

Institutional Investors, Board of Directors, and Firm Performance

-- Evidence from UK Firms

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Abstract

This paper examines the links between institutional ownership and firm performance. Specific attention is paid to the role of institutional investors in influencing the relationship between the board of directors and firm performance. First of all, our analysis shows institutional ownership is associated with better firm performance, and the difference is more significant when no other large (>5%) shareholding is present. We also find the presence of institutional ownership strengthens the link between executive ownership and performance more significantly when no other large external shareholders is present or when there is an individual institutional ownership higher than executive ownership. Our finding is consistent with institutional monitoring hypothesis and suggests complementarity between institutional investors and executive directors; it also indicates institutional monitoring might be subject to free-rider problem and executive pressure. Finally, with regards to non-executive directors, we detect no evidence suggesting institutional investors make non-executive director work more effectively.

Key words: Institutional investors; Board of directors; Firm Performance

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1.Introduction

Considerable debate in strategy, economics and finance literatures concerns the incentive conflict resulting from the separation of ownership and control. A well-functioning and effective board of directors is the grail sought by every company. Cadbury states the role of the board as “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.” Board of directors, in particular non-executive directors; act as shareholders’ representatives in monitoring management and ensuring that the firm is running in their interests. However, if boards are weakly supervised by shareholders, they may act in managers’ interest rather than those of shareholders (Jensen, 1993), or be passive in all but extreme circumstances (Kaplan, 1994). And though director ownership may tilt directors’ incentives towards the pursuits of share-price maximizing strategies; substantial ownership could also lead to managerial entrenchment (Morck et al., 1988). It has been suggested that the effectiveness of governance mechanisms in the board typically also requires the presence of large investors which have the leverage to rein in some managerial agency costs and to bring necessary organizational change to the firm (Stapledon 1996; Roe, 2004).

On the other hand, institutional investors are likely to be effective monitors because of economics of scales, diversification, gains from monitoring and relevance of resources (e.g., Diamond 1984, Cubbin and Leech, 1983, Carleton et al., 1998). Institutional investors, by virtue of their size are an exception to the small, apathetic shareholders envisioned by Berle and Means (1992), and thus become the natural candidate to watch the management. Either by carrying out the actions directly, or act through proxies such as directors, institutional investors are presumed to be capable to influence the board decision-making, and subsequently the management quality and firm’s performance. McConnell & Servaes (1990),

Clay (2002) find that the percent of institutional investor ownership is significant and positively related to a firm's Tobin's Q, they also suggest the positive relationship between performance and managerial ownership is strengthened in the presence of large institutional shareholders. Cornett et al. (2003) also find some evidence of complementarity between institutional investors and outside directors with respect to firm performance.

Moreover, ownership structure in UK is characterized by widely dispersed ownership but very important presence of institutional investors: at the end of 2003, institutional investors collectively owned around 80% of UK equity (Nation Statistics, 2004). Besides, with the largest ultimate voting block being that of institutional investors, directors are the second most important category in UK equity market (Goergen & Renneboog, 2001). The promise of institutional oversight in UK, broadly speaking, is that corporate managers/directors need to be watched by someone, and the institutions are the only watchers available (Black, 1991). Policy makers in UK also opt to rely on institutional monitoring in corporate governance; e.g., Higgs Report (2003) and the Combined Code (2003), encourage institutional investors to develop regular dialogue with the management, and establish strong links with non-executive directors. This would help to foster more effective monitoring of the notorious agency problem, as it would enhance the abilities of non-executive directors and align the interests of shareholders and directors (Solomon, 2004).

In this paper, we examine the relationship between institutional ownership and corporate performance for a sample of UK firms in year 2004 and 2005; we specifically analyze the possible interaction between the monitoring potential of institutional investors and two governance mechanisms in the board: the incentive effects provided by director ownership (executive ownership and non-executive ownership) and the supervisory role of outside directors. Our paper contributes to the current literature on several grounds:

First of all, distinct from the most performance literature, our study is aware of interaction between internal governance mechanisms, specifically between institutional investor and the board of directors. Closer scrutiny of institutional investors is expected to produce larger managerial quality increments and hence larger expected performance improvement. However, most performance literature only exam the direct impacts of institutional ownership and the board of directors on firm value; in addition, for those studies which do consider the interaction between them, they usually exam whether the presence of institutional investors leads to more/less use of a governance mechanism in the board, e.g., whether institutional investors encourage higher proportion of non-executive directors in the board (e.g., Rediker & Seth, 1995; Faccio & Lasfer, 2000). Very little empirical study exams how the potential interaction between them affects firm performance. In this paper, we examine whether institutional investors affect the efficiency of governance mechanisms in the board (i.e., director ownership and outside directors) by moderating their relationships with firm performance. According to our hypothesis, institutional monitoring could make the board work more effectively and hence contribute more to firm performance with the board's ownership and structure unchanged.

Second, we consider additional factors that might provide disincentives to institutional monitoring, e.g., free-rider problem between institutional shareholders and other external shareholders; and conflict of interests between institutional shareholders and executives. In the presence of other external large shareholders, institutions may be able to take more of a "back seat". And institutions might be coerced into voting with management, nonetheless institutions that hold an influential stake could probably overcome the conflicts and use their clout to appropriate corporate business. We hence further our study by testing another two hypotheses: (1) the influence of institutional investors on firm performance will be more significant when no other large external shareholder is present; (2) institutional investors will

curb executive discretion and hence strength the link between executive ownership and performance more significantly when there is no other large shareholder or when there is an individual institutional shareholding larger than executive shareholdings.

Finally, in our study, we differentiate executive ownership from non-executive ownership. Many researchers have questioned the effectiveness of non-executive directors as monitors, arguing that they, like executives, are motivated to act in the interest of other shareholders only if they have a significant investment in the firm (e.g., Jensen, 1993). However, equity ownership might work as a better incentive mechanism in the hands of executive directors rather in hands of non-executive directors; more importantly, the primary role of inside directors is expected to be decision management and that of outside directors to be decision control. To our best knowledge, so far only three performance papers have attempted to assess separately the influence of share ownership by executive and non-executive directors, and they reach different conclusions (Morck et al., 1988; Bhagat and Black, 2002; and Mura, 2006).

Our empirical study finds some evidence suggesting institutional ownership affect firm performance. However, the relationship is a complex one. The analysis shows that, institutional ownership makes appreciable difference to firm performance, and the difference is more significant when no other large (>5%) shareholder is present. Moreover, after we split the sample firms, we detect institutional ownership only strengthens the link between executive ownership and performance in the sub-sample where no other large shareholders is present or where there is an individual institutional shareholding higher than executive shareholding. Our finding indicates complementarity between institutional investors and executive directors, but also indicates institutional monitoring might be subject to free-rider problem and executive pressure. For non-executive directors, no evidence suggests the presence of institutional investors make them work more effectively.

The rest of this paper is structured as follows: Section 2 provides the theoretical and empirical evidence relating to institutional investors, board of directors and firm value. Section 3 discusses the potential interaction between institutional investors and the board of directors then develops our hypotheses. Section 4 presents the data and variables used in our analysis. Section 5 presents key results and possible explanations in the light of existing theory and evidence. Finally section 6 concludes.

2. Theoretical and Empirical Background

One area of the academic literature has focused on the relationship between corporate financial performance and the introduction of corporate governance initiatives. Recently, believers in the link between good corporate governance and greater shareholder value got highly visible evidence to back their views. A 2004 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 UK, research by Deutsche Bank showed a link between corporate governance and share price performance for FTSE 350 companies in the UK, 2002-2003: the top 10 percent of companies by governance structure outperformed the bottom 10 percent by 25 percent over the period. This provided evidence to back 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 monitoring role of institutional investors, the alignment and entrenchment effect of director ownership, supervisory role of the board of directors, and their potential influence on performance.

2.1 The Monitoring Role of Institutional Investors

Owners, if not actively managing themselves, are probably the most powerful external force affecting the firm's strategy and performance. Large investors help to moderate the free rider problem (Shleifer and Vishny, 1986) and increase the intensity of direct supervision on managerial actions; they are perceived as carrying a social responsibility of promoting good corporate governance (Ersoy-Bozcuk and Lasfer, 2000).

Institutional activism is a new phenomenon, for it has been only recently that institutional investors have achieved the size and the focus to significantly affect the management of companies. Several studies, including Black (1992) and Pound (1992), have contended that institutional shareholders perform a monitoring function similar to that of block-holders. Moreover, considerable bodies of research argue institutional investors have advantage to be corporate monitors than other large shareholders. E.g., Diamond (1984) argued that an intermediary, such as a financial institution, has a gross cost advantage in collecting information to monitor because of economics of scale and diversification. And institutional investors have more power and expertise individually and collectively, act more rationally, therefore more effective than dispersed individual investors in influencing the boards (Cubbin and Leech, 1983). Though institutional investors can't, don't want to and shouldn't watch every step a manager takes, they could add value to a firm in many areas. They can potentially add value by, among other things, motivating the board of directors (which we will elaborate later), defect value-decreasing charter amendments; discourage diversifications that benefit managers but not shareholders; encouraging value-producing takeovers and preventing bad takeovers, etc². The monitoring role of institutional investors then suggest companies in which institutional investors hold large stakes have better corporate governance and finally a higher value than widely held companies.

² 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.

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); institutions are themselves managed by money managers who need watching (Romano, 1993; Murphy & 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 an individual shareholder might because they only keep a fraction of the gains but face personal risk if they breach legal rules; second, institutional voice usually requires a number of institutions, including different types of institutions, so money managers can monitor each other's action to some extent; finally, corporate managers can watch their watchers and if the institutions abuse their power, corporate managers can complain loudly and often to the law-makers (Black, 1991; Pinto, 2006). To our best knowledge, the accumulated evidence concerning the consequence of the institutional investor activism proves that much of the alleged adverse effects of institutional voice did not materialize so far.

The gains from institutional shareholders are likely to be subtle, not dramatic. The gain may also occur indirectly, in ways that are hard to verify in quantitative studies. There is some modest evidence that institutional investor perform a monitoring function, or at least that its presence correlates with improved performance. McConnell & Servaes (1990), Clay (2002) find institutional investor ownership is significant and positively related to Tobin's Q. Nesbitt (1994) and Smith (1996), and Del Guercio and Hawkins (1999) also found that institutional activism has a significant positive impact on the financial performance of companies. On the other hand, Agrawal & Knoeber (1996), Karpoff et al. (1996), Duggal & Miller (1999), Faccio & Lasfer (2000) and Jennings (2005) find no such a significant relationship. While Chaganti and Damanpur (1991) find institutional ownership have a significantly positive effect on the return on equity, the authors do not detect a positive effort

on other measure of firm performance (return on asset, etc). The evidence, taken as a whole, is suggestive rather than conclusive. Institutional oversight might add value to investee firms, but we don't know yet how much value it adds.

2.2 The Alignment and Entrenchment Effect of Director Ownership

Another important internal governance mechanism is director ownership, which is traditionally viewed as providing a direct economic incentive for directors to fulfill their fiduciary responsibilities (Bhagat & Carey, 1999). In this way, director ownership alleviates the agency conflicts in the firm; greater levels of director ownership should align their interests with those of shareholders, resulting in higher performance (e.g., Jensen and Meckling, 1976). This convergence-of-interest model suggests that there is a linear relationship between director ownership and performance. However, executive ownership and non-executive ownership, the roles of these two dimensions of ownership in governance problem plausibly differ. The greater is the degree of shares concentrated in the hands of corporate monitors, such as external shareholders and non-executive directors, the more effectively monitors they could be. In contrast, the consequence of a higher executive shareholding is 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 (e.g., Morck et al., 1988). This leads to managerial entrenchment whereby other shareholders are unable to influence the actions of them. For example, Crespi-Claders and Renneboog (2003) suggest, given that executive directors have similar private benefits of control, they may combine their shareholdings into one voting block and try to obstruct any attempts to removed them. For UK, Franks et al (2001) show that disciplinary actions against management are undertaken in the wake of poor performance, but directors with large stake successfully impede overhauls of the board. Some

researches suggest there might be a curvilinear relation between Tobin's Q of the firm and the fraction of shares owned by insiders (e.g., Stulz, 1998; Morck et al., 1988; McConnell and Servaes, 1990). There is also some evidence that accounting-based measure correlate with inside ownership (e.g., Demsetz & Lehn, 1985).

2.3 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. Though 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 and oversee management's use of firm resources (Hart, 1995). Also non-executives, who are not full-employees of the firm, have the incentives to develop the 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). However, empirical and anecdotal evidence fail to obtain consistent results. Some authors document a positive relationship between the proportion of outsiders in the board and firm performance (e.g., Daily & Dalton, 1992; Beatty & Zajac, 1994); some suggest outside directors can provide a monitoring function in extraordinary or crisis situations (Romano, 1996; Cotter et al., 1997). On the contrary, many studies find little evidence suggesting firms with a majority of outside directors perform better (e.g. Agrawal & Knoeber, 1996; Bhagat & Black, 1998; Hermalin & Weisbach, 1991). It seems non-executives directors are not always effective monitors. But the trend is clear: non-executive (outside) directors have increased as a proportion of the board and dominate important committees. Recently, a number of forces external to the firm, e.g., the increasing active role

of large shareholders, have forced outside directors to seriously consider their responsibilities. After all, they are primarily shareholders' agents, not managers' advisors.

3. Hypothesis Development

The recent corporate governance crisis like Enron highlighted the importance of good board performance. Though generally speaking, it is the managers and directors who are best tasked with running the corporations, it is contended that shareholders should have a significant voice in some of the important or high-profile decisions, such as acquisitions, sales of significant assets, etc. Much of the promise of shareholder monitoring lies in informal shareholder efforts to monitor corporate managers or to express a desire for change in a company's management or policies. Being the most important shareholders in UK, institutional investors' activism and what it means with respect to the management of companies has become a hot topic.

3.1 Institutional Investors and the Board –Agents Watching Agents

Separation of ownership and control has resulted in managerial dominance and concentration of power among corporate elites. Boards are viewed by the marketplace as 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, 2004), and they can't often refashion the firm because they are subject to its old routines and its embedded information (Roe, 2004). A further problem arises when executive directors hold large stakes and can entrench themselves easily. As we argued above, the effectiveness of boards typically also requires the presence of large investors, which have the leverage to rein

in some managerial agency costs and to bring necessary organizational changes to the firm (Stapledon 1996; Roe, 2004).

As owners, large institutional shareholders have the incentive to exercise closer oversight and control of management and corporate decision-making in order to redress the power imbalance, reduce agency cost and increase shareholders wealth (Ingley et al., 2004). Shareholders can potentially encourage the valuable actions, and stop some of the bad actions. Like the other shareholders, institutional investors can directly affect the company's performance by actively participating, monitoring or ratifying board' decisions, ensuring that only shareholder value-added projects are implemented. However, the influence of institutional owners usually is "latent" rather than "active"³. Much of the promise of shareholders 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 institutional investors' voice presumably because campaigns by institutional investors could indicate incipient disquiet among the firm's shareholder base and managers don't want to activate another corporate governance institution, such as a takeover, a proxy fight, or a melt-down of the company's stock price (Roe, 2004).

However, to our knowledge, only a few studies exam institutional investor's influence on managerial quality and the existent literature provide conflicting results. Investigating proxy contests, Pound (1988) reports results, which indicate institutions do not act as efficient monitors and are more likely to vote in favor of management. Faccio and Lasfer (2000) find in UK, pension fund's holdings do not lead companies to introduce more independent non-executive directors or outperform their counterparts. In contrast, Noe (1997) demonstrates that a core group of institutional investors can naturally develop with the goal of monitoring the corporation and preventing managers from engaging in opportunisms.

³ 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).

Ingley et al. (2004) also claim that mechanisms to increase shareholder voice and loyalty can help the board function effectively and may increase both efficiency and fairness for all stakeholders.

There are some empirical evidences shows that the firm value-managerial ownership relation changes substantially when institutional ownership is considered jointly. By examining the relationship between performance and managerial ownership, McConnell and Servaes (1990) find a curvilinear relationship between them, and the inclusion of institutional ownership increase the inflection point of the curve, which suggests that institutional ownership reinforces the positive effect of managerial ownership on corporate value. Short and Keasey (1997) also find the 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 dominate entrenchment effects everywhere once institutional ownership is controlled for, which shows a complementary relation between managerial and institutional ownership for firm value.

3.2 Governance Characteristics in UK

Ownership structure in UK is characterized by dispersed ownership, strong managers and prevalence of institutional investors. Whereas a large majority of listed companies in Continental Europe have a dominant outside shareholders, most UK firms are controlled by the management and members of the board of directors. Moreover, Directors of UK companies perform more of an advisory than a monitoring role (Franks and Mayer, 2000), i.e., powers to enforce fiduciary responsibilities on directors are weak. Outside directors of UK companies are not expected to play an active monitoring role as their US counterparts.

Despite the fact the Cadbury Report (1992) led to substantial changes in the board structure of companies 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). And British non-executive directors may not be independent; according to Higg Report (1999), almost half of the non-executives surveyed for the review were recruited to their role through personal contacts or friendship. As Hart (1995) suggests, it may be that only “quiet non-executives” are selected for the board positions.

There is a strong need to reduce discretions in the board and the tremendous growth in institutional ownership and the increasing role of institutional investors as firm monitors provides a possible solution. According to Nation Statistics (2004), at the end of 2004 institutional investors owned around 80% of UK equity⁴, they are believed to have the capability to monitor their investments and, and by the virtue of the magnitude of their investments, can affect managerial behavior. For example, they can act as counterweight to manager’s decisions in cases when managers’ and stakeholders’ interests are not aligned. Those had led to the development of sophisticated systems of engagement between institutional investors and the board of directors in UK. While institutions in the United States focus more on exercising voting rights, those in UK enjoy much leeway for activism and involves themselves in general issues such as board composition and structure, management compensation, and on issues concerning disclosure of information (Stapledon, 1996; Monks, 2002). American style proxy contexts are quite rare in UK; most activism wears the form of informal jawboning, which is less costly. And the very fact that public action has been taken suggests that the previous “behind the scene” attempts to influence the board have failed.

⁴ with insurance companies 17%; pension funds 16%; unit trusts, investment trusts and other financial institutions together holding some 15%; and overseas investors 32%.

UK institutional investors are also encouraged by a series of governance codes to put their views to the company and are prepared to enter 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 hands of chief executive, 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 stronger links needs to be established between the board of directors and companies' 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 and Solomon distributed questionnaire to ask UK institutional investors' attitude towards relationship investing, and the responses suggest engagement and dialogue has become an area for competitive advantage for institutions, as well as a mean of monitoring management and improving corporate performance. The IMA latest survey (2005) also reveals a recent trend of institutional engagement with management. 34 UK fund managers, who manager 55% of all UK equities managed within UK, participated in this survey. It is reported that all participants of IMA enter into dialogue with investee companies' directors and senior management where they 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 meeting with independent directors in 2003 and 2004.

3.3 Hypotheses

The monitoring of institutional investors implies that companies in which institutional investors hold large stakes probably have better corporate governance, and finally a higher value than widely held companies/ or companies hold by the other large shareholders. Our first hypothesis is straightforward:

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

Some of institutional monitoring involves direct monitoring; others involve indirect monitoring through the board of directors. Much of the value of institutional voice could be realized through improving the management quality of the board. For example, by curbing executive discretion, institutional monitoring could enhance (repress) the incentive (entrenchment) effect of executive ownership, so we design our second hypothesis as:

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

Finally, non-executive directors could not be truly independent unless they were connected to a powerful group outside the company, which 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 relationship can enhance the effectiveness of non-executive directors (Cornett, 2003).

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

We should bear in mind that different corporate governance might be substitute or complement to each other (e.g., Rediker and Seth, 1995; Cornett et al., 2003; Florackis & Ozkan, 2004). Though we expect institutional monitoring complement the functions of the board of directors, from a theoretical perspective, there is a possibility that the monitoring of institutional investors weakens the incentives of the board. For example, there may be substitution effect between the supervisory role of large institutional investors and the supervisory role of outside directors: if institutional activism curbs the insiders' discretions, there is a low probability of incurring wealth-destroying actions, and therefore, it is less necessary for outside directors to perform a control activity.

3.4 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 being conditioned by the free-rider problem and executive pressure.

As Roe (1990) has pointed out, it is not just the separation of ownership and control that gives rise to the agency problem between shareholders and managers; but also the atomistic or diffuse nature of corporate ownership. While "free-riding" may be an option for individual institutions, for institutional collectively, the situation is becoming less tenable. Collective action problem seems manageable for the large institutions that are today the dominant shareholders. And the world of British institutions is close-knit; the existence of

communication network and the long-term nature of mutually advantageous relationships between City institutions may contribute towards an environment in which cooperation can take place and free riding is reduced (Black and Coffee, 1994; Short and Keasey; 1997). In UK, for example, pension funds, mutual funds, insurers, and investment trusts each have its association (i.e., NAPF, ABI). However, we still have to consider why the institutions bother monitoring board and/or firm performance when they can free ride on the other external large shareholders. The absence of generally accepted mechanism for cost sharing among shareholders, e.g., 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 on the shareholding of other large shareholders, due to the free-rider problem. Hence we assume the influence of institutional ownership on firm performance is more significant when no other large external shareholder is present.

Moreover, inevitably there are conflicts of interests among various corporate stakeholders groups (Kose & Senbet, 1998), and the most fundamental one is between outside owners and inside management (e.g., Shleifer & Vishny, 1997; Paris, 2001). Insiders’ corporate governance preferences do not always align well with those of outside shareholders and one motivation for executives to hold common stocks of their company is to increase their influence in setting firm’s general strategies (DeAngelo, 1985). Although investors are increasing more active, their monitoring is susceptible to managerial interference. Many institutions that choose not to exit have succumbed to managerial pressures to support voting proposal that are not in the shareholders’ interests (Kostant, 1999). Greater stock ownership by executives increases the power of internal consistency and decreases the power of the external consistency in influencing firm’s strategies (Mintzberg, 1983). Nonetheless strong

intuitions 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 relationship between performance and directors' ownership more significantly if an individual institutional shareholding is larger than directors shareholdings. In the context of executive ownership, we expect the presence of institutional investors strengths the link between executive ownership and performance more significantly when there is an individual institutional shareholding higher than executive shareholdings.

4. Data and Variables

Our initial sample consists of all quoted, non-financial UK firms for which full data can be obtained covering the year 2004 and 2005. We obtain information from two different sources. Information on firm's ownership structure, board structure is derived from the *Hemscott Guru Academic Database*, which provides financial data for the UK's top 300,000 companies, detailed data on all directors of UK listed companies. Accounting data come from *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, which represents 1544 non-financial listed firms in 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 (Florackis and Ozkan, 2004). To reduce the potential endogeneity, our explanatory variables are one-year lagged. Analytical definitions for all these variables are given in table 1.

-Insert Table 1 here-

4.1 Performance variables

Researchers have to choose between accounting profitability (e.g., ROA) and market-price performance (e.g., 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, they have different time perspective: 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 equity market and they are affected 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 show the extent to which expected future gains are not currently reflected on the books. In our study, we use employ both counting-based measure (ROA) and 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.

4.2 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) notes whether institutions use their abilities to influence corporate decisions is partially a function of the size of their holdings. In this paper, 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 shareholdings is included in our study as well, to account for the other owners' (e.g., corporate, individual and family) controlling power. If Berle and Means (1932) are right, then higher concentration should be positively related to performance- higher concentration makes the owners more

able and willing to monitor managers. Finally, we also examine the governance mechanisms of the board intensely. Our explanatory variables include the proportion of non-executive directors in the board, executive ownership, and non-executive ownership.

4.3 Control Variables

In order to fully understand firm performance, it is necessary to examine other determinants and organizational characteristics as well. The selection of control variables is dictated by the literature and data availability. In the equation for firm's performance, we control for leverage, dividend payout, firm's 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, limit the firm's ability to raise new debt, and subsequently it 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 free cash problem, restrains managerial discretion (e.g., Jensen 1986). In this case, one would expect a positive relation between dividends payout ratio and firm performance afterward. Finally, the design of the efficient bundle of governance mechanism may vary systematically by industry or size of the firm (Fama and Jensen, 1983). Size also accounts for the economics of scale.

4.4 Sample characteristics

Table 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 individual institutional stake reaches 12.68%. On average, the other external shareholders own 7.64% stakes. Also, the average proportion of non-executive directors is 50% and we also find out 83 firms out of the final 833 (10%) where the same person held the position of CEO and chairman at least for one year. The average debt ratio is 19% and average dividend payout is 1.93%. 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 (e.g., Ozkan & Ozkan, 2004; Short and Keasey, 1997).

-Insert Table 2 here-

The results of the Pearson's correlation of our variables are reported in Table 3. The correlation between institutional ownership and ROA is positive but weak; while the correlation between institutional ownership and Tobin's Q is positively significant. And ROA is positively related to the size while Tobin's Q is negatively related to size. Consistent with previous evidence (e.g 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 institutions tend to invest more in large firms. Finally, the proportion of non-executive directors in the board is positively related to institutional ownership but negatively related to executive ownership, indicating institutional investors (executives) might encourage (discourage) more non-executive directors on the board.

-Insert Table 3 here-

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 institutional investor is a source of external influence on board of directors and performance.

5.1 Institutional ownership and performance

In this section we present our results that are based on a cross-sectional regression approach. In Table 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 models ROA as a function of ownership structure, board characteristics and other control variables. In general, the estimated coefficients are in line with the hypothesized signs. Specifically, there is strong evidence that ownership of the directors (both executives and non-executives), the ownership of institutions and other external large shareholdings can work as effective incentive mechanisms that help improving firm's accounting profit. Contrary to the expectation, our results show that higher proportion of non-executive directors is associated with worse ROA, which might implicate low management efficiency associated with high non-executives proportion. 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 & Servaes (1990), model (2) allows for the possibility that a non-linear model provides a better description of the relationship. However, the total insignificance of executive ownership suggests little support

of a non-linear relationship between executive ownership and ROA. 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 relation between managerial and institutional ownership for the firm performance. At such we develop new models based on model (1)⁵.

As discussed earlier in this paper, there is a possibility the free-rider problem dwindle institutional monitoring and hence its influence on firm's performance. In Panel B of table 4, we explore such a possibility by splitting the sample into two sub-samples according to whether the firm has other external large shareholder. Since only shareholdings higher than 3% are disclosed in UK, at first we separate our sample firms according to whether firms have other external shareholdings higher than 3%. We detected no significant difference between two samples (which is not reported here). It might suggest 3% shareholding by other shareholders is not big enough to trigger the free-riding problem. So following Short and Keasey (1997), we try 5% as the benchmark of large shareholding. Panel B gives the results: the coefficient of institutional ownership is positive and significant only in the sub-sample where other external shareholding is less than 5%. It might indicate institutional investors free ride on other shareholders' monitoring when the other external shareholding is fairly high (at least 5%, in our case). Besides institutional ownership, it seems executive ownership doesn't lead to better performance when other large (>5%) external shareholder is present. It might suggest other external shareholders' monitoring and the incentive provided by executive ownership work as substitutes.

To sum up, the results of the first stage of our analysis in Table 4 suggest that, consistent with institutional monitoring hypothesis, in general institutional ownership is associated with better accounting performance. But after we split the sample, this association

⁵ Theory does not offer predictions regarding the form of the relation 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 didn't detect any non-linear relation.

vanishes in the sample where the other external shareholding is higher than 5%, which indicates the potential free-rider problem between institutional investors and other large shareholders.

-Insert Table 4 here-

5.2 Institutional ownership, executive directors and 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 performance. To explore that possibility, in Model (3) we interact institutional ownership with executive ownership. In this way, we test for the existence of both main effect (the impact of institutional ownership on performance) and conditional effects (the impact of institutional ownership on the relationship between executive ownership and firm's performance). The insignificance of 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 free-rider problem and conflict of interests might provide disincentives to institutional monitoring and intervention. To test hypotheses 2.2 and 2.3, again we split our sample into sub-samples, then estimate our empirical models for each sample separately and check whether the coefficients of the variables retain their signs and their significance across the sub-samples. Panel A and Panel B in Table 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 free-rider problem, institutions are expected to be less actively involved in firm management when there is other external large shareholder; and

coefficient of the interaction item should be less significant in that sub-sample correspondently. 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: free from 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 if there is an individual institutional shareholding (*LAIN*) larger than the executive ownership (*EXO*), then the executive ownership are not sufficiently high to give executives unfettered control. In this case, institutions would be more capable of monitoring and controlling executives' actions. In Panel B, the sample is split into firms with/without an individual 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 an individual shareholding larger than the executive ownership. In the sub-sample where $EXO < LAIN$, executives ownership is substantially low, with median value of 2.60%, compared to 28.48% in the sub-sample where $EXO > LAIN$. This might explain why the coefficients of other external large shareholders are only positively significant in the sample with low executive ownership: as we suggested before, the monitoring of other shareholders and the incentive from executive ownership might work as substitutes.

One might interpret the positive interaction between institutional ownership and executive ownership as evidence that the actions of each mechanism are more effective when they pull in the same direction. A coalition of "value maximizer" might be formed of institutional investors and executive directors in firms where institutional investors can get over the conflict of interests and free-ride problem.

-Insert Table 5 here-

5.3 Institutional ownership, non-executive directors and firm's 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 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 they might act as substitutes. Since the level of the board's monitoring potential is partly determined by the need for board monitoring, it is not surprising that the presence of large shareholders, like institutional investors, could reduce the need for board monitoring and make non-executives less effective. Rediker & Seth (1995) also argue that, the presence of relatively large outside shareholdings (including institutional shareholdings) and their monitoring would make outside directors in the board represents a less important mechanism.

-Insert Table 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). Though in general we didn't find significant evidence suggest in general 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 there is an individual institutional shareholding larger than the executive ownership, or when no other large (>5%) external shareholder is present. The results are in general consistent with that of McConnell and Servaes (1990) and that of Short and Keasey (1997). Furthermore, no evidence suggests institutional investors make non-executive work more effectively; our analysis even indicates some substitute effect between the monitoring of institutional investors and non-executive directors.

5.4 Robustness Test

All the above conclusions are derived from accounting measures 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 proxy for performance are presented in Table 7, Table 8 and Table 9. Specifically, we re-estimate the models but we substitute Tobin's Q for ROA. A noticeable difference is that the R^2 falls when Tobin's Q is used instead of ROA. Moreover, consistent with previous researchers (e.g., Morck et al., 1988; McConnell & 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 Roberto (2006), we find although the size of non-executive directors' ownership doesn't lead to better market performance, the proportion of non-executives on the board has a significant and positive effect on it. It is reasonable in the light of the finding of Rosenstein and Wyatt (1990), who shows the stock market, reacts favourably to the appointment of additional outside directors.

In line with the study of Maury (2006), who finds firm size is positively related to ROA but not to market valuation, we also find size is positively related to ROA but negatively related to Tobin's Q. It indicates that bigger firms enjoy higher accounting profit but not higher market valuation. The coefficient of dividend payout ratio remains positively significant either use ROA or Tobin's Q, which provide certain support to the belief that higher dividend payout is related to better financial performance afterward, either due to the signal effect or the relieved free cash flow problem.

Most importantly, we obtain consistent results with regard to institutional ownership. Again, in robustness tests, our results support the proposition regarding the significant direct association between institutional ownership and firm performance. Table 9 shows in general the positive relationship between executive ownership and Tobin's is strengthened by institutional ownership⁶. And after we split the sample, again we find the interaction item of institutional ownership and executive ownership is only significant when no other large (>5%) external shareholder is present or when there is an individual institutional ownership higher than executive ownership. This result is consistent with conflict of interest and executive pressure hypothesis. Finally, again Table 9 provides no significant evidence suggesting institutional investors make non-executive directors work more effectively.

-Insert Table 7 -9 here-

6. Conclusion

In this study, we use data from 833 UK listed non-financial companies representing 2-year period (2004-2005) to examine the implicit influence of institutional ownership on firm performance.

⁶ 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).

Our empirical study finds some evidence suggesting institutional ownership affect firm performance. For example, consistent with McConnell & Servaes (1990) and Clay (2002), our empirical results suggest institutional ownership makes appreciable difference to firm performance, specifically when there is no other large (>5%) shareholder. Moreover, distinct from most studies, our study is aware of the interaction among different shareholder groups, including director-owners, institutional investor and other external shareholders. Our analysis find institution investors strengthen the link between executive ownership and performance significantly when no other large (>5%) external shareholders is present or when there is an individual institutional ownership higher than executive ownership. Our hypotheses and results hence provide an integrated picture of institutional investor' influence on firm performance: not only institutional monitoring contributes to better performance, it might strengthen the incentive effect of executive ownership, specifically when it is free from free-rider problem and/or it can overcome executive pressure. However, for non-executive directors, no evidence suggests the presence of institutional investors make them work more effectively.

In sum, there is some evidence suggesting valuable monitoring by institutions. And there is no evidence that institutional monitoring is harmful. All 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 strong conflict of interest and/or executive pressure.

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Table 1

Variables, definitions and data sources

Variables	Definition and Source
Dependent Variables	
ROA	Return of asset , i.e., the ratio of operation profit to total assets (<i>our own calculation</i>)
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 (<i>Our own calculation</i>)
Independent Variables	
EXO	The percentage of equity ownership owned by executive directors (<i>Hemscott</i>)
NEXO	The percentage of equity ownership owned by non-executive directors (<i>Hemscott</i>)
INST	The sum of institutional shareholdings greater than 3% (<i>Hemscott</i>)
LAIN	Size of the largest institutional shareholding (<i>Hemscott</i>)
OTHL	The sum of other external shareholdings greater than 3% (<i>Hemscott</i>)
NEXP	The proportion of non-executive directors in the board (<i>Hemscott</i>)
SIZE	The logarithm of total asset (<i>Datastream</i>)
LEV	Total debt over total asset (<i>Datastream</i>)
DIV	The sum of ordinary dividend and preference dividend over total asset (<i>our own calculation</i>)
IND	Industry Dummies, 1-13

Datastream database provides accounting and market data. *Hemscott* Guru Academic database provides financial data for the UK's top 300,000 companies, detailed data on all directors of UK listed companies.

Table 2

Descriptive statistics (N=833)

Variable	Mean	Min	Median	Max	S.D.
ROA	0.02	-0.73	0.04	0.52	0.15
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
OTHL (%)	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	8.41	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 year 2004-2005. Definitions of the variables are given in Table 1.

Table 3

Pearson Correlation matrix

	1	2	3	4	5	6	7	8	9	10
1.ROA	1.00									
2.Tobin's Q	0.049	1.00								
3.EXO	-0.023	0.122*	1.00							
4.NEXO	-0.044	0.005	0.051	1.00						
5.INST	0.009	0.079*	-0.327*	-0.183*	1.00					
6.OTHL	-0.025	-0.039	0.009	0.063	-0.201*	1.00				
7.NEXP	0.040	0.024	-0.388*	0.103*	0.174*	-0.097*	1.00			
8.SIZE	0.350*	-0.177*	-0.395*	-0.237*	0.094*	-0.272*	0.350*	1.00		
9.LEV	-0.077*	-0.124*	-0.147*	0.005	-0.017	-0.045	0.112*	0.292*	1.00	
10.DIV	0.435*	0.098*	-0.082*	-0.046	0.018	-0.058	0.064	0.205*	0.008	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 5% level (two tailed)

Table 4

This table presents cross-sectional regressions predicting firm performance, using ROA as 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.

Dependent Variable: ROA (Return of Asset)					
Independent Variables	Predicted	Panel A		Panel B	
		Model 1	Model 2	OTHL>5%	OTHL<5%
INST	+	0.0005* (1.72)	0.0005* (1.72)	-0.0002 (-0.57)	0.001** (2.12)
EXO	+	0.001*** (3.67)	0.001 (0.47)	0.0003 (0.47)	0.002*** (4.44)
EXO ²	-		0.00001 (0.66)		
NEXO	+	0.002*** (3.07)	0.002*** (3.22)	0.002** (2.36)	0.001* (1.75)
OTHL	+	0.001*** (3.53)	0.001*** (3.57)	0.002*** (3.14)	-0.0001 (-0.23)
NEXP	+	-0.081** (-2.52)	-0.086** (-2.58)	-0.092* (-1.83)	-0.056 (-1.37)
SIZE	+/-	0.030*** (9.46)	0.030*** (9.41)	0.041*** (7.28)	0.024*** (6.11)
LEV	+/-	-0.001* (-1.86)	-0.001* (-1.88)	-0.001** (-2.42)	-0.0004 (-1.50)
DIV	+	0.020*** (10.05)	0.020*** (10.05)	0.021*** (5.66)	0.020*** (8.22)
R ²		0.29	0.29	0.30	0.30
Number of firms		833	833	347	486

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 * indicates significance at 1%, 5% and 10% level, respectively.- indicates that variable is not in the model.

Table 5

This table presents cross-sectional regressions predicting firm performance, using ROA as proxy for performance. 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 an individual institutional shareholding larger than executive ownership) separately.

Dependent Variable: ROA (Return of Asset)						
Independent Variables	Predicted	Panel A			Panel B	
		Model 3	OTHL>5%	OTHL<5%	EXO>LAIN	EXO<LAIN
INST	+	0.0003 (0.97)	-0.0001 (-0.22)	0.0004 (1.00)	-0.0001 (-0.09)	0.0005 (0.13)
EXO	+	0.001* (1.88)	0.001 (0.63)	0.001* (1.82)	0.001 (1.08)	-0.007 (-1.48)
INST*EXO	+	0.0002 (1.11)	-0.0002 (-0.46)	0.00004** (2.04)	0.00002 (0.44)	0.0002* (1.75)
NEXO	+	0.002*** (3.02)	0.002** (2.39)	0.001 (1.56)	0.002 (1.58)	0.002*** (2.71)
OTHL	+	0.001*** (3.49)	0.002*** (3.17)	-0.001 (-0.28)	0.0004 (0.60)	0.001*** (3.31)
NEXP	+	-0.076** (-2.38)	-0.095* (-1.87)	-0.044 (-1.09)	-0.075 (-1.33)	-0.061 (-1.46)
SIZE	+/-	0.030*** (9.44)	0.041*** (7.27)	0.023*** (6.03)	0.041*** (6.22)	0.025*** (7.17)
LEV	+/-	-0.001* (-1.87)	-0.001** (-2.38)	-0.0004 (-1.50)	-0.002*** (-3.30)	-0.0003** (-2.36)
DIV	+	0.020*** (10.05)	0.021*** (5.65)	0.020*** (8.13)	0.022*** (5.86)	0.018*** (8.23)
R ²		0.29	0.30	0.30	0.34	0.31
Number of firms		833	347	486	260	573

Definitions of the variables are given in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. ***, ** and * indicates significance at 1%, 5% and 10% level, respectively.

Table 6

This table presents cross-sectional regressions predicting firm performance, using ROA as proxy for performance. Model 4 includes interaction item INST*NEXO in the regression equation. Model 5 includes interaction item INST*NEXP in the regression equation.

Dependent Variable: ROA (Return of Asset)			
Independent Variables	Predicted	Model 4	Model 5
INST	+	0.001** (2.31)	0.001 (0.97)
EXO	+	0.001*** (3.71)	0.001*** (3.73)
NEXO	+	0.003*** (3.69)	0.003*** (3.67)
INST*NEXO	+/-	-0.0001* (-1.95)	-0.0001* (-1.92)
OTHL	+	0.001*** (3.48)	0.001*** (3.46)
NEXP	+	-0.080** (-2.50)	-0.073 (-1.47)
INST*NEXP	+/-		-0.0003 (-0.18)
SIZE	+/-	0.030*** (9.53)	0.030*** (9.52)
LEV	+/-	-0.001** (-2.06)	-0.001** (-2.05)
DIV	+	0.019*** (10.01)	0.019*** (9.98)
R ²		0.29	0.29
Number of firms		833	833

The variables are defined in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. ***, ** and * indicates significance at 1%, 5% and 10% level, respectively.

Table 7

This table presents cross-sectional regressions predicting firm performance, using Tobin's Q as proxy for performance. In this table we re-estimate the models presented in Table 4 but we substitute Tobin's Q for ROA.

Dependent Variable: Tobin's Q					
Independent Variables	Predicted	Panel A		Panel B	
		Model 6	Model 7	OTHL>5%	OTHL<5%
INST	+	0.009** (2.09)	0.009** (2.11)	0.008 (1.33)	0.010* (1.86)
EXO	+	0.012** (2.34)	0.045*** (3.14)	0.049** (2.25)	0.052** (2.44)
EXO ²	-		-0.006*** (-2.66)	-0.001* (-1.89)	-0.001** (-2.20)
NEXO	+	-0.008 (-1.18)	-0.012* (-1.77)	-0.010 (-1.18)	-0.011 (-1.13)
OTHL	+	-0.008 (-1.46)	-0.009 (-1.63)	-0.001 (-0.08)	-0.039 (-0.66)
NEXP	+	1.349*** (3.47)	1.615*** (4.01)	1.847*** (3.22)	1.187** (2.07)
SIZE	+/-	-0.179*** (-4.80)	-0.167*** (-4.53)	-0.156** (-2.16)	-0.183*** (-4.88)
LEV	+/-	-0.001 (-0.63)	-0.001 (-0.46)	-0.001 (-0.07)	-0.001 (-0.54)
DIV	+	0.084*** (3.40)	0.085** (3.47)	-0.011 (-0.37)	0.14*** (5.97)
R ²		0.08	0.09	0.06	0.10
Number of firms		833	833	347	486

The variables are defined in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. ***, ** and * indicates significance at 1%, 5% and 10% level, respectively.

Table 8

This table presents cross-sectional regressions predicting firm performance, using Tobin's Q as proxy for performance. In this table we re-run the regressions presented in Table 5 while we substitute Tobin's Q for ROA (and we keep the square of executive ownership since it is proved to be significantly associated with Tobin's Q).

Dependent Variable: Tobin's Q						
Independent Variables	Predicted	Panel A			Panel B	
		Model 8	OTHL>5%	OTHL<5%	EXO>LAIN	EXO<LAIN
INST	+	0.0001 (0.00)	0.002 (0.27)	-0.0001 (-0.02)	-0.004 (-0.19)	-0.005 (-1.05)
EXO	+	0.005 (0.29)	0.025 (1.13)	-0.004 (-0.14)	0.026 (1.06)	-0.054 (-1.05)
EXO ²	-	-0.0002 (-0.77)	-0.0004 (-1.35)	-0.0001 (-0.32)	-0.0005 (-1.47)	-0.003 (-1.62)
INST*EXO	+	0.001** (2.41)	0.001 (1.12)	0.001** (2.18)	0.001 (1.14)	0.004** (2.05)
NEXO	-	-0.011 (-1.63)	-0.010 (-1.13)	-0.010 (-1.02)	-0.018 (-1.39)	-0.009 (-1.32)
OTHL	+	-0.009* (-1.65)	-0.001 (-0.15)	-0.037 (-0.64)	-0.014 (-1.46)	-0.005 (-0.75)
NEXP	+	1.667*** (4.17)	1.898*** (3.32)	1.2246** (2.17)	2.012** (2.35)	1.463*** (3.54)
SIZE	-	-0.178*** (-4.99)	-0.158** (-2.24)	-0.207*** (-5.33)	-0.258*** (-2.87)	-0.152*** (-4.11)
LEV	+/-	-0.001 (-0.55)	-0.001 (-0.14)	-0.001 (-0.68)	-0.002 (-0.18)	-0.001 (-0.73)
DIV	+	0.086*** (3.72)	-0.009 (-0.33)	0.141*** (6.35)	0.020 (0.44)	0.106*** (4.06)
R ²		0.11	0.07	0.13	0.08	0.15
Number of Firms		833	347	486	260	573

The variables are defined in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. ***, ** and * indicates significance at 1%, 5% and 10% level, respectively.

Table 9

This table presents cross-sectional regressions predicting firm performance, using Tobin's Q as proxy for performance. In this table we re-run the models presented in Table 6 while we substitute Tobin's Q for ROA (and we keep the square of executive ownership since it is proved to be significantly associated with Tobin's Q).

Independent Variables	Dependent Variable: Tobin's Q		
	Predicted	Model 9	Model 10
INST	+	0.007* (1.71)	0.031*** (3.36)
EXO	+	0.045*** (3.13)	0.044*** (3.06)
EXO ²	-	-0.001*** (-2.67)	-0.001** (-2.52)
NEXO	-	-0.019** (-2.06)	-0.022** (-2.32)
INST*NEXO	+/-	0.0003 (0.90)	0.0005 (1.14)
OTHL	+	-0.009 (-1.61)	-0.008 (-1.46)
NEXP	+	1.614*** (4.01)	2.832*** (4.86)
INST*NEXP	+/-		-0.048*** (-2.84)
LNTA	+/-	-0.168*** (-4.52)	-0.168*** (-4.51)
LEV	+/-	-0.001 (-0.32)	-0.001 (-0.34)
DIV	+	0.086*** (3.53)	0.083*** (3.44)
R ²		0.10	0.10
Number of firms		833	833

The variables are defined in Table 1. All regressions include industry dummies. T-statistic values are reported in parentheses. ***, ** and * indicates significance at 1%, 5% and 10% level, respectively. - indicates that variable is not in the model.