Article

Journal of Accounting,
Auditing & Finance
2016, Vol. 31(1) 100–133

DOI: 10.1177/0148558X15590226
iaf.sagepub.com

How Corporate Governance Affects Investment Decisions of Major Shareholders in UK Listed Companies: Has the Recent Credit Crunch Changed the Game?

Amira Hawas[1,2] and Chin-Bun Tse[3]

Abstract

We develop a corporate governance (CG) index based on the requirements of the combined code to examine the effect of CG on major shareholdings of listed non-financial firms in the United Kingdom from 2005 to 2009. We also investigate whether this relationship has changed during the recent financial crisis. In particular, we test the effect of both the level and changes in CG on both the level and changes in total and alternative types of major shareholdings. The results from panel data regressions show that, for the whole studied period, there is a significant positive relationship between CG and total major shareholdings. However, there is no evidence to suggest that changes in CG affect changes in major shareholdings. We also find that "board composition and independence" is the only CG sub-index that affects total major shareholdings. Interestingly, we find that different sub-indices of CG appear to affect different types of major shareholdings. Our results also provide evidence that the relationship between CG and major shareholdings changes from insignificant before the financial crisis to significant during the financial crisis, suggesting that major shareholders believe that CG was particularly important during times of financial trouble.

Keywords

corporate governance, major shareholders, investment decisions, 2007-2008 financial crisis

Introduction

Major shareholders play an important role in corporate governance (CG). According to the agency theory, ownership concentration is a control mechanism that is used to solve agency problems by aligning the interests of managers and shareholders. Theoretically,

[1]University of Bedfordshire, Luton, UK
[2]Cairo University, Giza, Egypt
[3]University of West London, UK

Corresponding Author:
Chin-Bun Tse, University of West London, London, TW8 9GA, England, UK.
Email: profchinbuntse@outlook.com

with an increase in ownership concentration, monitoring is expected to become more effective; major shareholders have the incentive and ability to monitor management and mitigate agency conflict. Furthermore, the large holdings of major shareholders are expected to alleviate the free-rider problem related to the dispersion of ownership and control (Shleifer & Vishny, 1986). Through their large stake in the company, it is cost-effective for major shareholders to monitor management; return would be sufficient to cover their monitoring costs (Conyon & Florou, 2002). Therefore, the presence of major shareholders and the size of their holdings are common explanatory variables in CG research.

Prior literature has paid considerable attention to the effect of major shareholders, specifically institutional investors, on firm value and other performance measures (see, for example, Nguyen, Le, & Bryant, 2013; Thomsen, Pedersen, & Kvist, 2006). Institutional investors can persuade firms to implement good CG, either using their voting rights or by voting with their feet (Aggarwal, Erel, Ferreira, & Matos, 2010). Institutional shareholders such as mutual and pension funds are well established as important players in the majority of financial markets, and they are the largest shareholders of most publicly traded firms in Western countries. Institutional investors control approximately 60% of the outstanding shares of common stocks in the United States (Hayashi, 2003) and approximately 70% of the UK equity market[1] in 2012.

Similarly, many studies have explored the investment preferences of institutional investors. Starks (2009) found that institutional investors are particularly interested in a firm's CG. In addition, a study by McKinsey and Company (2002) which covered 31 different countries revealed that institutional investors considered CG to be as important factor as other financial indicators in their investment decisions, which was revalidated by McCahery, Starks, and Sautner (2010). However, to the best of our knowledge, no previous research has examined the preferences of major (non-institutional) shareholders regarding CG. The debate on the need for good CG has reignited due to the 2007-2008 financial crisis (Francis, Hasan, & Wu, 2012). This study, consequently, investigates an important policy question of whether firm-level CG affects investment decisions of major shareholders, with a particular focus on the periods before and during the financial crisis. Specifically, this study uses a unique corporate setting in the United Kingdom, where the emphasis is on encouraging CG rather than imposing extensive mandatory requirements. Our empirical tests are direct and provide statistical evidence than that obtained through a survey. In addition, the scope of this study covers different types of major shareholders, rather than solely institutional investors and the time period spanning the recent financial crisis. As most of the previous studies have looked at the non-crisis period, the results of this study would provide additional insights.

The purpose of this study was to provide empirical evidence on the effects of CG mechanisms on the investment decisions made by major shareholders. Four specific questions are raised:

- Does overall CG affect major shareholders' investment decisions?
- Which specific aspects of CG are more important in affecting the investment decisions of major shareholders?
- Do different types of major shareholders react differently to changes in CG?
- Have the recent financial crisis changed the relationship between CG and major shareholders' investment decisions?

This study extends and contributes to previous studies in a number of ways. First, unlike the previous studies that have narrowly investigated institutional investors only, this article provides evidence regarding a wider range of different types of major shareholders and complements previous studies on this topic (such as Ferreira & Matos, 2008; Gompers & Metrick, 2001). Second, UK regulations emphasize encouraging CG rather than imposing extensive mandatory requirements as in the United States. In addition, the legal system in the United Kingdom provides significant protection for investors. Therefore, focusing on the United Kingdom as a less regulated environment and high investor protection is of interest as most of the previous studies have been carried out in emerging economies rather than developed countries. Third, the study is distinguished from the prior literature by examining the preferences of major shareholders regarding CG during an interesting period (i.e., from 2005 to 2009), thereby providing important empirical insights on the role of CG in influencing the preferences of major shareholders both before and during the financial crisis. Finally, in contrast to most previous studies in which CG variables had been experienced in isolation, this article examines the impact of CG using a composite measure of 26 dimensions and five sub-indices of CG. To make our study more objective, we developed our own CG index instead of using existing CG ratings that have been developed and published by commercial organizations.

Our CG Index is based solely on the information disclosed in annual reports to gain an unbiased view of the firm's CG and to follow the requirements of the UK combined code. The developed CG index covers five sub-indices, namely the following: board composition and independence, board practices and processes, compensation, accountability and audits, and relations with shareholders. Therefore, the use of this index is designed to capture the overall quality of CG instead of focusing on specific components. Hence, the crafted CG index provides a robust and validated measuring tool that allows us to shed important empirical insights on the impact of CG mechanisms on attracting shareholders.

Using a sample of UK FTSE-350 companies over the period 2005-2009, we find a significant positive relationship between overall CG and total major shareholdings. When classifying major shareholdings into different types, we find that CG affects only institutional shareholders. The identified relationship between CG sub-indices and major shareholdings provides strong evidence that firms with better board composition and independence attract more major shareholders. In addition, our results indicate that different types of major shareholders have heterogeneous preferences regarding different CG provisions. We find that there are strong preferences of insurance companies and pension funds for companies with better accountability and audit, and strong preferences of other institutional major shareholders for companies with good board composition and independence. *The results also show* that the financial crisis has significantly changed the investment preferences of major UK shareholders during the financial crisis period. Taken together, these results appear to indicate that improvements to CG, especially in the board composition and independence aspect, attract more major shareholders.

The results of this study can serve as a reference point and specify the path that should be followed by a company if it has the desire to increase its shareholder base, and, in particular, to attract large shareholders. Our results also provide evidence that during times of financial trouble, improving a particular sub-index of CG will attract investors. The evidence in this study also suggests that regulators and policy makers should draw on these results to revise the regulations of CG that will help and support companies in their efforts to improve CG practices and, mainly, board effectiveness. In this regard, our results call

for more stringent CG requirements to provide more protection for investors and to pass up any negative consequences that may come up from non-compliance.

The remainder of this study is organized as follows. The section titled ''Literature Review and Hypotheses Development'' reviews the related literature and outlines the development of the hypotheses. The ''Sampling and Empirical Models'' section describes the sample, the variables, and the empirical models used in our analysis. The section titled ''Empirical Results and Analysis'' discusses the empirical results. The final section titled ''Summary and Concluding Remarks'' presents the concluding remarks.

Literature Review and Hypotheses Development

Agency Theory and Shareholders' Preferences

This study attempts to discover the effects of CG mechanisms on the major shareholdings of a sample of UK listed companies. Our hypotheses can be explained using agency theory (Jensen & Meckling, 1976) where economic conflicts across owners and managers can be mitigated through CG (O'Sullivan, 2000). La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000) indicated that potential shareholders view CG as a set of mechanisms for the protection of their interests in the company. In addition, firms with poor governance structures are more likely to expropriate value from outside investors (Ferreira & Matos, 2008). Consequently, major shareholders prefer to allocate their investments to firms with better CG.

It is worth mentioning that the agency theory does not differentiate between the types of major shareholders. However, many studies have recently acknowledged that the identities of these shareholders have different implications for firms because of their differing objectives (Tihanyi, Johnson, Hoskisson, & Hitt, 2003; Tribo, Berrone, & Surroca, 2007). Consequently, in this study, the aim is not only to focus on the preferences of major shareholders but also to examine whether these preferences regarding CG vary with the different types of major shareholders. Therefore, to address heterogeneity among major shareholders, major shareholders are initially classified into different types, as will be explained later.

Major Shareholders' Preferences and CG

Two main streams of research must be considered when examining the relationship between CG and ownership structure. The first stream concerns the effect of ownership structure on CG (the effectiveness of large shareholders in CG). Because large-percentage holdings will increase the motivation of major shareholders to monitor companies (Shleifer & Vishny, 1986), extensive research has been devoted to the important monitoring role of major shareholders (Cornett, Marcus, Saunders, & Tehranian, 2007). Major shareholders have become active in CG and have become more eager to use their ownership rights to force management to advance shareholder interests (Hartzell & Starks, 2003). For example, several studies find that the presence of significant institutional ownership results in improved compensation practices (Bertrand & Mullainathan, 2001; Dong & Ozkan, 2008; Hartzell & Starks, 2003).

The second stream of research addresses shareholders' preferences about CG. Li, Moshirian, Pham, and Zein (2006) conducted a study on the macro-level that involved a comparison of the patterns of block shareholders in different countries. They found that variations depended on macro-CG aspects, including disclosure requirements, law

enforcement, and the level of shareholder protection. Other studies have found that the proportion of institutions that hold a firm's shares increases with the firm's governance quality (Chung & Zhang, 2011). They also indicated that these institutions are attracted to firms with good CG to meet their fiduciary responsibility as well as to minimize monitoring and exit costs. Bae and Goyal (2010) revealed that firms with better governance attracted more foreign ownership than poorly governed firms, whereas Kim, Eppler-Kim, Kim, and Byun (2010) found that domestic investors tend to care less about CG than their foreign counterparts. Therefore, the results of these previous studies indicated that major shareholders prefer investing in countries with high accounting disclosures and better shareholder rights. However, at the firm level, major shareholders prefer large companies that pay dividends and have better quality CG. Most of these studies focus more heavily on institutional investors and pay less attention to other types of major shareholders. In addition, most of these studies have been carried out in emerging economies rather than developed countries, raising the question of whether CG quality matters in developed countries that have good shareholders protection. This study, therefore, sheds light on the different types of major shareholders and their preferences about CG by examining the United Kingdom, a developed country with considerable shareholder protection and rights.

Based on the studies of Chung and Zhang (2011) and Ferreira and Matos (2008) that revealed a positive association between the proportion of a firm's shares held by institutional investors and its governance quality, we also hypothesize that there is a positive relationship between the major shareholdings and CG. According to agency theory, companies with better CG have lower agency costs, generate higher returns, and perform better (Henry, 2010; Klapper & Love, 2004). Investors have strong incentives to put their investments in good CG companies, and hence, we propose the following hypothesis:

Hypothesis 1 (H1): There is a positive relationship between CG and the level of major shareholdings.

CG provisions do not have the same effect in attracting investors; in their study, Chung and Zhang (2011) showed that institutional investors are attracted only to two CG aspects: One is related to strengthening shareholder rights and the other is related to the composition and operation of the board of directors. This shows that there are differences in the effects of CG provisions; that is, of all of the CG provisions, institutional investors pay more attention to only the above-mentioned ones. In the same vein, Khurshed, Lin, and Wang (2011) examined the effect of two internal CG mechanisms on institutional major holdings; they considered both directors' ownership and board composition in a sample of UK companies. Their findings revealed a negative relationship between institutional major holdings and directors' ownership; on the contrary, it showed a positive effect of board composition on institutional major holdings. Accordingly, it is recommended that institutional major shareholders view ownership by directors as a substitute control mechanism, while board composition is perceived to be a complementary mechanism. These findings indicate that there are differences in the effect of CG sub-indices on the investment decisions of shareholders. Based on the above, one may expect that CG sub-indices will have different effects on major shareholdings. Hence, the hypothesis is stated as follows:

Hypothesis 2 (H2): The preferences of major shareholders vary across different dimensions of CG.

Prior research documented that large shareholders differ from each other along different dimensions, such as their beliefs, skills, or preferences. Consistent with the prior literature (e.g., Bushee, 1998; Bushee, Carter, & Gerakos, 2010; Chung & Zhang, 2011; Cronqvist & Fahlenbrach, 2009), this study aims to contribute to the literature by examining the preferences of different categories of major shareholders regarding CG. Prior research indicated that the identity of institutional investors has important implications for firms because they have different objectives and philosophies; for example, they may be constrained by fiduciary responsibilities or political concerns (Bushee et al., 2010). Therefore, it is important to distinguish among different types of shareholders, not only in terms of institutional investors but also among all major shareholders, when examining their preferences. Giannetti and Simonov (2006) examined whether investors consider the quality of CG in making their stock selections. They differentiated between two types of investors, those who enjoy private benefits and others who enjoy only security benefits. Their results showed that all investors, whether domestic or foreign, institutional or small individual investors (who generally place a great value on security benefits), are less likely to invest in companies with poor CG. On the contrary, investors who have relationships with company insiders generally do not mind putting their investments in companies that have poor CG. Moreover, Kim et al. (2010) revealed that foreign and local investors have different stock valuations regarding CG. They revealed that as foreign investors assign higher monitoring costs, they may discount CG more severely than other domestic investors. In the same vein, Ferreira and Matos (2008) differentiated between independent and gray investors, showing that independent investors paid more attention to stock in countries with higher levels of legal enforcement and paid more attention to liquid stock than other gray investors. However, their results indicated that they commonly preferred to invest in visible firms, large firms, and firms with strong CG indicators. Similarly, Chung and Zhang (2011) examined whether different institutional investors exhibited different preferences about CG structures. They found that all different categories of institutional shareholdings had positive associations with CG; but they also indicated that the strength of the relationship varies among the various categories of institutional shareholdings.

Prior research suggested that various categories of investors have different investment preferences in general, and regarding CG in particular. However, most of these studies have been concerned with differentiating among various types of institutional investors. For example, Chung and Zhang (2011) indicated that various categories of institutional investors such as insurance firms, bank trusts, and independent advisors have different investment preferences due to differences in their fiduciary responsibilities. Moreover, there is limited research about other types of major shareholders. A study by Cronqvist and Fahlenbrach (2009) pointed out that large shareholders have distinctly different investment and governance styles. Therefore, we state the following hypothesis:

Hypothesis 3 (H3): Different types of major shareholders have different preferences regarding CG.

The 2007-2008 global financial[2] caused many economies around the world to go into recession (Ivashina & Scharfstein, 2010). There has been much speculation that the 2007-2008 stock market meltdown was at least partly due to CG shortcomings, such as excessive risk taking by managers who were concerned more about short-term bonuses but ignored the long-term value of their companies (Zingales, 2008). Yet, a systematic analysis of how CG affected ownership structure during this turbulent period is lacking. This study pioneers

the effort to address this gap. Therefore, whether this relationship has strengthened during the financial crisis period is tested.

Most studies conducted during the period of the financial crisis examined the impact of CG on the performance of firms. Beltratti and Stulz (2009) found that banks with better CG performed better during the credit crisis. In addition, Leung and Horwitz (2010) examined the effect of management ownership and other governance variables on the stock performance of Hong Kong firms following the Asian financial crisis of 1997. Their study showed that companies with a more concentrated management ownership structure displayed better capital market performance during that period. Moreover, Elkinawy (2005), focusing on an emerging country during the financial crisis of the late 1990s, showed that liquidity, trade links, and CG were considered important determinants for mutual fund portfolio choices during the crisis. These results seem to imply that companies with good CG quality performed better during times of crisis, and that investors considered CG to be a major concern in their investment decisions. Contrary to the previous study by Elkinawy (2005) that focused on emerging markets, this study examines the preferences of major shareholders in a developed country such as the United Kingdom during the 2007-2008 financial crisis period. It is expected that major shareholders consider the effect of CG on wealth and risk of their shareholdings differently in crisis versus non-crisis periods. So, it is hypothesized that the association between CG and major shareholdings will be strengthened during periods of financial crisis. Accordingly, we propose the following hypothesis:

Hypothesis 4 (H4): There was a change in the relationship between CG and major shareholdings during the financial crisis.

Sampling and Empirical Models

Sample

The target population of this study is the UK FTSE-350, whose constituents make up approximately 90% of the entire UK market capitalization. An important justification for choosing these companies is that this study aims at testing the relationships between CG and major shareholdings on a sample of large UK companies. In the current study, a panel dataset is used that covers the period from 2005 to 2009 inclusive. An important motivation for selecting this time period is that it followed the issuance of the Combined Code of CG in 2003, the first UK CG code that was later amended in 2006, 2008, 2010, and 2012.[3] Moreover, this period also covers the period preceding and during the 2007-2008 financial crisis, and thus selecting this time period enables a comparison of the relationship between CG and major shareholdings both before and during the crisis period. In addition, this time period enables investigating whether CG effect on major shareholdings and its effects on different categories of major shareholdings differ over years.

The sample selected is based upon the following criteria. First, companies must have been active for the entire period of the study, as the objective of this study is to examine the relation between CG and major shareholdings for firms that survived during the financial crisis and this would facilitate the comparison in the period preceding and during the 2007-2008 financial crisis. Therefore, after excluding delisted companies, the total number of companies was reduced to 221 firms. Second, financial and utility (63) firms are excluded for a number of reasons: (a) The composition of the assets of both types of firms tends to be ''special'' rather than ''typical,'' (b) utility firms tend to have high leverage in

terms of capital structure, and (c) financial firms in the United Kingdom operate under strict government regulations and monitoring (Mehran, Morrison, & Shapiro, 2011). Finally, 19 companies without complete financial or CG data were excluded. These criteria reduce the final sample to 139 non-financial companies, for which complete data were available across all years of the sampling period. Therefore, the empirical work comprises 139 firms with complete data throughout 2005-2009. The analysis was carried out on a sample of balanced panel data, covering a period of 5 years, and is based on a sample of companies drawn from eight main industries, resulting in a total of 695 firm-year observations. Data about major shareholdings and CG were collected manually from the annual reports of the companies via either Financial Analysis Made Easy (FAME) database or, if unavailable, the company's website. All financial data have been obtained from the DataStream database.

Variable Measurement and Model Specification

Dependent variables. Major shareholdings (*TOTAL_MAJ*) are measured by the percentages of shares held by the shareholders with no less than 3% ownership; shareholders below this level do not have to be disclosed in the United Kingdom. Data for major shareholdings were collected manually from the annual reports of the companies. Further distinctions between different categories of major shareholdings were made; major shareholdings were grouped into seven categories. The first category is major shareholdings by insurance companies and pension funds (*MAJ1*). The second category includes major shareholdings by other financial institutions (*MAJ2*), such as banks, mutual, nominee/trust/trustees, and the like. The third category is major shareholdings by other companies (*MAJ3*) that are not included in the previous two categories. The category of ''other companies'' refers to companies involved in manufacturing activities or in trading activities and includes companies active in B2B or B2C non-financial services. The fourth category (*MAJ4*) includes major shareholdings by states, governmental agencies, governmental departments, or local authorities. The fifth category includes major shareholdings by shareholders who are closely tied to the firm, such as managers and directors (*MAJ5*). The sixth category encompasses major shareholdings by other families and individuals who are outsiders (*MAJ6*). The seventh and final category includes major shareholdings by others (*MAJ7*).

Independent variables. The main independent variable of interest is *CG_SCORE*, which is a composite measure consisting of 26 CG dimensions. Reviewing the literature that considers the impact of CG on ownership structure revealed that previous studies predominantly focused on few dimensions of CG, such as the study by Matsumoto and Uchida (2010), which considered only board structure and stock options. In the same vein, Ferreira and Matos (2008) considered only the percentage of ownership structure (insider ownership), with other firm-level variables that affect the investment decisions of institutional investors within 27 different countries. Kim et al. (2010) only considered outside directors and their independence as CG variables that affect the compositions of foreign investors' portfolios. However, the study by Chung and Zhang (2011) is considered to be the only study that used a comprehensive CG index. They used Institutional Shareholder Services CG scores to examine the effect of CG on institutional ownership. They used ready-made CG grades, only excluding the ''Director Education'' category; they also included the dual class standard in the Institutional Shareholder Service (ISS) index. In contrast, we have adopted a

researcher-constructed CG index approach for the following reasons: First, unlike subjective analysts' rankings, which are based on their perceptions of CG quality, the crafted CG index in this study is based on actual disclosures in the firms' annual reports. Annual report disclosure is considered an important source for larger shareholders, as they consider information disclosed in annual reports when making investment decisions. Previous studies regarding the most preferred sources for institutional investors pointed out that the highest ranked sources were generally written company information, including the financial reports. This renders the information more objective, reliable, and accurate. Second, the importance of CG variables varies according to industry, company, and country, as well as varies over time (Donker & Zahir, 2008). Therefore, a self-constructed CG index approach gives us the ability to choose the sample and to select the relevant CG provisions. Academic-constructed indexes are based on fewer CG provisions that are more targeted to the sample firms (Bozec & Bozec, 2012). Thus, this approach allows us to focus on CG provisions that primarily relate to our research focus, while reflecting the requirement of the UK Combined Code (Financial Reporting Council, 2003), which is widely considered as an international benchmark for good CG practices.

The CG index (*CG_SCORE*) of the sample companies serves as a broad measure of firm-specific CG quality and reflects 26 governance attributes that are considered ''good'' CG practices. The crafted CG index is constructed after reviewing the previously developed indices and identifying their commonalities. The 26 firm-level governance provisions that are included in the index are commonly used in the related literature, and include measures of (a) board composition and independence (*BCII*), (b) board practice and process (*BPPI*), (c) compensation (*CI*), (d) accountability and audit (*AAI*), and (e) relations with shareholders (*RSI*). Each sub-index, in turn, includes a series of CG attributes. In the same vein, an equally weighted index is adopted; if the company adopted the item, a score of 1 is given to the CG variable and 0 otherwise. To compute the score for each sub-index, we sum the elements of each sub-index and then divide it by the maximum score by any company. A total *CG_SCORE* for each firm is calculated by the summing of the sub-indices divided by 5 (the number of sub-indices). The appendix details the governance attributes collected and the scoring technique used.

Moreover, it is vital to assess the validity of the index, especially when using a newly constructed measuring instrument (i.e., CG index). Validity is defined as ''whether an instrument actually measures what it sets out to measure'' (Field, 2009, p. 11). In this context, Saunders, Lewis, and Thornhill (2012) suggested three methods for assessing validity: (a) face validity, (b) content validity, and (c) construct validity. First, face validity aims to ensure that the measure appears, on the face of it, to measure the concept which is intended to measure (Saunders et al., 2012). The face validity of the CG index is supported through pre-testing, which is a significant step in ensuring its reliability and validity (Easterby-Smith, Thorpe, & Jackson, 2012; Hussey & Hussey, 1997). To check the appropriateness of the CG index for measuring CG, the initial index was sent to five academics to refine the index and identify any gaps or inconsistencies. This checking process helped modify the CG items in the index.

Second, content validity aims to ''ensure that the measure includes an adequate and representative set of items that tap the concept'' (Sekaran & Bougie, 2010, p. 206). In addition, Saunders et al. (2012) referred to content validity as the sufficient items being included in the measurement tool. Content validity of the CG index can be achieved by the careful definition of the research phenomena through literature review of CG and also by using a panel of professional judges to judge which items are to be included in the

measurement (Vaus, 2002). In the current study, the initial CG index was pre-tested with five academics to check whether the CG items in the index adequately measure the level of CG (content validity). The results of pre-test method showed that the CG index captures adequate and representative set of dimensions to assess good CG.

Finally, construct validity ''ensures that the results obtained from the use of a measure are consistent with the theories in which the test is designed'' (Sekaran & Bougie, 2010, p. 207). The assessment of construct validity requires the examination of the correlation between the total CG index and its component sub-indices (see, for example, Black, De Carvalho, & Gorga, 2012; Hassan, 2012). In the current study, the Pearson correlation between *CG_SCORE* and its sub-indices (*BCII, BPPI, AAI, CI*, and *RSI*) is positively significant, with correlation coefficients from .7969 to .3661 at the .0001 level.

Control variables. We have selected a wide range of variables to control for potential omitted-variable bias based on a review of prior studies (Dahlquist & Robertsson, 2001). These control variables covered firm size (*SIZE*), leverage (*LEV*), turnover (*TURN*), dividend yield (*DIVIDEND*), stock price (*PRICE*), profitability (*ROA*), firm value (Tobin's *Q*), and stock return (*RETURN*). A large set of control variables are used that have previously been recognized as determinants of shareholders' investment decisions. Following earlier work that acknowledged that investors prefer large companies, the size of firms is included (e.g., Aggarwal, Klapper, & Wysocki, 2005; Gompers & Metrick, 2001). The natural logarithm of total assets is used as a proxy for firm size (*SIZE*) in this article. The level of leverage is included as a proxy for the risk level of a firm (*LEV*), which is measured by the debt-to-assets ratio (Chung & Zhang, 2011). Elkinawy (2005) mentioned that fund managers prefer firms with low leverage. To control for stock liquidity preferences, turnover (*TURN*) is also included, which is measured by dividing the number of shares traded over the year by the number of shares outstanding (Ferreira & Matos, 2008). Huang (2008) and Elkinawy (2005) pointed out that fund managers tilt their holdings more heavily toward liquid stocks. Moreover, Jain (2007) revealed that institutional investors prefer to put their investment in stocks with a low-dividend yield, whereas individual investors prefer stocks with high-dividend yields; therefore, dividend yield (*DIVIDEND*) is included. Stock price (*PRICE*) is measured by the annual stock price. Furthermore, firm profitability and firm values are measured by return on assets (*ROA*) and Tobin's *Q* (*TQ*), respectively (Chung & Zhang, 2011). Kim et al. (2010) found that investors prefer companies with higher *TQ* and higher *ROA*. Moreover, we consider stock return measured by the annual (end-of-year) geometric stock rate of return (Ferreira & Matos, 2008).

Empirical Models

This study uses four models to test the relationship between CG and major shareholding. The first model tests the relationship between the *CG_SCORE* and the total major shareholdings, after including all of the control variables, as expressed in the following equation:

$$TOTAL\_MAJ_{it} = \alpha_i + \beta_1 CG\_SCORE_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 TURN_{it} + \beta_5 DIVIDEND_{it} + \beta_6 ROA_{it} + \beta_7 TQ_{it} + \beta_8 PRICE_{it} + \beta_9 RETURN_{it} + u_{it}. \quad (1)$$

In this model, *TOTAL_MAJ* is defined as the percentage of shares owned by shareholders with at least 3% of the company shares; *CG_SCORE* represents the CG index; *SIZE* is

the natural log of total assets; *LEV* is calculated as the ratio of total debt to total assets; *TURN* is the annual share volume over the year, divided by shares outstanding; *DIVIDEND* is measured as dividends per share / market price-year end × 100; *ROA* represents the firm's operating performance, measured as the ratio of net income to total assets; *TQ* is measured as the market value of equity + total debts / total assets; *PRICE* represents the annual stock price; and *RETURN* is the annual (end-of-year) geometric stock rate of return.

Model 2 examines the relationship between CG sub-indices and the total major shareholdings, as expressed in the following equation:

$$\begin{aligned} TOTAL\_MAJ_{it} = {} & \alpha_i + \beta_1 BCII_{it} + \beta_2 BPPI_{it} + \beta_3 CI_{it} + \beta_4 AAI_{it} + \beta_5 RSI_{it} + \\ & \beta_6 SIZE_{it} + \beta_7 LEV_{it} + \beta_8 TURN_{it} + \beta_9 DIVIDEND_{it} + \beta_{10} ROA_{it} + \\ & \beta_{11} TQ_{it} + \beta_{12} PRICE_{it} + \beta_{13} RETURN_{it} + u_{it}. \end{aligned} \quad (2)$$

In this model, *BCII* is a measure of the board composition and independence index; *BPPI* is a measure of the board practice and process index; *CI* is a measure of the compensation index; *AAI* is a measure of the accountability and audit index; and *RSI* is a measure of the relationship with shareholders index. Other variables are as defined in Model 1.

To estimate the relationship between CG and different types of major shareholders, we reestimate the previous two models, but using the percentage of shares held by each type of major shareholder as independent variables.

In studies of CG, there is always concern about potential endogeneity. Most previous studies documented at least two potential sources of endogeneity that may derail empirical results: simultaneity and unobservable heterogeneity (Wintoki, Linck, & Netter, 2009). This study uses two approaches to address this problem. First, previous studies suggested that the use of lagged values for the main explanatory variable can diminish simultaneity problems (see, for example, Larcker & Rusticus, 2010; Stiebale, 2011). Following previous studies, the lagged value of CG is used to mitigate possible simultaneity problems between CG and major shareholdings. Second, a broad number of control variables are included in this study that help mitigate the omitted-variable bias as well as the possibility that our results are affected by endogeneity. Moreover, we used panel data regressions, which help address issues of endogeneity that might arise from unobserved firm-specific heterogeneities (Black, Jang, & Kim, 2006). Panel data regression techniques help control for the unobserved heterogeneity component that remains fixed over time, thus reducing considerably the omitted-variable bias problem (Baltagi, 2009). Given the panel nature of the data, we test which model is appropriate using the Hausman test, fixed- and random-effects models (Wooldridge, 2002). If the results reject the null hypothesis, suggesting that the fixed-effect model should be used (this test is included in each of the regression tables). Furthermore, in all panel data regression models, a robust standard error is used. It is common to rely on ''robust'' standard errors to ensure valid statistical inference.

Empirical Results and Analysis

Descriptive Statistics

Table 1 provides the descriptive statistics for the dependent (major shareholdings), independent (total CG index and all sub-indices), and control variables for each year as well as for the whole period (2005-2009), the pre-crisis period (2005-2007), and the during-crisis period (2008-2009), respectively. A number of interesting results can be derived from the

descriptive statistics. First, and consistent with the results of Aggarwal et al. (2010), there is an increase in major shareholdings over time. More specifically, the average major shareholding (*TOTAL_MAJ*) increases during the whole period (2005-2009) from 32.32% to 38.17%, and from 33.81% (pre-crisis) to 38.21% (during crisis). The average value of total major shareholdings (*TOTAL_MAJ*) for our sample is 35.56%. In addition, among the seven different types of major shareholdings, the highest average is obtained in the category of shareholdings of pension fund and insurance companies (*MAJ1*) and shareholdings of other institutional investors (*MAJ2*), with averages of 5.91% and 21.09%, respectively. We also find the lowest average of major shareholdings in shareholdings of states, governmental agencies, governmental departments, or local authorities (*MAJ4; M* = 0.0503%). Interestingly, all different types of major shareholdings increase from the pre- to the during-crisis period, except for *MAJ7*.

Second, the average *CG_SCORE* was found to increase from 0.8140 (2005) to 0.8569 (2009); it also increased from 0.8246 before the crisis to 0.8529 during the financial crisis. This indicates that there has been a *notable improvement* in UK CG during the financial crisis, as there was 3.43% increase in *CG_SCORE* during the crisis period. In the same vein, the CG sub-indices similarly depict overall CG behavior. Our results reveal that the average score for AAI (accountability and audit index) was the highest at 0.9576. However, *RSI* (relationship with shareholders) was ranked the lowest with an average score of 0.6398. In the same vein, Table 1 provides a closer analysis of the CG sub-indices before and during the financial crisis to gain additional insights. The average scores for all CG sub-indices have increased from (pre-crisis) to (during crisis), suggesting a generally improving trend in CG behavior over time. This indicates that UK listed companies tend to comply with the recommendations of the CG code during a financial crisis to rebuild trust and to protect shareholders' interests. Table 1 also shows that the average natural logarithm of total assets is 21.41, denoting average total assets of £7.33 billion, thus indicating that our sample consists of companies that are relatively large. The average *ROA* (*LEV*) is 7.8% (24.63%). In addition, the mean (median) values for *TURN* ratio, *DIVIDEND*, and PRICE are 2.22 (1.66), 2.8 (2.54), and 6.611 (4.507), respectively. Furthermore, the average *TQ* was 1.50 (1.24), suggesting that the companies are valued highly in the stock market, and finally, the average annual stock return is 0.0008.

Finally, drawing on the analysis of the descriptive statistics, the primary policy implication for policy makers and regulatory authorities is that more consideration needs to be paid to strengthening the requirements for board composition and independence that are related to building relationships with shareholders, and by the same token improving the quality of CG.

Table 1. Descriptive Statistics.

This table provides the descriptive statistics for the dependent (major shareholders), independent (total CG index and all sub-indices), and control variables for each year as well as for the whole period (2005-2009), pre–financial crisis period (2005-2007), and during financial crisis period (2008-2009), respectively. *TOTAL_MAJ* is the percentage of shares owned by shareholders with at least 3% of the company shares, *MAJ1* is the percentage of shares owned by pension funds and insurance companies with at least 3% of the company shares; *MAJ2* is the percentage of shares owned by other institutional investors with at least 3% of the company shares; *MAJ3* is the percentage of shares owned by corporations with at least 3% of the company shares; *MAJ4* is the percentage of shares owned by states, governmental agencies, governmental departments, or local authorities with at least 3% of the

company shares; *MAJ5* is the percentage of shares owned by shareholders who are closely tied to the firm, such as managers and directors; *MAJ6* is the percentage of shares owned by other families and individuals who are outsiders; *MAJ7* is the percentage of shares owned by others, such as foundations or research institutes; *CG_SCORE* is the total CG score; *BCII* is the score of board composition and independence index; *BPPI* is the score of board process and practice index; CI is the score of compensation index; *AAI* is the score of accountability and audit index; *RSI* is the score of relations with shareholders; *SIZE* is the natural logarithm of total assets; *LEV* is the percentage of total debt to total assets; *TURN* is the annual share volume over the year to shares outstanding; *DIVIDEND* is the dividends per share to market price-year end × 100; *PRICE* is the annual average stock price; *ROA* is the percentage of net income to total assets; *TQ* is the market value of equity plus total debts to total assets. *RETURN* is the annual (end-of-year) geometric stock rate of return.

Variables	*M* (Median) (*SD*) (2005)	*M* (Median) (*SD*) (2006)	*M* (Median) (*SD*) (2007)	*M* (Median) (*SD*) (2008)	*M* (Median) (*SD*) (2009)	*M* (Median) (*SD*) (2005-2007)	*M* (Median) (*SD*) (2008-2009)	*M* (Median) (*SD*) (2005-2009)
TOTAL_MAJ	32.32	32.56	36.49	38.26	38.17	33.81	38.21	35.56
	(29.8)	(30.88)	(34.73)	(37.4)	(37.1)	(31.58)	(37.25)	(33.76)
	(16.78)	(17.02)	(17.10)	(18.45)	(17.08)	(17.04)	(17.75)	(17.45)
MAJ1	4.09	4.25	7.01	7.05	7.17	5.12	7.11	5.91
	(3.19)	(3.3)	(4.81)	(4.69)	(4.49)	(3.58)	(4.55)	(4)
	(5.52)	(5.28)	(6.44)	(6.10)	(6.29)	(5.91)	(6.18)	(6.09)
MAJ2	19.67	20.45	21.31	21.86	22.17	20.48	22.01	21.09
	(18.26)	(17.7)	(19.22)	(20.55)	(19.97)	(18.27)	(20.2)	(18.91)
	(13.23)	(14.06)	(14.06)	(15.29)	(14.97)	(13.77)	(15.11)	(14.33)
MAJ3	5.22	4.66	4.86	5.611	5.80	4.91	5.70	5.23
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	(13.37)	(12.45)	(12.72)	(13.51)	(13.65)	(12.82)	(13.56)	(13.12)
MAJ4	0	0	0.0359	0.1079	0.1079	0.0119	0.1079	0.0503
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	(0)	(0)	(0.4240)	(1.272)	(1.27)	(0.2448)	(1.26)	(0.8257)
MAJ5	1.94	1.85	2.01	1.97	1.90	1.940	1.942	1.94
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	(7.37)	(7.36)	(7.43)	(7.35)	(7.00)	(7.37)	(7.16)	(7.28)
MAJ6	0.2512	0.1844	0.1491	0.2953	0.1626	0.1949	0.2290	0.2085
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	(1.26)	(1.29)	(1.026)	(1.56)	(1.17)	(1.20)	(1.38)	(1.275)
MAJ7	1.13	1.17	1.12	1.36	0.8638	1.14	1.11	1.133
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	(5.47)	(5.56)	(5.84)	(6.32)	(5.48)	(5.61)	(5.91)	(5.73)
CG_SCORE	0.8140	0.8231	0.8367	0.8489	0.8569	0.8246	0.8529	0.8359
	(0.8461)	(0.8461)	(0.8461)	(0.8461)	(0.8846)	(0.8461)	(0.8846)	(0.8461)
	(0.0956)	(0.0945)	(0.0884)	(0.0831)	(0.0823)	(0.0931)	(0.0826)	(0.0901)
BCII	0.6825	0.6933	0.7167	0.7302	0.7464	0.6975	0.7383	0.7138
	(0.75)	(0.75)	(0.75)	(0.75)	(0.75)	(0.75)	(0.75)	(0.75)
	(0.1832)	(0.1868)	(0.1809)	(0.1730)	(0.1715)	(0.1838)	(0.1721)	(0.1802)
BPPI	0.9125	0.9136	0.9187	0.9351	0.9321	0.9149	0.9336	0.9224
	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	(0.1293)	(0.1339)	(0.1344)	(0.1091)	(0.1133)	(0.1323)	(0.1110)	(0.124)

(continued)

Table 1. (continued)

Variables	*M* (Median) (*SD*) (2005)	*M* (Median) (*SD*) (2006)	*M* (Median) (*SD*) (2007)	*M* (Median) (*SD*) (2008)	*M* (Median) (*SD*) (2009)	*M* (Median) (*SD*) (2005-2007)	*M* (Median) (*SD*) (2008-2009)	*M* (Median) (*SD*) (2005-2009)
CI	0.9329	0.9472	0.9592	0.9616	0.9640	0.9464	0.9628	0.9530
	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	(0.1399)	(0.1284)	(0.1094)	(0.1139)	(0.1112)	(0.1267)	(0.1124)	(0.121)
AAI	0.9366	0.9553	0.9582	0.9669	0.9712	0.9501	0.9690	0.9576
	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	(0.1130)	(0.0964)	(0.0916)	(0.0819)	(0.0782)	(0.1009)	(0.0800)	(0.0935)
RSI	0.6115	0.6139	0.6403	0.6546	0.6787	0.6219	0.6667	0.6398
	(0.667)	(0.667)	(0.667)	(0.667)	(0.667)	(0.667)	(0.667)	(0.667)
	(0.2526)	(0.2516)	(0.2541)	(0.2614)	(0.2520)	(0.2525)	(0.2566)	(0.2549)
SIZE	21.41	21.61	21.62	21.16	21.27	21.55	21.21	21.41
	(21.22)	(21.46)	(21.46)	(21.06)	(21.10)	(21.38)	(21.07)	(21.25)
	(1.377)	(1.406)	(1.409)	(1.407)	(1.384)	(1.397)	(1.394)	(1.404)
LEV	0.2470	0.2629	0.2485	0.2369	0.2366	0.2528	0.2368	0.2463
	(0.2312)	(0.2438)	(0.2311)	(0.2192)	(0.2125)	(0.2336)	(0.2190)	(0.230)
	(0.1640)	(0.1681)	(0.1657)	(0.1749)	(0.1657)	(0.1657)	(0.1700)	(0.1675)
TURN	2.17	2.12	2.45	2.46	1.90	2.25	2.18	2.22
	(1.61)	(1.75)	(1.82)	(1.85)	(1.44)	(1.68)	(1.65)	(1.66)
	(2.67)	(2.23)	(3.78)	(2.85)	(1.87)	(2.97)	(2.42)	(2.76)
DIVIDEND	2.47	2.38	2.08	3.41	3.77	2.31	3.59	2.82
	(2.46)	(2.41)	(2.05)	(2.91)	(3.39)	(2.28)	(3.075)	(2.54)
	(1.44)	(1.43)	(1.19)	(2.90)	(3.55)	(1.36)	(3.24)	(2.39)
PRICE	5.148	6.533	8.378	728.97	5.665	6.701	6.477	6.611
	(3.8)	(4.335)	(6.28)	(475.37)	(3.533)	(4.702)	(4.161)	(4.507)
	(5.356)	(6.391)	(7.611)	(739.44)	(6.044)	(6.645)	(6.789)	(6.700)
ROA	0.1024	0.0670	0.0513	0.0804	0.0933	0.0736	0.0868	0.07895
	(0.0751)	(0.058)	(0.0482)	(0.0691)	(0.0752)	(0.060)	(0.0715)	(0.067)
	(0.1013)	(0.1104)	(0.0930)	(0.0726)	(0.0755)	(0.1038)	(0.0742)	(0.0932)
TQ	1.79	1.42	1.15	1.48	1.67	1.45	1.57	1.50
	(1.50)	(1.24)	(0.99)	(1.16)	(1.34)	(1.23)	(1.26)	(1.24)
	(0.9327)	(1.208)	(0.6910)	(0.9593)	(1.078)	(0.9994)	(1.022)	(1.00)
RETURN	0.1708	0.2840	0.2128	−0.1191	−0.5253	0.2227	−0.32228	0.0008
	(0.1988)	(0.1988)	(0.2114)	(−0.0805)	(−0.3770)	(0.2265)	(−0.2380)	(0.0976)
	(0.2281)	(0.2519)	(0.1920)	(0.3526)	(0.5595)	(0.2259)	(0.5092)	(0.4553)

Tables 2 and 3 report the correlation matrix among the independent variables. In the correlation matrix, we attempt to identify whether the correlation between the independent variables is higher than .80 (and therefore to be considered of concern; Belsley, Kuh, & Welsch, 1980). Looking at both correlation matrices, we find nothing that raises alarm.

Table 2. Pearson's Correlation Matrix.

This table presents Pearson's correlation matrix for the main variables used in our analysis. *BCII* is the score of board composition and independence index; *BPPI* is the score of board process and practice index; *CI* is the score of compensation index; *AAI* is the score of accountability and audit index; *RSI* is the score of relations with shareholders; *SIZE* is the natural logarithm of total assets; *LEV* is the percentage of total debt to total assets; *TURN* is the annual share volume over the year to shares outstanding; *DIVIDEND* is the dividends per share to market price-year end × 100; *PRICE* is the annual average stock price; *ROA* is the percentage of net income to total assets; *TQ* is the market value of equity plus total debts to total assets. *RETURN* is the annual (end-of-year) geometric stock rate of return.

Variables	*BCII*	*BPPI*	*CI*	*AAI*	*RSI*	*SIZE*	*LEV*	*TURN*	*DIVIDEND*	*PRICE*	*ROA*	*TQ*	*RETURN*
BCII	1.0000												
BPPI	.2007***	1.0000											
CI	.1442***	.1087***	1.0000										
AAI	.2089***	.1928***	.4504***	1.0000									
RSI	.0990***	.0421	−.0398	.1045***	1.0000								
SIZE	.0170	.0123	−.0273	.0799**	.0603	1.0000							
LEV	.1769***	−.0068	.0206	.0405	.0728*	.2634***	1.0000						
TURN	.1954***	.1097	.0754**	.1889***	−.0286	.0847**	.1304***	1.0000					
DIVIDEND	.1203***	.0189	.0738*	.1321***	.1260***	.1019***	.2469***	−.1351***	1.0000				
PRICE	−.0469	−.0723*	.0741*	.0015	−.0006	.2217***	−.0979**	−.1362***	−.1706***	1.0000			
ROA	−.0778 **	−.0518	.0187	−.0783**	−.0443	−.2416***	−.2706***	−.0810**	−.0920**	.2950***	1.0000		
TQ	−.0831**	−.0192	.0158	−.0673*	−.0114	−.4253***	−.0808**	−.0090	−.2545***	.2739***	.6026***	1.0000	
RETURN	−.1493***	−.0402	−.0287	−.1188***	−.0646*	−.0908**	−.134***	−.0390	−.4004***	.2983***	.3202***	.3512***	1.0000

*p = 10% **p = 5% ***p = 1%

Table 3. Pearson's Correlation Matrix.

This table presents Pearson's correlation matrix for the main variables used in our analysis. *CG_SCORE* is the total CG score; *SIZE* is the natural logarithm of total assets; *LEV* is the percentage of total debt to total assets; *TURN* is the annual share volume over the year to shares outstanding; *DIVIDEND* is the dividends per share to market price-year end × 100; *PRICE* is the annual average stock price; *ROA* is the percentage of net income to total assets; *TQ* is the market value of equity plus total debts to total assets; *RETURN* is the annual (end-of-year) geometric stock rate of return.

Variables	*CG_SCORE*	*SIZE*	*LEV*	*TURN*	*DIVIDEND*	*PRICE*	*ROA*	*TQ*	*RETURN*
CG_SCORE	1.0000								
SIZE	.0310	1.0000							
LEV	.1376***	.2634***	1.0000						
TURN	.1586***	.0847**	.1304***	1.0000					
DIVIDEND	.1745***	.1019***	.2469***	−.1351***	1.0000				
PRICE	−.0718	.2217***	−.0979**	−.1362***	−.1706***	1.0000			
ROA	−.1118 ***	−.2416***	−.2706***	−.0810**	−.0920**	.2950***	1.0000		
TQ	−.1091***	−.4253***	−.0808**	−.0090	−.2545***	.2739***	.6026***	1.0000	
RETURN	−.1601***	−.0908**	−.134***	−.0390	−.4004***	.2983***	.3202***	.3512***	1.0000

*p = 10% **p = 5% ***p = 1%.

Econometric Analysis

Regression results of CG and total major shareholdings.

To test the relationship between total major shareholdings (*TOTAL_MAJ*) and CG scores, we use two types of models. We first perform a regression using the lagged value of CG; by using ($t - 1$) variable, as it is expected that investors (major shareholders) may take time to react after they assess the information disclosed in the annual reports, and to minimize the simultaneity problem. In Model 2, we examine the impact of the previous year's change in CG as well as the changes in the control variables on those of the major shareholdings. Here, we test whether levels of and changes in major shareholdings are associated with levels of and changes in governance mechanisms.

In Table 4, Model 1, major shareholding (*TOTAL_MAJ*) is the dependent variable, while firm-level governance index is the explanatory variable of interest; this is lagged by 1 year. Therefore, if major shareholding is for period *t*, the *CG_SCORE* is measured at period $t - 1$. We also include all of the control variables identified in the existing literature. Our results show that *CG_SCORE* is positively associated with major shareholdings. This means that major shareholders consider CG when making their investment decisions.

Table 4. Regression Results of Corporate Governance (CG) Score and Total Major Shareholdings.
This table presents the regression results of total major shareholdings and CG score. In Model 1, we examine the impact of previous year's CG score on major shareholdings; in Model 2, we examine previous year's changes in CG and its impact on changes of major shareholdings and other control variables. Δ denotes change in the variable; *TOTAL_MAJ* is the percentage of shares owned by shareholders with at least 3% of the company shares; *CG_SCORE* is the total CG score; *SIZE* is the natural logarithm of total assets; *LEV* is the percentage of total debt to total assets; *TURN* is the annual share volume over the year to shares outstanding; *DIVIDEND* is the dividends per share to market price-year end × 100; *PRICE* is the annual average stock price; *ROA* is the percentage of net income to total assets; *TQ* is the market value of equity plus total debts to total assets; *RETURN* is the annual (end-of-year) geometric stock rate of return. These models provide *t* statistics or *z* statistics (in parentheses) depending on the used regression fixed effect or random effect, respectively.

Variables	*TOTAL_MAJ*/Model 1	Variables	Δ*TOTAL_MAJ*/Model 2
Intercept	1.28 (16.80)***	Intercept	.0225 (1.35)
LAG (*CG_SCORE*)	.1012 (1.85)*	LAG (Δ*CG SCORE*)	.0994 (1.39)
SIZE	−.0004 (−0.01)	Δ*SIZE*	−.1117 (−1.04)
LEV	.0547 (2.89)*	Δ*LEV*	.0620 (1.97)**
TURN	.0443 (1.86)*	Δ*TURN*	.0483 (2.53)**
DIVIDEND	−.0010 (−0.05)	Δ*DIVIDEND*	.0242 (1.08)
PRICE	−.0230 (−0.45)	Δ*PRICE*	.1015 (1.58)
ROA	−.0108 (−0.66)	Δ*ROA*	.0055 (0.37)
TQ	.0043 (0.10)	Δ*TQ*	−.0613 (−1.19)
RETURN	−.0547 (−3.29)***	Δ*RETURN*	−.0400 (−2.63)***
R^2	.0976	R^2	.0655
Observations	556	Observations	417
Groups	139	Groups	139
Hausman test/Prob > χ^2	.000	Hausman test/Prob > χ^2	.2045

*p = 10% **p = 5% ***p = 1%.

Model 1 also indicates that major shareholders prefer companies with high leverage and companies with high liquidity. In addition, it shows that they prefer companies with lower stock returns. Model 2 addresses the results for regression analyses, with changes in major shareholding as the dependent variable. The main explanatory variable is the lagged changes in CG score; all other independent variables are expressed in terms of changes. The results show that changes in major shareholdings are not significantly associated with changes in the CG score. These results provide empirical support for H1, and the findings of previous studies that indicated the importance of CG to investors (Ferreira & Matos, 2008; Giannetti & Simonov, 2006; Khurshed et al., 2011). It also provides further empirical support for agency theory. One theoretical implication of this finding is that the investors have strong incentives to choose stocks of corporations with good governance structures. Hence, companies commit to high levels of *CG_SCORE* to alleviate agency conflicts (agency theory), making the company more attractive to investors by increasing investor trust.

The previous tests show that *CG_SCORE* affects major shareholdings (*TOTAL_MAJ*); however, we are also interested in examining the impact of particular CG provisions on major shareholdings. Thus, following the study of Chung and Zhang (2011), which examined the impact of certain CG mechanisms on institutional shareholdings, we will examine the impact of CG sub-indices on major shareholdings. Table 5 represents the results of the relationship between CG sub-indices and total major shareholdings (*TOTAL_MAJ*). We run two different regression models, as in Table 4. In Model 1, the results indicate that the board composition and the independence index (*BCII*) have a significant and positive relationship with major shareholdings. This indicates that major shareholders consider the *BCII* when taking their investment decisions. Chung and Zhang (2011) arrived at the same result, but they considered only institutional investors, and their results indicated that board composition is one of the most important provisions that attract institutional investors. Model 1 also indicates that major shareholders also prefer companies with high leverage and lower stock returns. This result suggests that H2 is empirically supported; the results show that the *BCII* is the only CG index that matters for the investment decisions of total major shareholders. This evidence supports the results of past studies. Chung and Zhang (2011) indicated that board composition is one of the most important provisions that attract institutional investors. In a study of the United Kingdom, Khurshed et al. (2011) found that institutional major shareholdings are positively associated with board composition. In addition, the study of McCahery et al. (2010) indicated that, among other factors, board independence was considered important by institutional investors.

Model 2 addresses the changes in CG sub-indices and their effects on the changes in major shareholdings. We find that changes in CG sub-indices do not have any significant relationship with changes in major shareholdings. Regarding the other control variables, the results indicate that changes in leverage and liquidity have the same positive association with the changes in major shareholdings. Also, this result indicates that changes in PRICE have a positive relationship with changes in major shareholdings, but changes in stock return have a negative relationship with changes in major shareholdings.

Table 5. Regression Results of Corporate Governance (CG) Sub-Indices and Total Major Shareholdings.

This table presents the regression results of total major shareholdings and CG sub-indices. In Model 1, we examine the impact of previous year's CG sub-indices on major shareholding; in Model 2, we examine previous year's changes in CG sub-indices impact on changes of major shareholding. Δ denotes change in the variable; *TOTAL_MAJ* is the percentage of shares owned by shareholders with at least 3% of the company shares; *BCII* is the score of board composition and independence index; *BPPI* is the score of board process and practice index; *CI* is the score of compensation index; *AAI* is the score of accountability and audit index; *RSI* is the score of relations with shareholders; *SIZE* is the natural logarithm of total assets; *LEV* is the percentage of total debt to total assets; *TURN* is the annual share volume over the year to shares outstanding; *DIVIDEND* is the dividends per share to market price-year end × 100; *PRICE* is the annual average stock price; *ROA* is the percentage of net income to total assets; *TQ* is the market value of equity plus total debts to total assets. *RETURN* is the annual (end-of-year) geometric stock rate of return. These models provide *t* statistics or *z* statistics (in parentheses) depending on the used regression fixed effect or random effect, respectively.

Variables	*TOTAL_MAJ*/Model 1	Variables	Δ*TOTAL_MAJ*/Model 2
Intercept	1.43 (239.33)***	Intercept	0228 (1.30)
LAG (*BCII*)	.0623 (2.27)**	LAG (Δ*BCII*)	.0469 (1.63)
LAG (*BPPI*)	−.0267 (−0.97)	LAG (Δ*BPPI*)	−.0202 (−0.57)
LAG (*CI*)	−.0318 (−0.96)	LAG (Δ*CI*)	−.0555 (−1.35)
LAG (*AAI*)	.0270 (0.73)	LAG (Δ*AAI*)	.0374 (1.06)
LAG (*RSI*)	−.0094 (−0.28)	LAG (Δ*RSI*)	.0287 (0.71)
SIZE	−.0255(−0.30)	Δ*SIZE*	−.1444 (−1.35)
LEV	.0574 (1.84)*	Δ*LEV*	.0662 (2.04)**
TURN	.0399 (1.65)	Δ*TURN*	. 0454 (2.36)**
DIVIDEND	−.0022(−0.11)	Δ*DIVIDEND*	.0225 (1.05)
PRICE	−.0009 (−0.02)	Δ*PRICE*	.1187 (1.87)*
ROA	−.0117 (−0.71)	Δ*ROA*	.0049 (0.32)
TQ	−.0102 (−0.24)	Δ*TQ*	−.0729 (−1.46)
RETURN	−.0579 (−3.33)***	Δ*RETURN*	−.0440 (−2.80)***
R^2	.1461	R^2	.0779
Observations	556	Observations	417
Groups	139	Groups	139
Hausman test/Prob > χ^2	0.0000	Hausman test/Prob > χ^2	.4673

*p = 10% **p = 5% ***p = 1%.

Regression Results of CG and Total Major Shareholdings Pre and During the Financial Crisis

One of the main contributions of this study is to examine an important policy question of whether firm-level CG affects the major shareholdings before and during global financial crisis periods. To test whether this relationship was affected by the credit crunch, we classify the time period of the analysis into pre-crisis (2005-2007) and during-crisis (2008-2009) periods, and retest the previous relationship for both these periods. Table 6 illustrates the regression analysis; the results show the impact of the previous year's CG scores on major shareholdings. This model indicates that the relationship has changed in the period during the crisis, as there was no relationship between CG and major shareholdings in the pre-crisis period. Investors may therefore pay less attention to the quality of CG when

Table 6. Regression Results of the Relation Between Corporate Governance (CG) Score and Total Major Shareholdings Pre and During the Financial Crisis.
This table presents the regression results of total major shareholdings and CG score pre and during the financial crisis. We examine previous year's CG impact on major shareholdings pre and during the financial crisis. *TOTAL_MAJ* is the percentage of shares owned by shareholders with at least 3% of the company shares; *CG_SCORE* is the total CG score; *SIZE* is the natural logarithm of total assets; *LEV* is the percentage of total debt to total assets; *TURN* is the annual share volume over the year to shares outstanding; *DIVIDEND* is the dividends per share to market price-year end × 100; *PRICE* is the annual average stock price; *ROA* is the percentage of net income to total assets; *TQ* is the market value of equity plus total debts to total assets. *RETURN* is the annual (end-of-year) geometric stock rate of return. These models provide *t* statistics (in parentheses).

Variables	Pre-crisis (Model1)	During crisis (Model 2)
Intercept	1.20 (10.96)***	1.14 (6.68)***
LAG (*CG_SCORE*)	.1274 (1.56)	.2198 (1.84)*
SIZE	−.2071 (−1.03)	−.2970 (−0.96)
LEV	.0831 (1.80)*	.1201 (1.68)*
TURN	−.0142 (−0.43)	.0586 (2.51)**
DIVIDEND	−.2164 (−2.39)**	.0364 (1.40)
PRICE	.3310 (1.82)*	.1574 (1.68)*
ROA	−.0119 (−0.67)	−.0095 (−0.43)
TQ	−.2777 (−2.28) **	−.1700 (−1.67)*
RETURN	−.0455 (−2.15)**	−.0086 (−0.30)
R^2	.2068	.1356
Observations	278	278
Groups	139	139
Hausman test/Prob > χ^2	.0000	.0001

*p = 10% **p = 5% ***p = 1%.

investment opportunities are plentiful (Table 6, Model 1). However, in the during-crisis period, there is a positive and significant relationship between CG and major shareholdings (Table 6, Model 2). This means that the improvement in CG (3.43% increase in *CG_SCORE* during the crisis period) attracted more shareholders to allocate their investments. It also indicates that major shareholders considered CG an important factor in their portfolio choices during the financial crisis. Therefore, we accept H4, confirming that the relationship between CG scores and major shareholdings has changed during the financial crisis.

Regarding the CG sub-indices, Table 7 shows the results of the regression between CG sub-indices and major shareholdings before and during the financial crisis. The relationship between *BCII* and major shareholding (*TOTAL_MAJ*) has changed in the period during the financial crisis, as there was no significant relationship between *BCII* and major shareholdings before the financial crisis (Table 7, Model 1). However, during the crisis period, there is a significant and positive relation between them. This means that the improvement in BCII (there was a 5.84% increase in *BCII* during the crisis period) attracts major shareholders. There are increases in other CG sub-indices during the crisis period compared with those found before the crisis. However, Table 7 (Model 2) indicates that there are no

Table 7. Regression Results of the Relation Between Corporate Governance (CG) Sub-Indices and Total Major Shareholdings Pre and During the Financial Crisis.

This table presents the regression results of total major shareholdings on CG sub-indices. We examine previous year's CG sub-indices impact on major shareholdings pre and during the financial crisis. *TOTAL_MAJ* is the percentage of shares owned by shareholders with at least 3% of the company shares; *BCII* is the score of board composition and independence index; *BPPI* is the score of board process and practice index; *CI* is the score of compensation index; *AAI* is the score of accountability and audit index; *RSI* is the score of relations with shareholders; *SIZE* is the natural logarithm of total assets; *LEV* is the percentage of total debt to total assets; *TURN* is the annual share volume over the year to shares outstanding; *DIVIDEND* is the dividends per share to market price-year end × 100; *PRICE* is the annual average stock price; *ROA* is the percentage of net income to total assets; *TQ* is the market value of equity plus total debts to total assets. *RETURN* is the annual (end-of-year) geometric stock rate of return. These models provide *t* statistics (in parentheses).

Variables	Pre-crisis (Model 1)	During crisis (Model 2)
Intercept	1.39 (58.26)***	1.46 (33.67)***
LAG (*BCII*)	.0403 (1.12)	.1116 (2.07)**
LAG (*BPPI*)	−.0269 (−0.66)	.0691 (1.00)
LAG (*CI*)	.0125 (0.25)	−.1762 (−1.47)
LAG (*AAI*)	.0439 (1.00)	.0020 (0.03)
LAG (*RSI*)	.0876 (1.01)	.0058 (0.13)
SIZE	−.2260 (−0.99)	−.3248 (−1.22)
LEV	.0751 (1.57)	.0754 (1.23)
TURN	−.0167 (−0.54)	.0655 (2.78)***
DIVIDEND	−.2132 (−2.33)**	.0443 (1.72)*
PRICE	.3474 (1.67)*	.1560 (1.67)*
ROA	−.0120 (−0.56)	.0023 (0.11)
TQ	−.2957 (−2.06)**	−.1505 (−1.52)
RETURN	−.0416 (−1.96)*	−.0200 (−0.72)
R^2	.2253	.1874
Observations	278	278
Groups	139	139
Hausman test/Prob > χ^2	.0000	.0164

*p = 10% **p = 5% ***p = 1%.

changes in the relation between other CG sub-indices and major shareholdings before and during the crisis period. This result is consistent with other results, indicating that *BCII* is more important than other CG sub-indices. This result reveals that board of directors is an important internal CG mechanism that monitors and advises management to protect shareholders' interest and offers empirical support for the results of Adams and Ferreira (2007) and Francis et al. (2012).

Regression Results of CG and Different Types of Major Shareholdings

To examine if different types of major shareholders have different preferences of CG (H3), the previous multiple regressions that examine the association between CG and total major shareholdings are reestimated by replacing the *TOTAL_MAJ* with each type of major shareholding. Table 8 shows that CG scores affect the investment decisions of

Table 8. Regression Results of Corporate Governance (CG) Score and Types of Major Shareholdings.

This table presents the regression results of each type of total major shareholdings and previous year's CG score. Each column represents different types of major shareholders starting with column 1 which represents the regression result on *MAJ1*, where *MAJ1* is the percentage of shares owned by pension funds and insurance companies with at least 3% of the company shares; *MAJ2* is the percentage of shares owned by other institutional investors with at least 3% of the company shares; *MAJ3* is the percentage of shares owned by corporations with at least 3% of the company shares;. *MAJ4* is the percentage of shares owned by states, governmental agencies, governmental departments, or local authorities with at least 3% of the company shares. *MAJ5* is the percentage of shares owned by shareholders who are closely tied to the firm, such as managers and directors; *MAJ6* is the percentage of shares owned by other families and individuals who are outsiders; *MAJ7* is the percentage of shares owned by others, such as foundations or research institutes; *CG_SCORE* is the total CG score; *SIZE* is the natural logarithm of total assets; LEV is the percentage of total debt to total assets; *TURN* is the annual share volume over the year to shares outstanding; *DIVIDEND* is the dividends per share to market price-year end × 100; *PRICE* is the annual average stock price; *ROA* is the percentage of net income to total assets; *TQ* is the market value of equity plus total debts to total assets. *RETURN* is the annual (end-of-year) geometric stock rate of return. These models provide *t* statistics or *z* statistics (in parentheses) depending on the used regression fixed effect or random effect, respectively.

Variables	*MAJ1*/Model 1	*MAJ2*/Model 2	*MAJ3*/Model 3	*MAJ4*/Model 4	*MAJ5*/Model 5	*MAJ6*/Model 6	*MAJ7*/Model 7
Intercept	−.2034 (−0.83)	−.2079 (−1.29)	.2096 (1.43)	−.0966 (−1.27)	.0731 (1.09)	.0674 (1.08)	−.0919 (−0.96)
LAG (*CG_SCORE*)	.1864 (1.07)	.1745 (1.69)*	−.0903 (−1.01)	.0744 (1.39)	−.0129 (−0.28)	−.0338 (−1.00)	.1060 (1.56)
SIZE	.5260 (2.14)**	−.2588 (−3.18)***	−.0552 (−0.87)	−.1143 (−1.14)	.1085 (0.81)	.0112 (0.28)	−.2172 (−1.38)
LEV	−.0344 (−0.38)	.0825 (1.50)	.0144 (0.34)	.0631 (1.23)	.0351 (1.03)	−.0078 (−0.36)	.1518 (2.25)**
TURN	.1879 (3.40)***	.0087 (0.21)	.0119 (0.42)	.0157 (1.35)	.0130 (0.60)	.0989 (1.79)*	.0241 (0.99)
DIVIDEND	.0417 (0.79)	.0279 (0.66)	−.0910 (−2.43)**	−.0272 (−1.30)	.0028 (0.12)	.0061 (0.32)	.0308 (1.06)
PRICE	.1541 (0.91)	−.0725 (−1.06)	−.0532 (−1.08)	.1097 (1.13)	.0089 (0.11)	−.0338 (−1.05)	.1081 (0.72)
ROA	−.0049 (−0.12)	.0012 (0.03)	−.0353 (−1.25)	−.0085 (−0.83)	−.0013 (−0.06)	−.0014 (−0.13)	.0054 (0.18)
TQ	.1186 (0.90)	.0110 (0.15)	−.0763 (−1.46)	−.0972 (−0.90)	.0269 (0.34)	.0352 (1.34)	−.1510 (−1.33)
RETURN	−.1510 (−4.03)***	−.0775 (−2.37)**	−.0339 (−1.41)	−.0073 (−0.75)	.0018 (0.14)	−.0238 (−1.56)	.0651 (2.01)**
R^2	.1184	.1312	.0319	.0452	.0186	.0281	.0548
Observations	556	556	556	556	556	556	556
Groups	139	139	139	139	139	139	139
Hausman test/Prob > χ^2	.000	.5028	.0826	.0265	.0003	.1249	.0474

*p = 10% **p = 5% ***p = 1%.

Table 9. Regression Results of Corporate Governance (CG) Scores and Types of Major Shareholdings (Previous Year's Change in CG).

This table presents the regression result of the previous year's change of *CG_SCORE* and the changes of each type of major shareholdings. Each column represents different types of major shareholdings starting with column 1 which represents the regression result on *MAJ1*, where Δ denotes change in the variable; *MAJ1* is the percentage of shares owned by pension funds and insurance companies with at least 3% of the company shares; *MAJ2* is the percentage of shares owned by other institutional investors with at least 3% of the company shares; *MAJ3* is the percentage of shares owned by corporations with at least 3% of the company shares; *MAJ4* is the percentage of shares owned by states, governmental agencies, governmental departments or local authorities with at least 3% of the company shares. *MAJ5* is the percentage of shares owned by shareholders who are closely tied to the firm, such as managers and directors; *MAJ6* is the percentage of shares owned by other families and individuals who are outsiders; *MAJ7* is the percentage of shares owned by others, such as foundations or research institutes; *CG_SCORE* is the total CG score; *SIZE* is the natural logarithm of total assets; *LEV* is the percentage of total debt to total assets; *TURN* is the annual share volume over the year to shares outstanding; *DIVIDEND* is the dividends per share to market price-year end × 100; *PRICE* is the annual average stock price; *ROA* is the percentage of net income to total assets; *TQ* is the market value of equity plus total debts to total assets. *RETURN* is the annual (end-of-year) geometric stock rate of return. These models provide *t* statistics or *z* statistics (in parentheses) depending on the used regression fixed effect or random effect, respectively.

Variables	Δ*MAJ1*/Model 1	Δ*MAJ2*/Model 2	Δ*MAJ3*/Model 3	Δ*MAJ4*/Model 4	Δ*MAJ5*/Model 5	Δ*MAJ6*/Model 6	Δ*MAJ7*/Model 7
Intercept	.1605 (3.76)***	−.0095 (−0.23)	.0205 (0.87)	.0070 (1.18)	.0153 (0.78)	−.0097 (−0.67)	−.0389 (−1.73)*
LAG (Δ*CG_SCORE*)	−.0353 (−0.20)	.2578 (2.06)**	−.0911 (−0.99)	.0799 (1.32)	−.0193 (−0.44)	−.0294 (−0.51)	.0979 (1.20)
Δ*SIZE*	.4365 (1.86)*	−.2950 (−1.24)	−.1337 (−0.79)	−.1603 (−1.39)	.0912 (0.81)	−.0885 (−1.38)	−.0706 (−0.51)
Δ*LEV*	−.0943 (−0.96)	.1107 (1.46)	.0015 (0.02)	.0653 (1.38)	.0383 (1.18)	.0556 (1.78)*	.0961 (2.01)**
Δ*TURN*	.1693 (2.67)***	−.0259 (−0.56)	.0568 (1.86)*	.0046 (0.82)	.0165 (0.63)	.0199 (0.47)	.0269 (0.96)
Δ*DIVIDEND*	.0394 (0.64)	.0699(1.56)	−.0705 (−2.09)**	−.0125 (−1.26)	.0140 (0.56)	.0142 (0.50)	.0262 (0.98)
Δ*PRICE*	.1322 (0.66)	.1772 (1.16)	−.0520 (−0.44)	.1111 (1.25)	.0070 (0.11)	.1105 (1.46)	.0760 (0.54)
Δ*ROA*	−.0253 (−0.71)	.0517 (1.48)	−.0114 (−0.36)	−.0060 (−1.05)	−.0033 (−0.10)	−.0006 (−0.08)	.0055 (0.17)
Δ*TQ*	.2410 (1.55)	−.0971 (−0.74)	−.1305 (−1.37)	−.0659 (−0.82)	−.0071 (−0.09)	−.0658 (−1.32)	−.0952 (−0.98)
Δ*RETURN*	−.0568 (−1.29)	−.0867 (−2.24)**	−.0095 (−0.37)	−.0112 (−0.81)	.0322 (1.85)*	−.0204 (−1.08)	.0133 (0.48)
R^2	.0639	.0454	.0587	.0334	.0284	.0384	.0229
Observations	417	417	417	417	417	417	417
Groups	139	139	139	139	139	139	139
Hausman test/Prob > χ^2	.9483	.5276	.8096	.9973	.9246	.0088	.9698

*p = 10% **p = 5% ***p = 1%.

other institutional investors (*MAJ2*) but have no effect on the other types of major shareholdings. The positive association between CG and institutional major shareholding offers empirical support for the results of Bushee et al. (2010), Chung and Zhang (2011), Khurshed et al. (2011), and the Russell Reynolds Associates (2003, 2005) survey, pointing out the important role played by firms' CG mechanisms in the investment decisions of institutional investors. Considering control variables, as shown in Table 8, also indicates that *MAJ1* also have preferences for larger firms and firms with higher liquidity, whereas *MAJ2* prefer to invest in small companies with lower returns. In addition, *MAJ3* prefer firms that pay fewer dividends. Similar to *MAJ1, MAJ6* also appear to prefer liquidity. Finally, this analysis shows that *MAJ7* prefer companies with higher leverage and higher stock returns; however, both *MAJ1* and *MAJ2* exhibit contrarian behaviors in terms of stock returns.

In an unreported additional regression that was run using the aggregate institutional investors, the *CG_SCORE* coefficients remain positive and statistically significantly related to the aggregate institutional investors. This may be explained by the fact that institutional shareholders build up large stakes in some companies and therefore have a keen interest in ensuring that companies run well. In conclusion, H3 is supported; the results show that different major shareholders have different preferences regarding CG, providing evidence that only institutional investors consider CG in their investment decisions.

Table 9 indicates that the previous year's changes in CG scores affect only the changes in investment decisions of other institutional investors (*MAJ2*). This is similar to the results reported by Chung and Zhang (2011), meaning that institutional shareholders adjust their investments based on the previous year's changes in CG scores. In terms of the control variables, *MAJ6* and *MAJ7* prefer companies with higher leverage, whereas *MAJ5* prefer higher stock returns. Moreover, we find that insurance companies and pension funds (*MAJ1*) and other companies (*MAJ3*) have the same preferences regarding liquidity, as they prefer more liquid companies. Consistent with other studies, these results indicate that large companies are preferred by insurance companies and pension funds (Kang & Stulz, 1997).

In addition, to examine which CG indices are more important to each type of major shareholder, Table 10 illustrates the results of a regression analysis of CG sub-indices and different types of major shareholdings based on the previous year's CG sub-indices. The results show a positive relationship between *BCII* and *MAJ2*, consistent with the results of Khurshed et al. (2011), who showed a significant positive association between institutional major shareholdings and board composition. Also, Useem, Bowman, Myatt, and Irvine (1993) found that board composition and function are important to institutional investors. In the same vein, the Russell Reynolds Associates (2003, 2005) survey indicated that approximately 80% of UK institutional investors pay significant attention to the quality of a company's board of directors. The results also show that there is a positive relationship between *AAI* and *MAJ1*; illustrating the importance of accountability and auditing to their investment decisions. In summary, the evidence provided above supports H3 in general. That is, major shareholders have different preferences in terms of CG provisions. Table 11 displays the regression analysis of the impact of the previous year's changes in CG sub-indices on changes in each type of major shareholdings. Model 1 shows that the previous year's change in (*AAI*) affects the investment decisions of pension funds and insurance companies (*MAJ1*). Also, the results indicate in Model 2 that the previous year's change in (*BCII*) is positively associated with the change in *MAJ2*.

Table 10. Regression Results of Corporate Governance (CG) Sub-Indices and Types of Major Shareholdings.

This table presents the regression result of the impact of previous year CG sub-indices on different types of major shareholdings, and each column represents different types of major shareholders starting with column 1 which represents the regression result on *MAJ1*, where *MAJ1* is the percentage of shares owned by pension funds and insurance companies with at least 3% of the company shares; *MAJ2* is the percentage of shares owned by other institutional investors with at least 3% of the company shares; *MAJ3* is the percentage of shares owned by corporations with at least 3% of the company shares; *MAJ4* is the percentage of shares owned by states, governmental agencies, governmental departments, or local authorities with at least 3% of the company shares. *MAJ5* is the percentage of shares owned by shareholders who are closely tied to the firm, such as managers and directors; *MAJ6* is the percentage of shares owned by other families and individuals who are outsiders; *MAJ7* is the percentage of shares owned by others), such as foundations or research institutes; *BPPI* is the score of board process and practice index; *CI* is the score of compensation index; *AAI* is the score of accountability and audit index; *RSI* is the score of relations with shareholders; *SIZE* is the natural logarithm of total assets; *LEV* is the percentage of total debt to total assets; *TURN* is the annual share volume over the year to shares outstanding; *DIVIDEND* is the dividends per share to market price-year end × 100; *PRICE* is the annual average stock price; *ROA* is the percentage of net income to total assets; *TQ* is the market value of equity plus total debts to total assets. *RETURN* is the annual (end-of-year) geometric stock rate of return. These models provide *t* statistics or *z* statistics (in parentheses) depending on the used regression fixed effect or random effect, respectively.

Variables	*MAJ1*/Model 1	*MAJ2*/Model 2	*MAJ3*/Model 3	*MAJ4*/Model 4	*MAJ5*/Model 5	*MAJ6*/Model 6	*MAJ7*/Model 7
Intercept	.0961 (6.42)***	.0327 (0.48)	.0698 (1.27)	.0116 (5.42)***	.0578 (8.33)***	.0143 (0.57)	.0607 (1.51)
LAG (*BCII*)	.0163 (0.22)	.1299 (2.31)**	−.0576 (−1.57)	.0069 (0.39)	.0072 (0.27)	−.0053 (−0.43)	−.0354 (−1.19)
LAG (*BPPI*)	.0656 (0.78)	−.0392 (−0.69)	−.0190 (−0.44)	.0148 (0.93)	−.0012 (−0.08)	−.0184 (−0.86)	.0285 (0.80)
LAG (*CI*)	−.0366 (−0.41)	−.0364 (−0.41)	−.0304 (−0.78)	−.0030 (−0.41)	.0198 (0.72)	−.0374 (−0.61)	.0292 (0.64)
LAG (*AAI*)	.3342 (3.61)***	−.0386 (−0.50)	−.0501 (−1.28)	−.0067 (−0.69)	.0269 (0.82)	−.0068 (−0.21)	.0230 (0.74)
LAG (*RSI*)	−.0586 (−0.47)	−.0638 (−0.93)	.0004 (0.01)	.0937 (1.09)	−.0646 (−0.98)	.0047 (0.16)	.0567 (1.60)
SIZE	.4867 (2.00)**	−.2533 (−2.80)***	−.0518 (−0.80)	−.1123 (−1.24)	.1039 (0.77)	.0100 (0.25)	−.0750 (−1.67)*
LEV	−.0367 (−0.41)	.0782 (1.48)	.0177 (0.42)	.0600 (1.28)	.0358 (1.02)	−.0063 (−0.28)	.0775 (1.91)*
TURN	.1742 (3.08)***	.0037 (0.08)	.0150 (0.54)	.0161 (1.35)	.0127 (0.64)	.0986 (1.76)*	.0327 (1.42)
DIVIDEND	.0364 (0.70)	.0334 (0.73)	−.0898 (−2.43)**	−.0275 (−1.36)	.0023 (0.10)	.0063 (0.34)	.0006 (0.03)
PRICE	.1409 (0.81)	−.0623 (−0.81)	−.0475 (−0.96)	.0989 (1.20)	.0134 (0.17)	−.0303 (−1.02)	.0447 (1.01)
ROA	−.0021 (−0.05)	.0004 (0.01)	−.0366 (−1.27)	−.0102 (−0.88)	.0003 (0.02)	−.0024 (−0.21)	−.0064 (−0.23)
TQ	.1013 (0.77)	.0110 (0.15)	−.0753 (−1.43)	−.0862 (−0.94)	.0181 (0.23)	.0361 (1.36)	−.0807 (−1.90)*
RETURN	−.1375 (−3.47)***	−.0840 (−2.13)**	−.0398 (−1.61)	−.0061 (−0.59)	.00326 (0.25)	−.0263 (−1.53)	.0607 (2.04)**
R^2	.1730	.1360	.0530	.0688	.0311	.0313	.0193
Observations	556	556	556	556	556	556	556
Groups	139	139	139	139	139	139	139
Hausman test/ Prob > χ^2	.0000	.5022	.1104	.0095	.0000	.2882	.0998

*p = 10% **p = 5% ***p = 1%.

Table 11. Regression Results of Corporate Governance (CG) Sub-Indices and Types of Major Shareholdings (Previous Year's Change in CG Sub-Indices.
This table presents the regression result of the impact of the previous year's change of CG sub-indices on the changes of different types of major shareholdings, and each column represents different types of major shareholders starting with column 1 which represents the regression result on *MAJ1*. Δ denotes change in the variable; *MAJ1* is the percentage of shares owned by pension funds and insurance companies with at least 3% of the company shares; *MAJ2* is the percentage of shares owned by other institutional investors with at least 3% of the company shares; *MAJ3* is the percentage of shares owned by corporations with at least 3% of the company shares;. *MAJ4* is the percentage of shares owned by states, governmental agencies, governmental departments, or local authorities with at least 3% of the company shares. *MAJ5* is the percentage of shares owned by shareholders who are closely tied to the firm, such as managers and directors; *MAJ6* is the percentage of shares owned by other families and individuals who are outsiders; *MAJ7* is the percentage of shares owned by others, such as foundations or research institutes; *BPPI* is the score of board process and practice index; *CI* is the score of compensation index; *AAI* is the score of accountability and audit index; *RSI* is the score of relations with shareholders; *SIZE* is the natural logarithm of total assets; *LEV* is the percentage of total debt to total assets; *TURN* is the annual share volume over the year to shares outstanding; *DIVIDEND* is the dividends per share to market price-year end × 100; *PRICE* is the annual average stock price; *ROA* is the percentage of net income to total assets; *TQ* is the market value of equity plus total debts to total assets. *RETURN* is the annual (end-of-year) geometric stock rate of return. These models provide *t* statistics or *z* statistics (in parentheses) depending on the used regression fixed effect or random effect, respectively.

Variables	Δ*MAJ1*/Model 1	Δ*MAJ2*/Model 2	Δ*MAJ3*/Model 3	Δ*MAJ4*/Model 4	Δ*MAJ5*/Model 5	Δ*MAJ6*/Model 6	Δ*MAJ7*/Model 7
Intercept	.1500 (3.42)***	−.0060 (−0.17)	.0262 (1.09)	.0064 (1.09)	.0142 (0.74)	−.0103 (−0.67)	−.0398 (−1.71)*
LAG (Δ*BCII*)	−.0706 (−0.88)	.1404 (2.01)**	−.0161 (−0.48)	.0321 (0.98)	.0020 (0.06)	−.0372 (−1.52)	−.0051 (−0.11)
LAG (Δ*BPPI*)	.0211 (0.23)	−.0373 (−0.51)	−.0911 (−1.50)	−.0087 (−0.96)	.0234 (1.48)	.0268 (1.61)	.0764 (1.48)
LAG (Δ*CI*)	−.0656 (−0.94)	−.0058 (−0.07)	−.0822 (−1.77)	−.004 (−0.79)	−.0119 (−0.65)	−.0820 (−1.33)	.0275 (0.86)
LAG (Δ*AAI*)	.2628 (2.81)***	−.0445 (−0.51)	−.0008 (−0.02)	.0053 (0.79)	.0338 (0.99)	.0228 (1.14)	.0040 (0.31)
LAG (Δ*RSI*)	−.0648 (−0.45)	.0449 (0.48)	−.0232 (−0.35)	.0513 (1.02)	−.0903 (−1.27)	.0869 (1.32)	.0484 (1.45)
Δ*SIZE*	.4259 (1.82)*	−.3380 (−1.49)	−.1707 (−1.03)	−.1691 (−1.41)	.0859 (0.74)	−.0995 (−1.43)	−.0504 (−0.36)
Δ*LEV*	−.0810 (−0.86)	.1086 (1.65)	.0111 (0.18)	.0646 (1.39)	.0416 (1.25)	.0551 (1.92)*	.0878 (1.91)*
Δ*TURN*	.1566 (2.50)**	−.0272 (−0.59)	.0540 (1.85)*	.0045 (0.81)	.0135 (0.60)	.0256 (0.63)	.0293 (1.02)
Δ*DIVIDEND*	.0351 (0.57)	.0684 (1.46)	−.0731 (−2.15)**	−.0141 (−1.29)	.0164 (0.65)	.0137 (0.48)	.0279 (1.04)
Δ*PRICE*	.1217 (0.61)	.2062 (1.27)	−.0281 (−0.24)	.1151 (1.29)	.0103 (0.16)	.1220 (1.54)	.0608 (0.43)
Δ*ROA*	−.0243 (−0.67)	.0505 (1.37)	−.0115 (−0.36)	−.0077 (−1.05)	.00007 (0.00)	−.0024 (−0.25)	.0050 (0.16)
Δ*TQ*	.2381 (1.59)	−.1149 (−0.98)	−.1496 (−1.59)	−.0680 (−0.88)	−.0108 (−0.14)	−.0689 (−1.51)	−.0799 (−0.82)
Δ*RETURN*	−.0586 (−1.31)	−.0915 (−2.10)**	−.0136 (−0.52)	−.0118 (−0.77)	.0301 (1.73)*	−.0217 (−1.15)	.0159 (0.58)
R^2	.0921	.0519	.0774	.0385	.0465	.0855	.0310
Observations	417	417	417	417	417	417	417
Groups	139	139	139	139	139	139	139
Hausman test/Prob > χ^2	.9959	.7744	.7174	.9977	.9746	.0101	.9053

*p = 10% **p = 5% ***p = 1%.

Robustness Checks

We conducted a series of tests to ensure that our results are rigorous. First, we include the percentage of free float; the percentage of total equity that is not controlled by major shareholders. This extra variable may be correlated with major shareholdings and has therefore been added as a control variable (*FREE_FLOAT*). Dahlquist, Pinkowitz, Stulz, and Williamson (2003) indicated that investors considered a company's free float in their investment in Swedish stocks. Again, the results are similar, indicating that the CG coefficient remains positive and significant and suggesting that this omitted variable is unlikely to explain our results (see Table 12, Model 1). Second, we also include eight dummies for the industry sector to control for the fact that major shareholdings and CG may be industry dependent. We control for industry effects through the incorporation of industry-specific dummy variables (corresponding to the industry classification benchmark), to control for any preferences major shareholders have for particular industries. Grosfeld and Hashi (2005) found that ownership concentration may vary across industries. The results are also invariant when adding the industry dummy variables in the regression between CG and *MAJ1*. The *CG_SCORE* coefficient remained positive and insignificant (see Table 12, Model 2). Third, to address the issue of endogenous determination of *MAJ2*, in our analysis we use both the lagged values as explanatory variables. We also perform a change regression and, as an additional robustness check, the changes regression analysis is run in the reverse direction; Aggarwal et al. (2010) followed the same technique. Therefore, to determine if CG attracts *MAJ2* or if *MAJ2* drives improvement in CG, the change in *MAJ2* is considered as the explanatory variable and the change in CG as the dependent variable. The results of this reverse change regression revealed that the coefficient of the change in *MAJ2* is statistically insignificant (see Table 12, Model 3). This result provides evidence that CG affects *MAJ2*, but *MAJ2* does not appear to affect governance. Thus, with an improvement in firm-level governance, *MAJ2* increases.

Table 12. Results of Robustness Checks.

Table 12 presents the results of robustness checks. Model 1 provides the fixed-effect regression results when we add the *FREE_FLOAT*, which is the proportion of total equity that is not controlled by major holders as an additional independent variable. Model 2 provides the random-effect regression analysis when we add industry dummy variables to the regression between *MAJ1* and CG. Model 3 provides the random-effect regression results when we run the change regression in the reverse direction by using the change in *MAJ2* as the explanatory variable and the change in CG as the dependent variable. All variables are fully defined in Table 1. These models provide *t* statistics or *z* statistics (in parentheses) depending on the used regression fixed effect or random effect, respectively.

Variables	*TOTAL_MAJ*/Model 1	*MAJ1*/Model 2	Variables	Δ*CG_SCORE*/Model 3
Intercept	1.29 (18.02)***	−.7432 (−3.91)***	Intercept	.0470 (3.31)***
LAG (*CG_SCORE*)	.0990 (1.94)*	.2053 (1.86)	LAG (Δ*CG_SCORE*)	
LAG (Δ*MAJ2*)			LAG (Δ*MAJ2*)	.0081 (0.42)
SIZE	.0097 (0.12)	.0173 (0.23)	Δ*SIZE*	.1437 (1.64)
LEV	.0491 (1.64)	.0427 (0.69)	Δ*LEV*	.0098 (0.31)
TURN	.0398 (1.74)*	.1967 (4.54)***	Δ*TURN*	.0039 (0.16)
DIVIDEND	.00005 (0.00)	.0516 (1.20)	Δ*DIVIDEND*	−.0007 (−0.03)
PRICE	−.0197 (−0.42)	.1527 (2.10)**	Δ*PRICE*	−.0939 (−1.54)
ROA	−.0072 (−0.46)	−.0148 (−0.36)	Δ*ROA*	−.0006 (−0.04)
TQ	.0059 (0.15)	.0040 (0.07)	Δ*TQ*	.0272 (0.51)
FREE_FLOAT	−.0814 (−3.36) ***	NA	Δ*FREE_FLOAT*	
RETURN	−.0565 (−3.57) ***	−.1509 (−4.42) ***	Δ*RETURN*	.0194 (1.44)

(continued)

Table 12. (continued)

Variables	*TOTAL_MAJ*/Model 1	*MAJ1*/Model 2	Variables	Δ*CG_SCORE*/Model 3
Industry dummy		Yes	Industry dummy	
R^2	.1696	.1356	R^2	.0157
Observations	556	556	Observations	417
Groups	139	139	Groups	139
Hausman test/ Prob $> \chi^2$	.0000		Hausman test Prob $> \chi^2$	.9001

Note. NA = not applicable.
*p = 10% **p = 5% ***p = 1%.

Summary and Concluding Remarks

This study investigates whether the quality of firm-level CG has any effect on the investment decisions of major shareholders in the United Kingdom from 2005 to 2009 (both before and during the financial crisis). The study is novel in that it uses a new, detailed classification for major shareholdings to explore the heterogeneity of different major shareholders regarding their preferences about CG. Using a sample of 139 UK FTSE 350 companies, the results indicate that CG compliance in the United Kingdom has increased over the study period. The results also provide evidence that CG during the financial crisis is considerably different compared with the period prior to the financial crisis. Generally, UK listed companies appear to be motivated to comply more with the CG code recommendations during a financial crisis to rebuild shareholder trust and to improve their ability to get external funds at lower cost. This also implies that the companies' decision to comply with CG is more likely to be influenced by institutional pressures.

Our results show that the significant positive relationship between CG and total major shareholdings that is present for the whole period is driven mainly by the CG sub-index board composition and independence. Our analysis also shows that different major shareholders have different investment and governance preference. For example, *MAJ1* is concerned only with *AAI* and *BCII* is the only CG sub-index that matters to other institutional investors (*MAJ2*). When testing this relationship before and during the crisis, the results revealed that the insignificant effect of *CG_SCORE* in the pre-crisis period became significant during the financial crisis period, indicating that major shareholders viewed CG as particularly important during the crisis. Therefore, this study fills an important gap in the literature by providing an understanding of the role CG (and specifically board structure) plays in attracting major shareholders during crisis periods.

The implications of our results can indicate the path that should be followed by a company if it has the desire to increase its shareholder base. For example, improving a particular set of CG provisions may help companies attract a particular group of major shareholders. Our results also provide evidence that during times of financial trouble, CG has greater influence as a mechanism to attract investors.

Finally, our study focuses on investigating the heterogeneity of the investment preferences of different types of major shareholders in UK listed companies. Therefore, future research is needed to study heterogeneity in another institutional setting with less investor protection or within a cross-country context, which will provide a more explicit generalization of our results. Furthermore, as our sample is restricted to non-financial firms, future studies may enhance the analysis by investigating financial firms. In addition, our analysis mainly focused on internal CG mechanisms; thus, it might be interesting to investigate the effects of external CG mechanisms on the investment decisions of major shareholders.

Appendix

Corporate Governance Index (CGI) components

This table identifies the criteria used in constructing the governance index. A total score for each firm is calculated each year.

CG sub-indices	CG variables	Provisions of the combined code (Financial Reporting Council, 2003)	Decision rule 1 = *yes*, 0 = *no*
BCII	1. There should be a clear division of the roles of the chairman and chief executive.	A.2.1	1/0
	2. The chairman should, upon appointment, meet the independence criteria.	A.2.2	1/0
	3. At least half the board, excluding the chairman, should include non-executive directors determined by the board to be independent.	A.3.2	1/0
	4. The board should be of sufficient size.[a]	Supporting principle	1/0
	5. The board should appoint one of the independent non-executive directors to be the senior independent director.	A.3.3	1/0
BPPI	6. The board should meet sufficiently regularly.[b]	A.1.1	1/0
	7. The chairman should hold meetings with the non-executive directors without the executives present.	A.1.3	1/0
	8. The company has a nomination committee.	A.4.1	1/0
	9. A majority of the nomination committees should be independent non-executive directors.	A.4.1	1/0
	10. The chairman of the nomination committee is an independent non-executive director.	A.4.1	1/0
	11. All directors should have access to the advice and services of the company secretary.	A.5.3	1/0
	12. New directors should receive a full, formal and tailored induction on joining the board.	A.5.1	1/0
	13. Non-executive directors have access to independent professional advice at the company's expense.	A.5.2	1/0
	14. All directors should be submitted for reelection at regular intervals.	A.7.1	1/0
	15. There should be an insurance cover for legal action against directors.	A.1.5	1/0
CI	16. The company has a remuneration committee.	B.2.1	1/0
	17. All members of the remuneration committee are independent non-executive directors.	B.2.1	1/0
	18. Remuneration for non-executive directors should not include share options.	B.1.3	1/0
AAI	19. The company has an audit committee.	C.3.1	1/0
	20. All members of the audit committee should be independent non-executive directors.	C.3.1	1/0

(continued)

Appendix (continued)

CG sub-indices	CG variables	Provisions of the combined code (Financial Reporting Council, 2003)	Decision rule 1 = *yes*, 0 = *no*
	21. At least one member of the audit committee should have financial expertise.	C.3.1	1/0
	22. The board should, at least annually, conduct a review of the effectiveness of the internal control system.	C.2.1	1/0
	23. There should be a board statement on the going-concern status of the firm.	C.1.2	1/0
RSI	24. Chairmen of the audit, remuneration, and nomination committees should be available to answer questions at the AGM, and all directors should also attend.	D.2.3	1/0
	25. Steps taken to ensure that the members of the board develop an understanding of the views of major shareholders should be disclosed in the annual report.	D.1.2	1/0
	26. Notice of the AGM and related papers to be sent to shareholders at least 20 working days before the meeting.	D.2.4	1/0

Note. CG = corporate governance; *BCII* = Board Composition and Independence Index; *BPPI* = Board Practices and Processes Index; *CI* = Compensation Index; *AAI* = Accountability and Audit Index; *RSI* = Relations with Shareholders Index; AGM = Annual General Meeting.

[a]This item will be measured by calculating the average board size of all companies and considering this average as a benchmark. The company will be given a score of 1 if the board size is equal to or less than this average; otherwise, the score will be 0.

[b]This item will be measured by calculating the average number of board meetings for all of the companies and considering this average as a benchmark. The company will be given a score of 1 if the number of board meetings is equal to or more than this average; otherwise, the score will be 0.

Acknowledgments

The authors gratefully acknowledge the helpful comments from Bharat Sarath, the Editor, and the anonymous referees. They also appreciate the helpful comments and suggestions from Tantawy Moussa (University of Westminster) during the preparation of the article.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. Major shareholders include unit trust 9.6%, insurance companies 6.2%, and pension funds 4.7% (Office for National Statistics [ONS], 2012).
2. This article considers the influence of the financial crisis had started in 2008; this is why the study classifies the time period to pre-crisis (2005-2007) and during crisis (2008-2009).
3. The current version of the code is referred to as the UK Corporate Governance Code (2012).

References

Adams, R., & Ferreira, D. (2007). A theory of friendly boards. *Journal of Finance*, *62*, 217-250.

Aggarwal, R., Erel, I., Ferreira, M., & Matos, P. (2010). Does governance travel around the world? Evidence from institutional investors. *Journal of Financial Economics*, *100*, 154-181.

Aggarwal, R., Klapper, L., & Wysocki, P. (2005). Portfolio preferences of foreign institutional investors. *Journal of Banking & Finance*, *29*, 2919-2946.

Bae, K., & Goyal, V. (2010). Equity market liberalization and corporate governance. *Journal of Corporate Finance*, *16*, 609-621.

Baltagi, B. (2009). *A companion to Econometric analysis of panel Data*. New York, NY: John Wiley.

Belsley, D., Kuh, E., & Welsch, R. (1980). *Regression diagnostics: Identifying influential data and sources of collinearity*. New York, NY: John Wiley.

Beltratti, A., & Stulz, R. (2009). *Why did some banks perform better during the credit crisis? A cross-country study of the impact of governance and regulation* (Charles A Dice Center Working Paper No. 2009-12). Columbus: Ohio State University.

Bertrand, M., & Mullainathan, S. (2001). Are CEOs rewarded for luck? The ones without principals are. *Quarterly Journal of Economics*, *116*, 901-929.

Black, B., De Carvalho, A., & Gorga, É. (2012). What matters and for which firms for corporate governance in emerging markets? Evidence from Brazil (and other BRIK countries). *Journal of Corporate Finance*, *18*, 934-952.

Black, B., Jang, H., & Kim, W. (2006). Predicting firms' corporate governance choices: Evidence from Korea. *Journal of Corporate Finance, 12*, 660- 691.

Bozec, R., & Bozec, Y. (2012). The use of governance indexes in the governance-performance relationship literature: International evidence. *Canadian Journal of Administrative Sciences*, *29*(1), 79-98.

Bushee, B. (1998). The influence of institutional investors on myopic R&D investment behaviour. *The Accounting Review*, *73*, 305-333.

Bushee, B., Carter, M., & Gerakos, J. (2010). Institutional investor preferences for corporate governance mechanisms. *Journal of Management Accounting Research*. Retrieved from http://www.kantakji.com/media/3310/l138.pdf

Chung, K., & Zhang, H. (2011). Corporate governance and institutional ownership. *Journal of Financial and Quantitative Analysis*, *46*, 247-273.

Conyon, M., & Florou, A. (2002). Top executive dismissal, ownership and corporate performance. *Accounting and Business Research*, *32*, 209-225.

Cornett, M., Marcus, A., Saunders, A., & Tehranian, H. (2007). The impact of institutional ownership on corporate operating performance. *Journal of Banking & Finance*, *31*, 1771-1794.

Cronqvist, H., & Fahlenbrach, R. (2009). Large shareholders and corporate policies. *Review of Financial Studies*, *22*, 3941-3976.

Dahlquist, M., Pinkowitz, L., Stulz, R., & Williamson, R. (2003). Corporate governance, investor protection and the home bias. *Journal of Financial Quantitative Analysis*, *38*, 87-110.

Dahlquist, M., & Robertsson, G. (2001). Direct foreign ownership, institutional investors, and firm characteristics. *Journal of Financial Economics*, *59*, 413-440.

Dong, M., & Ozkan, A. (2008). Institutional investors and director pay: An empirical study of UK companies. *Journal of Multinational Financial Management*, *18*, 16-29.

Donker, H., & Zahir, S. (2008). Towards an impartial and effective corporate governance rating system. *Corporate Governance*, *8*, 83-93.

Easterby-Smith, M., Thorpe, R., & Jackson, P. (2012). *Management research* (4th ed.). Thousand Oaks, CA: SAGE.

Elkinawy, S. (2005). Mutual fund preferences for Latin American equities surrounding financial crises. *Emerging Markets Review*, *6*, 211-237.

Ferreira, M., & Matos, P. (2008). The colours of investors' money: The role of institutional investors around the world. *Journal of Financial Economics*, *88*, 499-533.

Field, A. (2009). *Discovering statistics using SPSS*. London, England: SAGE.

Financial Reporting Council. (2003, July). *The combined code on corporate governance*. London, England: Author.

Francis, B., Hasan, I., & Wu, Q. (2012, April 12). *Do corporate boards affect firm performance? New evidence from the financial crisis* (Bank of Finland Research Discussion Paper No. 11). https://helda.helsinki.fi/bof/bitstream/handle/123456789/7437/170337.pdf?sequence=1

Giannetti, M., & Simonov, A. (2006). Which investors fear expropriation? Evidence from investors' portfolio choices. *Journal of Finance*, *61*, 1507-1547.

Gompers, P., & Metrick, A. (2001). Institutional investors and equity prices. *Quarterly Journal of Economics*, *116*, 229-259.

Grosfeld, I., & Hashi, I. (2005). *The emergence of large shareholders in mass privatized firms: Evidence from Poland and the Czech Republic. Corporate Governance: An International Review*, *15*, 529-543.

Hartzell, J., & Starks, L. (2003). Institutional investors and executive compensation. *Journal of Finance*, *58*, 2351-2374.

Hassan, M. (2012). A disclosure index to measure the extent of corporate governance reporting by UAE listed corporations. *Journal of Financial Reporting & Accounting*, *10*, 4-33.

Hayashi, A. (2003). Effects of Institutional Ownership. *MIT Sloan Management Review*, *45*(1), 6-7.

Henry, D. (2010). Agency costs, ownership structure and corporate governance compliance: A private contracting perspective. *Pacific-Basin Finance Journal*, *18*, 24-46.

Huang, H. (2008, May). Price and liquidity effects of US economic news releases on German stock index futures. *JEL*, pp. 1-49.

Hussey, J., & Hussey, R. (1997). *Business research: A practical guide for undergraduates and postgraduates students*. Hampshire, UK: Palgrave.

Ivashina, V., & Scharfstein, D. (2010). Bank lending during the financial crisis of 2008. *Journal of Financial Economics*, *97*, 319-338.

Jain, R. (2007). Institutional and individual investor preferences for dividends and share repurchases. *Journal of Economics & Business*, *59*, 406-429.

Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, *3*, 305-360.

Kang, J., & Stulz, R. (1997). Why is there a home bias? An analysis of foreign portfolio equity ownership in Japan. *Journal of Financial Economics*, *46*, 3-28.

Khurshed, A., Lin, S., & Wang, M. (2011). Institutional major-holdings of UK firms: Do corporate governance mechanisms matter? *The European Journal of Finance*, *17*, 133-152.

Kim, I., Eppler-Kim, J., Kim, W., & Byun, S. (2010). Foreign investors and corporate governance in Korea. *Pacific-Basin Finance Journal*, *18*, 390-402.

Klapper, L., & Love, I. (2004). Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance*, *10*, 287-322.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics*, *58*, 3-27.

Larcker, D., & Rusticus, T. (2010). On the use of instrumental variables in accounting research. *Journal of Accounting & Economics*, *49*, 186-205.

Leung, S., & Horwitz, B. (2010). Corporate governance and firm value during a financial crisis. *Review of Quantitative Finance and Accounting*, *34*, 459-481.

Li, D., Moshirian, F., Pham, P., & Zein, J. (2006). When financial institutions are large shareholders: The role of macro corporate governance environments. *The Journal of Finance*, *6*, 2975-3007.

Matsumoto, M., & Uchida, K. (2010, August 22). *Internal corporate governance mechanisms and foreign investors: Evidence from Japanese IPOs* (23rd Australasian Finance and Banking Conference 2010 Paper). Retrieved from http://ssrn.com/abstract=1663653

McCahery, J., Starks, L., & Sautner, Z. (2010, May 12). *Behind the scenes: The corporate governance preferences of institutional investors* (Working Paper No. 010). Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1571046

McKinsey and Company. (2002). *Global investor opinion survey on corporate governance: Key finding*. Retrieved from http://www.eiod.org/uploads/Publications/Pdf/II-Rp-4-1.pdf

Mehran, H., Morrison, A., & Shapiro, J. (2011, June). *Corporate governance and banks: What have we learned from the financial crisis?* (FRB of New York Staff Report No. 502). Retrieved from http://www.newyorkfed.org/research/staff_reports/sr502.pdf

Nguyen, T., Le, N., & Bryant, S. (2013). Sub-national institutions, firm strategies, and firm performance: A multilevel study of private manufacturing firms in Vietnam. *Journal of World Business*, *48*, 68-76.

Office for National Statistics. (2012, December 31). *Share ownership: A report on ownership of shares*. London, England: Author.

O'Sullivan, M. (2000). *Contests for corporate control: Corporate governance and economic performance in the United States and Germany*. Oxford, UK: Oxford University Press.

Russell Reynolds Associates. (2003, 2005). *The 7th and 8th international surveys of institutional investors*. Available from http://www.russellreynolds.com

Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students* (6th ed.). London, England: Pearson.

Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill building approach*. West Sussex, UK: John Wiley.

Shleifer, A., & Vishny, R. (1986). Large shareholders and corporate control. *Journal of Political Economy*, *95*, 461-488.

Starks, L. (2009). EFA keynote speech: Corporate governance and corporate social responsibility: What do investors care about? What should investors care about? *The Financial Review*, *44*, 461-468.

Stiebale, J. (2011). Do financial constraints matter for foreign market entry? A firm-level examination. *The World Economy*, *34*, 123-153.

Thomsen, S., Pedersen, T., & Kvist, H. (2006). Blockholder ownership: Effects on firm value in market and control-based governance systems. *Journal of Corporate Finance*, *12*, 246-269.

Tihanyi, L., Johnson, R., Hoskisson, R., & Hitt, M. (2003). Institutional ownership differences and international diversification: The effect of board directors and technological opportunity. *Academy of Management Journal*, *46*, 195-211.

Tribo, J., Berrone, P., & Surroca, J. (2007). Do the type and number of blockholders influence R&D investments? New evidence from Spain. *Corporate Governance*, *15*, 828-842.

Useem, M., Bowman, E., Myatt, J., & Irvine, C. (1993). U.S. institutional investors look at corporate governance in the 1990s. *European Management Journal*, *11*, 175-189.

Vaus, D. (2002). *Analyzing social science data*. London, England: SAGE.

Wintoki, M., Linck, J., & Netter, J. (2009). *Endogeneity and the dynamics of corporate governance* (European Summer Symposium in Financial Markets). Retrieved from http://dev3.cepr.org/meets/wkcn/5/5567/papers/LinckFinal.pdf

Wooldridge, J. (2002). *Econometric analysis of cross section and panel data*. Cambridge, MA: MIT Press.

Zingales, L. (2008). Plan B. *The Economists' Voice*, *5*(6), Article 4.