As Hart (1995) suggests, it may be that only "quiet non-executives" are selected for board positions.

There is a strong need to reduce discretion in the board, and the tremendous growth in institutional ownership and increasing role of institutional investors as firm monitors provides a possible solution. According to the Nation Statistics (2006), at the end of 2006 institutional investors owned around 80% of UK equity.[23] They are believed to have the capability to monitor their investments, and by the virtue of the magnitude of their investments, can affect managerial behaviour. This has led to the development of sophisticated systems of engagement between institutional investors and the board of directors in the UK. While institutions in the United States focus more on exercising voting rights, those in the UK enjoy much greater leeway for activism and involve themselves in general issues such as board composition and structure, management compensation and issues the concerning disclosure of information (Stapledon, 1996; Monks, 2002). American style proxy contexts are quite rare in UK; most activism comes in the form of informal jawboning, which is less costly. The very

[23] With insurance companies 15%; pension funds 13%; unit trusts, investment trusts and other financial institutions together holding some 13%; and overseas investors 40%.

fact that public action has been taken suggests that previous "behind the scene" attempts to influence the board have failed.

UK institutional investors are also encouraged by a series of governance codes to air their views on investee companies and are prepared to enter into a dialogue with the management if they do not accept the company's position. In particular, they are expected to monitor the boards where there is a concentration of power in the hand of a chief executive officer, seek to promote the influence of non-executive directors and bring about changes to under-performing companies (Cadbury Report, 1992). The Higgs Report (2003) suggests that stronger links need to be established between the board of directors and a company's principle shareholders, which is also included in the Combined Code (2003):

"*The Chairman should ensure that the views of shareholders are communicated to the board as a whole ... The board should state in the annual report the steps they have taken to ensure that the members of the board, and particular the non-executive directors, develop an understanding of the views of major shareholders about their company ...*"

(The Combined Code, 2003, section D.1)

Significant progress has been achieved. In 2005, Solomon (2007) distributed a questionnaire to study the attitude of UK institutional investors towards relationship investing, and the responses suggest engagement and dialogue had become areas of competitive advantage for institutions, as well as means of monitoring management and improving corporate performance. The latest IMA

survey (2005) also reveals a recent trend of institutional engagement with the management. 34 UK fund managers, who manage 55% of all UK equities managed within the UK, participated in this survey. It is reported that all the participants of IMA enter into dialogue with the directors and senior management of investee companies where there are concerns. Certain managers maintain that they are proactive and enter into a dialogue to discuss matters in general and not just when there are concerns. Respondents also demonstrated relatively consistent frequency of meetings with independent directors in 2003 and 2004.

4.4 Hypotheses and Data

4.4.1 Hypotheses

The monitoring of institutional investors implies that companies in which they hold large stakes probably have better corporate governance, and ultimately higher values. Our first hypothesis is to test the direct influence of institutional ownership on performance:

H1: The degree of institutional ownership is positively related to firm performance.

Much of the value of an institutional voice could be realised through improving management quality. For example, by monitoring the executives and curbing their discretion, institutional monitoring could enhance (repress) the

incentive (entrenchment) effect of executive ownership, and so we design our second hypothesis to test the indirect impact of institutional ownership on performance:

H2: The positive (negative) relationship between executive ownership and firm performance is strengthened (weakened) by the presence of significant institutional ownership.

Non-executive directors could not be truly independent unless they are connected to a powerful group outside the company that could counterbalance company management, such as institutional investors. Given the increased emphasis on the value of stakeholder relations in contributing to performance and managing risk, building shareholder relations can enhance the effectiveness of non-executive directors (Cornett, 2007). Our third hypothesis also concerns the indirect impact of institutional ownership:

H3: The positive relationship between non-executive ownership / the proportion of non-executive directors in the board and firm performance is strengthened by the presence of significant institutional ownership.

Finally, we incorporate disincentives to institutional monitoring and intervention. The governance actions of institutions may be seen as conditioned by the free-rider problem and/or executive pressure. We hence further our study by testing another hypothesis:

H4: The impact (both direct and indirect) of institutional ownership on firm performance is more significant in some circumstances, for example if no other large external shareholder is present, or if there is a single institutional shareholding larger than the executive ownership.

We should bear in mind that different governance mechanisms might be substitutes or complements to each other (Rediker and Seth, 1995; Cornett et al., 2007; Florackis and Ozkan, 2007). Although we expect that institutional monitoring would complement the function of the board of directors, from a theoretical perspective there is a possibility that the monitoring of institutional investors weakens the monitoring incentives of the directors. For example, there may be a substitution effect between the monitoring of institutional investors and the supervision of non-executive directors: if institutional activism curbs the executive discretion, there is a low probability of incurring wealth-destroying actions and, therefore, it is less necessary for non-executive directors to perform a control activity.

4.4.2 Data and Variables

Our initial sample consists of all quoted, non-financial UK firms for which full data can be obtained from the years 2000 to 2005. We obtain information from two different sources. Information on a firm's ownership structure and board structure is derived from the *Hemscott Guru Academic Database,* which provides

financial data for the UK's top 300,000 companies and detailed data on all directors of UK-listed companies. Accounting data comes from the Datastream database. Specifically, we use Datastream to collect data for firm size, market value of equity, total asset, dividend and the level of debt. Financial firms are excluded because of the specificity of their financial ratios. These criteria provide us with a total of 833 firms, representing 1544 non-financial listed firms in the UK. For all variables, we use the average value to mitigate potential problems that may arise due to short-term fluctuations and extreme values in data. To reduce potential endogeneity, we measure performance in 2004 and 2005, and the explanatory variables over the period 2000–2003. Analytical definitions for all these variables are given in table 4.1.

-Insert Table 4.1 here-

4.4.2.1. Performance variables

Researchers have to choose between accounting profitability (ROA) and market-price performance (Tobin's Q). In this context, it can be argued that accounting-based measures are both stable and less subject to speculative and exogenous shocks than market-based measures, although a countervailing can be that the former are in principle subject to the manipulation of managers. Besides this, they have different time perspectives: backward-looking for accounting-based measures, and forward-looking for market-based measures. Accounting-based measures are historical reports not directly affected by change in the equity

market, but rather by accounting conventions for valuing assets and revenue recognition. Market-based measures are used as alternatives since they are not affected by these limitations and incorporate the expected future gains that are not currently reflected on the books. In our study, we employ both a counting-based measure (ROA) and a market-based measure (Tobin's Q) to proxy corporate performance. To reduce the weight of extreme values, we have capped Tobin's Q and ROA at the 5th and 95th percentiles.

4.4.2.2 Ownership and board variables

The bulk of research examining the impact of institutional investors measures their influence by their percentage ownership in the firm. Maug (1998) studies whether institutions that use their abilities to influence corporate decisions are partially a function of the size of their holdings. In this chapter, we consider two measures of effective institutional investment in the firm: the fraction of shares owned by all institutional shareholders; and the fraction of shares owned by the largest single institutional shareholder. Other external large shareholding is also included in our study to account for the controlling power of other owners (e.g. corporate, individual and family). If Berle and Means (1932) are right, then higher ownership concentration should be positively related to performance, as higher concentration makes the owners more able and willing to monitor managers. Finally, we also examine the governance mechanisms in the board intensely. Our explanatory variables include executive ownership, non-executive ownership and the proportion of non-executive directors on the board.

4.4.2.3 Control Variables

In order to understand firm performance fully, it is necessary to examine other determinants and organisational characteristics as well. The selection of control variables is dictated by the literature and data availability. In the equation for firm performance, we control for leverage, dividend payout, firm size and industry effects.

Debt financing not only reduces the free cash flow problem (Jensen, 1986), but also encourages lenders to monitor (Stiglitz, 1985) and provides tax shields. However, too much debt increases the risk of bankruptcy, limits the firm's ability to raise new debt and subsequently may force firms to pass up valuable investment opportunities (Myers, 1977). Hence the influence of leverage on performance is ambiguous. Dividend is also controlled in the analysis. Some researchers contend that dividend payout relieves the free cash problem and restrains managerial discretion (Jensen 1986). In this case, one would expect a positive relation between dividend payout ratio and later firm performance. Finally, the design of the efficient bundle of governance mechanisms may vary systematically by industry or size of the firm (Fama and Jensen, 1983); size also accounts for the economics of scale.

4.4.3 Sample characteristics

Table 4.2 presents descriptive statistics for the main variables used in our analysis. It reveals that the average values of ROA and Tobin's Q are 0.02 and 2.07 respectively. As far as the directors' ownership is concerned, the average proportion of stakes held by executive directors (non-executive directors) is

10.67% (3.71%). The average institutional ownership reaches 28.12%, while the average of the largest single institutional stake is 12.68%. On average, the other external shareholders own 7.64% stakes. Also, the average proportion of non-executive directors is 50%, the average debt ratio is 19% and the average dividend payout is 2%. Finally, the average log value of total asset is 11.29. In general, these values are in line with those reported in other studies for UK firms (Ozkan and Ozkan, 2004; Short and Keasey, 1997).

-Insert Table 4.2 here-

The results of the Pearson's correlation of our variables are reported in Table 4.3. The correlation between institutional ownership and ROA is negative and weak, while the correlation between institutional ownership and Tobin's Q is positively significant. ROA is positively related to size, while Tobin's Q is negatively related to it. Consistent with previous evidence (Faccio and Lasfer, 2000), both executive and non-executive ownership are negatively correlated with size, suggesting that directors hold large stakes mainly in small firms. In contrast, it seems that institutions tend to invest more in large firms. Finally, the proportion of non-executive directors on the board is positively related to institutional ownership, but negatively related to executive ownership, indicating that institutional investors (executives) might encourage (discourage) more non-executive directors on the board.

-Insert Table 4.3 here-

4.5 Empirical Results

In this section, we test for the relationship between firm value and institutional ownership. We proceed by testing our hypotheses. Focusing on the role of institutional investors, our major thesis is that an institutional investor is a source of external influence on the board of directors and performance.

4.5.1 Institutional ownership and firm performance

In this section we present our results that are based on a cross-sectional regression approach. In Table 4.4, we report the results of the regressions of firm performance, as measured by ROA, against ownership structure, board characteristics and other control variables.

We start with a linear specification. Model (1) shows ROA as a function of ownership structure, board characteristics and other control variables. In general, the estimated coefficients are in line with the hypothesised signs. Specifically, all ownership concentration variables (including executive ownership, non-executive ownership, institutional ownership and other external shareholdings) are associated with better firm performance, revealing that ownership concentration is an effective incentive mechanism. Contrary to the expectation, our results show that a higher proportion of non-executive directors is associated with worse ROA, which indicates low management efficiency associated with a high proportion of non-executives. Our results also show the debt ratio is negatively related to ROA. while size and dividend payout ratio are positively related to ROA.

Model (2) estimates a non-linear model by adding the square of executive ownership. In light of the work by Morck et al. (1988) and McConnel and Servaes (1990), model (2) allows for the possibility that a non-linear model provides a better description of the relationship between executive ownership and ROA. However, the total insignificance of executive ownership suggests little support for such a non-linear relationship. As suggested in Clay's work (2002), the incentive effect of higher managerial ownership might dominate entrenchment effects everywhere once institutional ownership is controlled for, implicating a complementary relationship between managerial and institutional ownership with respect to firm performance. As such, we develop further models based on model (1).[24]

As discussed earlier in this chapter, there is a possibility that the free-rider problem reduces institutional monitoring and hence the influence of this on a firm's performance. In Panel B of table 4.4, we explore such a possibility by splitting the sample into two sub-samples according to whether the firm has other external large shareholdings. Since only shareholdings higher than 3% are disclosed in UK, we first separate our sample according to whether firms have other external shareholdings higher than 3%. We detected no significant difference between the two samples (which is not reported here). This might suggest that a 3% shareholding by other shareholders is not big enough to trigger the free-riding problem. Therefore, following Short and Keasey (1997), we try 5% as the benchmark of large shareholding. Panel B gives the results: the

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[24] Theory does not offer predictions regarding the form of the relationship between non-executive ownership and performance. We also test a non-linear model by adding the square of non-executive ownership (which is not reported here). We did not detect any non-linear relation.

coefficient of institutional ownership is positive and significant only in the sub-sample where other external shareholding is less than 5%. This might suggest that institutional investors free ride on the monitoring of other shareholders when the other external shareholding is fairly high (at least 5%, in our case). We also split firms by whether there is a single institutional shareholding higher than executive ownership and run the regressions separately. However, we detect no significant difference (not reported here).

To sum up, the results of the first stage of our analysis in Table 4.4 suggest that, consistent with the institutional monitoring hypothesis, institutional ownership is generally associated with better accounting performance. But after we split the sample, this association vanishes in the group where the other external shareholding is higher than 5%, which indicates a potential free-rider problem between institutional investors and other large shareholders.

-Insert Table 4.4 here-

4.5.2 Institutional ownership, executive directors and a firm's performance

One of the most commonly-used methods corporate governance researchers have employed to assess the effectiveness of external monitors has been to examine whether those monitors moderate the relationship between inside ownership and firm performance. To explore this possibility, in Model (3) we interact institutional ownership with executive ownership. In this way, we test for the existence of both a main effect (the impact of institutional ownership on

performance) and a conditional effect (the impact of institutional ownership on the relationship between executive ownership and a firm's performance). The insignificance of the coefficient of interaction item shows that, in general, the conditional effect of institutional investors on accounting performance (ROA) remains insignificant.

As we argued before, additional factors such as a free-rider problem and executive pressure might provide disincentives to institutional monitoring and intervention. To test this hypothesis, we split our sample again into sub-samples, then estimate our empirical model for each sample separately and check whether the coefficients of the variables retain their signs and significance across the sub-samples. Table 4.5 presents the results of the analysis.

In Panel A, the sample is split into firms with other external shareholding higher than 5% and those without. Because of the free-rider problem, institutions are expected to be less actively involved in firm management when there is another external large shareholding; and the coefficient of the interaction item should be less significant in that sub-sample correspondingly. The results in Panel A show that the coefficient of the interaction item *INST*EXO* is only positive and significant in the firms where no other external large (>5%) shareholding is present. This finding is in line with our hypothesis: without a free-rider problem, institutional investors can curb executive discretion and strengthen the link between executive ownership and firm performance.

Moreover, following Short and Keasey (1997), we assume that if there is a single institutional shareholding (LAIN) larger than the executive ownership (EXO), then the executive ownership is not sufficient to give executives

unfettered control. In this case, institutions would be more capable of monitoring and controlling the actions of executives. In Panel B, the sample is split into firms with or without a single institutional shareholding larger than the executive ownership. Panel B provides some evidence that is consistent with the conflict-of-interest hypothesis: the coefficient of the interaction item *INST*EXO* is positive and significant only in the sample where there is a single shareholding larger than the executive ownership.

One might interpret the positive interaction between institutional ownership and executive ownership as evidence that the action of each mechanism is more effective when they pull in the same direction. A coalition of "value maximiser" might be formed of institutional investors and executive directors in firms where institutional investors can overcome any free-ride problem and executive pressure.

-Insert Table 4.5 here-

4.5.3 Institutional ownership, non-executive directors and firm performance

To explore further, we also interact institutional ownership with non-executive ownership and the proportion of non-executive directors in the board. In model 4 (5), we detect that the interaction item between institutional ownership and non-executive ownership is significantly negative, while the interaction item between institutional ownership and non-executive proportion in the board is negative but weak. Contrary to hypothesis 3, which states that institutional investors would support the role of non-executives and hence strengthen their positive influence

on firm performance, the results instead suggest that they might act as substitutes. Rediker and Seth (1995) argue that the presence of relatively large outside shareholdings and their monitoring would make outside directors on the board represent a less important mechanism. Since the board's monitoring potential is partly determined by the need for board monitoring, it is not surprising that the significant presence of institutional investors could reduce the need for the board's monitoring and thus make non-executives less effective.

-Insert Table 4.6 here-

In summary, the results of our analysis show that the relationship between corporate performance and institutional ownership is complex and is affected by other shareholding parties. At first we find a positive relationship between institutional ownership and performance (ROA). Although in general we didn't find significant evidence suggesting that the presence of institutional ownership curbs executive discretion, our results do show that institutional ownership strengthens the positive relationship between executive ownership and performance (ROA) in some circumstances, e.g. when no other large (>5%) external shareholder is present or when there is a single institutional shareholding larger than the executive ownership. The results are generally consistent with those of McConnell and Servaes (1990) and Short and Keasey (1997). Furthermore, no evidence suggests that institutional investors make non-executives work more effectively; our analysis even indicates some substitute

effect between the monitoring of institutional investors and non-executive directors.

4.5.4 Robustness test

All the above conclusions are derived from the accounting measure of performance, ROA. As an additional robustness check, we use a second proxy for firm performance, Tobin's Q, and re-estimate the models.

The results of the estimated models after using Tobin's Q as the proxy for performance are presented in Table 4.7, Table 4.8 and Table 4.9. Consistent with previous research (Morck et al., 1988; McConnell and Servaes, 1990), we detect a curvilinear relationship between executive ownership and Tobin's Q. Hence we based our later analysis on model (2), where the square of executive ownership is included. With regards to non-executive directors, in line with the study of Mura (2006), we find that, although higher non-executive ownership does not lead to better market performance, the proportion of non-executives on the board does have a significant and positive effect. This is reasonable in the light of the findings of Rosenstein and Wyatt (1990), who show that the stock market reacts favourably to the appointment of additional outside directors.

Consistent with Maury (2006), who finds that firm size is positively related to ROA but not to the market valuation, we also discover that size is positively related to ROA but negatively related to Tobin's Q. It seems that bigger firms enjoy higher accounting profits, but not higher market valuations. The coefficient of the dividend payout ratio remains positively significant when using either ROA

or Tobin's Q, which lends certain support to the belief that higher dividend is related to better financial performance.

Most importantly, we obtain consistent results with regard to institutional ownership. Our results reinforce the proposition regarding the direct association between institutional ownership and firm performance. Furthermore, we find that the positive relationship between executive ownership and Tobin's Q is strengthened by institutional ownership.[25] After we split the sample, we again find that the interaction item of institutional ownership and executive ownership is only significant if no other large (>5%) external shareholder is present, or if there is a single institutional shareholding higher than the executive ownership. This result is consistent with the free-riding and executive pressure hypothesis. Finally, Table 4.9 confirms that institutional investors do not make non-executive directors work more effectively.

-Insert Table 4.7 –4.9 here-

In addition, our previous work finds that the trading behaviour of institutional investors affects their monitoring incentive and ability. From this point of view, the monitoring of dedicated institutional investors would reduce agency cost more effectively and lead to higher management quality and better performance, compared to transient institutional investors. In what follows, we split the institutional ownership into dedicated institutional ownership (INSTD)

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[25] We also try to interact institutional ownership with the square of executive ownership in our analysis; however, the coefficient of this interaction item remains insignificant across all the regressions (which is not reported here).

and transient institutional ownership (INSTA), according to our definition in chapter 2, and find that dedicated institutional ownership is significantly associated with higher performance (measured through ROA). However, neither dedicated nor transient institutional ownership strengthens the link between executive ownership and performance. Finally, our regression results show that dedicated institutional ownership weakens the link between non-executive ownership and performance, which might indicate that the monitoring of dedicated institutional investors weakens the incentive effect of non-executive ownership. The results are reported in Table 4.10 (we also use Tobin's Q to proxy for performance; the results are similar and not reported here).

-Insert Table 4.10 here-

4.6 Conclusion

In this study, we use data from 833 UK-listed non-financial companies to examine the influence of institutional ownership on firm performance.

Our empirical study finds some evidence suggesting that institutional ownership affects firm performance. For example, consistent with McConnell and Servaes (1990) and Clay (2002), our empirical results suggest that institutional ownership makes an appreciable difference to firm performance, specifically when there is no other large (>5%) shareholder. Moreover, distinct from most research, our study is aware of the interaction among different shareholder groups, including directors, institutional investors and other external shareholders. Our analysis finds that the presence of institution investors strengthens the link

between executive ownership and performance significantly if no other large (>5%) external shareholding is present, or if there is a single institutional shareholding higher than the executive ownership. Our hypotheses and results hence provide an integrated picture of the influence of institutional investors on firm performance: institutional monitoring not only contributes to better firm performance, but also strengthens the incentive effect of executive ownership, specifically when it is free from any free-rider problem and/or it can overcome executive pressure. However, for non-executive directors, no evidence suggests that the presence of institutional investors makes them work more effectively.

Therefore, there is some evidence suggesting valuable monitoring by institutions, and no evidence that institutional monitoring is harmful. All the available evidence is neutral or positive. The positive evidence is not compelling in some companies, which is not surprising, since institutional investors might suffer from a free-rider problem and/or executive pressure.

Table 4.1
Variables, definitions and data sources

Variables	Definition and Source
ROA	Return of asset, i.e. the ratio of operation profit to total assets *(our own calculation)*
Tobin's Q	The ratio of book value of total assets minus the book value of equity plus the market value of equity to book value of total asset *(Our own calculation)*
EXO	The percentage of equity ownership owned by executive directors *(Hemscott)*
NEXO	The percentage of equity ownership owned by non-executive directors *(Hemscott)*
INST	The sum of institutional shareholdings greater than 3% *(Hemscott)*
LAIN	Size of the largest institutional shareholding *(Hemscott)*
OTHO	The sum of other external shareholdings greater than 3% *(Hemscott)*
NEXP	The proportion of non-executive directors in the board *(Hemscott)*
SIZE	The logarithm of total asset *(Datastream)*
LEV	Total debt over total asset *(Datastream)*
DIV	The sum of ordinary dividend and preference dividend over total asset *(our own calculation)*

Table 4.2
Descriptive statistics (N=833)

Variable	Mean	Min	Median	Max	S.D.
ROA	0.02	-0.73	0.04	0.52	0.14
Tobin's Q	2.07	0.48	1.58	15.10	1.68
EXO (%)	10.67	0	2.54	82.13	15.85
NEXO (%)	3.71	0	0.36	51.32	7.64
INST (%)	28.12	0	26.90	89.58	18.66
LAIN (%)	12.68	0	10.57	70.71	9.08
OTHO (%)	7.64	0	88.99	2.95	11.55
NEXP	0.50	0	0.5	0.9	0.15
SIZE	11.29	6.98	11.13	18.70	2.13
LEV	0.19	0	0.14	0.99	0.35
DIV (%)	1.93	0	0.01	37.35	2.83

This table shows the sample characteristics for 833 listed firms. The means of variables are measured over 2004-2005. Definitions of the variables are given in Table 1.

Table 4.3
Pearson Correlation matrix

	1	2	3	4	5	6	7	8	9	10
1.ROA	1.00									
2.Tobin's Q	0.05	1.00								
3.EXO	0.01	0.12*	1.00							
4.NEXO	-0.04	0.01	0.05	1.00						
5.INST	-0.004	0.08*	-0.33*	-0.18*	1.00					
6.OTHO	-0.01	-0.04	0.01	0.06	-0.20*	1.00				
7.NEXP	0.04	0.02	-0.39*	0.10*	0.17*	-0.10*	1.00			
8.SIZE	0.34*	-0.18*	-0.40*	-0.24*	0.09*	-0.27*	0.35*	1.00		
9.LEV	-0.05	-0.09*	-0.10*	0.15 *	-0.04	-0.04	0.07	0.20*	1.00	
10.DIV	0.44*	0.10*	-0.08*	-0.05	0.02	-0.06	0.06	0.21*	-0.01	1.00

This table presents the Pearson Correlation matrix for the main variables used in our analysis. Definitions of the variables are given in Table 1. * Indicates the correlation is significant at the 5% level (two-tailed).

Table 4.4
Cross-sectional regressions predicting firm performance using ROA

Dependent Variable: ROA (Return of Asset)					
		Panel A		Panel B	
Independent Variables	Predicted	Model 1	Model 2	OTHO5%	OTHO<5%
EXO	+	0.160***	0.064	0.120**	0.175***
		(5.13)	(0.77)	(2.32)	(4.44)
EXO^2	-		0.176		
			(1.28)		
NEXO	+	0.188***	0.201***	0.221**	0.131*
		(3.52)	(3.68)	(3.12)	(1.75)
INST	+	0.043*	0.044*	-0.016	0.071**
		(1.68)	(1.68)	(-0.36)	(2.12)
OTHO	+	0.151***	0.154***	0.184***	-0.095
		(4.09)	(4.12)	(3.52)	(-0.23)
NEXP	+	-0.067**	-0.075**	-0.068	-0.056
		(-2.14)	(-2.33)	(-1.38)	(-1.37)
SIZE	+/-	0.029***	0.028***	0.037***	0.024***
		(9.28)	(9.28)	(6.81)	(6.11)
LEV	+/-	-0.048*	-0.050*	-0.073*	-0.038
		(-1.92)	(-1.95)	(-1.86)	(-1.50)
DIV	+	1.938***	1.935***	1.931***	1.970***
		(10.17)	(10.17)	(5.53)	(8.22)
R^2		0.30	0.29	0.30	0.30
Number of firms		833	833	347	486

$$ROA_{it} = \alpha_i + EXO_{it}\,\beta_1 + NEXO_{it}\,\beta_2 + INST_{it}\,\beta_3 + OTHO_{it}\,\beta_4 + NEXP_{it}\,\beta_5 + SIZE_{it}\,\beta_6 + LEV_{it}\,\beta_7 + DIV_{it}\,\beta_8 + \varepsilon_{it}. \quad (1)$$

$$ROA_{it} = \alpha_i + EXO_{it}\,\beta_1 + EXO^2_{it}\,\beta_2 + NEXO_{it}\,\beta_3 + INST_{it}\,\beta_4 + OTHO_{it}\,\beta_5 + NEXP_{it}\,\beta_6 + SIZE_{it}\,\beta_7 + LEV_{it}\,\beta_8 + DIV_{it}\,\beta_9 + \varepsilon_{it}. \quad (2)$$

This table presents cross-sectional regressions predicting firm performance using ROA as a proxy for performance. Model 1 is a linear model, while model 2 estimates a non-linear model by adding the square of executive ownership. In Panel B, we re-estimate model (1) for the sub-samples (with/without at least 5% non-institutional shareholding) separately. Definitions of the variables are given in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. Definitions of the variables are given in Table 1. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively. - indicates that the variable is not in the model.

Table 4.5
Cross-sectional regressions predicting firm performance using ROA

Dependent Variable: ROA (Return of Asset)						
			Panel A		Panel B	
Independent Variables	Predicted	Model 3	OTHO>5%	OTHO<5%	EXO>LAIN	EXO<LAIN
EXO	+	0.131***	0.170***	0.106*	0.141*	-0.712
		(2.98)	(2.61)	(1.82)	(1.90)	(-1.61)
NEXO	+	0.185***	0.223***	0.117*	0.196**	0.167**
		(3.46)	(3.16)	(1.66)	(2.28)	(2.59)
INST	+	0.030	0.007	0.037	-0.001	-0.001
		(1.04)	(0.16)	(1.00)	(-0.01)	(-0.04)
INST*EXO	+	0.182	-0.328	0.436**	0.228	1.617*
		(1.07)	(-1.11)	(2.04)	(0.51)	(1.87)
OTHO	+	0.150***	0.185***	-0.116	0.110*	0.144***
		(4.06)	(3.56)	(-0.28)	(1.70)	(3.28)
NEXP	+	-0.063**	-0.073	-0.044	-0.063	-0.057
		(-2.03)	(-1.47)	(-1.09)	(-1.19)	(-1.38)
SIZE	+/-	0.029***	0.036***	0.023***	0.037***	0.024***
		(9.26)	(6.81)	(6.03)	(6.05)	(7.08)
LEV	+/-	-0.048*	-0.072*	-0.037	-0.202***	-0.030**
		(-1.92)	(-1.81)	(-1.50)	(-3.03)	(-2.36)
DIV	+	1.942***	1.932***	1.984***	2.043***	1.809**
		(10.16)	(5.53)	(8.13)	(5.74)	(8.25)
R^2		0.30	0.30	0.30	0.33	0.30
Number of firms		833	347	486	260	573

$$ROA_{it} = \alpha_i + EXO_{it}\beta_1 + NEXO_{it}\beta_2 + INST_{it}\beta_3 + INST*EXO_{it}\beta_4 + OTHO_{it}\beta_5 + NEXP_{it}\beta_6 + SIZE_{it}\beta_7 + LEV_{it}\beta_8 + DIV_{it}\beta_9 + \varepsilon_{it.} \quad (3)$$

Model 3 includes interaction item INST*EXO in the regression equation. In Panel A, we re-estimate model 3 for the sub-samples (with/without at least 5% non-institutional shareholding) separately. In Panel B, we re-estimate model 3 for the sub-samples (with/without a single institutional shareholding larger than executive ownership) separately. Definitions of the variables are given in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 4.6
Cross-sectional regressions predicting firm performance using ROA

Dependent Variable: ROA (Return of Asset)			
Independent Variables	Predicted	Model 4	Model 5
EXO	+	0.161***	0.162***
		(5.18)	(5.18)
NEXO	+	0.298***	0.296***
		(4.03)	(3.97)
INST	+	0.062**	0.080
		(2.26)	(1.04)
INST*NEXO	+/-	-0.586*	-0.579*
		(-1.85)	(-1.81)
OTHO	+	0.149***	0.150***
		(4.04)	(4.04)
NEXP	+	-0.066**	-0.057
		(-2.13)	(-1.19)
INST*NEXP	+/-		-3.722
			(-0.26)
SIZE	+/-	0.029***	0.028***
		(9.34)	(9.34)
LEV	+/-	-0.051**	-0.051**
		(-2.11)	(-2.11)
DIV	+	1.918***	1.916***
		(10.13)	(10.09)
R^2		0.30	0.30
Number of firms		833	833

$$ROA_{it} = \alpha_i + EXO_{it}\beta_1 + NEXO_{it}\beta_2 + INST_{it}\beta_3 + INST^{*}NEXO_{it}\beta_4 + OTHO_{it}\beta_5 + NEXP_{it}\beta_6 + SIZE_{it}\beta_7 + LEV_{it}\beta_8 + DIV_{it}\beta_9 + \varepsilon_{it.} \quad (4)$$

$$ROA_{it} = \alpha_i + EXO_{it}\beta_1 + NEXO_{it}\beta_2 + INST_{it}\beta_3 + INST^{*}NEXO_{it}\beta_4 + OTHO_{it}\beta_5 + NEXP_{it}\beta_6 + INST^{*}NEXP_{it}\beta_7 + SIZE_{it}\beta_8 + LEV_{it}\beta_9 + DIV_{it}\beta_{10} + \varepsilon_{it.} \quad (5)$$

Model 4 includes interaction item INST*NEXO in the regression equation. Model 5 has both interaction items INST*NEXO and INST*NEXP in the regression equation. The variables are defined in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 4.7
Cross-sectional regressions predicting firm performance using Tobin's Q

		Dependent Variable: Tobin's Q			
		Panel A		Panel B	
Independent Variables	Predicted	Model 6	Model 7	OTHO>5%	OTHO<5%
EXO	+	1.239**	4.498***	4.946**	5.198**
		(2.35)	(3.14)	(2.26)	(2.44)
EXO^2	-		-5.974***	-6.852*	-7.005**
			(-2.66)	(-1.89)	(-2.20)
NEXO	+	-0.771	-1.197*	-0.972	-1.092
		(-1.17)	(-1.76)	(-1.15)	(-1.13)
INST	+	0.868**	0.869**	0.807	1.003*
		(2.10)	(2.13)	(1.37)	(1.86)
OTHO	+	-0.739	-0.842	0.039	-0.856
		(-1.39)	(-1.55)	(0.05)	(-0.66)
NEXP	+	1.348***	1.614***	1.846**	1.187**
		(3.47)	(4.01)	(3.22)	(2.07)
SIZE	+/-	-0.178***	-0.166***	-0.156**	-0.183***
		(-4.78)	(-4.51)	(-2.15)	(-4.88)
LEV	+/-	-0.111	-0.080	-0.042	-0.092
		(-0.63)	(-0.46)	(-0.07)	(-0.54)
DIV	+	8.375***	8.476***	-1.077	14.11***
		(3.40)	(3.46)	(-0.38)	(5.97)
R^2		0.08	0.09	0.06	0.10
Number of firms		833	833	347	486

$$\text{Tobin's Q}_{it} = \alpha_i + \text{EXO}_{it}\beta_1 - \text{NEXO}_{it}\beta_2 + \text{INST}_{it}\beta_3 + \text{OTHO}_{it}\beta_4 + \text{NEXP}_{it}\beta_5 + \text{SIZE}_{it}\beta_6 + \text{LEV}_{it}\beta_7 + \text{DIV}_{it}\beta_8 + \varepsilon_{it}. \quad (6)$$

$$\text{Tobin's Q}_{it} = \alpha_i + \text{EXO}_{it}\beta_1 + \text{EXO}^2_{it}\beta_2 + \text{NEXO}_{it}\beta_3 + \text{INST}_{it}\beta_4 + \text{OTHO}_{it}\beta_5 + \text{NEXP}_{it}\beta_6 + \text{SIZE}_{it}\beta_7 + \text{LEV}_{it}\beta_8 + \text{DIV}_{it}\beta_9 + \varepsilon_{it}. \quad (7)$$

This table presents cross-sectional regressions predicting firm performance using Tobin's Q as a proxy for performance. Model 6 is a linear model, while model 7 estimates a non-linear model by adding the square of executive ownership. In the following regressions we keep the square of executive ownership since it is proved to be significantly associated with Tobin's Q. In Panel B, we re-estimate model 7 for the sub-samples (with/without at least 5% non-institutional shareholding) separately. The variables are defined in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 4.8
Cross-sectional regressions predicting firm performance using Tobin's Q

		Dependent Variable: Tobin's Q				
			Panel A		Panel B	
Independent Variables	Predicted	Model 8	OTHO>5%	OTHO<5%	EXO>LAIN	EXO<LAIN
EXO	+	0.491	2.497	-0.370	2.657	-5.445
		(0.29)	(1.15)	(-0.14)	(1.08)	(-1.05)
EXO^2	-	-1.951	-4.421	-1.201	-4.884	-2.748
		(-0.77)	(-1.35)	(-0.32)	(-1.48)	(-1.62)
INST	+	0.006	0.170	-0.011	-0.411	-0.479
		(0.02)	(0.32)	(-0.02)	(-0.17)	(-1.05)
INST*EXO	+	11.512**	8.252	13.661**	10.876	41.572**
		(2.41)	(1.12)	(2.18)	(1.14)	(2.05)
NEXO	-	-1.099	-0.932	-0.955	-1.776	-0.911
		(-1.62)	(-1.10)	(-1.02)	(-1.38)	(-1.32)
OTHO	+	-0.834	-0.009	-3.744	-1.305	-0.482
		(-1.57)	(-0.01)	(-0.64)	(-1.35)	(-0.75)
NEXP	+	1.666***	1.897***	1.246**	2.001**	1.463***
		(4.17)	(3.32)	(2.17)	(2.34)	(3.54)
SIZE	-	-0.178***	-0.157**	-0.207***	-0.257***	-0.152***
		(-4.97)	(-2.23)	(-5.33)	(-2.86)	(-4.11)
LEV	+/-	-0.096	-0.080	-0.105	-0.209	-0.100
		(-0.54)	(-0.13)	(-0.68)	(-0.18)	(-0.73)
DIV	+	8.648***	-0.916	14.082***	1.997	10.575***
		(3.72)	(-0.33)	(6.35)	(0.44)	(4.06)
R^2		0.10	0.07	0.13	0.08	0.08
Number of Firms		833	347	486	260	573

$$Tobin's\ Q_{it} = \alpha_i + EXO_{it}\beta_1 + EXO^2_{it}\beta_2 + INST_{it}\beta_3 + INST*EXO_{it}\beta_4 + NEXO_{it}\beta_5 + OTHO_{it}\beta_6 + NEXP_{it}\beta_7 + SIZE_{it}\beta_8 + LEV_{it}\beta_9 + DIV_{it}\beta_{10} + \varepsilon_{it.} \quad (8)$$

This table presents cross-sectional regressions predicting firm performance using Tobin's Q as a proxy for performance. Model 8 includes interaction item INST*EXO in the regression equation. In Panel A, we re-estimate model 8 for the sub-samples (with/without at least 5% non-institutional shareholding) separately. In Panel B, we re-estimate model 8 for the sub-samples (with/without a single institutional shareholding larger than executive ownership) separately. The variables are defined in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Table 4.9
Cross-sectional regressions predicting firm performance using Tobin's Q

	Dependent Variable: Tobin's Q		
Independent Variables	Predicted	Model 9	Model 10
EXO	+	4.505***	4.377***
		(3.13)	(3.06)
EXO^2	-	-6.003***	-5.621**
		(-2.67)	(-2.52)
NEXO	-	-1.905**	-2.155**
		(-2.06)	(-2.32)
INST	+	0.754*	3.138***
		(1.73)	(3.38)
INST*NEXO	+/-	3.765	4.747
		(0.90)	(1.14)
OTHO	+	-0.833	-0.741
		(-1.31)	(-1.38)
NEXP	+	1.611***	2.834***
		(4.01)	(3.06)
INST*NEXP	+/-		-4.774***
			(-2.84)
SIZE	+/-	-0.167***	-0.167***
		(-4.50)	(-4.50)
LEV	+/-	-0.058	-0.064
		(-0.32)	(-0.34)
DIV	+	8.604***	8.328***
		(3.53)	(3.44)
R^2		0.09	0.09
Number of firms		833	833

$$Tobin's\ Q_{it} = \alpha_i + EXO_{it}\beta_1 + NEXO_{it}\beta_2 + INST_{it}\beta_3 + INST^{*}NEXO_{it}\beta_4 + OTHO_{it}\beta_5 + NEXP_{it}\beta_6 + SIZE_{it}\beta_7 + LEV_{it}\beta_8 + DIV_{it}\beta_9 + \varepsilon_{it} \quad (9)$$

$$Tobin's\ Q_{it} = \alpha_i + EXO_{it}\beta_1 + NEXO_{it}\beta_2 + INST_{it}\beta_3 + INST^{*}NEXO_{it}\beta_4 + OTHO_{it}\beta_5 + NEXP_{it}\beta_6 + INST^{*}NEXP_{it}\beta_7 + SIZE_{it}\beta_8 + LEV_{it}\beta_9 + DIV_{it}\beta_{10} + \varepsilon_{it} \quad (10)$$

This table presents cross-sectional regressions predicting firm performance using Tobin's Q as a proxy for performance. Model 9 includes interaction item INST*NEXO in the regression equation. Model 10 has both interaction items INST*NEXO and INST*NEXP in the regression equation. The variables are defined in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively. - indicates that variable is not in the model.

Table 4.10
Cross-sectional regressions predicting firm performance using Tobin's Q

		Dependent Variable: ROA			
Independent Variables	Predicted	Model 11	Model 12	Model 13	Model 14
EXO	+	0.158***	0.138***	0.161***	0.162***
		(5.08)	(3.13)	(5.15)	(5.17)
INSTD	+	0.063*	0.058*	0.094*	0.147
		(1.86)	(1.48)	(2.61)	(1.43)
INSTA	+/-	0.024	0.008	0.029	0.007
		(0.64)	(0.19)	(0.75)	(0.06)
INSTD*EXO	+		0.049		
			(0.21)		
INSTA*EXO	+		0.240		
			(0.91)		
NEXO	+	0.189***	0.188***	0.303***	0.302***
		(3.52)	(3.51)	(4.09)	(4.04)
INSTD*NEXO	+			-0.987*	-0.963*
				(-1.95)	(-1.88)
INSTA*NEXO	+			-0.209	-0.217
				(-0.55)	(-0.57)
OTHL	+	0.147***	0.146***	0.144***	0.145***
		(3.92)	(3.89)	(3.84)	(3.87)
NEXP	+	-0.068**	-0.066**	-0.066**	-0.056
		(-2.18)	(-2.10)	(-2.10)	(-1.17)
INSTD*NEXP	+				-0.104
					(-0.54)
INSTA*NEXP	+				0.044
					(0.21)
SIZE	+/-	0.029***	0.029***	0.029***	0.029***
		(9.38)	(9.35)	(9.42)	(9.43)
LEV	+/-	-0.049*	-0.049*	-0.051**	-0.051**
		(-1.92)	(-1.93)	(-2.07)	(-2.07)
DIV	+	1.947***	1.949***	1.930***	1.928***
		(10.24)	(10.24)	(10.25)	(10.20)
R^2		0.30	0.30	0.30	0.30
Number of firms		833	833	833	833

In these regressions we split the institutional ownership into dedicated institutional ownership (INSTD) and transient institutional ownership (INSTA) according to our definitions in chapter 2. This table presents cross-sectional regressions predicting firm performance, using Tobin's Q as proxy for performance. Model 11 is the baseline model while model 12, 13, 14 include different ownership interaction items. The variables are defined in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Chapter 5

Conclusion

The aims of this thesis are twofold. First, it investigates the governance role of institutional investors in companies where they hold significant stakes (>3%); and second, it attempts to provide deeper insights into the determination of corporate policy decisions and performance. Using a large sample of UK-listed firms, for which a unique database has been compiled, we show that the presence of institutional investors has several implications for corporate policy decisions and performance.

Chapter 2 investigates the role of institutional investors in determining director pay in publicly listed, non-financial UK companies. The focus has been on the distinction between institutional shareholders regarding their investment horizons. We have investigated whether institutional investors, in particular the more dedicated investors, impact the level of director pay and influence the pay–performance relation. Our findings suggest that institutional investors as a whole do not constrain director pay and strengthen the pay–performance relation. However, we are also able to provide evidence suggesting a positive role that dedicated institutional investors with long investment horizons can play. We find that dedicated institutional ownership not only restrains director pay level, but also strengthens the pay–performance relationship in firms where they have significant stakes. This finding is consistent with our expectation that dedicated institutions are more involved in corporate governance and serve a better disciplining role than other institutional investors with shorter investment horizons.

Chapter 3 investigates whether dividend behaviour is affected by the control structure. Specifically, we examine the conventional wisdom that dividend and

shareholder control can be substitutes in mitigating agency cost and information asymmetry. We assume that firms controlled by financial institutions (IC firms) face higher agency costs and information asymmetry than firms controlled by director-owners and other individual shareholders (MC firms); dividend is thus a more valuable monitoring or signalling device for them. Using a panel of UK firms from 2000 to 2006, we use a random-effect probit model and partial adjustment models to investigate whether the identity of a controlling shareholder group affects dividend behaviour. Although we detect no evidence suggesting that firms controlled by financial institutions (IC firms) are more likely to be dividend payers than other firms, we find that IC firms significantly engage in dividend smoothing, while MC firms do not. In addition, MC (IC) firms adjust dividends to a greater (smaller) extent relative to current incomes. This is consistent with our hypothesis that IC firms smooth dividend to a larger extent because they face higher agency costs and information asymmetry.

In chapter 4, we examine both the direct and indirect impact of institutional ownership on firm performance. We control the additional factors that might provide disincentives to institutional monitoring. Our empirical results suggest that institutional ownership makes an appreciable difference to firm performance, specifically when there is no other large (>5%) shareholder. We also find that the presence of institution investors strengthens the link between executive ownership and performance significantly if no other large (>5%) external shareholding is present, or if there is a single institutional shareholding higher than the executive ownership. Our hypotheses and results provide an integrated picture of the influence of institutional investors on firm performance and suggest a

complementarity between institutional investors and executive directors with respect to firm performance. They also indicate that institutional monitoring might be subject to a free-rider problem and executive pressure. There is no evidence to suggest that the presence of institutional investors makes non-executive directors work more effectively.

There is much more research needed concerning the importance of the presence of institutional investors. The empirical analysis in this thesis proposes some ideas that could be considered in future studies. One idea is that institutional investors can influence the whole corporate sector, for example in terms of executive compensation and dividend payout, and not just the targeted firms in takeovers, LBOs or governance initiatives. A second idea is that institutional investors are a far from homogeneous group, and the general insignificance attained by previous empirical studies is partly due to the pooling of all kinds of institutions. It is reasonable to expect more significant results with a proper differentiation among institutions. Third, future studies need to consider the complicated ways that governance mechanisms interact with each other. For instance, the choices of financial decisions might act as internal governance mechanisms; ownership concentration might thus substitute for or complement those mechanisms in reducing agency costs and/or information asymmetry. In this, the monitoring of one shareholding party might be affected by other shareholding parties.

There are other issues that deserve further attention in future studies. First, there is a need to develop a more sophisticated classification of institutional investors than that reported in this thesis. This can be achieved by examining

institutional trading behaviour from a long-period trading record (e.g. 5 years). In addition, if the data is available, three categories of institutional investors can be identified instead of two: (1) "transient" institutions, which exhibit high portfolio turnover and own small stakes in portfolio companies; (2) "dedicated" institutions, which provide stable ownership and take large positions in individual firms; and (3) "quasi-indexers", which also trade infrequently but own small stakes (similar to an index strategy). Besides "transient" institutions, "quasi-indexers" are not expected to be active monitors due to their passive indexing strategy. Some studies have been made using this kind of framework, but the existing studies are restricted to US firms (Bushee, 1998).

A natural extension of our work would be to investigate the implications of institutional investors on capital structure. The question rises about whether institutions have actively encouraged increased leverage, with a potential impact on performance. Research on this question remains inconclusive. Some studies suggest that institutional investors tend to encourage firms to lever up (Firth, 1995); while others suggest that the direct discipline by institutional investors acts as a substitute for debt (Grier and Zychowicz, 1994). Another corporate policy decision that might be affected by institutional investors is investment. How does the presence of institutional investors affect a firm's investment policy? Wahal and McConnell (2000) find a positive relationship between institutional ownership and long-term investment. Bushee (1998) finds that managers are less likely to cut R&D to reverse an earnings decline when institutional ownership is high, implying that institutions typically serve a monitoring role. Furthermore, we are curious about whether the presence of institutional investors would affect the

form or the strength of the relationship between long-term investment and performance, as suggested by Le et al. (2005). A satisfactory answer to these questions will enhance our understanding of the influence of institutional investors on corporate policy decisions.

Finally, in this thesis we cover a variety of internal governance mechanisms. but more research is needed on the relationship between institutional ownership and external governance mechanisms. For example, would the presence of a large institutional shareholding affect the outcome of an M&A event? Stulz et al. (1990) find that higher institutional ownership is associated with lower acquisition premiums. The investment horizon of an institutional investor might also influence a target firm's bargaining position. Weaker monitoring from short-term investors could allow managers to proceed with value-reducing acquisitions or to bargain for personal benefits (e.g. job security) at the expense of shareholder returns. Gaspar et al. (2004) find that when the shareholders of the target hold a short-term view, there is a higher likelihood of a takeover with a lower cost. We therefore expect that firms held by short-term institutional investors have a weaker bargaining position in acquisitions.

In conclusion, there remains considerable scope for future research about institutional ownership to continue and produce more interesting empirical results and theoretical papers. Further research might benefit from our insights about the corporate governance role of financial investors. Our work might also benefit the policy-makers, the management and the shareholders, in the sense that our work adds their understanding of the way ownership structure affects a company's financial decisions and performance.

Reference

Agrawal. A., Knoeber. C.R., 1996. Firm performance and mechanisms to control agency problems between managers and shareholders. Journal of Financial and Quantitative Analysis 31, 377-397.

Allen, F., Bernardo. A.E., Welch, I., 2000. Theory of dividend based on tax clienteles. Journal of Finance 55, 2499-2536.

Arellano, M., Bond, S., 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. The Review of Economics Studies 58, 277-297.

Baker, H., 1989. Why companies pay no dividends. Akron Business and Economic Review 20, 48-61.

Baltagi, B.H., 2001. Econometric analysis of panel data. Wiley. Chichester.

Beatty, R.P., Zajac, E.J., 1994. Managerial Incentives, monitoring and rick bearing: a study of executive compensation, ownership, and board structure in initial public offerings. Administrative Science Quarterly 39, 313-335.

Bell, L., Jenkinson, T., 2002. New evidence of the impact of dividend taxation and on the identity of the marginal investor. Journal of Finance 57, 1321-1346.

Ben Naceur, S., Goaied, M., Belanes, A., 2006. A re-examination of dividend policy: a dynamic panel data analysis. International Review of Finance 6, 1-23.

Benito, A., Young, G., 2001. Hard times or great expectations? Dividend omissions and dividend cuts by the UK firms. Working paper. Bank of England.

Berle, A., Means, G., 1932. The Modern Corporation and Private Property. New York, Macmillan Press.

Bhagat, S., Black, B., 2002. The non-correlation between board independence and long term firm performance. Journal of Corporation Law 27, 231-274.

Bhagat, S., Carey, C.E., 1999. Director's ownership, corporate performance and management turnover. The Business Lawyer 54, 885-919.

Black, B.S., 1992 (a). Agents watching agents: the promise of institutional investor voice. UCLA Law Review 39, 811-839.

Black, B.S., 1992 (b). The value of institutional monitoring: the empirical evidence. UCLA Law Review39, 895-939.

Black, B.S., J.C. Coffee, 1994. Hail britannia?: institutional investor behavior under limited regulation. Michigan Law Review 92, 1997-2087.

Black, F., 1976. The dividend puzzle. Journal of Portfolio Management 2, 5-8.

Blundell R., Bond, S., 1998. Initial conditions and moment restrictions in dynamic panel data models. Journal of Economics 87, 115-143.

Bond, S.R., Chennells, L., Devereux, M.P., 1996. Taxes and company dividends: a micro-econometric investigation exploiting cross-section variation in taxes. Economics Journal 106, 320-333.

Born, J., Rimbey, J., 1993. A test of the Easterbrook hypothesis regarding dividend payments and agency costs. Journal of Financial Research 46, 251-260

Brav, A., Gragam, J.R., Harvey, C.R., Michaely, R., 2005. Payout policy in the 21st century. Journal of Financial Economics 77, 483-527.

Brickley, J., Lease, R. and Smith, C., 1988. Ownership structure and voting on anti-takeovers amendments. Journal of Financial Economics 20, 267-292

Brown, H. Jr., 1998. What do institutional investors really want? Corporate Board 17, 5-10.

Bushee, B.J., 1998. The Influence of institutional investors on myopic R&D investment behavior. The Accounting Review 73, 305–333.

Cadbury Report, 2006 Cadbury Report, 2006. Report of the committees on the financial aspects of corporate governance. Gee, London.

Chaganti, R., Damanpur, F., 1991. Institutional ownership, capital structure and firm performance. Strategic Management Journal 12, 479-491.

Chen, X., Jarrad, H., Kai, L., 2005. Monitoring: which institutions matter? Working paper, University of British Columbia and University of Washington.

Clay, D.G., 2002. Institutional ownership and firm value, SSRN Working Paper.

Coffee, J., 1991. Liquidity versus control: the institutional investors as corporate monitor. Columbia Law Review 91, 1277–1368.

Conyon, M.J., Gregg, P., 1994. Pay at the top: a study of the sensitivity of top director remuneration to company specific shocks. National Institute Economic Review 3, 89–92.

Conyon, M.J., Leech, J., 1994. Top pay, company performance and corporate governance. Oxford Bulletin of Economics and Statistics 56, 229–258.

Cornett, M.M., Marcus, A.J., Saunders, A., Tehranian, H, 2007. The impact of institutional ownership on corporate operation performance. Journal of Banking and Finance 31, 1771-1794.

Correia da Silva, L., Goergen, M., Renneboog, L., 2006. Dividend policy and corporate governance. Oxford University Press.

Cosh, A.D., Hughes, A., 1997. Executive remuneration, executive dismissal and institutional shareholding. International Journal of Industrial Organization 15 (1997), pp. 469–492.

Cotter, J., Shivdasani, A., Zenner, M., 1997. Do independent directors enhance target shareholder wealth during tender offers? Journal of Financial Economics 43, 195-218.

Crespi, R., Renneboog, L., 2003. Corporate monitoring by shareholder coalitions in the UK. ECGI discussion paper, Brussels.

Crespi-Claders, R., Renneboog, L., 2003. Corporate monitoring by shareholder coalitions in the UK. ECGI Working Paper Series in Finance.

Cubbin, J., and Leech, D., 1983. The effect of shareholding dispersion on the degree of control in British companies: theory and measurement. Economic Journal 93, 353–369.

Daily, C.M., Dalton, D.R., 1992. The relationship between governance structure and corporate performance in entrepreneurial firms. Journal of Business Venturing 7, 375-386.

DeAngelo, H., DeAngelo, L., 1990. Dividend policy and financial distress: an empirical investigation of troubled NYSE firms. Journal of Finance 45. 1415-1431.

DeAngelo, H., and DeAngelo, L., Skinner, D., 1992. Dividends and losses. Journal of Finance 47, 1837-1863.

DeAngelo, H., DeAngelo, L., 1985. Managerial ownership of voting rights: a study of public corporations with dual classes of common stock. Journal of Financial Economics 14, 33-69.

Del Guercio, D., Hawkins, J., 1999. The motivation and impact of pension fund activism. Journal of Financial Economics 52, 293–340.

Del Guercio, D., 1996. The distorting effect of the prudent-man laws on institutional equity investments. Journal of Financial Economics 40, 31-62.

Del Guercio, D., Hawkins, J., 1999. The motivation and impact of pension fund activism. Journal of Financial Economics 52, 293-340.

Demsetz, H., 1983. The structure of ownership and the theory of the firm. Journal of Law and Economics 16, 375-390.

Department for Trade and Industry, 1992. Report on the committee on the financial aspects of corporate governance, Cadbury.

Department for Trade and Industry, 2003. Higgs review on the role and effectiveness of non-executive directors.

Deutsche Bank, 2004. Beyond the numbers- corporate governance in the UK. Global Governance Research.

Diamond, D.W., 1984. Financial intermediation and delegated monitoring. Review of Economics Studies 51, 393–414.

Doornik, J.A., Hendry, D.F., 2001. Econometric modelling using PcGive 10. Timberlake Consultants LTD Press.

Duggal, R., Miller, J.A., 1999. Institutional ownership and firm performance. Journal of Corporate Finance 5, 103-117.

Easterbrook, F.H., 1984. Two agency-cost explanations of dividends. The American Economic Review 74, 650-659.

Eckbo, B.E., Verma, S., 1993. Directorial share ownership, voting power, and cash dividend policy. Journal of Corporate Finance 1, 33-62.

Faccio, M and Lasfer, M.A., 1999. Do occupational pension funds monitor companies in which they hold large stakes? Journal of Corporate Finance 6, 71–110.

Faccio, M., Lang, L., 2002. The ultimate ownership of western European companies. Journal of Financial Economics 65, 365-395.

Faccio, M., Lasfer, A., 2000. Do occupational pension funds monitor companies in which they hold large stakes? Journal of Corporate Finance 6, 71-110.

Fama, E. F., Babiak, H., 1968. Dividend policy: an empirical analysis. Journal of the American Statistical Association 63, 1132-1161.

Fama, E.F., French, K.R., 2001. Disappearing dividends: changing firm characteristics or lower propensity to pay. Journal of financial economics 60, 3-43.

Fama, E.F., Jensen, M., 1983. Separation of ownership and control. Journal of Law and Economics 88, 301-325.

Farinha, J., 2003. Dividend policy, corporate governance and the directorial entrenchment hypothesis: an empirical analysis. Journal of Business and Accounting 30, 1173-1209.

Ferris, S.P., Sen, N., Yui, H.P., 2006. God Save the Queen and her dividends: corporate payouts in the United Kingdom. Journal of Business 79. 1149-1173.

Firth, M., 1995. The impact of institutional stockholders and managerial interests on the capital structure of firms. Managerial and Decision Economics 16. 167-175.

Florackis, C., Ozkan, A., 2007. The impact of managerial entrenchment on agency costs: an empirical investigation using UK panel data. European Finance Management, doi:10.1111/j.1468-036X.2007.00418.x

Fluck, Z., 1999. The dynamics of director-shareholder conflict. Review of Financial Studies 12, 379-404.

Franks, J., Mayer, C., Renneboog, L., 2001. Who disciplines management in poorly performing companies? Journal of Financial Intermediation 10, 209-248.

Franks, J.R., Mayer, C., 1997. Corporate Ownership and Control in the UK, Germany, and France. Journal of Applied Corporate Finance 9. 30-45.

Franks, J.R. and Mayer, C, 2000. The ownership and control of German corporations. The Review of Financial Studies 14. 943-977.

Gaspar, J., Massa, M., Matos, P., 2004. Shareholder investment horizons and the market for corporate control. Journal of Financial Economics 76, 135-165

Goergen, M., Renneboog, L., 2001. Strong Managers and Passive Institutional Investors in UK. The Control of Corporate Europe. Oxford University Press

Goergen, M., Renneboog, L., Correia da Silva, 2004. When do German firms change their dividends? Journal of Corporate Finance 11. 375-399

Gomper, P.A., Ishii, J.L., Metrick, A., 2003. Corporate governance and equity prices. Quarterly Journal of Economics 118, 107-150.

Greenbury Report, 1995. Director's remuneration: report of a study group chaired by Sir Richard Greenbury. Gee, London.

Gregg, P., Jewell, S., Tonks, I., 2004. Executive pay and performance in the UK 1994–2002. Working paper, University of Bristol and University of Exeter.

Grier, P., Zychowicz, E.J., 1994. Institutional investors, corporate discipline, and the role of debt. Journal of Economics and Business 46, 1-11.

Grinstein, Y., Michaely, R., 2005. Institutional holdings and payout policy. Journal of Finance 60, 1389-1426.

Grullon, G., Michaely, R., Swaminathan, B., 2002. Are dividend changes a sign of firm maturity? Journal of Business 75, 387-424.

Gugler K., 2003. Corporate governance, dividend payout policy, and the interrelation between dividends, R&D, and capital investment. Journal of Banking and Finance 27, 1297-1321.

Gugler, K., Yurtoglu, BB., 2003. Corporate governance and dividend payout policy in Germany. European Economic Review 47, 731-758.

Hart, O., 1995. Corporate governance: some theory and implications. The Economic Journal 105, 678-689.

Hartzell, J.C., Starks, L.T., 2003. Institutional investors and executive compensation. Journal of Finance 58, 2351–2374.

Hermalin, B.E., Weisbach, M.S., 1991. The effects of board composition and direct incentives on firm performance. Financial Management, 20, 101-112.

Ho, A., Kumar, P., 2004. Directorial entrenchment and payout policy. Journal of financial and quantitative analysis 39, 759-790

Ingley, C.B., Van der Walt, N.T., 2004. Corporate governance, institutional investor and conflicts of interest. Corporate Governance 12, 534-551.

Investment Management Association (IMA), 2005. Survey of fund managers' engagement with companies.

Jennings, W., 2005. Further evidence on institutional ownership and corporate value. Advances in Financial Econometrics 11, 167-207.

Jensen, G.R., Solberg, D., Zorn, T.S., 1992. Simultaneous determination of insider ownership, debt, and dividend policies. Journal of Financial and Quantitative Analysis 27, 247-263.

Jensen, M.C., 1986. Agency cost of free cash flow, corporate finance and takeovers. American Economic Review 76, 323-329.

Jensen, M.C., 1993. The modern industrial revolution, exit and the failure of internal control systems. Journal of Finance 48, 831-880.

Jensen, M.C., Murphy, K.J., 1990. Performance pay and top management incentives. Journal of Political Economy 98, 225–264.

Jensen, M.C., Meckling, W., 1976. Theory of firm: managerial behavior, agency costs and capital structure. Journal of Financial Economics 3, 305-360.

Kaplan, S.N., Minton, B., 1994. Appointments of outsiders to Japanese boards: determinants and implications for managers. Journal of Financial Economics 36, 225-258.

Karpoff, J.M., Malatesta, P.H., Walking, R.A., 1996. Corporate governance and shareholder initiatives: empirical evidence. Journal of Financial Economics 42, 365-395.

Khan, R., Dharwadkar, R., Brandes, P., 2004. Institutional ownership and CEO compensation: a longitudinal examination. Journal of Business Research 58, 1078–1088.

Khan, T., 2006. Company dividends and ownership structure: evidence from UK panel data. The Economic Journal 116, 172-189.

Kostant, P.C., 1999. Exit, voice and loyalty in the course of corporate governance and counsel's changing role. Journal of Socio-Economics, 28, 203-247.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 1999. Corporate ownership around the world. Journal of Finance 54, 471-517.

La Porta, R., Shleifer, F., Vishny, R.W., 2000. Agency problems and dividend policies around the world. Journal of Finance 55, 1-33.

Le, S.A., Walters, B., Kroll, M., 2005. The moderating effects of external monitors on the relationship between R&D spending and firm performance. Journal of Business Research 59, 278-287

Leech, D., 2002. Shareholder voting power and ownership control of the companies. Homo Oeconomicus 19, 345-373

Lehand, H., Pyle, D., 1977. Information asymmetries, financial structure and financial intermediation. Journal of Finance 32, 371-387.

Lintner, J., 1956. Distribution of incomes of corporations among dividends, retained earnings and taxes. American Economic Review 46, 97-113.

London Stock Exchange, 2003. Combined Code: principles of good governance and code of best practice.

Maddala, G.S., 2001. Introduction to econometrics. Wiley, Chichester.

Main, G., Bruce, A., 1996. Total board remuneration and company performance. Economic Journal 106, 1627–1655.

Marsh, T.A., Merton, R.C., 1987. Dividend behavior for the aggregate stock market. Journal of Business 34, 411-433.

Maug, E., 1998. Large shareholders as monitors: is there a trade-off between liquidity and control? Journal of Finance 53, 595–612.

Maury, B., 2006. Family ownership and firm performance: empirical evidence from western European corporations. Journal of Corporate Finance 12, 321-341.

McConnel, J., Servaes, H., 1990. Additional evidence on equity ownership and corporate value. Journal of Financial Econometrics 39, 131-157.

Miller, M., Modigliani, F., 1961. Dividend policy, growth and the valuation of shares. Journal of Business 34, 411-433.

Miller, M., Rock, K., 1985. Dividend policy under asymmetric information. Journal of Finance 30, 1031-1051.

Mancinelli, L., Ozkan, A., 2006. Ownership Structure and Dividend Policy: Evidence from Italian Firms. European Journal of Finance 12, 265-282.

Moh'd, M.A., Perry, L.G., Rimbey, J.N., 1995. An investigation of the dynamic relationship between agency theory and dividend policy. Financial Review 30, 367-385.

Monks, R.A.G. 2002. Creating value through corporate governance. Corporate Governance: an international review 10, 116-123.

Morck, R., Shleifer, A., Vishny, R.W., 1988. Management ownership and market valuation: an empirical analysis. Journal of Financial Economics 20, 293-315.

Mura, R., 2007. Firm Performance: Do non-executives have minds of their own?-evidence from UK panel data. Financial Management, forthcoming.

Murphy, K.J., 1999. Executive compensation. Handbook of Labour Economics 3, 2485–2563.

Murphy, K.J., Van Nuys, K., 1994. State Pension Funds Shareholder Activism, Working paper, Harvard Business School.

Myers, S.C., 1977. Determinants of corporate Borrowing. Journal of Financial Economics 5, 147-175.

Nesbitt, S.L., 1994. Long-term rewards from shareholder activism: A study of the "CalPERS effect". Journal of Applied Corporate Finance6, 75-80.

Noe, T., 2002. Investor activism and financial market structure. The review of financial studies 15, 289-318.

ONS, 2004. A report on ownership of shares as at December 31, 2003. HMSO, London.

ONS, 2007. A report on ownership of shares as at December 31, 2006. HMSO, London.

Ozkan, N., 2006. Do corporate governance mechanisms influence CEO compensation? An empirical investigation of UK companies. Journal of Multinational Financial Management, doi:10.1016/j.mulfin.2006.08.002.

Ozkan, N., 2007. CEO compensation, performance and corporate governance: an empirical investigation of UK panel data. Working Paper, University of Bristol.

Ozkan, A., 2001 Determinants of capital structure and adjustment to long run target: evidence from UK company panel data. Journal of Business Finance and Accounting 28, 175-198.

Ozkan, A., Ozkan, N., 2004. Corporate cash holdings: an empirical investigation of the UK firms. Journal of Banking and Finance 28, 2103-2134.

Paris, F.M. 2001. A compound option model to value moral hazard. Journal of Derivatives 9, 53-62.

Parrino et al., 2003 R. Parrino, R.W. Sias and L.T. Stark, Voting with their feet: institutional investors and CEO turnover. Journal of Financial Economics 68, 3–46.

Pinto, M., 2006. The role of institutional investors in the corporate governance. German Working paper in Law and Economics, Vol. 2006.

Plender, J., 1997. A stake in the future. London: Nicholas Brealey.

Pound, J., 1988. Proxy contests and the efficiency of shareholder oversight. Journal of Financial Economics 20, 237-265.

Pozen, R.C., 1994. Institutional investors: the reluctant activists. Harvard Business Review 72, 140-149.

Rajan, R.G., Zingales, L., 1995. What do we know about capital structure? Some evidence from international data, Journal of Finance 1, 1421-1461.

Rediker. K.J., Seth, A., 1995. Boards of directors and substitution effects of alterative governance mechanism. Strategic Management Journal 16, 85-99.

Renneboog, L., 2000, Ownership, managerial control and the governance of companies listed on the Brussels Stock Exchange. Journal of Banking and Finance 24, 1959-1995.

Renneboog, L., Szilagyi, P.G., 2007. How relevant is dividend policy under low shareholder protection. Working paper, European Financial Management Association

Renneboog, L., Trojanowski, G., 2007. Control structure and payout policy. Directorial Finance 33, 43-64.

Roe, M.J, 1990. Political and legal restraints on ownership and control of public companies. Journal of Financial Economics 27, 7-41.

Roe, M.J., 2004. The institutions of corporate governance. Discussion Paper 488, Harward Law School.

Romano, R., 1993, Public pension fund activism in corporate governance reconsidered. Columbia Law Review 93, 795-853.

Ross, S., 1977. The determination of financial structure: the incentive-signaling approach. Bell Journal of economics 8, 23-40.

Schooley, D.K., Barney, D., 1994. Using dividend policy and directorial ownership to reduce agency costs. The Journal of Financial Research 3, 363-373.

Sheifer, A., Vishy, R.W., 1986. Large shareholders and corporate control. Journal of Finance 52, 737-775.

Sheifer, A., Vishy, R.W., 1997. A survey of corporate governance. Journal of Finance 2, 767-783.

Shin, J.Y., 2005. Institutional investment horizons and the structure of CEO compensation. Working paper, University of Wisconsin-Madison.

Shleifer; A., Vishny, R.W., 1986. Large shareholder and corporate control. Journal of Political Economy 94, 461-488.

Short, H., Keasey, K., 1997. Institutional shareholders and corporate governance, responsibilities, risks and remuneration. John Wiley andSon Press.

Short, H., Zhang, H., Keasey, K., 2002. The link between dividend policy and institutional ownership. Journal of Corporate finance 8, 105-122.

Smith, M., 1996. Shareholder Activism by Institutional Investors: Evidence from CalPERS. Journal of Finance 51, 227-252.

Solomon, J., 2007. Corporate governance and accountability. Chichester John Wiley Press

Stapledon, G.P., 1996. Institutional shareholders and corporate governance. Oxford Clarendon Press

Stiglitz, J.E., 1985. Credit markets and control of capital. Journal of Money, Credit and Banking 17, 133-152.

Stulz, R.M., 1988. Managerial control of voting rights: financial policies and the market for corporate control. Journal of Financial Economics 40, 319-338.

Stulz, R., Walkling, R., Song, M., 1990. The distribution of target ownership and the division of gains in successful takeovers. Journal of Finance 45, 817-833.

Tirole, J., 2006. The theory of corporate finance. Princeton University Press.

The Economist, 2004. Microsoft's dividend: Bill's billions.

Wahal, S., McConnell, J., 2000. Do institutional investors exacerbate managerial myopia? Journal of Corporate Finance 6, 307–329.