

**The Monitoring Effects of Fund Involvement on Earnings Informativeness
and Executive Compensation: Evidence from Chinese Public Companies**

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Abstract

Whereas prior research shows that the involvement of institutional investors, such as mutual funds, helps mitigate agency conflicts through monitoring in industrialized economies, it is open to doubt about their monitoring role in emerging markets due to a lower level of market efficiency and the lack of legal protection. Using data from Chinese capital markets, we investigated the effects of mutual fund involvement on two types of agency conflicts by considering its influences on the informativeness of earnings for the agency problems between majority and minority shareholders and those on the executive compensation for the agency problems between owners and managers. Our findings suggest that in Chinese markets, mutual funds have not been able to serve as an effective monitor, since in general, their involvement lowers corporate transparency and increases the levels of executive compensations. To further address the subtle effects of fund involvement in Chinese publicly listed companies, we also examine the roles played by bank-affiliated and state-owned-bank-affiliated funds, respectively. Results show that, while state-owned-bank-affiliated funds do not behave as well as funds affiliated with joint-equity banks, bank-affiliated funds can be considered to be better monitors than non-bank-affiliated ones.

1. Introduction

The roles played by, and activism of, institutional investors have been extensively studied in the field of corporate governance (Guercio and Hawkins 1999; Gillan and Starks 2003). Most studies use U.S. data, but a recent survey indicates that institutional investors are flourishing not just in industrial economies, but in emerging markets as well (Khorana, Servaes, and Tufano 2005). As of June 2007, for example, the total net value of China's open-end mutual funds, the major institutional investors, had exceeded US\$236 billion (Yuan, Xiao, and Zou 2008).

Mutual funds have been experiencing an unprecedented development in China. Based on our analyses of the annual reports of Chinese public companies, the number of firms with mutual funds among the top ten controlling shareholders increased by 35% from 2003 to 2006, and among these firms, the average percentage of ownership held by mutual funds increased by 50% within that period. By the end of 2007, the total net value of mutual fund in China went up to 3,276,232 Million RMB (about US \$448.5 billion), accounting for about 10% of the total stock market capitalization and 35% of tradable market capitalization¹, respectively. Mutual funds combined together have even surpassed the largest shareholders for some listed companies. For example, the ten largest shareholders of tradable shares of Yinzuojituan, a company listed in the Shanghai Stock Exchange, were all mutual funds in 2006, with a total stake of 31%, higher than the stake held by the largest shareholder, 23.69%.

As will be further discussed in the next section, the existence of dominant shareholder is a typical feature of Chinese listed companies; the largest shareholder

¹ Common stocks in Chinese stock markets consist of both non-tradable and tradable shares. This issue will be discussed further in the next section.

usually holds a dominant stake of non-tradable shares. If significant decision-making at the firm level is solely determined by all common shareholders, then those holding tradable shares, such as mutual funds, will have no say. But the regulation by the China Securities Regulatory Commission (CSRC) explicitly indicates that strategically important decisions must be approved by tradable-share holders as well; important decision-makings must receive approval from at least 50% of tradable shares in order to pass the motion. Thus, mutual funds' large stake in tradable shares, in conjunction with the CSRC's regulation granting tradable shares' decision power, presents a stage for mutual funds to exert their influence on firm-level decision-making. This study follows the current strand of research involving institutional investors by examining the corporate governance role mutual funds play in China's emerging markets.

Corporate governance has been a major concern in China's market since its inception at the beginning of the 1990s. The lack of well-developed legal environment / property rights protection, along with high concentration of ownership in Chinese listed companies, makes governance issues one of CSRC's top priorities. The relatively short history of China's capital markets has seen China eagerly experiment various governance mechanisms. The dual-board system, which has been adopted since the very beginning of Chinese markets, resembles the two-tier board structure in Germany, but has different features. The Anglo-American independent directorship is imported later, and is codified into the *Corporation Law* in 2005. Both dual-board and independent directorship are considered to be the best governance practices around the world (Shleifer and Vishny 1997); China's governance reform shows their intention to learn / borrow from the best.

Despite the effort, the corporate governance system in China is still believed to be a main constraint for the healthy development of its capital market (Xi 2006; Clarke 2006).

The newly flourishing mutual funds are CSRC's another regulatory effort to boost governance efficiency in China. The then president of the CSRC, Mr. Xiaochuan Zhou, called for "an unprecedented development of institutional investors" to contribute to the healthy development of Chinese markets (Chen 2000). Mr. Siwei Cheng, the then vice chairman of the Standing Committee of National People's Congress, also pointed out that developing open-end mutual funds should be the priority (Shen 2000). The Chinese authority expects institutional investors, such as mutual funds, to (naturally) improve governance efficiency and transparency, assuming that institutional investors always play an active and positive role in corporate governance.

As illustrated in the literature (e.g., Maug 1998; Kahn and Winton 1998; Gillan and Starks 2003; Hartzell and Starks 2003) on institutional shareholders' activism, however, their monitoring role is mixed, and our understanding of their governance role is "limited" (Chen, Harford, and Li 2007, p. 280). On the one hand, their motivation, combined with their information advantage and cost effectiveness, suggests that institutional investors tend to play a positive monitoring role in the corporate governance mechanism. On the other hand, however, institutional investors are not always willing to be monitors, mainly depending on their independence, investment horizon and relatively large holdings (Wahal and McConnell, 2000; Almazan et al. 2005; Chen, et al. 2007). The existing evidence clearly shows that even in mature markets the involvement of institutional investors may not necessarily lead to superior governance; therefore, it is

highly likely that institutional investors in China may fail to play a positive governance role as expected if certain conditions are not met.

Our analyses of China's distinct institutional environment lead us to believe that fund involvement in China is more complex. First, the previous studies are mainly based on the U.S. markets, and institutional investors' governance role arises to tackle agency problems in the U.S. markets. But the agency problems are quite different in China. In addition to the agency problem arising from the separation of ownership from management, the second type of agency problem stemming from the ownership concentration (e.g. Ali, Chen, and Radhakrishnan 2007) is a typical one in China; the controlling shareholders extract their private benefits by expropriating minority shareholders (Fan and Wong 2002; Anderson, Duru, and Reeb 2008). Second, macro corporate governance environment affects monitoring costs and benefits (Li, Moshirian, Pham, and Zein 2006), and China's under-developed governance environment casts doubt on institutional investors' monitoring effectiveness. Third, more importantly, evidence is increasingly available that mutual funds in China are anything but independent. Shi (2008), for example, discloses that mutual fund managers frequently receive (dinner) invitation from listed companies and their common goal is to "push up the stock price". Investors in China are not long-term investors either; they trade their shares very actively, and the average holding period could be as short as two months (Poon, Firth, and Fung 1998).

Furthermore, it is worth noting that although banks in China are prohibited from holding equity, they recently established mutual funds that frequently appear among the top ten shareholders of listed companies. Unlike those owned by non-bank entities,

mutual funds owned by banks may have informational advantage; their mother companies might be the lending bank of the portfolio firms. Since banks produce information about borrower firms through their lending relationships, which is not available to other mutual funds (Fama 1985; Rajan 1992), monitoring cost could be reduced. Meanwhile, while the gain of monitoring is shared by other participants such as mutual funds owned by non-bank entities, monitoring gain of bank affiliated funds also benefits their mother companies. Along with the fact that bank-related funds usually have longer investment horizon with portfolio firms since bank loans in China tend to be relationship lending, their superior information may lead them to intervene, rather than to speculate.

While bank-affiliated mutual funds may tend to voice, this tendency is again affected by the macro corporate governance environment in China. Currently only four state-owned banks and some joint equity banks are allowed to establish mutual funds. According to La Porta, Lopez-de-Silanes, and Shleifer (2002), government ownership of banks hinders financial development and productivity. Compared with joint equity banks, state-owned banks are less monitored by their owners, as is the case with most state-owned enterprises (SOEs). This may mitigate the advantage of bank-related funds in monitoring, and therefore, compared to other bank-related funds, mutual funds affiliated with state-owned banks tend to voice less.

We therefore hypothesize that mutual funds in China may not be effective monitors, but bank-affiliated mutual funds may do a better job. Among bank-affiliated mutual funds, mutual funds affiliated with state-owned banks are predicted to be less effective. To test our hypotheses, we examine empirically if mutual funds in China have impacts on

the following two types of agency problems. To examine whether mutual funds mitigate the concern that controlling shareholders expropriate minority shareholders, we examine the effect of mutual funds on improving the informativeness of earnings (Fan and Wong 2002; Firth, Fung, and Rui 2007), as the quality of disclosure is the primary channel through which controlling shareholders expropriate outsider shareholders (Anderson, Duru, and Reeb 2008). To find out if mutual funds in China tackle the agency problem between shareholders and management team, we examine the effects of mutual funds on the level of executive compensation (Hartzell and Starks 2003), as executive compensation is typically increased by agency cost and an “agency problem itself” due to the separation of management from ownership (Bebchuk and Fried 2003).

Using a sample of Chinese listed companies, we examine our hypotheses. All accounting data are from GTA databases, which have been widely employed by prior studies (e.g. Haw, Qi, Wu and Wu 2005; Chen, Cheng, and Gao 2005). The type and ownership concentration data of mutual funds at the firm level are hand collected by coding more than 7,000 annual reports. After addressing the issues of endogeneity, we find evidence consistent with our hypotheses; involvement of mutual funds leads firms to disclose less informative earnings. Our finding is in sharp contrast to prior literature using U.S. data that institutional ownership is positively associated with disclosure quality (e.g. Ajinkya, Bhojraj, and Sengupta 2005). Furthermore, we find evidence consistent with prior studies that the type of institutional investors matters. Firms with bank-affiliated mutual funds disclose more informative earnings than those with non-bank-affiliated funds and firms without fund involvement, though state-owned bank-related funds are less effective than other bank funds.

As predicted, we also find that mutual funds fail to curb (excessive) executive compensation. In contrast to Hartzell and Starks (2003) who document a negative relationship between institutional investment and executive compensation, the involvement of mutual funds in China significantly increases the level of executive compensation. Our findings present robust evidence that the passive and short-horizon nature of Chinese mutual funds (Brickley, Lease and Smith 1988; Bushee 1998; Gaspar, Massa, and Matos 2005) and their business ties with listed companies (Pound 1988; David, Kochhar, and Levitas 1998; Davis and Kim 2007) not only make them an ineffective monitor of executive pay, but also lead them to vote with the “managerial power” (Bebchuk and Fried 2003). Consistent with our prediction, bank-affiliated funds are able to reduce executive compensation relative to their non-bank-affiliated counterparts, but state-owned bank-related funds fail to do so compared to other bank-related ones.

Our study is a timely attempt to examine a new type of governance institution amid China’s unfolding governance reform. Several contributions are expected to be made. First, while Maug (1998) and Kahn and Winton (1998) have theoretically addressed what may affect the choice of mutual funds to voice or speculate, no empirical framework has been developed to test the two options at the same time. Prior studies, such as Hartzell and Starks (2003), Almazan et al. (2005), and Pound (1988), show that funds may vote with or against management, but they only focus on the voice hypothesis and leave the speculation hypothesis untouched. Using the interaction term of fund involvement and earnings to explain market return, our empirical design enables us to shed light on these two hypotheses simultaneously.

Second, how to measure institutional investors' monitoring is challenging, as their influence is usually invisible (Gillan and Starks 2003; Almazan et al. 2005). Firm performance is often used as a proxy for monitoring, but factors other than monitoring also have an impact on performance (Xu 2007). Using earnings informativeness and executive compensation enables us to examine institutional investors' monitoring in an improved way.

Third, recent studies have differentiated monitoring role by different institutional investors (Almazan et al. 2005; Bushee 1998; Barabanov et al. 2008; Koh 2007; Chen et al. 2007). To the best of our knowledge, however, no study has systematically examined the monitoring role of institutional investors on agency problems of different nature, especially the one caused by the conflict between controlling and minority shareholders in emerging markets. Prior studies examine the monitoring role of mutual funds mainly in the U.S., which is characterized by the agency problems arising from the separation of ownership from management, but dominant ownership is found in both developed markets (e.g. Becht and Roell 1999), such as France, Germany, and Italy, and emerging economies (e.g. Fan and Wong 2002), such as East Asia. It is well documented that in these economies, the main agency problem is different from that in the U.S., and lies between controlling shareholders and minority shareholders (LaPorta, Lopez-de-Silanes, and Shleifer 1999). Our examination of the effect of mutual funds on earnings informativeness thus offers important insights to other markets where dominant ownership exists, such as family firms (Burkart, Panunzi, and Shleifer 2003).

Fourth, our study sheds light on the interaction among institutional environment, ownership structure, and corporate governance. Fan and Wong (2002) find that the blind

adoption of international accounting standards and disclosure rules “without considering the institutional environment” fails to improve corporate transparency in East Asia (p. 404). Our findings that blindly developing (non-bank-affiliated) mutual funds and other institutional investors without considering the macro corporate governance environment (Li, Moshirian, Pham and Zein 2006) will not mitigate agency problems echo their concern. Our findings pinpoint the importance of looking into the institutional environment, and could also be generalized to other emerging markets where similar environment exists.

Last, our findings also provide important policy implications for both Chinese authorities and other countries in which a similar banking system exists. On the one hand, our finding that bank-controlled mutual funds do a better monitoring job contributes to the existing debate whether institutions who are equity holders and lenders act as better monitors (Gillan and Starks 2003), and complements existing literature in mature economies in which banks are typically classified as pressure-sensitive institutional shareholders (Brickley, et al. 1988). On the other hand, we show that mutual funds affiliated with non-state-owned banks are more effective monitors of the informativeness of earnings and executive compensation than are their counterparts affiliated with the Big Four state-owned banks. Given the “pillar role” played by Chinese banks and recent IPOs of state-owned banks, our findings add another piece to the on-going financial reform. The evidence presented in our study also supports the effects of government ownership of banks presented in La Porta, Lopez-de-Silanes, and Shleifer (2002) on the side.

The paper proceeds as follows. The next section explains corporate governance in China, and reviews relevant literature. Hypotheses are then developed. Section 3

introduces research design, and section 4 presents empirical results and analyses. The last section concludes.

2. Institutional Background, Relevant Literature and Hypothesis Development

Ownership Structure and Corporate Governance in Chinese Public Companies

When China established its capital markets at the beginning of the 1990s, most of the listed companies are carved out from an operational unit of state-owned enterprises (SOE). There are several typical features regarding the ownership structure of Chinese listed firms. First, the ownership is highly concentrated. For a listed SOE, the government and its related agencies usually control, either directly or indirectly, about 60% of shares (Chen, Firth, Gao, and Rui 2006). Second, there are tradable and non-tradable shares in China's markets. Shares owned by state and legal entities cannot be traded, whereas those owned by individual investors, including mutual funds, are tradable² (Firth et al. 2007). Third, management and employees are allowed to own shares, but their stake is negligible (Firth et al. 2007).

China has been experimenting/importing different governance mechanisms since the inception of its capital markets. The two-tier board structure consists of both board of directors and supervisory board, and is mandatorily implemented by all listed companies. This system shares important features with its counterpart in Germany and Japan, and the main responsibility of supervisory board in China lies in supervising directors, managers and financial affairs (Xi 2006). But supervisory board in China does not appoint or evaluate managers. Supervisory board is expected to serve as a major monitoring organ,

² A reform to liquidate the non tradable shares has been launched since 2005, but the newly liquidated shares are still subject to lock up provisions.

but unfortunately, its role is marginalized (Xiao, Dahya and Lin 2004). The independent directorship was then imported to enhance the monitoring, and codified into the Corporate Law in 2005. Independent directors have been found to play a positive role in corporate disclosure (Firth et al. 2007; Xiao, Yang, and Chow 2004), but commentators and media reports often paint them as “vase directors” who only serve as a decoration of the boardroom (Xi 2006; Clarke 2006).

Institutional investors are then given priority. Chinese authorities are quoted in various occasions arguing that institutional investors will enhance corporate governance and stabilize the capital markets (Chen 2000; Shen 2000). When promoting institutional investors, open-end mutual funds are claimed as the mainstream of institutional investors, and successful experience from mature markets is often quoted (Shen 2000). Chinese authorities’ intention to boost mutual funds seems well founded. In a diffuse ownership structure, which is the case for tradable shares in China, the owner who exercises monitoring would bear the whole monitoring cost, while all other investors will enjoy the benefits without incurring any costs, thus leading to a free-rider problem. The free-rider problem discourages individual investors from monitoring, but the existence of mutual funds helps mitigate the problem. Since mutual funds pool together money from individual investors of China’s tradable shares (Yuan et al. 2008) and act as “guardians” of small investors (Davis and Kim 2007), it is expected that fund involvement will significantly improve corporate governance.

It appears, however, that Chinese authorities do not pay due attention to the institutional environment in which all stakeholders of Chinese capital markets are embedded. The under-development of legal and macro governance environment and the

lack of property right protection may jeopardize the effectiveness of any governance mechanism. Furthermore, when promoting institutional investors, they seem to downplay the stringent conditions that have to be met for institutional investors to be effective monitors.

Relevant Literature

In a diffuse ownership structure, the free-rider problem suggests that only large shareholders or institutional investors have incentives to monitor managers (Shleifer and Vishny 1986), and it is “more likely that the large shareholder’s increased return from monitoring is sufficient to cover the associated monitoring costs” (Gillan and Starks 2000, p. 279). The establishment of mutual funds enables diffuse shareholders to voice their concerns, rather than to exist or remain simply loyal (Gillan and Starks 2003).

As sophisticated investors, institutional investors have more capacity to collect and process information, and also have improved access to private information (El-Gazzar 1998; Bushee and Goodman 2007; Jambalvo et al. 2002; Ke and Petroni 2004; Ke et al. 2008). For example, institutional investors are found to adjust their holdings for firms facing lawsuit using their informational advantage (Barabanov, Ozocak, Turtle, and Walker 2008), seek more informative analyst reports (Frankel, Kothari, and Weber 2006), provide incentives and pressures for analysts to provide less biased reports (Ljungqvist, Marston, Starks, Wei, and Yan 2007), receive or seek private information from management (El-Gazzar 1998; Bushee and Goodman 2007; Ke and Petroni 2004; Ke, Petroni, and Yu 2008), and prefer International Accounting Standards (IAS) adopters to firms using local standards (Covrig, Defond, and Hung 2007). These advantages lead institutional investors to monitor effectively at a cost-beneficial way (Gillan and Starks

2000); as a result, the presence of institutional investors has been found to significantly increase the accounting return, the growth potential, and the cost efficiency (McConnell and Servaes 1990; Ferreira and Matos 2008; Yuan et al. 2008). As supported by numerous empirical studies (see Gillan and Starks 2003 for review), thus, institutional investors' motivation to monitor, along with their informational advantage and cost effectiveness, suggests that they are likely to play a positive role in corporate governance. Therefore, the attempt by the Chinese authority to boost mutual funds seems to be well founded; China's decision to establish mutual funds seems to be just another step to learn from the best.

However, theoretical work suggests, and empirical evidence confirms, that not all institutional investors are willing or able to monitor (Almazan et al. 2005). Their decision or incentive to exert influence in portfolio firms depends on many factors, such as liquidity trading (Maug 1998) and firm-level characteristics (Kahn and Winton 1998). Even if institutional investors decide to intervene, prior studies show that not all institutional investors are equally effective monitors. For example, Hartzell and Starks (2003) show that institutional investors help reduce the level of executive compensation, but Almazan et al. (2005) find that only independent institutional investors are effective monitors of CEO pay, because they incur lower costs of monitoring. On the contrary, pressure-sensitive institutional shareholders (Brickley et al. 1988) or potentially passive investors (Almazan et al. 2005) may incur high monitoring costs (Almazan et al. 2005; Chen et al. 2007), and tend to vote with the management (Pound 1988; Brickley et al. 1988).

Furthermore, numerous studies suggest that institutional investors' investment horizon affects their willingness and ability to monitor (Bushee 1998, 2001; Wahal and McConnell 2000; Dong and Ozkan 2008). Institutional investors with short-term horizon trade to gain private benefits, and overweight the near-term earnings component (Bushee 2001), while long-term institutional investors commit themselves to monitoring (Chen et al. 2007). Examining acquisition in the U.S. for almost two decades, Chen et al. (2007) offer important insights on the differential role played by different institutional investors by claiming that some institutional investors may prefer trading for short-term profit and vote with their feet (Parrino, Sias, and Starks 2003). Put differently, institutional investors will not monitor unless the net benefits of monitoring exceed monitoring costs (Chen et al. 2007). They show that total institutional holdings or holdings held by short-term investors fail to predict post-merger performance; only large holdings held by independent institutional investors with long-term horizon are associated with better post-merger performance. According to these authors, long-horizon investors are able to effectively monitor and discipline managers, while those who buy and sell their investments frequently exert little influence. In other words, independent institutional investors with large holdings and long-term horizon are more likely to have a bad bid withdrawn. Therefore, only "independent institutional investors that have maintained large stakes in a firm for at least one year (long-term)" will be effective monitors (Chen et al. 2007, p. 281). Further evidence provided by Chen et al. (2007) indicates that long-term independent institutional investors with large holdings have "a desire to monitor and influence", rather than trade for short-term gain (p. 281).

Therefore, independence, long-term horizon, and (relatively) large holdings seem to be three important characteristics that institutional investors must possess to be effective monitors. Our analyses indicate that mutual funds in China may not be able to meet the aforementioned three conditions. First, managers of mutual funds in China have close business ties with listed companies. According to Shi (2008), mutual fund managers and top management of listed companies often socialize together, and the former regularly receives dinner invitation from the latter; they “cooperate” to inflate the stock price. It is the convention that managers of listed companies disclose favorable events or information, which may not exist, whereas mutual fund managers highly endorse the stock of interest (Shi 2008). Second, Poon et al. (1998) find that shareholders in China actively trade their shares; the average holding period is as short as two months. Price manipulation by mutual funds was first reported by a researcher from Shanghai Stock Exchange (Ping and Li 2000), and has been acknowledged by the state media as one of the most significant/influential reports in Chinese stock markets in recent years. Based on the analysis of trading behaviors of mutual funds, the author provides convincing evidence that Chinese mutual funds systematically engage in speculative trading, and frequently trade shares for short-term gains (Ping and Li 2000). Finally, while mutual funds are flourishing in China’s stock market, their relative stakes are significantly different in various firms. In those highly concentrated firms their stake is still relatively small. Our analysis, therefore, leads us to believe that mutual funds in China should be classified as pressure-sensitive institutional shareholders (Brickley et al. 1988) or potentially passive investors (Almazan et al. 2005) with short-term orientation and

(relatively) small holdings. They are expected to play a “negligible role” in monitoring (Tenev, Zhang, and Brefort 2002, p. 81).

The recently established bank-controlled mutual funds, however, may be different. China has a bank-based financial system with a high concentration in the banking market. Though the market share of four state-owned commercial banks has been declining, the value of their total assets in 2006 was still as high as 22,539.04 Billion RMB, accounting for 51.28% of the banking market. Currently mutual funds are only affiliated to state-owned commercial banks and large joint equity banks; when mutual funds appear as one of the controlling shareholders of firms, their parent banks are usually lenders of the firm since corporate bonds are not popularly used by Chinese publicly listed companies. While mutual funds face the choice between intervention and speculation (Kahn and Winton 1998), the fact that their mother companies may also be the lenders of firms suggests that bank-affiliated funds are more likely to monitor. Prior studies examining the role of banks in Japan in which banks are both equity holders and lenders provide empirical evidence that banks play a positive governance role, especially in terms of monitoring (e.g. Prowse 1990; Kaplan and Minton 1994). Banks’ lending relationship with portfolio firms (Fama 1985; Rajan, 1992) suggests that bank-affiliated funds may have access to more inside information and enjoy lower monitoring costs.

This improved effectiveness of bank-affiliated mutual funds, however, is also enslaved to macro corporate governance environment. The government ownership of banks (La Porta et al. 2002) suggests that profit maximization may not be the only objective of state-owned banks, and they also burden obligations of political and social welfare (Bai, Li, Tao, and Wang 2000). Furthermore, Berger, Hasan and Zhou (2008)

find that the four state-owned banks are the least efficient in Chinese banking industry, and Jia (2008) shows that they are less prudential than joint-equity banks. Since government ownership provides less incentive to state-owned banks, it is open to doubt that their affiliated funds have as much incentive to monitor portfolio firms as joint-equity bank funds. State-owned banks have begun to be privatized since 2005, but to be comparable to joint-equity banks, more time may be required by management to overcome the organizational inertia and resistance to change that are common characteristics of newly privatized firms (Otchere 2005). Empirical evidence also suggests that the influence of bank privatization is mixed (Clarke et al. 2005).

Hypotheses Development

Corporate governance arises to tackle agency problems. The distinct ownership structure in China suggests that agency problems in Chinese markets are different from those in the U.S. where diffuse ownership dominates. To better examine mutual funds' monitoring role in Chinese public companies, we investigate their impact on different agency problems. We use corporate transparency (Fan and Wong 2002) as a proxy for the conflict stemming from the dominance of controlling shareholder, as recent studies show that controlling shareholders expropriate minority shareholders mainly by disclosing opaque information (Anderson et al. 2008). Earnings informativeness is adopted to represent the quality of corporate disclosure, as in East Asia including China, the lack of voluntary disclosure makes accounting figures, especially earnings, of great interest to all stakeholders. Therefore, we predict that fund involvement would reduce earnings informativeness³, but bank-affiliated funds, especially those affiliated with joint-equity

³ We are aware that mutual funds may benefit from high quality earnings. Bushee and Noe (2000), for example, find that mutual funds may rely on public disclosure as a substitute for private information

banks, would do a better job. Our hypotheses regarding the effects of mutual funds on the informativeness of earnings of Chinese publicly listed firms are as follows:

- H1a:** Fund involvement decreases the informativeness of earnings of Chinese listed companies.
- H1b:** Compared to non-bank-affiliated ones, bank-affiliated mutual funds increase the informativeness of earnings of Chinese public companies.
- H1c:** Compared to joint-equity bank-affiliated ones, state-owned bank-affiliated mutual funds lower the informativeness of earnings.

To examine the effect of mutual funds on agency problems due to the separation of ownership from management, on the other hand, we look at the effects of fund involvement on the level of executive compensation. Following our analyses, our hypotheses on the role of mutual funds in influencing executive compensation in Chinese public companies are as follows:

- H2a:** Fund involvement increases the executive compensation in Chinese publicly listed companies.
- H2b:** Compared to non-bank-affiliated ones, bank-affiliated mutual funds lower the executive compensation in Chinese publicly listed companies.
- H2c:** Compared to joint-equity bank-affiliated ones, state-owned bank-affiliated mutual funds increase the executive compensation in Chinese publicly listed companies.

collection, which is usually costly, especially when mutual funds hold small stakes in a large number of firms. Since high quality earnings may reduce information asymmetry and improve liquidity (Welker 1995), mutual funds may benefit from high earnings quality as well. However, the benefits resulting from high quality earnings are relatively small when mutual funds in China have an opportunity to collude with the management; less informative earnings will help them achieve their “objectives”.

3. Research Design

Sample

Our sample covers companies listed in Shanghai and Shenzhen stock exchanges from year 2001 to year 2006. All accounting data and information about market returns are from GTA databases. Fund variables are collected by coding more than 7,000 annual reports⁴. Specifically, we code if there is fund involvement in top ten shareholders, the number of funds, the total ownership percentage of funds, and the type of funds. The type of fund indicates whether a fund is affiliated with a bank; if so, it is further classified as state-bank affiliated funds vs. joint-equity-bank-affiliated funds. Since there are both tradable and non-tradable shares, we first coded a set of fund variables based on tradable shares, then the same set based on total shares.

Variables and Descriptive Statistics

Dependent Variables

To test the hypotheses proposed in Section 2 above, we follow the literature and take into account two sets of dependent variables, the market return (MR) and the variables measuring executive compensations. One is for testing the monitoring roles played by funds in publicly listed Chinese companies on mitigating the conflict of interest between majority and minority shareholders through the informativeness of earnings, while the other is for investigating the monitoring effects of fund involvement on resolving the agency issues between shareholders and managers within those companies.

⁴ Our source of annual reports is the office website of Shanghai and Shenzhen stock exchanges. Some annual reports, especially those from year 2001 and 2002, are not available online, and therefore not coded.

As for testing Hypothesis 1, the variable market return (MR) measured by the annual stock return with dividends is adopted; we examine earnings' explanatory power of market return to reflect the informativeness of earnings (Warfield, Wild, and Wild 1995; Fan and Wong 2002; Firth et al. 2007). According to the descriptive statistics shown in Panel A of Table 1, the average market return from Year 2001 to Year 2006 was -16.7%.

[Insert Panel A of Table 1 about here]

Following Firth, Fung, and Rui (2006), we include three variables measuring executive compensation from different aspects in the second group of dependent variables to test the monitoring effects of mutual funds on the owner-manager agency conflict. These three dependent variables are TotalPay which measures the total compensation received by all executives, MGMTTop3 which measures the sum of the three highest compensations received by members in the management team, and BoDTop3 which measures the sum of the three highest pays received by members on the board of directors. As shown in Panel A of Table 1, the average total executive compensation over those seven years was about 1.435 million Renminbi, and those of BoDTop3, and MGMTTop3 were 0.498 million Renminbi and 0.545 million Renminbi, respectively.

Independent Variables

The independent variables are fund-related ones. To help better understand the effects of fund involvement in detail, we examine three levels of independent variables in this study. Bank-affiliated funds are in a sub-category of funds, while those affiliated with state-owned banks are in a sub-category of bank-affiliated ones. For each level, we measure the existence of funds, the number of funds and the ownership concentration.

Taking tradable shares into consideration, thus, we adopt 9 variables to measure fund involvements⁵.

[Insert Panel B of Table 1 about here]

The variable Fund is a dummy with a value of one if at least one of the ten largest tradable shareholders is a fund, and zero otherwise. The variable Fund# measures the number of funds that are among the ten largest tradable shareholders, and the variable Fund% indicates the percentage of shares held by funds. In a year during the period of 2001-2006, an average of 42.9 percent of the public companies in China had at least one fund among the ten largest tradable shareholders (Fund), the average number of these funds (Fund#) was 1.59, and in those firms with mutual funds, the funds held an average of 3.9 percent of all shares, including both tradable and non-tradable shares.

According to the information presented in Panel B of Table 1, the percentage of firms in which at least one of the ten largest tradable shareholders is fund was 38.3 percent in 2003, and this figure went up to 45 percent in 2006. The average number of funds among the ten largest tradable shareholders was 1.242 in 2003, and it went up by about 60% to an average of 1.813 in 2006. In addition, the average percentage of tradable shares held by funds in firms in which at least one of the ten largest tradable shareholders is fund was 9.5 percent in 2003, and it increased to 13 percent in 2006⁶.

⁵ As claimed by previous studies in the literature (e.g., Firth et al., 2007; Yuan et al., 2008), considering non-tradable shares when studying issues related to Chinese public companies is not very meaningful, and therefore, the results presented in the current study will be all based on tradable shares only. To ensure the robustness of the conclusions made, however, we also adopt 9 variables to measure fund involvement on the basis of all shares, including both tradable and non-tradable ones. No qualitative change has been found.

⁶ In a recent study examining the effect of fund involvement on firm performance, Yuan et al. (2008) documented that the average ownership held by mutual funds in China is about 7%. Their calculation is from 2001 to 2005, and is based on tradable shares as well. Our data suggest that mutual funds increasingly hold more tradable shares in recent years.

Similar to the three variables on the first level, three variables on the level of bank-affiliated funds are adopted. The variable BankFund is a dummy denoting whether in the sub-sample with fund involvement, bank-affiliated funds appear among the ten largest tradable shareholders⁷. When there is at least one fund among the ten largest tradable shareholders in a company (i.e., when Fund=1), the variable BankFund# measures the number of bank-affiliated funds, and BankFund% indicates the percentage of shares held by bank-affiliated funds. Among those companies with at least one fund in their ten largest tradable shareholders, an average of 42 percent of them had at least one bank-affiliated fund (BankFund), the average number of these bank-affiliated funds (BankFund#) was 0.544, and in those firms with bank-affiliated mutual funds, the bank-affiliated funds held an average of 1.7 percent of all shares.

State-owned-bank-affiliated funds are considered to be on the third level. The variables SOBFund, SOBFund#, and SOBFund% measure the existence, number, and ownership, respectively. Among those companies with at least one bank-affiliated fund in their ten largest tradable shareholders, an average of 23.2 percent of them had at least one state-owned-bank-affiliated fund (SOBFund), the average number of these state-owned-bank-affiliated funds (SOBFund#) was 0.305, and in those firms with SOB-affiliated mutual funds among the top ten tradable shareholders, the SOB-affiliated funds held an average of 1.8 percent of all shares⁸.

⁷ If the shareholder of a mutual fund management company is a bank, or an entity controlled by a bank, or affiliated to a mother company together with a bank, we regard mutual funds managed by this company as bank-affiliated funds.

⁸ The average of 1.8% of all shares held by SOB-affiliated funds is based on the subsample of firms with at least one SOB-affiliated fund among their ten largest shareholders, while the average of 1.7% of all shares held by bank-affiliated funds, presented in the previous paragraph, is based on the subsample of firms with at least one bank-affiliated fund among their ten largest shareholders.

In Panel C of Table 1, the t -values from tests for comparing means of sub-samples show that the average performance, including both market return (MR) and accounting performance (Earn), of those firms with fund involvement was significantly higher than that of firms without fund involvement. Following the literature, we compute the variable Earn using net income divided by the total market value of equity at the beginning of a year. Furthermore, the average executive compensation, measured by three variables, was also significantly higher in those firms with fund involvement. On the basis of descriptive analysis presented in Panel B of Table 1, thus, fund involvement seemed to help enhance firm performance, and in the meantime, increased the compensations received by the executives.

[Insert Panel C of Table 1 about here]

Control Variables

For analytical simplicity, we divide the control variables into four groups, including firm characteristics, variables measuring market value of equity, corporate governance variables, and other control variables.

[Insert Panel D of Table 1 about here]

There are six variables, ROA, Tobin's Q, D/TA, Sigma, LnTA, and Auditing, in the group of firm characteristics. Return on assets (ROA), the ratio between net income and the book value of total assets, measures the accounting profitability, and Tobin's Q, the ratio between market value and book value of assets, indicates the growth potential of a company. The ratio between total liabilities and total assets (D/TA) and the standard deviation of daily stock returns (Sigma) measure the financial leverage based on accounting information and total risk taken by shareholders based on market information,

respectively. The variable LnTA is the natural logarithm of the book value of total assets, and measures the size of a company. Auditing is a dummy variable with a value of one if the auditor of a firm is one of the big four auditing firms, and zero otherwise.

In the second group of control variables, we consider the total market value of equity based on both all shares and tradable shares. TMV is the total market value of equity based on all shares, while TMV-T is that based on tradable shares only. Δ TMV is the difference between the total market value of equity based on all shares in year t and that in year $t-1$, and Δ TMV-T is the difference based on tradable shares only. Δ TMV-L is the difference between year $t-1$ and $t-2$ based on all shares, and Δ TMV-T-L is that based on tradable shares.

Corporate governance variables are included in the third groups of control variables. Largest% is the percentage of shares owned by the largest shareholder, and Tradable is the portion of shares that are tradable. SOE is a dummy variable with a value of one if the largest shareholder is state-owned-or-controlled, and zero otherwise. Boardsize is the number of members on the board of directors, and SBSize is that on the supervisory board. Board meeting frequency (BMF) is measured by the number of meetings held by the board of directors, and supervisory board meeting frequency (SBMF) indicates that held by the supervisory board. Ind.Dir. measures the portion of directors on the board served by independent directors, and BC-CEO is a dummy variable with a value of one if a CEO is also the chairman of the board of directors. HHI10 is the Herfindahl index based on the second to the tenth largest shareholders following the approach adopted by Chen et al. (2006). These factors capture the major features regarding ownership

structure, ownership concentration, board and supervisory board characteristics, and the owner-manager agency issue indicated by whether the board chair is also the CEO.

Other control variables include industry dummies and year dummies. According to the industry sectors defined by the CSRC, Chinese public companies are categorized into 13 industries, and therefore we include 12 industry dummies into our analysis. Similarly, the data set covers observations from Year 2001 to Year 2006, and therefore 5 year dummies are included.

Methodologies

Effects of Fund Involvement on the Informativeness of Earnings

To test the monitoring roles played by funds on the informativeness of earnings in Chinese public companies, we consider the multivariate regression model as follows:

$$\begin{aligned} \text{MR} = & \alpha_0 + \alpha_1 * \text{Earn} + \alpha_2 * \text{Fund Variables} + \alpha_3 * (\text{Earn} \times \text{Fund Variable}) \\ & + \alpha_4 * (\text{Earn} \times \text{Control Variables}) + \alpha_5 * \text{Control Variables} \\ & + \alpha_6 * \text{Industry Dummies} + \alpha_7 * \text{Year Dummies} + \varepsilon_1, \end{aligned} \quad (1)$$

where Fund Variable is one of the nine variables, Fund, Fund#, Fund%, BankFund, BankFund#, BankFund%, SOBFund, SOBFund#, and SOBFund%.

It is well documented that the presence of institutional shareholders could be endogenous (e.g. Chen et al. 2007; Yuan et al. 2008). That is, institutional investors, such as mutual funds, could be either attracted by, or good at picking, firms with good performance. In other words, there could be a potential endogeneity issue in Model (1), and the fund involvement may be affected by certain factors included in Model (1), such as past performance, financial leverage, risk taken by shareholders, and corporate governance characteristics.

To deal with this concern, we adopt two-stage models to ensure the validity of the empirical results. For those three dummy variables measuring fund involvement (i.e., Fund, BankFund, and SOBFund), the first stage is a Logit model. For the rest six fund-involvement variables, on the other hand, we use OLS regressions in the first stage. The Logit models are

$$\text{Fund Dummies} = \beta_0 + \beta_1 * \text{Earning}_{t-1} + \beta_2 * \text{Control Variables} + \varepsilon_2, \quad (2)$$

and the OLS regressions are

$$\text{Other Fund Variables} = \gamma_0 + \gamma_1 * \text{Earning}_{t-1} + \gamma_2 * \text{Control Variables} + \varepsilon_3, \quad (3)$$

where Earning_{t-1} is the lagged value of Earning, and control variables in Models (2) and (3) include the corporate governance variables in the previous year, such as Largest%, Tradable, SOE, BoardSize, SBSIZE, BMF, SBMF, Ind.Dir., and BC-CEO, and those measuring firm characteristics such as D/TA, Sigma, ROA, Tobin's Q, LnTA, and Auditing. Then the residuals from Models (2) and (3) are predicted to capture the monitoring roles played by fund involvement. In other words, for those three dummy variables measuring fund involvement, $\text{Fund-M} = \varepsilon_2$, while $\text{Fund-M} = \varepsilon_3$ are for the rest six variables.

Thus, the second stage of the models for testing the monitoring effects of fund involvement on the informativeness of earnings can be written as

$$\begin{aligned} \text{MR} = & \delta_0 + \delta_1 * \text{Earn} + \delta_2 * \text{Fund-M} + \delta_3 * (\text{Earn} \times \text{Fund-M}) \\ & + \delta_4 * (\text{Earn} \times \text{Control Variables}) + \delta_5 * \text{Control Variables} \\ & + \delta_6 * \text{Industry Dummies} + \delta_7 * \text{Year Dummies} + \varepsilon_4, \end{aligned} \quad (4)$$

where Fund-M is one of the nine residuals estimated from either Model (2) or Model (3). Accordingly, the monitoring effects of fund involvement on the informativeness of

earnings are shown by the sign and the significance of predicted δ_3 . Note that when we test Hypothesis 1(b) and Hypothesis 1(c), we use sub-samples including firms with funds among the ten largest tradable shareholders only (i.e., Fund=1) and those with bank-affiliated funds only (i.e., BankFund=1), respectively.

Effects of Fund Involvement on Executive Compensation

Whereas a two-stage methodology has been adopted to test Hypothesis 1 proposed in Section 2 due to the potential endogeneity issues, we follow the methodologies adopted by prior research in the literature (e.g. David et al. 1998; Hartzell and Starks 2003; Almazan et al. 2005; Xu 2007) to test Hypotheses 2(a)-2(c), and consider the following model,

$$\begin{aligned} \text{Exe.Com.} = & \theta_0 + \theta_1 * \text{Fund Variable} + \theta_2 * (\text{Fund Variable} \times \text{TMV}_{t-1}) + \theta_3 * \Delta \text{TMV-T} \\ & + \theta_4 * \Delta \text{TMV-T-L} + \theta_5 * \text{Control Variables} + \theta_6 * \text{Industry Dummies} \\ & + \theta_7 * \text{Year Dummies} + \varepsilon_5, \end{aligned} \quad (5)$$

where the dependent variable, executive compensation (Exe.Com.), can be one of the three variables measuring the compensations offered to all executives, board of directors, and management team. The fund variable is one of the nine variables measuring fund involvement, and the control variables include Tobin's Q and BC-CEO.

4. Empirical Results

The Effect of Mutual Funds on Earnings Informativeness

Hypothesis 1(a) predicts that mutual funds in China are neither independent nor long-term oriented, and therefore will lower the informativeness of earnings. As previously discussed, we follow prior studies (e.g. Warfield et al 1995; Fan and Wong

2002; Firth et al. 2007) and use earnings-return association to capture the informativeness of accounting earnings. The results are presented in Table 2.

[Insert Panel A of Table 2 about here]

Consistent with our prediction, our results show that the presence of mutual funds as one of the top ten tradable shareholders significantly reduces the informativeness of earnings, and therefore, the involvement of funds has negative influence on corporate transparency. Whereas the coefficient on the earnings (Earn) is significantly positive (1.072 and significant at the 5% level), the coefficient on the cross term of fund and earnings (Earn x Fund) is significantly negative, although it is economically insignificant due to its small value. This shows that when there is at least one mutual fund existing among the ten largest tradable shareholders, the earning informativeness decreases.

Furthermore, we find that the larger the holdings by mutual funds, the less informative the earnings, since the coefficient on the cross term of fund percentage and earnings (Earn x Fund%) is -3.727, significant at 1 percent level. In the meantime, we find that both coefficients on the earnings (Earn) and the percentage of ownership held by mutual fund(s) (Fund%) are significantly positive (2.034 and 2.328, respectively, and both significant at the 1% level). A combination of the above three coefficients shows that, although both a higher value of earnings and a higher institutional ownership may help enhance the market return, these two factors have to be well-balanced for earnings informativeness; otherwise, high institutional holdings lower the earnings informativeness. Given our previous discussion that mutual funds in China have close business ties with listed companies and trade frequently for short-term gain, our findings

suggest that institutional investors may not serve as an effective monitor unless certain criteria are met.

Mutual funds in China may prefer trading to voice. While silence does not improve earnings informativeness, trading by funds with information advantage results in a negative effect of larger fund holdings on earnings informativeness. It suggests that the larger the fund holding, possibly the more fund trading, and the more serious the price is away from earnings. The coefficient on fund percentage (Fund%) is significantly positive, which may be caused by the collusion of firm and funds to boost the stock price. The fact that the involvement of funds actually deteriorates the informativeness of earnings is consistent with Ping and Li (2000) in which mutual fund managers collude with listed companies to expropriate minority shareholders. These also correspond to Anderson et al. (2008) whose findings conclude that the primary channel through which expropriation of minority shareholders occurs is corporate opacity.

By testing Hypotheses 1(b) and 1(c), our analysis further reveals that the type of mutual funds matters. Both cross terms of bank fund variable and earnings, “Earn x BankFund” and “Earn x BankFund%”, have significantly positive coefficients. Although the presence of mutual funds fails to improve informativeness of earnings, we find that mutual funds affiliated with banks, compared to their counterparts affiliated with non-bank entities, such as security companies⁹, significantly increase corporate transparency. Our findings suggest that bank-affiliated funds are better behaved institutional investors in China. We further examine if firms with bank-affiliated mutual funds disclose more informative earnings than those without fund involvement. Our finding, which is not

⁹ Security companies in China are similar to investment banks in mature economies. They invest, and also have brokerage business.

tabulated, shows that the involvement of bank-affiliated mutual funds significantly improves the informativeness of earnings ($p=0.033$). On the other hand, our findings also indicate that within the bank-owned mutual funds, those affiliated with the Big Four state banks are worse monitors. Our finding offers evidence to La Porta et al. (2002) that the government ownership of banks fails to play a constructive role, suggesting that the on-going banking system reform including the recent IPOs of the Big Four is a worthwhile direction.

Multiple categories of tests using sub-samples have been done to ensure the validity of the empirical evidence and to help further investigate the subtle effects of funds involvement on earnings informativeness. We include two categories of them in Panel B of Table 2, entitled performance effects and controlling-stake effects respectively, to further illustrate the monitoring effects of mutual funds in Chinese publicly listed companies.

[Insert Panel B of Table 2 about here]

In Panel B of Table 2, we first present results about performance effects based on subsamples formed by different cut-offs of earnings. We first form a “profit” group and a “loss” group; then we form two groups by comparing earnings of each firm with the sample average of Earn (0.025). We find that for “profit” and “greater than or equal to sample average” groups, the effects of having mutual fund(s) among the ten largest tradable shareholders (Fund) remain the same as those discussed above (as shown in Panel A of Table 2). When there is at least one mutual fund among them, a higher value of earnings leads to a lower market return since the coefficient on the cross term “Earn x Fund” is significantly negative (-0.055 when $\text{Earn} \geq 0$ and -0.044 when $\text{Earn} \geq 0.025$) at the

1% level. This shows a negative effect of fund involvement on earnings informativeness. When the value of Earn is negative (“loss” group) or lower than the sample average, however, earnings informativeness of firms with mutual funds among the ten largest tradable shareholders is not significantly different from that of firm without them. These results again support the observations and empirical evidence about the behaviors of mutual fund managers in the Chinese markets. Fund managers tend to invest in firms with good performance, and only when firm performance is good, is ambiguous disclosure preferred so that extra benefits could be extracted (Anderson et al. 2008).

We also present the results about controlling-stake effects in Panel B of Table 2, based on three subsamples constructed using the ownership held by the largest shareholder (Largest%). According to the descriptive analysis, the cut-off points of the variable Largest% are 28% for the 25 percentile and 55% for the 75 percentile, respectively. Interestingly, we find that the effect of fund involvement on earnings informativeness is only significant in the subsample with the controlling stake higher than 55%, and the coefficient on the cross term “Earn x Fund” is significantly negative (-0.039) at the 5% level. In the other two subsamples, however, the effects of fund involvement on earnings informativeness are weak. These results show that in firms with dominant shareholders, fund involvement lowers the earnings informativeness since mutual funds are more likely to collude with the majority shareholders and controlling shareholders are more likely to disclose opaque information to expropriate minority shareholders (Anderson et al. 2008).

The Effect of Mutual Funds on Executive Compensation

Hypothesis 2(a) predicts that mutual funds in China are not able to monitor executive compensation effectively. Following Hartzell and Starks (2003), we examine the effect of fund involvement on the level of executive compensation, and present the results on the level of executive pay in Table 3.

[Insert Panel A of Table 3 about here]

As shown in Panel A of Table 3, the involvement of mutual funds significantly increases, rather than reduces as concluded in previous studies such as Hartzell and Starks (2003), the level of executive pay, which includes the total compensation of directors, top management and supervisors. The findings are consistent with our prediction that mutual funds in China are unable to serve the monitoring function due to their lack of independence, long-term horizon, and large shareholdings. In China, the rising of executive compensation has raised a great debate. For example, Mr. Ma Mingzhe, the board chair of Ping An of China, a firm listed in Shanghai Stock Exchange, had a total compensation of 66 Million RMB in 2007, which is considered to be too high to be accepted by shareholders. Mutual funds seem not to be a good device to hurdle this trend; rather than vote against the “managerial power”, they vote with the management. This makes an even closer tie between institutional owners, such as mutual funds, and management which makes future short horizon trading more profitable. Similarly, we find that the presence of bank-affiliated mutual funds mitigates the problem; compared to their non-bank-related counterparts, mutual funds affiliated with banks are more likely to reduce the level of total executive compensation. We also find that among the bank-related mutual funds, funds affiliated with state-owned banks are less effective than those affiliated with joint equity banks.

We further test how the involvement of bank-affiliated funds affects the level of executive compensation by excluding the firms with non-bank-affiliated funds from the full sample, and find that the dummy variable BankFund is positively related to all ten executive compensation variables, and its coefficients are always significant at the 1% level. This indicates that, although bank-affiliated funds do a better job in monitoring executive compensation than those non-bank-affiliated funds, firms with bank-affiliated funds still tend to pay their executives higher than do those without fund involvement.

Chinese listed companies do not disclose individual compensation information until 2005; before that, compensations of sub-groups, such as the total compensation of top three paid board directors and that of top three paid members in the management team, were disclosed. Panel B presents the results using these two sub-group compensations as the dependent variables, respectively. Consistent with the results presented in Panel A, the presence of mutual funds significantly increases these three compensations. For firms with fund involvement, bank-related mutual funds are more likely to serve as effective monitors of executive compensation, but there is no difference between funds affiliated with the Big Four state banks and those affiliated with other banks.

[Insert Panels B of Table 3 about here]

As shown in the first two panels of Table 3, in general, empirical results based on the three executive compensation variables are consistent to each other, and support Hypothesis 2. In Table 3, in addition, when we use different executive compensation variables, the coefficients of the cross term between fund variable and the lagged total tradable market value are positive and significant at the 1 percent level. This suggests that for larger firms, mutual funds are more likely to vote with the management because they

tend to hold fewer stakes in larger firms so that they are less possible to voice. This is consistent with our story that only mutual funds with larger stake of stock will be effective monitors. Also, in firms with funds among their ten largest shareholders, firm's market capitalization is positively related to executive compensation.

The examination of the effect of mutual fund involvement on the level of executive compensation, thus, convincingly shows that the involvement of mutual funds, especially mutual funds controlled by non-bank entities, fails to curb executive compensation. The collusion between mutual funds and listed companies for short-term gains and their close business ties make monitoring a costly activity for mutual funds, as active monitoring by mutual funds would make listed companies unhappy; thus mutual funds may face the possibility of losing "cooperation" with listed companies. The positive association between mutual fund presence and executive pay, therefore, is consistent with Almazan et al.'s (2005) prediction that the level of executive compensation could be increasing with the cost of monitoring by institutional investors. Our findings also correspond to Brickley et al. (1988) that institutional investors that frequently "derive benefits from lines of business" (p. 284) from portfolio firms are less likely to oppose management.

Since the fund information could also be identified from ten largest shareholders, instead of ten largest tradable shareholders we have also done the robustness tests for both Hypothesis 1 (about the effects of fund involvement on the informativeness of earnings) and Hypothesis 2 (about those effects on executive compensation) using fund information identified from ten largest shareholders, but found no qualitative change. Results from robustness tests are available upon request.

[Insert Panel C of Table 3 about here]

To further investigate the effects of fund involvement on executive compensation in Chinese publicly listed companies, we also use sub-samples to rerun Model (5) by considering the influence of controlling stake. As before, we also form three sub-samples using the 25 percentile and 75 percentile points of the variable Largest%, 28% and 55% respectively. To avoid presenting repetitive results, we only include the results based on the dependent variable TotalPay and three dummy fund variables, Fund, BankFund, and SOBFund, in Panel C of Table 3.

Empirical findings tell that in all three sub-samples, fund involvement increases the total pay received by all executives, but bank-affiliated funds only make a difference in the sub-sample with a smaller stake held by the largest shareholder, the sub-sample with firms in which ownership held by the largest shareholder is lower than 28%. These results show that when the ownership concentration is high, involvement of bank-controlled funds cannot improve monitoring since they do not have enough voting power. On the contrary, if the ownership concentration is sufficiently low, bank-controlled funds play an effective monitoring role and help lower the total compensation received by all executives.

5. Conclusions and Future Research

Previous studies in the literature on institutional investors' influences on public companies centered on industrialized economies; most work illustrated a positive monitoring effects while others not. To develop a method to combine the voice and speculation hypothesis in one empirical setting is necessary to see what choice the funds are exactly making. Meanwhile, with the increasingly important role played by the

emerging markets in the global economy, it is worth investigating the monitoring effects of institutional investors, such as mutual funds, in these markets. This study intends to help fill in these gaps by focusing on these issues in Chinese capital markets, and examines the effectiveness of monitoring roles played by mutual funds in mitigating the agency problems between majority and minority shareholders and those between owners and managers. Empirical results suggest that in general, mutual funds among the ten largest tradable shareholders in Chinese public companies fail to be effective monitors. Fund involvement deteriorates the informativeness of accounting earnings, and increases the incentive compensations paid to executives.

To help audience better understand the monitoring effects of fund involvement on the corporate transparency and those on the executive compensation in Chinese public companies, we also highlight the subtle effects of fund involvement through addressing the monitoring roles played by bank-affiliated mutual funds and state-owned-bank-affiliated ones in Chinese public companies. Interestingly, we find that, comparing to those non-bank-affiliated funds, bank-affiliated ones improve the corporate transparency and lowers executive compensation if they are among the ten largest tradable shareholders. Furthermore, compared to firms without mutual fund involvement, those with bank-controlled funds tend to have a higher level of earnings informativeness. In general, thus, these results suggest that bank-controlled funds are more likely to be better monitors than other funds. In addition, we also find that state-owned-bank-affiliated funds are less effective monitors than funds affiliated with joint equity banks. These findings reflect the effects of special ownership structure of certain commercial banks in the Chinese economy.

As stated in the introduction, we expect to make multiple contributions. First, this study is among the first to systematically address the monitoring effects of mutual fund involvement on two types of agency problems, those between majority and minority shareholders and those between owners and managers, together in one of the typical emerging markets. Second, empirical results highlight the differences in the monitoring effects of institutional investors between industrialized economies and emerging markets, and therefore provide critical implications for policy makers and international investors. Third, this research adds to the corporate governance literature by examining the interactions between the involvement of institutional investors and ownership structure, and those between fund involvement and corporate governance characteristics.

Several limitations are acknowledged. First, the institutional ownership in developed countries is much higher than that in China; unprecedented development of mutual funds in China notwithstanding, the average ownership held by mutual funds in China is still low. Some may argue that it could be premature to examine mutual funds' monitoring role at this stage. But there is no doubt that institutional investors in China will be playing an increasingly important role over time, and an early examination of this important player is a timely attempt, and will offer crucial early insights before the issues go out of control. Our findings confirm our concerns. Second, bank affiliated funds have informational advantage over other funds, but this is only true when the parent banks have a lending relationship with the firm. We are not able to obtain public lending information between banks and listed companies; therefore, we argue in general and theoretically (Gillan and Starks 2003) that bank affiliated funds enjoy inside information and have more incentives to monitor. Third, prior studies examining executive

compensation usually investigate compensation level as well as the pay-performance sensitivity (e.g. Hartzell and Starks 2003). But since the pay-performance sensitivity is significantly low even in developed economies (e.g. Jensen and Murphy 1990), we focus on the effect of mutual funds on executive compensation level, and leave the pay-performance sensitivity analysis for future studies. Finally, we examine fund involvement in Chinese listed companies by coding data from annual reports. Since only ten largest shareholders and ten largest tradable shareholders are disclosed, we inevitably lose data on mutual funds that are not among the top 10.

As for further research rooting in the current one, it opens up at least two streams of studies. One is to further address the effects of investment environment and investor's protection in emerging markets on corporate governance structures in public companies, so as to explain the lack of monitoring effectiveness of mutual funds in these markets. Second, it is interesting to examine the effects of mutual fund involvement on investors' returns, and to further analyze the approaches of mitigating agency conflicts, such as monitoring and signaling.

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Table 1. Descriptive Statistics

Panel A. Descriptive Statistics of the Dependent Variables

Market return (MR) is measured by the annual stock return with dividends. TotalPay measures the total compensation received by all executives. BoDTop3 and MGMGTop3 measure the sum of the three highest compensations received by the board directors, and the members in the management team, respectively. Executive Compensation Variables are in Million Renminbi.

Variable	Mean	S.D.	N	Variable	Mean	S.D.	N
MR	-0.167	0.488	7358	TotalPay	1.435	1.685	7482
BoDTop3	0.498	0.630	7129	MGMGTop3	0.545	0.660	7493

Panel B. Descriptive Statistics of the Independent Variables

There are 9 variables measuring fund involvement, and they are based on tradable shares only. Fund is dummy variable with a value of one if at least one of the ten largest tradable shareholders is a fund. Fund# measures the number of funds that are among the ten largest tradable shareholders, and Fund% indicates the percentage of shares held by funds. BankFund is a dummy variable with a value of one if at least one of the ten largest tradable shareholders is bank-affiliated fund when Fund=1, and zero otherwise. When the value of the variable Fund is 1, BankFund# measures the number of bank-affiliated funds that are among the ten largest tradable shareholders, and BankFund% indicates the percentage of shares held by bank-affiliated funds. SOBFund is a dummy variable with a value of one if at least one of the ten largest tradable shareholders is state-owned-bank-affiliated fund when BankFund=1. When the value of the variable BankFund is 1, SOBFund# measures the number of state-owned-bank-affiliated funds that are among the ten largest tradable shareholders, and SOBFund% indicates the percentage of shares held by state-owned-bank-affiliated funds. The variable Earn is the net income divided by the total market value of equity at the beginning of a year. Note that the three variables, Fund%, BankFund%, and SOBFund%, are based on sub-samples with firms that have at least one fund, bank-affiliated fund, state-owned-bank-affiliated fund, respectively, among their ten largest tradable shareholders.

Variable	Mean	S.D.	N	Variable	Mean	S.D.	N
Fund Involvement and Earning							
Fund	0.429	0.495	5734	BankFund%	0.017	0.028	794
Fund#	1.590	2.599	5529	SOBFund	0.232	0.425	801
Fund%	0.039	0.053	2208	SOBFund#	0.305	0.638	800
BankFund	0.420	2.148	2222	SOBFund%	0.018	0.019	176
BankFund#	0.544	0.881	2201	Earn	0.006	0.123	6211

Detailed Information Sorted by Years from 2003 to 2006				
	2003	2004	2005	2006
The percentage of firms in which at least one of the ten largest tradable shareholders is a fund	0.383	0.415	0.428	0.450
Average number of funds among the ten largest tradable shareholders	1.242	1.731	1.817	1.813
Average percentage of tradable shares held by funds in firms in which at least one of the ten largest tradable shareholders is fund	0.095	0.122	0.137	0.130

Table 1 Continued. Descriptive Statistics

Panel C. Fund Involvement, Firm Performance, and Executive Compensation

Market return (MR) is measured by the annual stock return with dividends. TotalPay measures the total compensation received by all executives. BoDTop3 and MGMGTop3 measure the sum of the three highest compensations received by the board directors and the members in the management team, respectively. Earn is the net income divided by the total market value of equity at the beginning of a year. Fund is dummy variable with a value of one if at least one of the ten largest tradable shareholders is a fund. *T*-values are from the *t*-tests for comparing means of sub-samples with different variances.

	Fund=0			Fund=1			Total			<i>t</i> -value
	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	
MR	-0.216	0.557	3140	0.022	0.398	2274	-0.116	0.510	5414	-18.410***
Earn	-0.018	0.143	3018	0.045	0.064	2149	0.008	0.121	5167	-21.233***
TotalPay	1.156	1.118	3185	2.067	2.285	2409	1.548	1.778	5594	-18.008***
BoDTop3	0.412	0.466	3044	0.698	0.767	2310	0.535	0.630	5354	-15.833***
MGMGTop3	0.460	0.420	3182	0.774	0.875	2403	0.595	0.674	5585	-16.254***

Panel D. Descriptive Statistics of the Control Variables

Return on assets (ROA) is measured by the net income divided by the book value of total assets. D/TA is the ratio between total liabilities and total assets, and Tobin's Q is market value divided by book value of assets. LnTA is the natural logarithm of the book value of total assets. Auditing is a dummy variable with a value of one if the auditor of a firm is one of the big four auditing firms, and zero otherwise. Sigma is the standard deviation of daily stock returns. TMV is the total market value of equity based on all shares, while TMV-T is that based on tradable shares only. ΔTMV is the difference between the total market value of equity based on all shares in year *t* and that in year *t*-1, and ΔTMV-T is the difference based on tradable shares only; ΔTMV-L is the difference between year *t*-1 and *t*-2 based on all shares, and ΔTMV-T-L is that based on tradable shares. Largest% is the percentage of shares owned by the largest shareholder, and Tradable is the portion of shares that are tradable. SOE is a dummy variable with a value of one if the largest shareholder is state-owned-or-controlled, and zero otherwise. Boardsize is the number of members on the board of directors, and SBSSize is that on the supervisory board. Board meeting frequency (BMF) is measured by the number of meetings held by the board of directors, and supervisory board meeting frequency (SBMF) indicates that held by the supervisory board. Ind.Dir. measures the portion of directors on the board served by independent directors, and BC-CEO is a dummy variable with a value of one if a CEO is also the chairman of the board of directors. HHI10 is the Herfindahl index based on the second to the tenth largest shareholders.

Variable	Mean	S.D.	N	Variable	Mean	S.D.	N
Firm Characteristics							
D/TA	0.069	0.137	7654	Tobin's Q	2.522	34.381	7650
LnTA	21.140	1.015	7654	Auditing	0.085	0.278	7224
Sigma	0.024	0.006	6987	ROA	-0.253	21.091	7654
Variables Measuring Market Value of Equity (in Billion Renminbi)							
TMV	3.86	30.5	7755	TMV-T	1.31	5.93	7753
ΔTMV	0.184	6.41	6297	ΔTMV-T	0.158	2.26	6293
ΔTMV-L	-0.337	3.15	4945	ΔTMV-T-L	-2.31	8.31	4943
Corporate Governance Variables							
Largest%	0.413	0.169	7725	BMF	7.553	3.210	7683
Tradable	0.415	0.129	7755	SBMF	3.587	1.690	7686
SOE	0.606	0.489	7725	Ind. Dir.	0.283	0.119	7717
BoardSize	9.699	2.249	7724	BC-CEO	0.088	0.283	9824
SBSSize	4.240	1.439	7724	HHI10	0.020	0.028	7725

Table 2. Effects of Fund Involvements on Earnings Informativeness**Panel A. Major Results from Model (4)**

The dependent variable is Market return (MR) measured by the annual stock return with dividends. All six variables measuring fund involvement are based on tradable shares only. Fund is dummy variable with a value of one if at least one of the ten largest tradable shareholders is a fund, and Fund% indicates the percentage of shares held by funds. BankFund is a dummy variable with a value of one if at least one of the ten largest tradable shareholders is bank-affiliated fund when Fund=1, and BankFund% indicates the percentage of shares held by bank-affiliated funds. SOBFund is a dummy variable with a value of one if at least one of the ten largest tradable shareholders is state-owned-bank-affiliated fund when BankFund=1, and SOBFund% indicates the percentage of shares held by state-owned-bank-affiliated funds. Control variables include the industry, year dummies, Largest% (the percentage of ownership held by the largest shareholders), Tradable (the percentage of shares that are tradable), SOE (a dummy measuring whether the largest shareholders is state-owned-or-controlled), BoardSize (the size of board of directors), SBSize (the size of supervisory board), BMF (the meeting frequency of the board of director), SBMF (the meeting frequency of supervisory board), Ind.Dir. (the percentage of board members that are independent directors), BC-CEO (a dummy measuring whether a board chair is also the CEO), D/TA (the ratio between total liabilities and total book value of assets), LnTA (the natural logarithm of the total book value of assets), Sigma (the stand deviation of daily stock returns in a year), ROA (return on assets), Tobin's Q (market value divided by book value of assets), and Auditing (a dummy variable indicating whether the auditor of a firm is one of the big four auditing firms). Earn is the net income divided by the total market value of equity at the beginning of a year, and Earn x control variables are the cross-products of Earn and control variables, respectively. Fund-M indicates the residuals from Model (2) and Model (3), respectively, and Earn x Fund-M is the interaction between these two variables. Standard errors are presented in parentheses.

	Fund	Fund%	BankFund	BankFund%	SOBFund	SOBFund%
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Earn	1.072** (0.514)	2.034*** (0.528)	4.255*** (0.904)	4.562*** (0.959)	7.492*** (1.578)	7.476*** (1.616)
Earn x Largest%	-0.009 (0.180)	0.075 (0.181)	-0.705** (0.303)	-0.660** (0.321)	-1.270** (0.605)	-1.371** (0.616)
Earn x Tradable	0.094 (0.239)	-0.202 (0.239)	-0.687* (0.379)	-0.708* (0.396)	-0.755 (0.791)	-0.565 (0.798)
Earn x SOE	-0.043 (0.056)	-0.115** (0.057)	-0.016 (0.078)	0.027 (0.082)	-0.286* (0.170)	-0.231 (0.171)
Earn x BoardSize	0.021* (0.011)	0.025** (0.012)	0.037** (0.017)	0.035** (0.018)	0.033 (0.031)	0.038 (0.031)
Earn x SBSize	-0.017 (0.018)	-0.016 (0.018)	-0.008 (0.024)	-0.007 (0.025)	-0.022 (0.036)	-0.002 (0.035)
Earn x BMF	0.028*** (0.006)	0.021*** (0.006)	0.008 (0.011)	0.010 (0.011)	0.009 (0.018)	-0.001 (0.018)
Earn x SBMF	-0.008 (0.014)	-0.007 (0.014)	-0.016 (0.021)	-0.016 (0.022)	-0.013 (0.039)	-0.014 (0.039)
Earn x Ind.Dir.	0.000 (0.000)	0.000 (0.000)	0.879 (0.710)	0.211 (0.696)	0.532 (1.407)	0.415 (1.423)
Earn x BC-CEO	-0.082 (0.060)	-0.078 (0.061)	0.003 (0.122)	-0.009 (0.127)	0.267 (0.286)	0.402 (0.306)
Earn x D/TA	-0.230 (0.182)	-0.097 (0.182)	-0.729** (0.357)	-0.820** (0.378)	-1.327** (0.660)	-1.592** (0.662)
Earn x LnTA	-0.027 (0.026)	-0.063** (0.027)	-0.131*** (0.042)	-0.129*** (0.044)	-0.206*** (0.066)	-0.212*** (0.067)
Earn x Sigma	-14.238*** (2.134)	-11.616*** (2.165)	-13.433*** (2.084)	-13.361*** (2.167)	-16.033*** (3.484)	-14.677*** (3.525)
Earn x ROA	0.313*** (0.027)	0.172*** (0.029)	-0.102 (0.157)	-0.282* (0.169)	-0.033 (0.729)	0.216 (0.731)
Earn x Tobin's Q	0.021* (0.013)	-0.034*** (0.010)	-0.115** (0.058)	-0.176*** (0.061)	-0.003 (0.135)	-0.057 (0.135)
Earn x Auditing	-0.136 (0.093)	-0.159* (0.090)	-0.099 (0.102)	-0.074 (0.107)	-0.204 (0.171)	-0.144 (0.173)
Fund-M	-- --	2.328*** (0.204)	-0.004 (0.004)	-0.427 (0.488)	0.021*** (0.006)	3.481* (1.856)
Earn x Fund-M	-0.000** (0.000)	-3.727*** (0.851)	0.062*** (0.021)	9.033** (3.633)	-0.089*** (0.034)	-16.872 (11.337)
Constant	-1.554*** (0.169)	-1.323*** (0.167)	-1.643*** (0.230)	-1.894*** (0.242)	-1.211*** (0.385)	-1.225*** (0.388)
N	4792	4646	2026	1868	680	676
F Value	73.86***	73.15***	61.14***	53.6***	24.48***	23.67***
Adjusted R ²	0.422	0.432	0.593	0.580	0.629	0.622

***p<0.01, **p<0.05, *p<0.10

Panel B. Tests Using Sub-Samples

The dependent variable is Market return (MR) measured by the annual stock return with dividends. Fund is dummy variable with a value of one if at least one of the ten largest tradable shareholders is a fund. Control variables include the industry, year dummies, Largest% (the percentage of ownership held by the largest shareholders), Tradable (the percentage of shares that are tradable), SOE (a dummy measuring whether the largest shareholder is state-owned-or-controlled), BoardSize (the size of board of directors), SBSize (the size of supervisory board), BMF (the meeting frequency of the board of director), SBMF (the meeting frequency of supervisory board), Ind.Dir. (the percentage of board members that are independent directors), BC-CEO (a dummy measuring whether a board chair is also the CEO), D/TA (the ratio between total liabilities and total book value of assets), LnTA (the natural logarithm of the total book value of assets), Sigma (the stand deviation of daily stock returns in a year), ROA (return on assets), Tobin's Q (market value divided by book value of assets), and Auditing (a dummy variable indicating whether the auditor of a firm is one of the big four auditing firms). Earn is the net income divided by the total market value of equity at the beginning of a year, and Earn x control variables are the cross-products of Earn and control variables, respectively. Fund-M indicates the residuals from Model (2) and Model (3), respectively, and Earn x Fund-M is the interaction between these two variables. Standard errors are presented in parentheses.

	Performance Effects				Controlling-Stake Effects		
	Earn \geq 0	Earn<0	Earn \geq 0.025	Earn<0.025	Largest% < 28%	28% \leq Largest% \leq 55%	Largest% > 55%
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Earn	7.417*** (0.836)	1.724 (1.886)	7.360*** (0.770)	1.483 (1.219)	-0.878 (1.872)	0.605 (0.749)	3.467*** (1.124)
Earn x Largest%	0.241 (0.320)	0.511 (0.539)	-0.087 (0.290)	0.119 (0.348)	3.718*** (1.436)	0.672* (0.408)	-2.568*** (0.895)
Earn x Tradable	1.294*** (0.403)	0.107 (0.718)	0.794** (0.372)	0.168 (0.462)	-0.363 (0.577)	0.388 (0.314)	-1.749** (0.877)
Earn x SOE	-0.176* (0.094)	-0.191 (0.178)	-0.131 (0.085)	-0.097 (0.110)	-0.265 (0.163)	-0.059 (0.078)	-0.083 (0.103)
Earn x BoardSize	0.047** (0.019)	-0.036 (0.035)	0.036** (0.016)	-0.018 (0.023)	-0.057 (0.037)	0.037** (0.018)	0.054** (0.023)
Earn x SBSize	0.009 (0.026)	0.062 (0.059)	0.011 (0.023)	0.017 (0.039)	-0.152** (0.064)	0.081*** (0.025)	-0.041 (0.027)
Earn x BMF	0.030** (0.015)	-0.007 (0.015)	0.028** (0.013)	0.007 (0.010)	0.033** (0.014)	0.018* (0.010)	0.029** (0.012)
Earn x SBMF	-0.076*** (0.024)	0.068 (0.044)	-0.073*** (0.022)	0.039 (0.028)	-0.011 (0.038)	-0.024 (0.021)	-0.039* (0.023)
Earn x Ind.Dir.	-0.007 (0.008)	-0.565 (0.645)	0.002 (0.023)	0.000 (0.001)	-0.013 (0.016)	-0.001* (0.000)	0.385 (0.732)
Earn x BC-CEO	-0.027 (0.123)	0.153 (0.169)	-0.013 (0.110)	0.092 (0.111)	0.198 (0.238)	0.092 (0.072)	-0.021 (0.139)
Earn x D/TA	-0.015 (0.401)	0.109 (0.448)	-0.261 (0.424)	-0.140 (0.317)	-0.258 (0.747)	0.289 (0.227)	-0.572 (0.387)
Earn x LnTA	-0.311*** (0.040)	-0.064 (0.096)	-0.282*** (0.037)	-0.044 (0.063)	0.107 (0.091)	-0.044 (0.039)	-0.043 (0.045)
Earn x Sigma	-13.629*** (2.058)	-11.270 (8.173)	-10.016*** (1.706)	-17.390*** (5.784)	-13.235** (5.979)	-13.680*** (2.778)	-13.271*** (3.444)
Earn x ROA	-5.455*** (0.782)	-0.038 (0.067)	-2.051*** (0.717)	0.060 (0.047)	0.375*** (0.075)	0.189*** (0.037)	0.814*** (0.134)
Earn x Tobin's Q	0.439*** (0.055)	-0.060** (0.029)	0.126** (0.055)	-0.041* (0.021)	-0.075 (0.050)	-0.025 (0.023)	0.087*** (0.023)
Earn x Auditing	0.252** (0.120)	-0.192 (0.339)	0.134 (0.106)	-0.151 (0.213)	0.907 (1.044)	-0.051 (0.146)	-0.214* (0.122)
Fund	0.034*** (0.005)	--	0.032*** (0.005)	--	0.040*** (0.015)	--	0.029*** (0.008)
Earn x Fund	-0.055*** (0.015)	0.000 (0.000)	-0.044*** (0.013)	0.000 (0.000)	0.057* (0.032)	0.000* (0.000)	-0.039** (0.018)
Constant	-1.762*** (0.168)	1.731* (1.008)	-2.054*** (0.164)	0.816* (0.483)	-1.679*** (0.474)	-1.163*** (0.225)	-1.059*** (0.347)
N	4119	673	3240	1552	1167	2417	1208
F Value	99.49***	6.23***	111.82***	12.84***	16.64***	45.38***	23.16***
Adjusted R ²	0.540	0.272	0.622	0.268	0.397	0.469	0.468

***p<0.01, **p<0.05, *p<0.10

Table 3 Effects of Fund Involvement on Executive Compensation

Panel A. Effects of Fund Involvement on Total Executive Compensation (TotalPay)

TotalPay measures the total compensation received by all executives in million dollars. All nine fund-involvement variables are based on tradable shares only. Fund is dummy variable with a value of one if at least one of the ten largest tradable shareholders is a fund. Fund# measures the number of funds that are among the ten largest tradable shareholders, and Fund% indicates the percentage of shares held by funds. BankFund is a dummy variable with a value of one if at least one of the ten largest tradable shareholders is bank-affiliated fund when Fund=1, and zero otherwise. When the value of the variable Fund is 1, BankFund# measures the number of bank-affiliated funds that are among the ten largest tradable shareholders, and BankFund% indicates the percentage of shares held by bank-affiliated funds. SOBFund is a dummy variable with a value of one if at least one of the ten largest tradable shareholders is state-owned-bank-affiliated fund when BankFund=1. When the value of the variable BankFund is 1, SOBFund# measures the number of state-owned-bank-affiliated funds that are among the ten largest tradable shareholders, and SOBFund% indicates the percentage of shares held by state-owned-bank-affiliated funds. Tobin's Q is market value divided by book value of assets, and BC-CEO is a dummy variable with a value of one if a CEO is also the chairman of the board of directors. Δ TMV-T is the difference between the total market value of equity in year t and that in year t-1 based on tradable shares only, and Δ TMV-T-L is that between year t-1 and t-2. F.V. indicates one of the fund-involvement variables, and TMV-L x F.V. is the cross-products between them and TMV-T-L (total market value of tradable shares in year t-1), respectively. Standard errors are presented in parentheses.

	Fund			BankFund			SOBFund		
	Fund	Fund#	Fund%	BankFund	BankFund#	BankFund%	SOBFund	SOBFund#	SOBFund%
Tobin's Q	-0.02***	-0.03***	-0.03***	-0.01	0.00	0.01	0.03	0.04	0.03
	(0.00)	(0.00)	(0.00)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
BC-CEO	0.01	0.01	-0.01	0.12*	0.12**	0.13**	0.05	0.06	0.10
	(0.04)	(0.04)	(0.04)	(0.06)	(0.06)	(0.06)	(0.11)	(0.11)	(0.11)
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Δ TMV-T ('000,000,000)	30.6***	22.2**	19.9**	61.7***	52.1***	34.5***	25.5*	22.6	23.2
	(8.70)	(8.99)	(9.09)	(10.7)	(9.84)	(9.18)	(14.2)	(14.3)	(14.4)
Δ TMV-T-L ('000,000,000)	7.35**	-5.80**	-7.36***	9.59***	3.96*	-1.22	-2.64	-2.99	-3.18*
	(2.94)	(2.72)	(1.82)	(2.77)	(2.17)	(1.79)	(1.92)	(1.92)	(1.93)
F.V.	0.49***	0.10***	4.04***	-0.06***	0.01	-2.38	-0.10	-0.10*	-6.11**
	(0.03)	(0.01)	(0.40)	(0.02)	(0.02)	(1.46)	(0.09)	(0.05)	(3.00)
TMV-T-L x F.V.	51.7***	0.21	1150***	53.4***	16.30***	1990***	107.0***	59.5***	5290***
	(10.0)	(1.27)	(176)	(9.77)	(3.48)	(542.00)	(30.2)	(16.1)	(1440)
Constant	13.63***	13.72***	13.90***	14.16***	13.94***	13.91***	13.75***	13.74***	14.29***
	(0.05)	(0.05)	(0.05)	(0.10)	(0.10)	(0.10)	(0.17)	(0.17)	(0.17)
N	4560	4554	4514	1797	1794	1780	659	659	655
F Value	43.94***	40.38***	31.61***	10.66***	10.18***	9.43	5.31***	5.33***	5.45***
Adjusted R ²	0.165	0.154	0.125	0.102	0.097	0.091	0.121	0.120	0.125

***p<0.01, **p<0.05, *p<0.10

Panel B. Effects of Fund Involvement on Top Three Executive Compensations in the Management Team and on the Board of Directors

BoDTop3 and MGMTTop3 measure the sum of the three highest compensations received by the board directors and the members in the management team, respectively. All three fund-involvement variables are based on tradable shares only. Fund is dummy variable with a value of one if at least one of the ten largest tradable shareholders is a fund. BankFund is a dummy variable with a value of one if at least one of the ten largest tradable shareholders is bank-affiliated fund when Fund=1, and zero otherwise. SOBFund is a dummy variable with a value of one if at least one of the ten largest tradable shareholders is state-owned-bank-affiliated fund when BankFund=1. Tobin's Q is market value divided by book value of assets, and BC-CEO is a dummy variable with a value of one if a CEO is also the chairman of the board of directors. Δ TMV-T is the difference between the total market value of equity in year t and that in year t-1 based on tradable shares only, and Δ TMV-T-L is that between year t-1 and t-2. F.V. indicates one of the fund-involvement variables, and TMV-L x F.V. is the cross-products between them and TMV-T-L (total market value of tradable shares in year t-1), respectively. Standard errors are presented in parentheses.

	MGMTTop3			BoDTop3		
	Fund	BankFund	SOBFund	Fund	BankFund	SOBFund
Tobin's Q	-0.02***	0.05**	0.08**	-0.02***	-0.02	0.01
	(0.00)	(0.02)	(0.03)	(0.00)	(0.03)	(0.04)
BC-CEO	0.04	0.11*	0.13	0.07	0.15**	0.18
	(0.04)	(0.06)	(0.10)	(0.04)	(0.07)	(0.12)
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Δ TMV-T ('000,000,000)	29.6***	51.1***	23.3*	34.8***	69.2***	33.5**
	(8.67)	(10.5)	(13.4)	(9.86)	(11.9)	(16.3)
Δ TMV-T-L ('000,000,000)	6.75**	6.59**	-1.91	8.37**	11.6***	-1.91
	(2.94)	(2.78)	(1.81)	(3.33)	(3.17)	(2.20)
F.V.	0.45***	-0.04**	-0.07	0.47***	-0.06***	0.03
	(0.03)	(0.02)	(0.08)	(0.03)	(0.02)	(0.10)
TMV-L x F.V.	46.3***	38.5***	73.6***	49.5***	55.8***	69.2**
	(10.1)	(9.82)	(28.4)	(11.5)	(11.2)	(34.6)
Constant	12.71***	13.15***	13.23***	12.67***	13.13***	13.15***
	(0.05)	(0.10)	(0.16)	(0.06)	(0.11)	(0.21)
N	4555	1794	652	4290	1691	624
F Value	44.6***	12.1***	7.87***	29.19***	7.41***	4.17***
Adjusted R ²	0.167	0.115	0.182	0.121	0.074	0.097

***p<0.01, **p<0.05, *p<0.10

**Panel C. Testing Effects of Fund Involvement on Total Executive Compensation
(TotalPay) Using Sub-Samples: Controlling-Stake Effects**

TotalPay measures the total compensation received by all executives in million dollars. Three dummy variables measuring fund-involvement are considered; the variable Fund has a value of one if at least one of the ten largest tradable shareholders is a fund, BankFund has a value of one if at least one of the ten largest tradable shareholders is bank-affiliated fund when Fund=1 and zero otherwise, and SOBFund has a value of one if at least one of the ten largest tradable shareholders is state-owned-bank-affiliated fund when BankFund=1. Tobin's Q is market value divided by book value of assets, and BC-CEO is a dummy variable with a value of one if a CEO is also the chairman of the board of directors. Δ TMV-T is the difference between the total market value of equity in year t and that in year t-1 based on tradable shares only, and Δ TMV-T-L is that between year t-1 and t-2. F.V. indicates one of the fund-involvement variables, and TMV-L x F.V. is the cross-products between them and TMV-T-L (total market value of tradable shares in year t-1), respectively. Standard errors are presented in parentheses.

	Fund			BankFund			SOB Fund		
	Largest% < 28%	28% ≤ Largest% ≤ 55%	Largest% > 55%	Largest% < 28%	28% ≤ Largest% ≤ 55%	Largest% > 55%	Largest% < 28%	28% ≤ Largest% ≤ 55%	Largest% > 55%
Tobin's Q	-0.054***	-0.024***	-0.007	-0.036	-0.032	0.013	0.025	-0.032	0.048
	(0.010)	(0.005)	(0.008)	(0.042)	(0.040)	(0.038)	(0.063)	(0.052)	(0.065)
BC-CEO	0.081	-0.051	0.154*	0.097	0.010	0.340***	-0.091	-0.196	0.835***
	(0.065)	(0.048)	(0.093)	(0.116)	(0.081)	(0.117)	(0.199)	(0.139)	(0.231)
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Δ TMV-T ('000,000,000)	43.2*	106***	8.23	105***	129***	16.4	87.7*	141***	3.80
	(25.8)	(19.2)	(10.7)	(24.1)	(23.7)	(14.3)	(51.5)	(34.0)	(17.2)
Δ TMV-T-L ('000,000,000)	-155***	-34.8***	3.20	-76.8**	-19.1***	-0.27	-0.85	-36.2***	-3.77*
	(22.2)	(6.97)	(3.80)	(31.6)	(7.43)	(3.71)	(54.8)	(7.97)	(2.16)
F.V.	0.403***	0.434***	0.447***	-0.178**	-0.004	-0.079	-0.188	-0.008	-0.131
	(0.061)	(0.039)	(0.051)	(0.079)	(0.061)	(0.068)	(0.213)	(0.116)	(0.191)
TMV-T-L x F.V.	154***	49.0***	31.5**	134**	59.2***	17.1	208	21.3	77.4
	(35.7)	(17.0)	(13.3)	(56.8)	(18.6)	(12.9)	(171)	(39.6)	(56.9)
Constant	13.410***	13.508***	14.194***	14.215***	13.874***	14.296***	14.252***	14.326***	14.012***
	(0.091)	(0.077)	(0.207)	(0.154)	(0.151)	(0.332)	(0.237)	(0.247)	(0.773)
N	1227	2295	1038	388	844	565	129	316	214
F Value	19.25***	28.96***	13.69***	4.22***	9.20***	6.35***	2.15***	4.78***	3.94***
Adjusted R ²	0.238	0.204	0.197	0.149	0.163	0.159	0.152	0.194	0.208

***p<0.01, **p<0.05, *p<0.10