

# **Investment Preferences of Institutional Investors and their impact upon firm's financial performance: A Comparative Study of Institutional Investment in the UK and the US**

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## Abstract

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This study examines the differences in the investment preferences of the UK and the US institutional investors and the extent to which these differences have affected the financial performance of their investee firms. We find that a vast majority of institutional investors are active and long term investors (the holding period exceeds two years) in both countries. Institutional activism is higher in the UK than in the US, although US institutional investors appear to use a richer variety of investment styles than their UK counterparts. We also find that UK institutional investors prefer firms with smaller size, less volatility of share return, higher board composition, and higher dividend yield. US investors, however, prefer firms with smaller size, higher board composition, higher managerial shareholding, and higher past accounting performance. This study also provides empirical evidence suggesting that UK and US institutional investors have different impacts upon the financial performance of their investee companies. For both countries, the overall institutional shareholding has positive and significant impact upon firms' accounting or market performance. However, when we break down institutional ownership into various types, we find that UK banks & insurance companies have positive and significant impact upon firms' accounting performance. In contrast, US banks, insurance companies, and investment advisers have negative (positive) and significant impacts upon firms' accounting (market) performance. Other institutional investors such as pension funds, university endowments, and other professional investment advisers appear to have positive (negative) impacts upon firms' accounting (market) performance in the US.

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## 1. Introduction

Equity ownership by institutional investors in the UK and the US has grown rapidly for the last three decades. The latest data from the UK shows that at the end of 2006, around 80% of the equity was owned by institutional investors (ONS 2007)<sup>1</sup>. In comparison, in the US, around 61% of the equity (by the end of 2005) was owned by institutional investors (The Conference Board, 2007)<sup>2</sup>. Such levels of institutional ownership in the two countries are perhaps the highest in the world (Ferreira and Matos 2007)<sup>3</sup>. Even though the UK and the US are seen as two economies with much in common because of their common law systems and highly developed financial markets, a number of dissimilarities do exist. One such dissimilarity relates to the investment preference of the institutional investors in the two countries. Many U.S. studies (e.g. Cready, 1994; Del Guercio, 1996; and Falkenstein, 1996) document that the U.S. institutional investors prefer to invest in firms with superior past financial performance, less volatility of share return, high trading liquidity, larger size, and longer listing history. However in the UK evidence is emerging (e.g. Hussain, 2000; Khurshed, Lin and Wang 2007) that institutional block-holders prefer to invest in firms which are smaller, have low trading liquidity and a shorter listing history. However, for both the US and the UK, there is very limited evidence on how different types of institutional investors and their investment preferences have affected the financial performance of their investee firms.

In this study we examine the differences in the investment preferences of UK and US institutional investors and the economic consequences of such differences. We believe that a comparative study of institutional investments in these two markets is both topical and long overdue. Over a period of time, institutional investors in both countries have grown to hold positions of importance in their investee firms because of their large stakes. Currently, institutional investment in the two countries is at an all

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<sup>1</sup> In a report published by the Office of National Statistics on 13<sup>th</sup> July 2007, the ONS shows that by the end of 2006, only 13% of the equity in the UK was owned by individuals. The rest of the equity was owned by foreign investors, insurance companies, pension funds, unit trusts, investment trusts, other financial institutions, charities, private non-financial companies, public sector and banks.

<sup>2</sup> Press release by The Conference Board, January 22, 2007 (US Institutional Investors Continue to Boost Ownership of US Corporations)

<sup>3</sup> For a comprehensive survey of the level of institutional investment in 27 countries around the world, see table A.1.

time high (The Conference Board, 2007 and the ONS, 2007). Toms and Wright (2005) argue that although UK and US share the Anglo-American shareholder system, it is problematic to assume that their institutional investors have played a similar role in their investee companies because there are a number of differences in corporate governance setups between these two countries<sup>4</sup>. The authors highlight the lack of comparative study between the two markets. This view is also shared by Aguilera et al (2006) who suggest both qualitative and quantitative comparisons of institutional investors in these two markets. Given the current debate on the need for greater corporate transparency and shareholder protection, we need to revisit this notion of similar shareholder system in these two countries and investigate whether the UK and the US institutional investors take into account the corporate governance setups of the firms before they decide on their investments.

To contribute to the literature, this study empirically investigates the following three questions. First, what are the different types of institutional investors that exist in the two markets? Do they have different investment styles? Second, what factors have affected the investment preferences of the UK and the US institutional investors? Third, what are the economic consequences of the differences in the investment preferences of institutional investors in these two markets?

To provide preliminary answers for the first question, we compare the institutional investment markets of the two countries to highlight any differences or similarities in terms of the types of investors, investment strategies and country of origin. First of all using the data from Thomson One Banker, we find that the level of institutional investment in the US is much higher than that in the UK. This result is contrary to the common belief and some previous survey evidence that UK has a larger institutional investment presence. Our other results show that UK firms attract more foreign institutional investors than their US counterparts. More interestingly, UK firms attract much more active institutional investors than their US counterparts. However, a vast majority of the shares of our UK and US sample firms are actually owned by investment advisers. A significant percentage (around 15%) of the shares of UK top

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<sup>4</sup> The authors state, "...As a result, US/UK comparative work has been neglected. This is a pity since, although there are important similarities, there are also differences that have not been fully investigated." pp. 267.

industrial firms are owned by insurance companies. In terms of institutional investment style, US institutional investors have more diversified investment portfolios than their UK counterparts. UK institutional investors appear to prefer growth shares. A vast majority of UK and US institutional investors prefer low to moderate share turnover. The above findings suggest that the structure of institutional shareholding is very different between UK and US.

Previous studies provide some evidence that the differences in the regulatory and legal environment and the nature of dominant institutional investors between countries may have contributed to the significant differences in the investment preferences of institutional investors. To find answers for the second question, we investigate what types of firm specific characteristics (including corporate governance control mechanisms), attract institutional investment. Our results show that the determinants of US and UK shareholdings are somewhat different. UK institutional investors appear to prefer firms with higher dividend yield<sup>5</sup> but lower return volatility. Their US counterparts, however, prefer firms with higher managerial shareholding and superior past accounting performance. However, institutional investors in both countries prefer relatively small firms and larger number of non executive directors on the boards.

Finally, this study investigates the extent to which the investment preferences of US and UK institutional investors affects the financial performance of their investee firms. We predict that different types of institutional investors will have different impacts upon the financial performance of their investee firms. For example, institutional investors who intend to establish a longer term relationship with the firms they invest in are more likely to intervene or participate in their firm's operating, investing, and governance decision making (in order to improve the financial performance of their investee firm) than institutional investors who have a high portfolio turnover and follow momentum trading. Using return on assets and Tobin's Q as performance measures, we find that the level of institutional shareholding has positive and significant impact on return on assets in both countries. However, different types of institutional investors appear to have different impacts upon return

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<sup>5</sup> Khurshed et al (2007) show that institutional block holders prefer firms with low dividend yields. The difference in these two results is puzzling.

on assets in the two countries. Banks have positive and significant impact upon return on assets in the UK but they appear to have negative and significant impact upon return on assets in the US. In contrast, Banks have negative and significant impact upon Tobin's Q in the UK but they appear to have positive impact upon Tobin's Q in the US. Furthermore, other institutional investors such as pension funds, university endowments and other professional investment advisers appear to have negative and significant impact on Tobin's Q in the US. After controlling for potential endogeneity between financial performance measures, institutional and directors' ownership, and board composition, we find only Tobin's Q (ROA) is associated with institutional shareholding in the US (UK). The causes of the above different findings for the UK and US need to be further investigated in future research.

The rest of the paper is structured as follows. In section 2, we review previous studies on institutional shareholding. In section 3, we discuss the similarities and differences between the UK and the US institutional setups and regulations. We describe our research methodology and sample selection and data collection in sections 4 and 5, respectively. Section 6 discusses empirical findings. The final section concludes and discusses the limitations of this study.

## **2. Literature review**

We divide the literature review into three parts. In the first part we review literature that relates institutional ownership to firm characteristics. In the second part we review literature that relates institutional ownership to corporate governance setups in the investee firms. The final part includes previous studies on how institutional investors affect the financial performance of their investee companies.

### ***2.1 Institutional Ownership and Firm Characteristics***

Compared with individual investors, institutional investors are sophisticated investors with usually long term investment horizons. The "prudent man" assumption predicts that institutional investors would choose investee firms with superior past performance. To reduce potential information asymmetry, institutional investors would choose firms with larger size and longer exchange-listing age. Since stock

return volatility is a proxy of business risk, institutional investors would prefer to invest in those stocks with lower stock return volatility. Evidence from some empirical studies in the US (e.g. Badrinath et al., 1989; Cready, 1994; Del Guercio, 1996; and Falkenstein, 1996) is mostly consistent with the above predictions. However there some recent studies which show that the relationship between institutional investment and past financial performance and institutional investment and firm size is changing. For example, Gompers and Metrick (2001) find institutional ownership is negatively related with firms' historical performance. Bennett et al. (2003) find that the investment preference of US institutional investors for large firms had been decreasing in the period 1990 – 1997 in comparison with the period 1983 – 1990. Many studies argue that large US firms have been overpriced due to heavy following by institutional investors over the past few decades. It is likely that US investors have to look for investment opportunity in relatively small firms with greater potential.

Previous studies also find certain other firm characteristics are preferred by institutional investors in the US. For example, Bushee (2001) finds that US institutional investors prefer investing in firms with low leverage. This is because leverage is a widely used as a proxy for bankruptcy risk. Lakonishok et al. (1994) find that institutional investors prefer “glamour stocks”, which are analogous to “growth stocks” that have low book to market ratio. Cready (1994) finds institutional ownership is significantly lower in firms with higher dividend yield.

Only a few studies have investigated the investment preference of UK institutional block investors (only shareholding above 3% is disclosed in firms' annual reports in the UK). Hussain (2000) finds that institutional ownership is negatively associated with the market value of equities, inside ownership and the market model  $R^2$ , which is used to measure the uncertainty of future share prices<sup>6</sup>. He also finds that institutional ownership is much higher in the utility sectors than in the industrial sectors. Using more recent data, Khurshed, Lin and Wang (2007) show that UK institutional blockholders prefer smaller firms, and firms with smaller boards, shorter listing history, and

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<sup>6</sup> The market model  $R^2$  is the  $R^2$  of the model:  $r_{it} = \alpha_i + \beta_i r_{mt} + \xi_i$ , where  $r_{it}$  is the return on asset  $i$  at time  $t$ ,  $r_{mt}$  is the return on the market.

low trading liquidity. They also show that the investment preferences of UK institutional block-holders depend on different levels of shareholdings. For example, firm size, past accounting performance, listing history, and share return volatility etc do not seem matter to large institutional block-holders (about 20% shareholding).

To summarise, previous studies find that institutional investors have investment preferences over firms with certain characteristics that are related to firm size, industry, governance control mechanisms, profitability, firm reputation and listing history, and trading status etc. More importantly, these preferred firm characteristics could vary across countries.

## ***2.2 Institutional Investors and Corporate governance***

A Mckinsey survey (reported by Coombes and Watson 2000) of more than 200 institutional investors with investments across the world shows that governance is a significant factor in their investment decision. Three-quarters of the institutional investors say that board practice of a well-governed firm is at least as important as its financial performance. They also believe that a well-governed firm should have a majority of independent directors and formal evaluation for directors, and be responsive to the requests from investors. In a separate survey of pension funds and investment managers, Useem et al (1993) find that the composition and function of the board is critical to US institutional investors, who appear to prefer an independent board with board members who have diversified skills and experiences. A more recent survey (Russell Reynolds Associates, 2003) shows that the importance of corporate governance as a decision factor for US and UK institutional investors has increased over time. This survey in 2003 finds that, nearly 70% (up from 50% in the year 2000) and 80% of the US and UK institutional investors respectively, consider corporate governance setup as an important investment factor. Previous studies provide some evidence on the relationship between institutional shareholding and quality of board of directors and managerial shareholdings. For example, Bathala et al. (1994) find that the use of debt financing and directors' ownership are negatively associated with institutional ownership. Chen and Steiner (1999) provide evidence indicating that directors' ownership and institutional ownership are substitute monitoring

mechanisms in the US corporate governance system. This finding is also confirmed by Hussain (2000) using a small UK sample.

Fama and Jensen (1983) argue that independent non-executive directors are central to the effective resolution of the agency problem between managers and shareholders. They are expected to act in the general interest of outside shareholders. A few studies have investigated the relationship between institutional shareholding and board composition. For example, Whidbee (1997) finds that board composition is positively associated with institutional ownership but negatively associated with CEO ownership. Bathala and Rao (1995) find board composition is positively related to institutional ownership but negatively related to directors' ownership, dividend payout, and leverage. Recently, Linck et al. (2006) find a negative association between the fraction of inside directors and institutional ownership, and argue that institutional investors are able to monitor managers' moral hazard and promote independent boards.

In the UK, the importance of non-executive directors has been highlighted by the Cadbury (1992)<sup>7</sup> and Higgs (2003) Reports. The former report recommends at least three non-executive directors on the board so that their views will carry significant weight in the board's decisions. The latter report further recommends UK boards to have at least half of the board members to be independent non-executive directors. Using a UK sample, Khurshed, Lin and Wang (2007) find that institutional block-holding is negatively associated with directors' ownership and is positively associated with board composition, suggesting that institutional block-holders regard directors' ownership and board composition as the substitute and complementary control mechanisms, respectively.

To summarise, previous studies provide evidence that both UK and US institutional investors do consider the effectiveness of the corporate governance mechanisms adopted by firms, especially their board structure, when making their investment decisions. There is empirical evidence that institutional investors prefer firms with higher board composition but smaller managerial shareholding.

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<sup>7</sup> The full name of this report is the Financial Aspects of Corporate Governance. It was sponsored by the Financial Reporting Council, the London Stock Exchange (LSE) and the accountancy profession.

### **2.3 Performance Effects**

The investor activism hypothesis argues that institutional investors have strong incentives to intervene or monitoring firms' management, and therefore should have positive impacts upon firm performance. Empirical evidence on the association between institutional ownership and firm performance is generally mixed. McConnell and Servaes (1990) find that institutional ownership is positively related to a firm's Tobin's Q. Nesbitt (1994), Smith (1996) and Del Guercio and Hawkins (1999) also find a positive relation between institutional investor ownership and various measures of firm performance. However, Agrawal and Knoeber (1996), Karpoff et al. (1996), Duggal and Millar (1999) and Faccio and Lasfer (2000) find no such relation.

While most of previous studies treat institutional investors homogenously, Cornett et al. (2007) divide them into pressure-sensitive investors (banks or insurance companies) and pressure-insensitive (investment advisors and investment companies) investors, and find only the shareholding by pressure-insensitive investors is positively associated with return on assets of investee firms. Following this study, we also predict the potential impacts of institutional shareholding on firm performance are conditional on the investment preferences and the types of institutional investors.

### **3. The institutional investment environment in the UK and US**

The presence of institutional investors in the UK and the US grew rapidly after the Second World War (Black and Coffee, 1994; and Aguilera et. al 2006). According to Tafara (2007)<sup>8</sup>, institutional shareholding of UK firms is traditionally higher than that of US firms because of the following two historical reasons. First, in the UK, the personal income tax rates have been much higher than those in the US. Therefore, there has been little incentive for the UK individual investors to hold firm shares. At the same time, tax exemptions to UK institutional investors such as pension funds<sup>9</sup> before 1997 had rapidly increased their presence as large shareholders in UK listed firms. Second, there has been no regulation restricting the participation of institutional

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<sup>8</sup> Speech by Ethiopis Tafara, Director, Office of International Affairs, US Securities and Exchange Commission, Madrid, February 8-9, 2007.

<sup>9</sup> Such tax exemptions have recently been removed by the implementation of the Financial Act 1997 (FA97).

investors in the UK equity market. However, for the US, the federal and state regulation in the first half of the 20<sup>th</sup> century limited the equity that banks and insurance companies could hold (for details see Roe 1994, pp. 21). Recent surveys (ONS, 2007 and the Conference Board, 2007) on institutional shareholding in the UK and US still support the above argument.

The two countries also differ in legal regulation when it comes to the investment decisions of institutional investors. Under the legal environment of the US, the behaviour of institutional managers is subject to scrutiny under both the common law and Employee Retirement Income Security Act (ERISA)<sup>10</sup>, which purports to protect the clients of institutional investors by allowing them to prosecute a custodian (fund manager) who fails to invest their money in their best interest. Fund managers are expected to behave in the manner of a ‘prudent’ person. What the courts accept as a prudent investment has been based primarily on the assets’ characteristics in isolation but not on their roles in the overall portfolio. Consequently, institutional investors under this constraint have incentives to protect themselves from liability by tilting their portfolios toward those assets that are easy to defend in court, for example stocks with better past financial performance or higher S&P ranking. No such law existed in the UK until 2001 when the Myner Report recommended institutional investors to behave as “a prudent man of business” and to engage more in the corporate governance issues of their invested firms. It is also very rare that UK companies are sued by their investors.

Furthermore, Tafara (2007) argues that the US corporate governance system is ‘regulator led’ in that the SEC and the exchanges are responsible for implementing and enforcing good corporate governance standards for the sake of individual and institutional investors. In contrast, UK institutional investors can take whatever corporate governance measures to protect their interests. Tafara states that “*By the 1960s, large institutional shareholders in the UK began to press for greater corporate governance controls and norms by which they could protect their interests. It has been this strength of institutional investors in the UK that has made feasible the*

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<sup>10</sup> ERISA (1974) set up federal minimum standards for employee benefit plans, including standards regulating the conduct of plan fiduciaries and trustees. The Act also established an insurance programme designed to guarantee workers receipt of pension benefits if their defined benefit pension plan should terminate.

*“comply or explain” corporate governance provisions that are the hallmark of what is referred to as “shareholder-led” regulation*”. The above difference may have some important implication for different investment preferences of UK and US institutional investors.

There are also other contrasts between the UK and the US institutional investors. Institutional investors in the UK are more passive than their US counterparts in terms of the usage of their voting rights or raising proposals when firms’ corporate governance is weak (see Mallin, 1995, 1999; and Ersoy-Bozcuk and Lasfer, 2001). In the US, voting turnout, the level of votes represented at the annual meeting, can easily reach 70-80% in many companies (see Gillan and Stark, 2003). For the UK such figure is around 58% for FTSE100 firms in recent years (Manifest 2006)<sup>11</sup>.

Black and Coffee (1994) discuss the differences in activism across different types of institutional investors and conclude that UK insurance companies are the most active, (they are even more active than their US counterparts). Pension funds are after insurance companies in investor activism ranking followed by mutual funds. British banks are argued in their study to have the least interest in investor activism because they are generally not interested in share ownership. These differences in investors’ activism may stem from very different corporate governance arrangements in the UK and the US. Aguilera et al. (2006) clearly point out that UK and US corporate governance systems are very different in terms of the constraint on the exercise of CEO power and the relationship between institutional investors and their investee companies.

Different from the “traditional institutional activism” through voting in the US, Hendry et al. (2004) argue that “new institutional activism” is followed in the UK in that the institutional investors monitor their investee firms through the boards and the recommended practices of Institutional Shareholders Committee (2002). They find almost all the UK institutional investors now have senior managers responsible for corporate governance activities and many have built up substantial dedicated teams of

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<sup>11</sup> Mallin (1999) reports that the voting turnout level of institutional investors in the UK was 20% in 1990 which increased to 34% in 1993 and to 41% in 1997.

corporate governance experts, who often meet with the managers and the boards of the investee companies.

In summary, previous studies show that the institutional shareholding in the UK and US could be very different because of the distinct legal and regulatory environment and corporate governance systems to encourage investor activism in these two countries.

#### 4. Research Methodology

This study uses descriptive analysis to document the differences in the distribution of shareholding, types of institutional investors, and investment styles between UK and US institutional investors. We then use the following methodology to investigate the determinants of institutional shareholding and how they interact with different types of institutional investors to affect the financial performance of investee firms in the UK and US.

##### 4.1. Determinants of institutional shareholding

Previous studies (Bathala and Rao, 1995; Whidbee, 1997; and Linck et al., 2006) suggest that institutional ownership affects both board composition and managerial shareholdings, but do not address the possibility that both internal control mechanisms may have an impact on institutional ownership. We follow the three stage simultaneous regression models<sup>12</sup> used by Khurshed, Lin, and Wang (2007) to investigate the endogenous relationship between institutional ownership, directors' ownership, and board composition. .

$$IO = f (DO, BC, DY, ROA, FS, AGE, BM, LEV, VOL, LIQ, BETA) \quad (1)$$

$$DO = f (IO, BC, DY, ROA, FS, AGE, BM, LEV, VOL, SG, BS) \quad (2)$$

$$BC = f (IO, DO, DY, ROA, FS, AGE, BM, LEV, VOL, SG, SPLIT, TENURE) \quad (3)$$

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<sup>12</sup> 3SLS method is said to be better than 2SLS because the former allows for possible correlation between error terms across equations and hence is more efficient than the latter in large sample testing.

where, *IO* denotes the aggregated institutional ownership; *DO* denotes directors' ownership; *BC* denotes board composition, measured by the proportion of non-executive directors on the board; firm size (FS); board size (BS); book-to-market ratio (BM); past ROA (ROA); dividend yield (DY); leverage (LEV), defined as total liabilities divided by total assets; listing history (AGE); share return volatility (VOL), defined as standard deviation of share return over the last two years; share turnover (LIQ), defined as total trading volume divided by outstanding shares; company beta (Beta); SG is sales growth, defined as total sales of this year divided by total sales of last year; SPLIT is a dummy variable, which is 1 if CEO is different from the chairman of the board, and 0 otherwise; TENURE is the tenure of the CEO.

Following the previous literature, model (1) includes directors' shareholding, board composition, dividend yield, past accounting performance, firm size, book-to-market ratio, leverage, age of the firm, share return volatility, trading liquidity, and company beta as the explanatory variables for institutional ownership. Model (2) includes two endogenous variables, i.e. institutional ownership and board composition, and several exogenous variables, such as firm size, book-to-market ratio, past accounting performance, dividend yield, leverage, age, sales growth, and number of directors. Previous studies suggest that institutional shareholding, board composition, dividend yield, and leverage are external and internal control mechanisms that could substitute internal ownership. We therefore predict the sign of the coefficients of these variables to be negative. Agrawal and Knoeber (1996) also argue that directors' ownership is less when the cost of holding shares, arising from holding an undiversified portfolio, is high. We control for this cost by including firm size and volatility of share returns, and predict their signs to be negative. Agrawal and Knoeber (1996) also suggest that the above holding cost should be significantly reduced if shares are divided among a large number of directors. We therefore include total number of directors as a proxy for the cost of holding an undiversified portfolio, and predict the sign of this variable to be negative. Demsetz and Lehn (1985) argue that managers choose their shareholding to strike a balance between the control benefits and the disadvantages of holding an undiversified portfolio. Since future growth expands the asset base under management control, it should give rise to greater control payoffs. We therefore include sales growth and book-to-market ratio to control for future growth, and predict both should be positively associated with directors' ownership. Finally, we

control for past accounting performance using the ROA and listing history as a proxy for firm age.

Model (3) includes two endogenous variables i.e. institutional ownership, and directors' ownership and several exogenous variables such as firm size, book-to-market ratio, past accounting performance, dividend yield, leverage, volatility of return, listing history, sales growth, split of CEO and Chairman and CEO tenure. We include institutional ownership, directors' ownership, dividend yield, and leverage for the same reasons as the equation (2). Furthermore, Linck et al. (2006) use firm size and age to proxy for a firm's complexity, and predict a positive association between board composition and firm complexity. They also include book-to-market ratio and volatility of returns to control for high monitoring and advising costs for growth firms. For the same reason, we include these two variables and also sales growth, and predict that they are negatively associated with board composition. The shareholder-voting hypothesis argues that board composition is determined by the negotiation between CEO and board of directors, and is therefore influenced by the bargaining power of CEO. Hermalin and Weisbach (1998) also argue that CEO entrenchment can increase CEO bargaining power. We therefore use CEO tenure and a dummy variable on the split of CEO and Chairman to control for the influence of CEO, and predict that there should be a negative (positive) association between board composition and CEO tenure (split of CEO and Chairman). We also control for past accounting performance because CEOs have less bargaining power when their firms' performance is poor, and predict a positive association between board composition and past performance.

#### **4.2. Institutional ownership and investee firm performance**

We consider both accounting and market performance measures in this study. The following model is used to investigate the association between institutional shareholding and financial performance after controlling for managerial shareholding, board composition, and sales growth.

$$ROA = \alpha_0 + \alpha_1 IO + \alpha_2 DO + \alpha_3 BC + \alpha_4 SG \quad (4)$$

$$Tobin's Q = \alpha_0 + \alpha_1 IO + \alpha_2 DO + \alpha_3 BC + \alpha_4 ROA \quad (5)$$

where, ROA denotes return on assets; Tobin's Q is calculated as the sum of market value of common shares, preferred shares, and total liabilities divided by total assets; *IO* denotes the aggregated institutional ownership or different types of institutional investors such as banks & insurance firms, investment advisers, and others; *DO* denotes directors' ownership; *BC* denotes board composition, measured by the proportion of non-executive directors sitting on boards; and *SG* denotes sales growth.

We also run three stage simultaneous regressions between models (1) and (5) to investigate the association between firm performance, institutional shareholding, directors' shareholding, board composition, and control for other factors.

## 5. Sample selection and data collection

For the UK market we look at the FTSE All Share index firms and for the US market we look at S&P 500 firms in the year 2005. The FTSE All Shares Index includes 709 firms in 2005, from which 142 non-industrial firms were excluded. Of the remaining 567 firms, institutional ownership data was not available for 36 firms. This gives us a final sample of 521 UK firms. For the US S&P 500 sample, 87 non-industrial firms were excluded. Of the remaining 413 firms, institutional ownership data was not available for 20 firms. Further, governance data is not available for another 25 firms. This gives us a final sample of 368 US firms.

The primary source of institutional ownership data is Thomson One Banker and Thomson Financial Institutional ownership database (13-F). The database provides institutional ownership data on a quarterly basis. Directors' ownership data and board composition were hand collected from the Company REFS CDs. Firms' listing history was collected from the London Share Price Database (LSPD). Other data including dividend yield, share price, book-to-market ratio, total asset and market capitalization are all collected from DataStream. Share return volatility and share turnover are calculated using share price, trading volume, and total outstanding shares which are also collected from DataStream. Information on CEO tenure and CEO/Chairman split

was collected from BoardEx. US governance data is obtained from Corporate Library. Accounting and market data are obtained from Compustat and CRSP respectively.

## **6. Empirical results**

We report descriptive statistics and regression results in the following two sections.

### **6.1. Descriptive analyses**

Panel A of Table 1 provides a comparison between the aggregate levels of institutional ownership in the UK and the US firms<sup>13</sup>. At an average, around 55% of all the equity in the UK firms is owned by institutional investors. In comparison, this figure is almost 81% for US markets. This result is quite surprising given that historic and recent evidence (ONS survey for UK firms, 2007; the Conference Board survey for US firms, 2007) shows that institutional investors in the UK hold much higher stakes in their investee firms as compared to their US counterparts. We find that the median level of institutional ownership in the UK is around 60% as compared to 83% in the US. The standard deviation results show that the variation of institutional ownership in the UK market is almost double than that in the US. For the UK sample, the minimum stake held by institutions is 0.03% as compared to 6.43% in the US.

Panel B of Table 1 provides further information on the distribution of institutional ownership in the UK/US firms. For the UK, 2% of the sample firms have institutional stakes of less than 3% of the outstanding equity. In comparison, no firm in the US sample has institutional ownership of less than 3%. Other ownership thresholds show stark contrasts between the levels of institutional ownership in the two countries. For example, around 34% of the UK companies have institutional ownership ranging from 3% to 50%. In contrast only 3% of the US firms have institutional ownership of less than 50%. Around two thirds of the UK firms have institutional ownership in excess of 50% where as for the US more than 97% of the sample firms have institutional ownership in excess of 50%.

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<sup>13</sup> For the UK sample, there were 15 firms (out of 521) where Thomson One Banker records an institutional ownership in excess of 100%. Similarly for the US sample, 37 firms (out of 393) are shown to have more than 100% institutional ownership. For these firms the institutional ownership was capped at 100%.

To summarise table 1, the level of institutional ownership in the UK is lower and more varied than that in the US. For nearly all the US firms, institutional investors own more than 50% of the outstanding equity. This is true for only 6 out of 10 UK firms.

Table 2 provides a break-up of the investment characteristics of the UK/US institutional investors. Panel A of the table shows that about 80% of the total institutional investment in the UK firms comes from domestic institutional investors. Another 10% comes from US institutions while the remaining 10% comes from the rest of the world. In comparison, for the US market, 90% of the total institutional investment comes from domestic investors and only 3% comes from UK institutions.

Panel B of the table provides information on institutional activism in their trading strategy. Active investors are those who use fundamental research as the basis for investment decisions and typically meet with company management. Passive institutional investors employ indexing and/or quantitative strategies as the sole basis for stock selection. These investors typically do not meet with the management of their investee firms. Results show that for both the UK and the US, vast majority institutional investors use fundamental research as a basis for their investment decisions and typically engage with the management of their investee firms. Comparatively speaking, the level of institutional trading activism is higher in the UK than in the US.

Panel C provides information on the break-up of institutional investment by investor type. More than 50% of all the institutional investment in the two markets is through investment advisers. Thomson One Banker defines ‘investment advisers’ as advisers who are registered with the Securities and Exchange Commission and who manage assets for private clients and institutions. No further information is given as to the identity of these investment advisers. The second most important investor category in the two markets is that of ‘investment adviser/hedge fund’. Such investors are defined as an investment firm that uses both “traditional” and hedge fund (i.e. "alternative") investment techniques. Their presence in the UK market is much larger than that in the US market. Around 27% of the overall institutional investment in the UK is

managed by these ‘investment adviser/hedge fund’ investors. In comparison this figure is only around 9% for the US market. Pension funds own about 4% of the overall institutional investment in the UK where as for the US this figure is higher at 6%. Hedge funds, research firms (defined as sell side research firm that also has an investment banking side) and banks have a minimal presence (around 3% in total) in the UK market where as in the US they have a combined ownership of around 11%. In contrast insurance companies are a major player in the UK equity market (around 15%) whereas they have an almost negligible presence in the US market (around 2%).

Panel D provides information on investment style of institutional investors in the UK and the US. Nearly a quarter of the institutional investment in the two countries is in value stocks. Index investment is more popular in the US (about 21%) as compared to the UK (about 12%). Similarly GARP<sup>14</sup> investment is also more popular in the US (about 20%) than in the UK (about 12%). However, the emphasis on growth stocks is almost double in the UK as compared to the US. In fact the largest proportion of overall institutional investment in the UK equities is in growth stocks (about 41%). In comparison, for the US market, growth stocks are no more important than index or GARP stocks. Hedge funds form a very small part of overall institutional investment in both the markets.

Finally, in panel E of the table we provide information on the turnover behaviour of institutional investors. In both the markets, about 70% of the overall institutional investment is of low turnover. Annual portfolio turnover rate is defined as ‘low’ if it is less than or equal to 50%. For ‘low turnover’ investments, the average holding period exceeds 2 years and is indicative of a general preference for longer term investing. For both the markets only around 6% of the overall institutional investment follows a ‘high turnover’ strategy. High turnover signifies an average holding period of less

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<sup>14</sup> GARP investors invest in large-cap stocks whose PEG ratio (forward P/E divided by five year projected growth) is less than the S&P 500 or at any sized company whose PEG ratio is less than 1. This is a more conservative investment style in comparison to an outright growth-oriented strategy. In addition, dividend yield is generally not a concern of most GARP investors. GARP investors try and build their portfolios with two types of securities: 1.) Those that are trading at a discount to the market or their peers yet are expected to grow at higher than the market average or their peers; and 2.) Those whose forward P/E ratio is less than, equal to, or only slightly above the long term projected growth of the company (definition adopted from Thomson One Banker).

than 1 year and is indicative of either a shorter term investment horizon or more frequent trading around a core position.

To summarise Table 2, we find that US institutions show a comparatively larger presence in the UK equity market as compared to UK institutions in the US equity market. For both the UK and US, a vast majority of institutions are active traders who use fundamental analysis as a basis of their investment decisions and who frequently meet the management of their investee firms. This institutional activism is higher in the UK than in the US. For both the markets nearly 80% of the overall institutional investment is through investment advisers/hedge fund. Insurance companies are the third largest investor type in the UK where as in the US their presence is almost negligible. Pension funds and Hedge funds have a higher presence in the US market as compared to the UK market. In short, US institutional investors use a richer variety of investment styles than their UK counterparts. Finally, in both the markets, a vast majority of the institutional investment is long term (where the holding period exceeds 2 years).

Table 3 reports the descriptive statistics for other corporate governance factors, firm performance and control variables for both UK and US samples. The results in Panel A of Table 3 show that the average directors' shareholding is 6% in both countries. The average CEO tenures are similar in both the countries as well. US firms have larger boards (at average 10.43 directors) than UK firms (at average 8.29 directors). The mean of the proportion of non-executive directors sitting on boards in the US sample (74%) is also much higher than that in the UK (54%). Interestingly, 91% firms in the UK have different persons as chairman of the boards and CEO, while only 30% firms in the US have this separation. Leverage ratio in the US firms (56%) is almost double of that in the UK firms (23%). The last two columns of Panel A show the results for the two measures of firm performance. The average Tobin's Q in the US (2.20) is slightly higher than that in the UK (1.57). However, the ROA in the UK (10%) is slightly higher than that in the US (7%).

Panel B of Table 3 reports the statistics results for other control variables. The dividends yields are similar in both countries. The average firm size in the UK is

much smaller than that in the US<sup>15</sup>. The average book to market ratio is much higher in the UK (58%) compared with that in the US (13%). The share return of UK stocks is much more volatile than that of US stocks. The trading volumes relatively to outstanding shares are much higher in the UK than US. Finally, beta ratio and sales growth are similar in both sample firms.

The above findings suggest that although our UK and US sample firms are among the largest in non-financial sectors, they appear to have very different board structure, financial performance, size, book-to-market ration, volatility of share return, and liquidity.

## **6.2 Simultaneous regression results on determinants of institutional shareholding**

Table 4 reports the empirical results using three stage simultaneous regressions on the determinants of institutional shareholding in the UK and US. Panel A shows that UK institutional investors prefer firms with higher proportion of outside directors sitting on the board, higher dividend yield, relatively small firms, and less volatility of share return. These findings (except that of higher dividend yield) are generally consistent with Khurshed, Lin and Wang (2007). Panel B shows that US institutional investors prefer firms with higher managerial shareholding, board composition, and past accounting performance, but smaller size. Both UK and US institutional investors appear to prefer firms with higher board composition and smaller size, although early US studies find that US institutional investors prefer larger firms. They are two potential reasons why US institutional investors may have switched to relatively small firms recently. First, as previous studies document, US institutional investors have heavily invested in large US firms, thereby driving the share prices of these US firms to be overpriced. Many institutional investors may have changed their investment preferences to relatively small firms for greater future profit. Second, institutional investors can easily influence their investee firms' operating, financial, and investment decisions when these companies are relatively small. Previous studies also show that institutional investors could influence the financial performance of their

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<sup>15</sup> This result could be because of the types of firms we include in our UK and US samples. For the UK we use the FTSE All Share index firms. This index has both small and large firms as constituents. For the US we use the S&P 500 which has the largest 500 firms in the US as its constituents.

investee firms through an intervention on board independence. In summary, table 4 shows that there are some similarities as well as differences in investment preferences of institutional investors in the UK and US, which could be the outcome of the distinct legal and economic environment in these two countries.

### **6.3 Institutional ownership and performance**

Table 5 reports the regression results for the effect of institutional ownership on firms' operating performance, proxied by return on assets. We categorize institutional investors into three sub-groups: bank and insurance, investment advisors and other type. Panel A (B) reports the results for UK (US) firms. In Panel A, model (1) shows that the level of UK institutional ownership has a marginal positive effect on return on assets after controlling for directors' shareholding, board composition, and sales growth. Models (2) and (4) show that banks & insurance firms have positive and significant impacts upon return on assets. Models (3) and (5), however, show that there is no association between return on assets and investment advisers and other investors. Consistent with Del Guercio (1996), we find that different types of institutional investors have various effects on the financial performance of their investee firms. Our finding is also consistent with Aguilera et al. (2006) in the sense that banks & insurance companies have long-term payout obligations. Compared with investment advisors and other types of institutional investors, they are more likely to adopt a long-term perspective on investment. The long-term relationship and relative stability may encourage banks & insurance companies in the UK to engage in a substantive way with portfolio companies towards enhancing firm performance or reducing strategic risk, rather than simply selling shares of companies that are underperforming (Clark and Hebb, 2004).

Panel B shows that consistent with UK evidence, US institutional shareholding as a whole has a marginal positive effect on return on assets. In contrast with the evidence for UK firms, in the US, banks & insurance companies and investment advisors, both have negative and significant effects on return on assets. More interestingly, other investors such as pension funds, university endowments and other professional advisers have positive and significant effects on return on assets. The above result

again indicates that different types of institutional investors affect the performance of their investee firms differently.

Table 6 reports the results for the effects of institutional ownership on market performance, measured by Tobin's Q. Panel A (B) reports results for UK (US). For the UK sample, neither aggregate nor classified institutional shareholding seems to have any effect on Tobin's Q. Panel B shows a completely opposite result from Panel A in the sense that banks & insurance companies and investment advisers in the US have significant and positive impact on the market performance of their investee companies after controlling for other variables. The above findings are puzzling because of the following reasons. First, different types of institutional investors have significant effects on both firm performance measures. Second, the effects of different types of institutional investors on the two performance measures are completely different within the UK and US. Finally, the effects of different types of institutional investors on the two performance measures are completely different between US and UK. To our knowledge, no previous study has provided any potential explanations for the above findings. The underlying reasons for our findings should be further investigated in the future.

To further investigate whether the above results reported in tables 4 and 5 are somewhat affected by the endogeneity between financial performance, institutional shareholding, directors' shareholding, and board composition, we use three stage simultaneous regressions for the robustness test purposes. The results for UK firms are reported in table 7. Panel A shows that both directors' shareholding and board composition have positive and significant effects on Tobin's Q. Different from our previous result reported in table 4, both board composition and directors' shareholding have positive and significant impacts on institutional shareholding. However, Tobin's Q appears to have negative impact on institutional shareholding. Board composition is consistently negatively associated with directors' shareholding. Panel B shows that institutional shareholding is positively associated with ROA, and that only ROA is positively associated with institutional shareholding. Different from the finding in Panel A, we find that institutional shareholding is negatively associated with directors' shareholding after controlling for other factors. Board composition does not appear to be related to any of the examined factors.

Table 8 reports the three stage simultaneous regressions for US firms. Panel A shows that institutional shareholding and directors' shareholding have positive and significant effects on Tobin's Q. Consistent with previous finding reported in panel B of table 4, directors' shareholding and board composition have positive and significant effects on institutional shareholding. Tobin's Q has positive but marginal effect on institutional shareholding. Directors' shareholding is again negatively associated with board composition; board composition appears to have a positive association with institutional shareholding after controlling for other factors. Panel B, however, shows that there is no association between ROA and institutional shareholding, directors' shareholding, and board composition. Consistent to panel A result, directors' shareholding is negatively associated with board composition and there is a positive association between board composition and institutional shareholding after controlling for other factors.

The above robustness test results show that the associations between firm performance and some corporate governance control mechanisms (including institutional shareholding) vary between UK and US and are sensitive to the performance measures used. For example, institutional shareholding is positively associated with ROA (Tobin's Q) in UK (US). Further research needs to investigate the underlying reasons for these findings.

## **7. Conclusions and Limitations**

This study examines the differences in the investment preferences between UK and US institutional investors and the extent to which the interaction between different types of institutional investors and their investment preferences has effects on the financial performance of their invested companies. Using data from Thomson One Banker, we find that recent surveys have over (under) estimated the institutional shareholding in the UK (US). We find that US institutional shareholding on average is about 20% higher than UK counterparts. Furthermore, UK firms attract more foreign institutional investors and active institutional investors than their US counterparts. A vast majority of the shares of UK and US top industrial firms are actually owned by investment advisers and pension funds. Insurance companies hold sizeable ownership stakes in the UK firms. US institutional investors have more diversified investment

portfolios than their UK counterparts. UK institutional investors appear to prefer growth shares. These findings generally suggest that the structure of institutional shareholding is very different between UK and US.

We also find that the investment preferences of US and UK shareholdings are somewhat different. UK firms appear to prefer firms with higher dividend yield but lower return volatility. Their US counterparts, however, prefer firms with higher managerial shareholding and superior past accounting performance. Board quality appears to be a very important governance factor that is considered by institutional investors both in the UK and US.

Finally, we find that level of institutional shareholding has positive and significant impact on return on assets in both countries. But different types of institutional investors appear to have different impacts upon return on assets in both countries. Banks & insurance firms have positive and significant impact upon return on assets in the UK but they appear to have negative and significant impact upon return on assets in the US. In contrast, banks & insurance firms have negative and significant impact upon Tobin's Q in the UK but they appear to have positive impact upon Tobin's Q in the US. Furthermore, other institutional investors such as pension fund, university endowments and other professional investment advisers appear to have negative and significant impact on Tobin's Q in the US after controlling for managerial shareholding, board composition, and accounting performance. The causes of the above different findings for the UK and US are not investigated in this study, which need to be further investigated in the future.

There are some limitations of the study. First, the sample size for both UK and US is relatively small. Future research should increase the sample size for both countries. Second, we only investigate the simultaneous association between institutional shareholding and financial performance. As our evidence suggested, a majority of the institutional investors are long term investors in the UK and US. As a result, it is quite likely that the association may be stronger when looked at over a longer period of time. Third, we measure institutional ownership at financial year end. Future research should look at the yearly averages.

## References:

- Aguilera, R.V., Williams, C.A., Conley, J. M. and Rupp, D.E., 2006, "Corporate Governance and Social Responsibility: a comparative analysis of the UK and the US," *Corporate Governance: An International Review*, 14, 3, 147-158.
- Bathala, C.T., K.P Moon, and R.P. Rao, 1994, "Managerial Ownership, Debt Policy, and the Impact of Institutional Holdings: An Agency Perspective," *Financial Management* 23, 38-50.
- Bathala, C.T. and R.P Rao, 1995, "The Determinants of Board Composition: An Agency Theory Perspective," *Managerial and Decision Economics* 16, 59-69.
- Bennett, J. A., R.W. Sias, and L.T. Starks, 2003, "Greener Pasture and the Impact of Dynamic Institutional Preferences," *The Review of Financial Studies* 16, 1203-1238.
- Black, B.S. and Coffee Jr., J.C., 1994, "Hail Britannia? Institutional Investor Behaviour under Limited Regulation," *Michigan Law Review* 92 (7) (June), 1997-2087.
- Bushee, B., 2001, "Do Institutional Investors Prefer Near-term Earnings Over Long-run Value?" *Contemporary Accounting Research* 18, 207-246.
- Cadbury, Sir A., 1992, *Report of the Committee on the Financial Aspect of Corporate Governance*, London.
- Chen, C.R., and T.L. Steiner, 1999, "Managerial Ownership and Agency Conflicts: A Nonlinear Simultaneous Equation Analysis of Managerial Ownership, Risk Trading, Debt Policy, and Dividend Policy," *The Financial Review* 34, 119-136.
- Clark, G. and Hebb, T., 2004, "Pension Fund Corporate Engagement," *Industrial Relations (Quebec)*, 59,142-171.
- Coombes, P., and M. Watson, 2000, "Three Surveys on Corporate Governance," *The McKinsey Quarterly Special Ed. (No. 4)*, 74-77.
- Cornett, M.M., Marcus, A.J., Saunders, A. and H. Tehranian. "The impact of institutional ownership on corporate operating performance," *Journal of Banking and Finance*, 31, 1771-1794.
- Cready, W. 1994, "Determinants of Relative Investor Demand for Common Stocks: Professional Adaptation," *Journal of Accounting, Auditing, & Finance* 9, 487-509.
- Del Guercio, D., 1996, "The Distorting Effect of the Prudent-Man Laws on Institutional Equity Investment," *Journal of Financial Economics* 40, 31-62.
- Ersoy-Bozcuk, A. and M.A. Lasfer, 2001, "Changes in Shareholder Groups' shareholdings and Corporate Monitoring: the UK Evidence," Working Paper, City University Business School.

- Faccio, M., and M.A. Lasfer, 2000, "Do occupational pension funds monitor companies in which they hold large stakes?" *Journal of Corporate Finance* 6, 71-110.
- Falkenstein, E., 1996, "Preferences for Stock Characteristics as Revealed by Mutual Fund Portfolio Holdings," *Journal of Finance* 51, 111-135.
- Fama, E. F., and M.C. Jensen, 1983, "Separation of Ownership and Control," *Journal of Law and Economy* 26, 301-325.
- Ferreira, M. and P. Matos, 2007, "The Colors of Investors' Money: Which Firms Attract Institutional Investors from around the World?" forthcoming, *Journal of Financial Economics*.
- Gillan, S.L., and L.T. Starks, 2003, "Corporate Governance, Corporate Ownership, and the Role of Institutional Investors: a Global Perspective," *Journal of Applied Finance* 13, 4-22.
- Gompers, P. and A. Metrick, 2001, "Institutional Investors and Equity Prices," *Quarterly Journal of Economics* 116, 229-259.
- Hendry, John, and Paul Sanderson, Richard Barker, John Roberts, 2004, "Responsible Ownership, Shareholder Value and the New Shareholder Activism," working paper, Brunel University and Cambridge University.
- Higgs, D., 2003, *Review of the Role and Effectiveness of Non-executive Directors*, Department of Trade and Industry, London: UK Government.
- Hussain, S., 2000, "Simultaneous Determination of UK Analyst Following and Institutional Ownership," *Accounting and Business Research* 30, 111-124.
- Khurshed, A., S. Lin and M. Wang, 2007, "Institutional Block-Holdings in UK firms: Do Corporate Internal Control Mechanisms Matter?" MBS Working paper No 490.
- Lakonishok, J., A. Shleifer, and R. Vishny, 1994, "Constrain Investment, Extrapolation, and Risk," *Journal of Finance* 49, 1541-1578.
- Linck, J., Yang, T., and Netter, J. 2006, "A Large Sample Study on Board Changes and Determinants of Board Composition," Working Paper, University of Georgia.
- Mallin, C., 1999, Financial Institutions and their Relations with Corporate Boards, *Corporate Governance: An International Review*, 7, 3, pp. 248 – 255.
- McConnell, J.J. and H. Servaes, 1990, "Additional Evidence on Equity Ownership and Corporate Value," *Journal of Financial Economics* 27, 595-612.
- Roe, M. J., 1994, *Strong Managers, Weak Owners: The Political Roots of American Corporate Finance*, Princeton University Press, Princeton, New Jersey.
- Russell Reynolds Associates, 2003, *Formula for Confidence: Resetting Investment Criteria after the Boom and Bust*, 7<sup>th</sup> International Survey of Institutional Investors

Tafara, E., 2007, *Remarks on UK and US Approaches to Corporate Governance and on the Market for Corporate Control*, U.S. Securities and Exchange Commission.

Toms, S. and M. Wright, 2005, "Divergence and Convergence within Anglo-American Corporate Governance Systems: Evidence from the US and UK, 1950-2000," *Business History*, 47, 2, pp. 267-295.

Useem, M.E., J.M. Bowman, and C. Irvine, 1993, "US Institutional Investors Look at Corporate Governance in the 1990's," *European Management Journal* 2, 175-189.

Whidbee, D.A., 1997, "Board Composition and Control of Shareholder Voting Rights in the Banking Industry," *Financial Management* 26, 27 – 41.

**Table 1: Institutional Ownership in the UK and the US.**

Panel A details the aggregate institutional ownership for the FTSE All Share firms (UK) and the S&P 500 firms (US) for the year 2005. Panel B provides information on institutional ownership at various thresholds. For the UK sample, there were 15 firms (out of 521) where Thomson One Banker records an institutional ownership in excess of 100%. Similarly for the US sample, 37 firms (out of 393) are shown to have more than 100% institutional ownership. For these firms the institutional ownership was capped at 100%.

Institutional Ownership	Mean		Median		St. Dev		Minimum		Maximum	
	UK	US	UK	US	UK	US	UK	US	UK	US
<i>PANEL A: Institutional Ownership</i>										
Aggregate Institutional Ownership	54.57%	80.99%	60.01%	83.21%	26.43%	14.87%	0.03%	6.43%	100%	100%
<i>PANEL B: Level of aggregate Institutional Ownership(IO)</i>										
	UK	US								
<b>% of sample firms with</b>										
IO less than 3%	2.00%	Nil								
3 < IO < 10%	5.60%	0.51%								
10 < IO < 20%	7.20%	0.25%								
20 < IO < 50%	21.60%	2.03%								
IO grater than 50%	63.60%	97.21%								

**Table 2: Investment characteristics of UK/US institutional investors (IO)**

Active investors are those who use fundamental research as the basis for investment decisions and typically meet with company management. Passive institutional investors employ indexing and/or quantitative strategies as the sole basis for stock selection. These investors typically do not meet with the management of their investee firms. ‘Investment advisor’ is an adviser who is registered with the Securities and Exchange Commission and who manages assets for private clients and institutions. ‘Investment adviser/hedge fund’ is defined as investment firm that uses both “traditional” and hedge fund (i.e. "alternative") investment techniques. GARP is a more conservative investment style in comparison to an outright growth-oriented strategy where dividend yield is generally not a concern. Annual portfolio turnover rate is defined as ‘low’ if it is less than or equal to 50%. For ‘low turnover’ investments, the average holding period exceeds 2 years and is indicative of a general preference for longer term investing.

Category	% of total IO investment	
	UK	US
<b>PANEL A: Domestic vs. Overseas</b>		
Domestic IOs	80.02%	90.60%
US IOs	9.72%	
UK IOs		2.58%
Rest of the world IOs	10.26%	6.82%
<b>PANEL B: Institutional trading activism</b>		
Active traders	89.26%	71.09%
Passive traders	9.44%	28.91%
Unidentified Orientation	1.30%	
<b>PANEL C: Institutional Investor type</b>		
Investment adviser	49.48%	71.67%
Investment adviser/hedge fund	27.51%	9.18%
Pension fund	3.82%	6.13%
Hedge fund	0.91%	5.02%
Research firm	0.38%	3.22%
Bank and trust	1.77%	3.03%
Insurance Company	15.02%	2.41%
Others (endowment fund, government agency investment, foundation, private equity and venture capital)	1.11%	0.30%
<b>PANEL D: Institutional investment style</b>		
Value	26.51%	28.13%
Index	12.16%	20.65%
GARP	11.01%	20.23%
Growth	41.21%	18.19%
Others (yield, speciality, momentum, broker-dealer, sector specific and international)	2.04%	6.04%
Hedge fund	1.47%	3.52%
Unidentified style	5.60%	3.24%
<b>PANEL E: Turnover</b>		
Low	69.98%	71.77%
Moderate	23.94%	18.75%
High	5.13%	6.15%
Unidentified	0.96%	3.33%

**Table 3: Descriptive analyses for the corporate governance and control variables used in the study**

Directors' ownership (DO) is the aggregate shareholdings held by directors; board composition (BC) is the board composition derived from the proportion of non-executive directors on the board; Dividend yield (DY) is calculated as dividend per share divided by year end share price. ROA is income before Interests, Taxes and Depreciation / Amortization (EBITDA) divided by total assets; Firm size (FS) is measured by log(MV), where MV is the year end market capitalisation; AGE is the number of years that the company has been listed; book-to-market ratio (BM) is measured at year end; leverage (LEV) is derived from total debt divided by total assets; Volatility (VOL) is share return volatility derived from the standard deviations of monthly share returns in previous 24 months; Liquidity (LIQ) is the average share turnover for previous 12 months, which is derived from trading volume divided by total outstanding shares issued; and Beta is company Beta derived from the market adjusted model. BS is the board size; Sales growth (SG) is the change in sales compared with the previous year. Split is a dummy variable, which equals to 1 for the separation of CEO and Chairman and 0 otherwise; and Tenure is CEO's tenure, measured in the number of years.

*Panel A: Other corporate governance factors and performance measures*

Factor	DO		BS		BC		SPLIT		TENURE		LEV		TOBIN'S Q		ROA	
	UK	US	UK	US	UK	US	UK	US	UK	US	UK	US	UK	US	UK	US
Mean	0.06	0.06	8.29	10.43	0.54	0.74	0.91	0.300	5.43	5.81	0.23	0.56	1.57	2.20	0.10	0.07
Median	0.01	0.02	8.00	10.00	0.54	0.77	1.00	0.000	5.30	4.00	0.22	0.56	1.24	1.85	0.12	0.07
SD	0.11	0.10	2.52	2.04	0.13	0.14	0.29	0.460	7.48	6.21	0.18	0.21	1.12	1.26	0.14	0.08
Maximum	0.71	0.78	20.00	16.00	0.90	1.00	1.00	1.000	40.00	42.00	0.91	1.37	12.40	13.02	0.42	0.39
Minimum	0.00	0.00	4.00	5.00	0.00	0.23	0.00	0.000	0.02	0.00	0.00	0.08	0.47	0.95	-0.81	-0.48

*Panel B: Other control variables*

Factor	DY		FS		BM		LIQ		VOL		BETA		SG	
	UK	US	UK (£' million)	US (\$' million)	UK	US	UK	US	UK	US	UK	US	UK	US
Mean	0.03	0.02	452.63	22,987	0.58	0.13	22.00	6.95	0.12	0.02	0.99	1.16	1.08	1.11
Median	0.03	0.01	317.57	11,292	0.47	0.32	17.58	5.44	0.10	0.01	0.92	1.13	1.05	1.10
SD	0.02	0.02	151.14	39,688	0.53	0.03	26.41	4.63	0.06	0.01	0.43	0.44	0.28	0.14
Maximum	0.15	0.15	100131.06	36,7473	5.34	1.33	394.05	26.80	0.52	0.08	2.41	2.96	2.83	1.80
Minimum	0.00	0.00	47.86	118	-0.88	-46.53	0.13	1.39	0.04	0.01	0.21	0.19	-0.86	0.60

**Table 4: Determinants of Institutional Shareholding using the 3SLS Model**

IO is the aggregate of the shareholdings held by individual institutional investors; directors' ownership (DO) is the aggregate shareholdings held by directors; board composition (BC) is the board composition derived from the proportion of non-executive directors on the board; Dividend yield (DY) is calculated as dividend per share divided by year end share price. ROA is income before Interests, Taxes and Depreciation / Amortization (EBITDA) divided by total assets; Firm size (FS) is measured by log(MV), where MV is the year end market capitalisation; AGE is the number of years that the company has been listed; book-to-market ratio (BM) is measured at year end; leverage (LEV) is derived from total debt divided by total assets; Volatility (VOL) is share return volatility derived from the standard deviations of monthly share returns in previous 24 months; Liquidity (LIQ) is the average share turnover for previous 12 months, which is derived from trading volume divided by total outstanding shares issued; and Beta is company Beta derived from the market adjusted model. BS is the board size; Sales growth (SG) is the change in sales compared with the previous year. Split is a dummy variable, which equals to 1 for the separation of CEO and Chairman and 0 otherwise; and Tenure is CEO's tenure, measured in the number of years.

**Panel A: UK sample (482 Observations)**

<b>Independent Variables</b>	<b>IO</b>	<b>DO</b>	<b>BC</b>
<b>Intercept</b>	-0.54 (-1.14)	0.60*** (3.37)	0.15 (0.95)
<b>IO</b>		0.27 (1.34)	<b>0.48*</b> (1.98)
<b>DO</b>	1.18 (1.42)		0.12 (0.24)
<b>BC</b>	<b>1.80**</b> (2.14)	<b>-1.14***</b> (-2.93)	
<b>DY</b>	<b>3.14**</b> (2.46)	<b>-1.62***</b> (-3.17)	-0.95 (-1.52)
<b>ROA</b>	0.00 (-0.02)	0.03 (0.46)	-0.06 (-0.80)
<b>FS</b>	<b>-0.03*</b> (-1.90)	0.02 (1.39)	<b>0.03***</b> (2.75)
<b>AGE</b>	0.01 (0.70)	-0.01 (-1.41)	0.00 (0.10)
<b>BM</b>	-0.01 (-0.39)	-0.00 (-0.27)	0.00 (0.28)
<b>LEV</b>	-0.05 (-0.54)	0.04 (0.87)	0.04 (1.00)
<b>VOL</b>	<b>-0.83*</b> (-1.87)	<b>0.41**</b> (2.03)	<b>0.45***</b> (3.06)
<b>LIQ</b>	0.03 (0.47)		
<b>Beta</b>	0.01 (0.35)		
<b>BS</b>		-0.05 (-1.43)	
<b>SG</b>		0.02 (0.69)	-0.03 (-0.82)
<b>Split</b>			0.04 (1.23)
<b>Tenure</b>			-0.01 (-0.81)

\*, \*\*, and \*\*\*, indicate significant at 10%, 5%, and 1% level for the z statistics test.

*Panel B: US sample (368 Observations)*

<b>Independent Variables</b>	<b>IO</b>	<b>DO</b>	<b>BC</b>
<b>Intercept</b>	-1.08 (-1.20)	0.37** (2.13)	0.61*** (3.42)
<b>IO</b>		0.09 (0.48)	<b>0.38**</b> (2.15)
<b>DO</b>	<b>4.47**</b> (2.18)		<b>-1.99*</b> (-1.84)
<b>BC</b>	<b>2.30**</b> (2.36)	<b>-0.43***</b> (-3.09)	
<b>DY</b>	-1.39 (-1.47)	-0.31 (-0.88)	<b>1.09**</b> (2.40)
<b>ROA</b>	<b>0.49**</b> (2.20)	0.04 (0.48)	<b>-0.20*</b> (-1.83)
<b>FS</b>	<b>-0.03*</b> (-1.71)	-0.01 (-1.62)	-0.00 (-0.01)
<b>AGE</b>	0.00 (0.27)	0.00 (0.69)	-0.00 (-0.40)
<b>BM</b>	0.00 (0.38)	-0.00 (-0.56)	-0.00 (-0.45)
<b>LEV</b>	-0.00 (-0.75)	0.00 (0.00)	0.00 (1.13)
<b>VOL</b>	4.54 (1.30)	-1.58 (-1.27)	<b>-3.63**</b> (-2.02)
<b>LIQ</b>	0.00 (0.79)		
<b>Beta</b>	0.01 (0.22)		
<b>BS</b>		0.00 (0.79)	
<b>SG</b>		0.02 (0.87)	0.01 (0.22)
<b>Split</b>			0.00 (0.09)
<b>Tenure</b>			0.00 (0.14)

\*, \*\*, and \*\*\*, indicate significant at 10%, 5%, and 1% level for the z statistics test.

**Table 5: ROA and Institutional Shareholdings***Panel A: UK sample (482 Observations)*

Models	(1)	(2)	(3)	(4)	(5)
<b>Intercept</b>	0.14*** (4.30)	0.13*** (4.25)	0.14*** (4.40)	0.13*** (4.17)	0.16*** (5.29)
<b>IO</b>	0.07* (1.93)				
<b>IO(Bank)</b>		0.37** (2.61)		0.39** (2.20)	
<b>IO(Investment Advisor)</b>			0.06 (1.41)	-0.01 (-0.18)	
<b>IO(Other)</b>					-0.07 (-0.42)
<b>DO</b>	0.08 (1.27)	0.10* (1.77)	0.10* (1.68)	0.10* (1.75)	0.08 (1.45)
<b>BC</b>	-0.12** (-2.28)	-0.10* (-1.84)	-0.10* (-1.96)	-0.10* (-1.84)	-0.11** (-2.04)
<b>SG</b>	0.01 (0.27)	-0.00 (-0.04)	0.00 (0.02)	0.00 (-0.05)	0.00 (-0.08)
<b>F Values</b>	2.85	3.70	2.47	2.96	2.02
<b>Adjusted R-squared (%)</b>	1.67	2.26	1.25	2.06	0.86

\*, \*\*, and \*\*\*, indicate significant at 10%, 5%, and 1% level for the t statistics test.

*Panel B: US sample (368 observations)*

Models	(1)	(2)	(3)	(4)	(5)
<b>Intercept</b>	-0.15*** (-3.11)	-0.05 (-0.64)	-0.11** (-2.58)	0.05 (0.50)	-0.13*** (-2.98)
<b>IO</b>	0.06* (1.76)				
<b>IO(Bank)</b>		-0.07 (-0.90)		-0.18* (-1.93)	
<b>IO(Investment Advisor)</b>			-0.14 (-1.13)	-0.30** (-2.05)	
<b>IO(Other)</b>					0.19** (2.00)
<b>DO</b>	0.04 (0.79)	0.03 (0.67)	0.03 (0.58)	0.03 (0.72)	0.03 (0.75)
<b>BC</b>	0.02 (0.56)	0.02 (0.69)	0.02 (0.69)	0.02 (0.55)	0.02 (0.58)
<b>SG</b>	0.15*** (4.90)	0.14*** (4.73)	0.15*** (5.07)	0.15*** (4.97)	0.14*** (4.87)
<b>F Values</b>	7.00	6.37	6.50	6.00	7.25
<b>Adjusted R-squared (%)</b>	8.57%	7.74%	7.91%	8.89%	8.89%

**Table 6: Tobin's Q and Institutional Shareholdings***Panel A: UK samples (482 Observations)*

Models	(1)	(2)	(3)	(4)	(5)
<b>Intercept</b>	1.43*** (5.19)	1.39*** (5.38)	1.44*** (5.47)	1.44*** (5.46)	1.33*** (5.31)
<b>IO</b>	-0.39 (-1.37)				
<b>IO(Bank)</b>		-1.17 (-0.99)		-0.31 (-0.21)	
<b>IO(Investment Advisor)</b>			-0.45 (-1.38)	-0.40 (-0.98)	
<b>IO(Other)</b>					-0.47 (-0.37)
<b>DO</b>	<b>1.16**</b> (2.38)	<b>1.28**</b> (2.80)	<b>1.24**</b> (2.70)	<b>1.23**</b> (2.69)	<b>1.31***</b> (2.87)
<b>BC</b>	0.54 (1.22)	0.47 (1.10)	0.47 (1.10)	0.47 (1.09)	0.49 (1.16)
<b>ROA</b>	<b>-0.82**</b> (-2.11)	<b>-0.68*</b> (-1.83)	<b>-0.70*</b> (-1.89)	<b>-0.69*</b> (-1.85)	<b>-0.74*</b> (-1.99)
<b>F Values</b>	3.61	3.36	3.60	2.88	3.14
<b>Adjusted R-squared (%)</b>	2.36	1.99	2.68	1.98	1.81

*Panel B: US samples (368 observations)*

Models	(1)	(2)	(3)	(4)	(5)
<b>Intercept</b>	0.99** (2.01)	0.22 (0.23)	1.46*** (3.98)	-1.29 (-1.05)	1.92*** (4.95)
<b>IO</b>	0.78 (1.58)				
<b>IO(Bank)</b>		1.59 (1.48)		3.15** (2.35)	
<b>IO(Investment Advisor)</b>			1.12 (0.67)	4.02** (1.95)	
<b>IO(Other)</b>					-3.19** (-2.39)
<b>DO</b>	1.45** (2.22)	1.26** (1.93)	1.34** (2.07)	1.22* (1.89)	1.21* (1.88)
<b>BC</b>	-0.46 (-1.02)	-0.38 (-0.84)	-0.37 (-0.82)	-0.30 (-0.67)	-0.31 (-0.70)
<b>ROA</b>	0.99** (2.01)	12.00*** (14.03)	11.88*** (13.91)	12.14*** (14.22)	12.14*** (14.24)
<b>F Values</b>	51.41	51.27	50.49	42.23	52.87
<b>Adjusted R-squared (%)</b>	44.06%	43.99%	43.61%	44.60%	44.76%

\*, \*\*, and \*\*\*, indicate significant at 10%, 5%, and 1% level for the t statistics test.

**Table 7: 3SLS results for UK sample (482 observations)**

Panel A: Tobin's Q

	<b>Tobin's Q</b>	<b>IO</b>	<b>DO</b>	<b>BC</b>
<b>Intercept</b>	-1.61 (-1.40)	-0.82 (-1.45)	0.36 (1.91)	0.35 (1.00)
<b>IO</b>	-1.49 (-1.34)		0.15 (0.66)	0.16 (0.29)
<b>DO</b>	<b>5.68***</b> (3.14)	<b>2.48**</b> (2.22)		-0.46 (-0.19)
<b>BC</b>	<b>6.23***</b> (3.49)	<b>2.85**</b> (2.65)	<b>-1.06***</b> (-3.03)	
<b>DY</b>		<b>2.19*</b> (1.68)	0.00 (0.00)	0.24 (0.21)
<b>ROA</b>	0.02 (0.11)			
<b>Tobin's Q</b>		<b>-0.30***</b> (-3.49)	<b>0.16**</b> (2.63)	-0.06 (-0.10)
<b>FS</b>		-0.02 (-1.09)	0.00 (0.10)	0.02 (0.31)
<b>AGE</b>		0.01 (0.66)	0.00 (-0.33)	0.02 (0.47)
<b>BM</b>		-0.04 (-1.00)	0.00 (0.13)	-0.19 (-0.60)
<b>LEV</b>		-0.10 (-0.92)	0.02 (0.29)	-0.31 (-0.67)
<b>VOL</b>		-0.56 (-1.31)	-0.02 (-0.09)	0.88 (0.43)
<b>LIQ</b>		0.08 (1.15)		
<b>Beta</b>		0.06 (1.17)		
<b>BS</b>			-0.02 (-0.57)	
<b>SG</b>			-0.01 (-0.12)	0.17 (0.62)
<b>Split</b>				0.09 (0.42)
<b>Tenure</b>				0.02 (0.78)

\*, \*\*, and \*\*\*, indicate significant at 10%, 5%, and 1% level for the z statistics test.

Panel B: Return on assets

	<b>ROA</b>	<b>IO</b>	<b>DO</b>	<b>BC</b>
<b>Intercept</b>	0.19 (1.08)	0.23 (0.37)	-0.24 (-0.89)	0.19 (0.89)
<b>IO</b>	<b>0.71***</b> (3.54)		<b>-1.02***</b> (-3.26)	-0.27 (-0.28)
<b>DO</b>	-0.16 (-0.55)	-1.88 (-1.01)		-0.85 (-0.42)
<b>BC</b>	<b>-0.60**</b> (-2.41)	0.09 (0.08)	0.99 (1.61)	
<b>ROA</b>		<b>2.54*</b> (1.91)	<b>2.13***</b> (3.94)	2.18 (0.68)
<b>DY</b>		-3.00 (-1.00)	<b>-1.16**</b> (-2.09)	-2.72 (-0.85)
<b>FS</b>		-0.01 (-0.27)	<b>-0.03*</b> (-1.89)	0.01 (0.55)
<b>AGE</b>		-0.02 (-0.77)	<b>-0.01*</b> (-1.68)	-0.01 (-0.32)
<b>BM</b>		0.02 (0.37)	<b>0.04*</b> (1.75)	0.05 (0.52)
<b>LEV</b>		0.01 (0.11)	-0.08 (-1.21)	0.04 (0.52)
<b>VOL</b>		1.30 (1.02)	<b>0.75**</b> (2.55)	1.97 (0.87)
<b>LIQ</b>		-0.06 (-0.61)		
<b>Beta</b>		-0.07 (-1.08)		
<b>BS</b>			-0.03 (-0.89)	
<b>SG</b>	0.06 (1.52)		0.02 (1.02)	-0.02 (-0.46)
<b>Split</b>				0.09 (1.19)
<b>Tenure</b>				-0.05 (-1.33)

\*, \*\*, and \*\*\*, indicate significant at 10%, 5%, and 1% level for the z statistics test.

**Table 8: 3SLS results for US sample (368 observations)**

Panel A: Tobin's Q

	<b>Tobin's Q</b>	<b>IO</b>	<b>DO</b>	<b>BC</b>
<b>Intercept</b>	-4.42* (-1.72)	-1.68 (-1.48)	0.43** (2.42)	0.21 (0.70)
<b>IO</b>	<b>4.71***</b> (3.27)		-0.21 (-0.92)	<b>0.99***</b> (2.89)
<b>DO</b>	<b>12.40**</b> (2.02)	<b>5.85**</b> (2.27)		-0.51 (-0.40)
<b>BC</b>	2.32 (0.77)	<b>2.86**</b> (2.35)	<b>-0.28*</b> (-1.81)	
<b>ROA</b>	<b>7.99***</b> (8.55)			
<b>Tobin's Q</b>		<b>0.04*</b> (1.75)	0.01 (1.24)	<b>-0.05**</b> (2.21)
<b>DY</b>		-1.09 (-1.00)	<b>-0.66*</b> (-1.90)	<b>-1.69***</b> (3.50)
<b>FS</b>		-0.02 (-1.40)	-0.01 (-1.23)	-0.01 (-0.98)
<b>AGE</b>		0.01 (0.37)	0.00 (0.76)	-0.01 (-0.73)
<b>BM</b>		0.00 (0.54)	0.00 (-1.39)	<b>0.01*</b> (1.69)
<b>LEV</b>		-0.01 (-0.10)	0.00 (-0.09)	<b>0.09**</b> (2.06)
<b>VOL</b>		3.74 (0.91)	-0.42 (-0.32)	<b>-5.02**</b> (-2.64)
<b>LIQ</b>		-0.01 (-0.90)	0.03 (1.61)	
<b>Beta</b>		0.06 (0.85)		
<b>BS</b>			0.00 (0.13)	
<b>SG</b>				0.02 (0.30)
<b>Split</b>				-0.03 (-0.63)
<b>Tenure</b>				-0.00 (-0.41)

\*, \*\*, and \*\*\*, indicate significant at 10%, 5%, and 1% level for the z statistics test.

Panel B: Return on assets

	<b>ROA</b>	<b>IO</b>	<b>DO</b>	<b>BC</b>
Intercept	-0.16 (-0.59)	0.27 (0.15)	0.17 (0.71)	0.35 (1.48)
<b>IO</b>	0.05 (0.39)		0.30 (1.29)	<b>0.61**</b> (2.63)
<b>DO</b>	0.29 (0.57)	1.87 (0.45)		0.01 (0.01)
<b>BC</b>	0.07 (0.26)	0.95 (0.48)	<b>-0.46**</b> (-2.76)	
<b>ROA</b>		0.22 (0.21)	0.22 (0.60)	-0.34 (-0.62)
<b>DY</b>		<b>-1.86*</b> (-1.74)	0.02 (0.10)	<b>0.92**</b> (1.93)
<b>FS</b>		<b>-0.05**</b> (-3.05)	<b>0.01**</b> (2.72)	0.00 (0.45)
<b>AGE</b>		-0.01 (-0.89)	<b>0.01***</b> (5.17)	-0.00 (-0.15)
<b>BM</b>		-0.01 (-0.70)	<b>0.00*</b> (1.65)	0.00 (0.26)
<b>LEV</b>		0.17* (1.86)	<b>-0.09***</b> (-5.97)	0.05 (1.23)
<b>VOL</b>		5.82 (1.19)	<b>-3.54***</b> (-4.30)	-3.03 (-1.39)
<b>LIQ</b>		0.01 (0.26)		
<b>Beta</b>		0.01 (0.13)		
<b>BS</b>			0.00 (0.40)	
<b>SG</b>	<b>0.11**</b> (2.28)		-0.05 (-0.69)	-0.03 (-0.33)
<b>Split</b>				-0.06 (-1.51)
<b>Tenure</b>				0.00 (-1.40)

\*, \*\*, and \*\*\*, indicate significant at 10%, 5%, and 1% level for the z statistics test.