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Our paper examines the relationship between the frequency of board meetings on particular topics, and CEO dismissal/compensation and performance sensitivities. We utilize a unique dataset of specific topics discussed at board meetings, drawn from the reports of independent directors of listed firms in China over the period of 2003 to 2010. Our results show that turnover-performance sensitivity is weaker when there is a higher frequency of board meetings discussing the nomination of directors and top management. Moreover, the link between CEO compensation and firm performance is enhanced only when directors meet more often to discuss growth strategies for the use of IPO proceeds, investment and acquisitions. The paper provides support for agency theories on the effectiveness of board monitoring. It sheds lights on what makes boards more effective, and how board monitoring of different decisions at board meetings modifies the connection between CEO interests and firm performance.

*JEL classification:* G30; G34

*Keywords:* Board Effectiveness, Board Meeting Topics, Agency Costs, CEO Compensation, CEO Dismissal

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## ABSTRACT

Our paper examines the relationship between the frequency of board meetings on particular topics, and CEO dismissal/compensation and performance sensitivities. We utilize a unique dataset of specific topics discussed at board meetings, drawn from the reports of independent directors of listed firms in China over the period of 2003 to 2010. Our results show that turnover-performance sensitivity is weaker when there is a higher frequency of board meetings discussing the nomination of directors and top management. Moreover, the link between CEO compensation and firm performance is enhanced only when directors meet more often to discuss growth strategies for the use of IPO proceeds, investment and acquisitions. The paper provides support for agency theories on the effectiveness of board monitoring. It sheds lights on what makes boards more effective, and how board monitoring of different decisions at board meetings modifies the connection between CEO interests and firm performance.

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## 1. Introduction

A key responsibility of boards of directors is to mitigate agency problems resulting from the separation of “ownership” and “control” (Fama and Jensen, 1983a,b; Jensen and Meckling, 1976). Without boards’ ratification and monitoring of the decision process, management teams are more likely to take self-benefit actions, and deviate from the interests of residual claimants. Boards of directors are in charge of monetary incentives and the threat of dismissal, keeping managers on their toes by aligning managerial benefits with the firm’s interests (Tirole, 2001). Agency models prescribe normative actions so that compensation is related to effort and performance and that the board fire poor performing CEOs. However, some empirical research might find the opposite<sup>1</sup>.

Since the Sarbanes–Oxley Act of 2002 was introduced in the US, a minimum number of board meetings has been required in many countries such as the United States, United Kingdom and India. In addition, the actual number of board meetings and committee meetings has to be disclosed in listed firms’ annual reports. Lipton and Lorsch (1992) and Forbes and Milliken (1999) suggest that board meetings provide a chance for directors to monitor and discuss strategies to improve firm’s and the executives’ performance. However, Jensen (1993) argues that the information disclosed in board meetings could be somewhat biased in the CEO’s favor, since he/she sets up the meeting agendas, reducing the effectiveness of board meetings.

There has been little empirical literature that examines the relationship between board activities and board effectiveness of monitoring the manager and firm. Using the annual meeting frequency alone as a proxy for board monitoring (e.g. Vafeas, 1999; Brick and

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<sup>1</sup> In pay-firm performance literature, this is no such simple relationship in reality: many studies have found a negative relationship between excess compensation and firm performance (e.g. Brick, Palmon, and Wald, 2006); the CEO pay-performance sensitivity was mainly dependent on firm’s reward to the top management team (e.g. Carpenter and Sanders, 2002).

Chidambaran, 2010) could be problematic as it will include inefficient, routine meetings held primarily to satisfy firm hierarchy and regulation requirements (Jensen, 1993). In this study, we examine whether board activities in discussing actual topics at board meetings enhance the relationship between CEO dismissal/compensation and firm performance.

Board activities related to processing corporate decisions demonstrate how directors fulfill their monitoring obligations, without including noise from routine meetings. Empirical studies and surveys (e.g. Schwartz-Ziv and Weisbach, 2013; Stiles, 2001)<sup>2</sup> show that boards of directors put most of their effort into monitoring management decisions. Indeed, meetings on different topics provide means to re-evaluate CEO and firm performance in relevant dimensions by discussing business strategy, risk oversight, board composition and CEO succession planning. In some board meetings, directors share and discuss information and advice on corporate decisions, provided by board committees, in order to making thorough decisions. Further, Forbes and Milliken (1999) suggest that informal interaction can improve the efficiency of group work among unfamiliar colleagues. As independent directors are full-time employees in other organisations, they rarely communicate with each other except in discussions at board meetings or informal conversations during meeting breaks. Moreover, the meeting agenda and focus can vary across meetings (e.g. Ocasio and Joseph, 2005; Schwartz-Ziv and Weisbach, 2013). In this paper, we use the number and type of agenda focused meetings to proxy for board activities to monitor and improve corporate governance.

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<sup>2</sup> Schwartz-Ziv and Weisbach (2013) examine the managerial and supervisory theories of board effectiveness, using private data obtained by inspecting the minutes of real-world board meetings in 11 Israeli business companies during 2007-2009, including 155 board meetings, 247 board committee meetings, and 2,459 decisions made. Stiles (2001) tests these two theories by analysing data from 51 interviews with directors of UK public firms, 121 board secretaries and 4 case studies of UK public firms.

China is a country with weak external corporate governance mechanisms, it provides us with a unique framework for looking at the missing links between board activities and the reduction of agency costs. Although the property rights and accounting standards in China are not as strong as in developed countries, Chinese firms have experienced an impressive growth rate (Allen et al., 2005). This might be partially explained by the monitoring function of directors, which is expected to be stronger than that in developed countries. For example, the China Securities Regulatory Commission (CSRC) emphasises the monitoring role of independent directors and, since 2003, has required them to issue an independent report after each board meeting, under the new corporate governance guidelines for Chinese listed firms (2001, 2002). The report must include the topics discussed in the board meeting and the independent directors' opinion on the decisions made by the board. These reports are independent, objective and specifically aimed at meeting the requirements of the CSRC. Using the collections of *Report[s] of the Independent Director* from Chinese listed firms, we capture independent directors' task-based activities on six major topics, namely personnel changes, compensation, management routines, firm control transactions, changes of equity structure and growth strategies.

We apply panel data techniques to explore the moderating effects of specific topics discussed at board meetings on the sensitivity between CEOs' dismissal/compensation and firm performance. Furthermore, we extend our analysis by employing the instrumental variable (IV) and generalized method of moments (GMM) approaches to address endogeneity issues. Our key findings show that CEO dismissals and compensation are related to firm performance in China, suggesting that boards of directors are effective, at least to some extent, in contracting and monitoring executives in China. Regarding CEO compensation and its connection to firm performance, the relationship between compensation and firm performance is strengthened by additional board monitoring efforts, in terms of discussions of firms' growth strategies (i.e.

investments and acquisitions). The relationship between CEO dismissal and firm performance is weaker when there is more board monitoring activity on the nomination of directors and top management.

Our research contributes to the literature in the following ways. First, we contribute to the literature that examines board effectiveness and influence upon firm performance. The vast majority of prior studies on board influence focus on the number (e.g. Yermack, 1996), independence (e.g. Weisbach, 1988), reputation (e.g. Shivdasani, 1993), and gender diversity (e.g. Adams and Ferreira, 2009) of board members. To the best of our knowledge, this is the first paper that explicitly explores the extent to which the attention of the board on different topics affects the practice of corporate governance. We show that board activities related to different strategic decisions can alter the relationship between CEO interests and firm performance.

Second, we contribute to the dynamic debate among academics and practitioners as to whether board meetings are meaningful. We provide novel empirical evidence linking boards' decision performance with governance at the firm level. Partly consistent with the prediction of the board process model that board task performance can improve firm performance (Forbes and Milliken, 1999), some meetings have positive effects on corporate governance, although meetings with different foci have different effects. We also avoid the noise present in the annual meeting frequency measure used in previous empirical studies (Brick and Chidambaran, 2010; Vafeas, 1999).

Last but not least, we extend the literature on the endeavor to achieve better corporate governance in a major emerging economy. In an environment with weak investor protection, centralized ownership, and an ineffective takeover market, the heavy burden of solving agency problems in China lies on the shoulders of the directors, and mainly the independent directors. We provide novel evidence on the effectiveness of the recently adopted independent director

system, and such directors' reports, whereas prior studies only address inferences about board structure. Our findings support the use of policies that encourage directors to put more effort into monitoring firms' strategic decisions and the link between CEO incentives and firm performance, instead of focusing on the number of board meetings alone.

The remainder of the paper proceeds as follows. In the next section, we provide the institutional background and literature review. The following two sections describe the sample data and explain the research design. The penultimate section contains the empirical results and discussion. The final section presents our conclusions and discusses areas for further study.

## **2. Institutional background and literature review**

### *2.1 Institutional Background and Corporate Governance in China*

China's economic reform began with the study of the modern corporate governance system of western countries. In 1992, China introduced Germany's two-tier board system, consisting of a main board and a supervisory board. In most stated-owned enterprises (SOEs), the government had a significant impact on the nominations and appointments for both boards. The top management of firms worked as bureaucrats, and the supervisory boards had little motivation and ambiguous accountability when it came to monitoring managers and firm operations (Allen et al., 2005; Conyon and He, 2011).

In order to deepen the economic reforms and protect the interests of minority shareholders, the CSRC mimicked the Sarbanes-Oxley Act in adopting new corporate governance mechanisms from 2001 onwards. It issued guidelines and regulations (2001, 2002) that compelled each listed firm to have independent directors on its main board and to improve the quality of its information disclosure. The proportion of independent directors was required to be at least one third by June 2003, while independent directors were required to publish the *Report of the Independent Director* after board meetings (CSRC, 2001). As a result, the

protection of public shareholder interests and the transparency of information disclosure have been improved (CSRC, 2004).

One year later, the independent directors' system gained legal status for the first time, when it was authorized in the new Company Law of China (2005). Independent directors, as a group of corporate agents, are not affiliated with the listed firm or the controlling shareholders, and 'shall be especially concerned with protecting the interests of minority shareholders from being infringed' (CSRC, 2002). Furthermore, they are legally liable for disclosing fraud and irregularities of listed firms through the *Report of the Independent Director*. The report must clearly state whether each independent director agrees with important managerial proposals discussed in the board meeting. Specifically, it is mandatory that they report how they voted on different types of firm decision (CSRC, 2001). The reports could be seen as an intense reflection of board monitoring, at least that by the independent directors. Tang, Du, and Hou (2013) show that independent directors' dissent is a valid signal of the presence of effective corporate governance.

## *2.2 CEO Dismissal, Compensation, Performance, and Boards*

The usual research approach for CEOs' dismissal and compensation is to use agency theory (Fama and Jensen, 1983a, 1983b; Holmstrom, 1979; Jensen and Meckling, 1976). In entrepreneurial firms without separation of ownership and control, owners keep track of firm performance and their own managerial efforts. Contrastingly, in large firms, the owners often hire managers to help with the firm's operations. In such a setup, owners cannot accurately reward managers' efforts without providing optimal contracts, or assess firm performance without incurring high monitoring costs. To solve the potential moral hazard problems of managers, associated with information asymmetry, agency theory states that CEO dismissal and compensation should be connected to firm performance. Therefore, the board of directors, the "ultimate internal monitor", plays an important role in evaluating CEOs and disciplining

them (Fama, 1980). The board is responsible for designing a compensation contract that will motivate the CEO, rewarding acceptable firm performance, and punishing (and in extreme cases, dismissing) the CEO for poor performance.

The agency theory literature typically documents that CEO dismissal (compensation) is negatively (positively) related to firm performance (e.g. Core, Holthausen, and Larcker, 1999; Defond and Hung, 2004; Denis and Denis, 1995; Kaplan and Minton, 2012). However, the pay/dismissal-to-performance sensitivity can in practice be weakened or eliminated by competition from the CEO's peers within the top management team, board characteristics, ownership structure (e.g. Agrawal and Knoeber, 1996; Gillan and Starks, 2003), institutional environments (e.g. Shleifer and Vishny, 1997), and even exogenous industry and market shocks (e.g. Jenter and Kanaan, 2015). Jensen and Murphy (1990) argue that the associations between CEO monetary incentives or dismissal and performance are statistically significant, but they may be economically too small to actually discipline CEO's behaviors. They also hypothesize that public and private political forces impose constraints on incentives, which weaken the relationships. Recently, Kaplan and Minton (2012) found that annual CEO turnover-performance sensitivity was higher for the period after the Sarbanes-Oxley Act (2000-2007) than estimated in previous studies.

Questions of whether and how board composition and features influence the relationships between CEO rewards and firm performance have been in the focus of previous empirical studies. This is a key stream of research, featuring numerous articles that link firm-level outcomes (CEO turnover, compensation, takeovers, firm value and so on) to board size,

independence, diversity, directors' shareholdings and other factors<sup>3</sup>. However, it is not clear whether these inferences are correct. Therefore, it would be interesting to investigate how to measure board efforts directly, as well as the ways they influence corporate governance efficiency.

The empirical literature on CEO dismissal and compensation in China mostly shows that both the turnover-performance and compensation-performance relationships are statistically significant (e.g. Bai and Xu, 2005; Conyon and He, 2011, 2014; Firth, Fung, and Rui, 2006; Kato and Long, 2006b). However, the statistical significance and magnitude of the coefficients may vary, depending on whether accounting or market performance measures are used. In our study, we include various accounting and market measures to compare the robustness of the results across choices of performance measures. In the board effectiveness model (Hermalin and Weisbach, 1998, 2003), the primary tasks of the board are to hire/fire management and provide it with strong contractual incentives.

### *2.3 Topic-Focused Board Meetings and Corporate Governance*

The effectiveness of the board in controlling firm decisions is a key factor explaining the survival of listed firms (Fama and Jensen, 1983a). The board meeting is the main venue for directors to fulfill their duties and responsibilities, implement their roles, and contribute to the decision-making process (Lawler and Finegold, 2006). Moreover, board meetings could be considered milestones in the board decision-making process. The board processes model

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<sup>3</sup> Copious research studies find board characteristics to be causally associated with corporate governance mechanisms. These characteristics include independent director composition (Dah et al., 2014; Guthrie et al., 2012; Weisbach, 1988), board size (Coles et al., 2008; Yermack, 1996), CEO-chairman duality (Goyal and Park, 2002; Ryan and Wiggins, 2004), female and minority-group directors on the board (Adams and Ferreira, 2009; Carter, 2010), and directors' shareholdings (Denis, Denis, and Sarin, 1997).

(Forbes and Milliken, 1999) suggests that directors' efforts, interactions, and communication in board meetings could increase the efficiency with which board tasks are performed. Cornelli, Kominek, and Ljungqvist (2013) also find that gathering information through active monitoring helps boards learn about CEOs' abilities. Therefore, board meetings could represent a breakthrough with regards the black box of board effectiveness.

However, previous studies on board meetings most often depict them as rather homogeneous and monolithic (Monks and Minow, 2011; Tricker, 2009). Recent studies have shown significant variations in the ways in which board meetings are run. Ocasio and Joseph (2005) suggest that the topics on which boards focus, and even the board routines, can vary remarkably between corporations, with the micro-processes and topics covered potentially revealing large differences between boards. Using the number and length of board meetings as measures of board activity and diligence (e.g. Brown and Caylor, 2006; Vafeas, 1999; Adams, 2005; Brick and Chidambaran, 2010) is a very useful first step, but may leave important gaps in the literature's understanding of the board process (He and Huang, 2011). Board meetings have also been criticized for the fact that routine tasks and inefficiencies occupy the limited time that should be available for exchanging information and establishing collaborations among board members (Jensen, 1993). Furthermore, previous research mostly focuses on the largest public US firms with relatively dispersed ownership. Boards of firms without large shareholders presumably have less incentive to engage in monitoring and performance improvement. This could be why earlier studies have failed to find a significant relationship between the frequency of board meetings and CEO turnover-performance or pay-performance sensitivities (see Cornelli et al., 2013; Kumar and Sivaramakrishnan, 2008).

Only few studies have examined the relationship between firm performance and meeting frequency. For example, they find that poor performance cause a higher frequency of board meetings (Adams, 2005; Brick and Chidambaran, 2010; Vafeas, 1999). However, these studies

have contradictory views about the impact of a higher frequency of board meetings. Vafeas (1999) points out that abnormal board meetings have a positive effect on corporate day-to-day operations. In contrast, Brick and Chidambaran (2010) suggest that board meeting frequency helps identify investment opportunities rather than improving internal operations.

Board meetings can be seen as a set of discussions and decisions based on topics. For example, from the strategies and progress monitoring perspective, topics may range from senior management proposals being reviewed and approved, to the board's direct involvement in the strategic formulation process (e.g. Cornforth, 2001; Ingley and Van der Walt, 2001). In terms of monitoring the agency costs on behalf of the shareholders, topics would cover compensation and nominations. A higher frequency of meetings on one particular topic will improve the information exchange on this topic among the board members. Taking advantage of the Chinese independent directors' reports, we are able to measure board efforts more accurately, and fill the research gap by investigating which type(s) of board activity affect (and if so whether they strengthen) CEO turnover/compensation-to-performance sensitivity.

### **3. Research Method**

#### *3.1 Sample selection*

We collected independent directors' reports for all the non-financial firms listed on the Main Boards of the Shanghai and Shenzhen Stock Exchanges over the period of 2003-2010, from the China Stock Market and Accounting Research (CSMAR) database. The public release of these reports began in 2001, and became compulsory in 2003. During 2003-2005, the reports were issued by listed firms 'voluntarily' as the CSRC requirements for issuing such reports were not explicit. The Information Disclosure Standards (CSRC, 2005) further clarified the disclosure requirements, improving the quality and quantity of the reports. After 2005, the number of independent directors' reports increased accordingly. There were around 17,600

independent directors' reports in the CSMAR database. For each report, the CSMAR recodes the firm's stock code, the issuing date, the topics discussed, the independent directors' opinions, and the entire contents of the report (see Appendix A for an example of an independent directors' report). When independent directors have differing opinions, they may release separate reports. Hence, we screened 350 abnormal reports and dropped those whose content were the same as that of the aggregated reports, to avoid overestimating the frequency of board meetings. The final sample contains 17,548 reports.

In Table 1, we group the 11 mandatory disclosure subjects recorded in the CSMAR into six major topics.<sup>4</sup> For example, the "management routines" topic includes meetings on issuing/amending annual reports and auditors' reports, which form part of the accounting and auditing disclosure and may also be related to earnings manipulation and financial fraud (e.g. Chen et al., 2006). "Corporate control transactions" involves related-party transactions, loan guarantees, and the disposal of assets, which may be associated with a manager's or controlling blockholder's "tunneling or propping" behavior (e.g. Peng, Wei, and Yang, 2011). "Change of equity structure" incorporates ownership changes and equity division reform (the transfer of non-tradable shares to the market)<sup>5</sup>, which may influence a firm's ownership structure and thus cause a change in corporate governance mechanisms (e.g. Cao, Pan, and Tian, 2011; Hou et al., 2013). Finally, "growth strategies" contains the use of IPO proceeds, investments and acquisitions, which have been strongly related to the sensitivity of CEO pay to performance in

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<sup>4</sup> Eleven groups are categorized into six topics by their content and roles in corporate governance. We also estimate using meeting number of eleven groups in robustness test, our main results are unchanged.

<sup>5</sup> The split-share-structure reform in China has enabled state shareholders of listed firms to trade their restricted shares. This has rendered the wealth of state shareholders more closely associated with common share price movements.

the US (Baber, Janakiraman, and Kang, 1996; Smith and Watts, 1992). There is often more than one topic discussed at a board meeting. We use the frequency with which a topic is discussed at board meetings, over a year, as the proxy for board monitoring activity on this particular topic.

We also obtained other financial and corporate governance information from the CSMAR. We applied a number of screening procedures to our initial dataset. First, we excluded financial firms, because their regulations and accounting standards are dissimilar to those for other firms. Second, we only included those firms with at least three consecutive fiscal years of capital market and financial statement data. Third, to alleviate the influence of extreme values, all firm-level data were winsorized at the top and bottom 1%. This screening process yielded 10,239 firm-year observations over seven years.

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### *3.2 Research Variables*

**CEO Dismissal.** The top executive in a Chinese firm is often the chairman (or general manager) of the board, who is the legal representative of the firm, works full time, and is involved in the firm's daily decision making (e.g. Conyon and He, 2011; Kato and Long, 2006a). Consistent with previous studies, we adopt the title of CEO for the top executive to avoid confusion. CEO dismissal is coded as a dichotomous variable, which equals one if a CEO is forcefully dismissed, and zero otherwise. We exclude voluntary turnovers because of health issues or retirement, based on public information (recorded in the CSMAR dataset), retaining

only the forced ones, in line with previous studies (e.g., Chang and Wong, 2009; You and Du, 2012).

During our sample period, we identify 1,537 forced CEO dismissals among the 9,485 firm-year observations (Panel A of Table 2). If a firm has two or more turnovers in one fiscal year, we only count the last one. The likelihood of forced CEO turnover is approximately 16%, implying an average CEO tenure of less than five years, which is consistent with the study of Conyon and He (2014) and similar to the turnover rate in the US (Kaplan and Minton, 2012). Schwartz-Ziv and Weisbach (2013) point out that it is challenging to determine whether a CEO retired, left voluntarily, or was actually forced out, since firms are not entirely open about the precise process. Kaplan and Minton (2012) find that board-driven turnovers, both forced and unforced, show similar patterns, which suggests that turnover labelled as unforced is actually not optional. If we were to focus only on forced CEO turnover based on public information, we could underestimate the capacity of the board to monitor the CEO. Therefore, we also use a term “mixed CEO dismissal” as the dependent variable in a robustness check.

**CEO Compensation.** Executive compensation schemes in China typically include only cash salaries, bonuses, and stipends. Although stock options have been permitted by the CSRC since 2005, their adoption in equity compensation is rare: only 15% of CEOs received equity grants in 2005, climbing to 3.5% in 2010 (Conyon and He, 2012). Empirical studies estimate that Chinese executives may receive “perks” from their companies, accounting for approximately 15-32% of total compensation, but they are rarely disclosed in financial reports and difficult to assess using public data. Hence, compensation in this study is the reported sum of cash salaries, bonuses, and stipends. Because disclosure of the compensation of individual executives and directors was not required by the CSRC prior to 2005, the CEO compensation is measured as the average compensation of the three highest-paid management executives and directors in a firm, consistent with prior research (see e.g. Conyon and He, 2012).

Panel A of Table 2 shows that executive compensation has risen rapidly. The amount paid in 2010, of about 527,000 RMB (77,200 USD), was almost triple that in 2003 (181,000 RMB / 21,860 USD). Over the sample period, the average executive payment was 329,000 RMB (43,700 USD). Although the executive compensation is not as high as that in the US, it is ten times the average wage of employees in the same industry, according to the National Bureau of Statistics of China<sup>6</sup>. After 2005, individual compensation data are available; approximately 40% of CEOs did not receive any compensation from the listed firms in our sample. These CEOs are likely to have received their salaries from the mother company, or to have held a large proportion of shares. We use the individual compensation data as the dependent variable in robustness tests.

**Topic-Focused Meetings.** Panel B of Table 2 documents the meeting frequencies for each specific topic. Although the annual number of meetings does not change much (about eight or nine meetings per year, see last column of Table 2 panel A), the topics discussed at the meetings show significant variation. The huge differences in frequencies between 2004 and 2005 are due to the issuing of the Information Disclosure Standards (CSRC, 2005) mentioned earlier. Since 2005, proposals of firm control transactions (e.g. related-party transactions) have been the most frequently discussed topic, almost once per year per firm (over 1,300 times across the 1,200 or so firms). The nomination of directors and executives is the second most frequent, averaging at 500 times a year across the firms (about once every two years per firm). The number of meetings about compensation changes increases from 35 in 2005 to 106 in 2010, which is in line with the rapid increase in executive compensation over that period. The frequency of meetings on changes in equity structure is likely influenced by government policy. In 2005,

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<sup>6</sup> <http://data.stats.gov.cn/workspace/index?m=hgnd>

the CSRC instigated a split-share-structure reform, setting a deadline for the end of 2006. As most of the equity structure changes were related to non-tradable shares owned by SOEs or government agencies being transferred to tradable shares, the frequency of meetings on equity structure changes peaked at 1,023 in the year 2006.

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### 3.3 Regression Models for CEO Dismissal and Compensation

To examine the impact of topic-focused meetings on the sensitivity of CEO dismissal to firm performance, we estimate six series of panel data logistic regressions, for firm  $i$  in year  $t$ :

$$Probability (Dismissal_{it}) = f(Performance_{it-1}, Topic\ focused\ meeting\ frequency_{it-1}, Performance_{it-1} \times Topic\ focused\ meeting\ frequency_{it-1}, Control\ variables_{it-1}) \quad (1)$$

To test the effect of topic-focused meetings on the correlation between compensation and performance, we estimate six series of linear regression models using fixed effects:

$$Compensation_{it} = f(Performance_{it-1}, Topic\ focused\ meeting\ frequency_{it-1}, Performance_{it-1} \times Topic\ focused\ meeting\ frequency_{it-1}, Control\ variables_{it-1}) \quad (2)$$

Fixed effects estimators can help to control the heteroscedasticity and endogeneity issues caused by unobserved firm-specific influences or measuring errors in regressions (Hsiao, 2003; Wooldridge, 2002). We can also partly mitigate the endogeneity issue by using lagged values of all independent variables to facilitate causality. See the section on robustness checks for further considerations of the endogeneity issues (IV and GMM method).

We use three accounting performance measures (return on assets (ROA), return on equity (ROE), and profit margin) and two market performance measures (the ratio of market value to book value and stock returns) to assess firm performance. In order to examine whether the holding of topic-focused meetings has an impact on performance-related CEO dismissal and

compensation, we include interaction effects of the frequencies of meetings on the six major topics individually. In other words, for each type of meeting, we take *topic focused meeting frequency*  $_{it-1}$  and the interaction term  $Performance_{it-1} \times \text{topic focused meeting frequency}_{it-1}$  in the regression models. The method of interaction terms is commonly applied in economics and finance research (e.g. Firth et al., 2006; Kato and Long, 2006b; Weisbach, 1988; You and Du, 2012). A positive (negative) value for the effect of the interaction term would imply that the higher was the frequency with which topics were discussed at board meetings, the greater would be the sensitivity between performance and CEO compensation (turnover).

The vector of control variables can be divided into three parts, namely measures of board governance, ownership structure, and firm size<sup>7</sup>. *Board size* is the logarithm of the number of directors serving on the board. The entrenchment of the CEO is captured by *Duality*, an indicator variable that equals one when the CEO (chairman) is also the general manager and zero otherwise. *Independent directors %* is measured as the percentage of independent directors on the main board. *Directors' shareholdings %* is calculated as the percentage of ownership held by the top management, including directors, supervisory directors, and senior managers. *State-owned enterprises* is a dummy variable taking a value of 1 if the firm is controlled by a mother SOE or government agency, sourced from the CSMAR based on the ultimate control rights of the firm. *Majority shareholder* is a dummy variable that equals one when the firm has a majority shareholder (over 50% ownership). To control for firm size,  $\log(\text{firm size})$  is defined as the logarithm of the number of employees. A set of year dummies

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<sup>7</sup> Our key results remain unaltered after considering CEO characteristics, such as CEO tenure and age.

is included to control for macro-economic shocks, and industry dummies based on the CSRC's code.

Weisbach (1988) and Dah et al. (2014) find that outsider-dominated boards have a higher probability than insider-dominated boards of firing the CEO due to poor firm performance. The results on the relationship between board independence and CEO compensation are mixed (e.g. Guthrie, Sokolowsky, and Wan, 2012). CEO duality lowers the probability of the CEO being sacked (Goyal and Park, 2002), while it has mixed effects on compensation's sensitivity to firm performance (Ryan and Wiggins, 2004). In fact, the effects of CEO duality rely heavily on the complexity of the firm (Brickley et al., 1997). Yermack (1996) reveals that board size is negatively associated with firm value, while Coles, Daniel, and Naveen (2008) demonstrate that the relation is U-shaped, with larger and more diversified firms requiring larger boards to provide more experience, knowledge, and advice. Denis, Denis, and Sarin (1997) document that high shareholdings of managers and directors are beneficial for internal monitoring efforts.

Table 3 presents the descriptive statistics of the main independent variables. About 70% of the listed companies in our sample are SOEs. The means of ROA, ROE, and the profit margin are .05, .04, and .04 respectively. The ratio of market value to book value is 1.60 and the average stock return is .46, which is consistent with prior research (Conyon and He, 2011, 2012; Kato and Long, 2006a). The average number of board members is 9.25 (log value = 2.225) and independent directors make up 35% of them (the legal requirement has been one third since 2003). About 12% of firms have a CEO with dual leadership roles. The top management shareholdings are very low at 0.5%. The pairwise correlations between the variables are provided in Appendix B. There are only modest correlations among the independent variables. The values of the variance inflation factors (VIFs) range from 1.02 to 1.86, and all the values are strictly less than 3, indicating that the regression analysis is free from multicollinearity problems (Greene, 2003).

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## 4. Regression results

### 4.1 CEO Dismissal, Firm Performance, and Topic-Focused Board Meetings

In this section, we examine whether topic-focused board meetings affects the CEO turnover-performance sensitivity. The dependent variable is set to one if the CEO has left unwillingly and zero otherwise. Table 4 presents the results of the logistic regressions with random effects based on equation (1)<sup>8</sup>, with firm performance measured using accounting measures (Panel A) and market measures (Panel B), respectively. The marginal effects at the median points of all the independent variables are reported. We also estimate the marginal effects at the mean and the untabulated results are similar.

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Inset Table 4 about here

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Table 4 indicates that CEO dismissal and firm performance are negatively associated, after controlling for firm-level governance and characteristics. First, we find CEO dismissal to be significantly negatively correlated to all lagged accounting-based performance measures, across all models. We also find that the effects of lagged stock returns on CEO dismissal are significantly negative, while no such effects are established for the market to book value. Our

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<sup>8</sup> We also estimate equation (1) using fixed effects, and main results are consistent with the ones using random effects. Given the importance of some time invariant variables such as State-owned enterprises and Majority in Chinese market studies (e.g. Conyon and He, 2012; Kato and Long, 2006b), in this study we report estimation results with random effects.

results are consistent with previous studies (e.g., Chen, Firth, and Xu, 2009; Conyon and He, 2012; Kato and Long, 2006b). Overall, our models suggests that CEO dismissal has a significantly negative relationship with firm performance.

To test and evaluate the effects of topic-focused meetings on turnover-performance sensitivity, we introduce two variables, namely *topic focused meeting frequency*  $_{it-1}$  and an interaction term  $Performance_{it-1} \times topic\ focused\ meeting\ frequency_{it-1}$ . For board meetings that discussed personnel changes involving directors, the CEO, and top management, the coefficients on the interaction term are significantly positive for all the accounting performance measures. This relationship does not hold for the market performance measures. These results suggest that the existence of board nomination meetings reduces the sensitivity of forced CEO dismissals to firm performance. Other board meeting topics are not likely to affect the dismissal-performance link. We also plot the impact of firm performance on CEO dismissal for each type of meetings in Figure 1. Based on the results reported in Table 4 when the performance is measured as ROE, we calculate selected percentiles of the empirical board meeting distributions by using the point and interval estimates. The point estimates <sup>9</sup>(solid line) and 95% confidence interval (dash line) for each derivative are displayed separately for six types of meetings (Panel A- F). If a certain type of board activities enhance the relationship between CEO dismissal and firm performance, the sensitivity of CEO dismissal to firm performance should be greater (more negative) with a higher level of monitoring activities, showing a downward trend. Among six types of meetings, upward trends of three types of meetings (Panel A for nomination, Panel C for management routines and Panel E for change of equity structure) suggest that these topics based board meetings reduce the

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<sup>9</sup> The plots show  $\partial(\Delta CEO\ dismissal)/\partial(\text{firm performance})$  as the changes of each meeting number.

CEO dismissal- performance sensitivity. Although the other three types of meetings (Panel B for compensation, Panel D for corporate control transaction and Panel F for change of equity structure), have downward trends, these impacts are not significant. Overall, the results indicate that nomination meetings are likely to weaken the relationship between CEO dismissal and firm performance.

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Inset Figure 1 about here  
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In addition, the coefficients of management routines meetings are positively significant, which implies that firms with more meetings discussing the financial report, auditor switches and changes of audit opinion are more likely to fire the CEO. The amendment of financial reports and changes of auditor opinion are probably related to poor firm performance and corporate governance problems. Management routine meetings help director to identify the weakness of firm performance, which could put more pressure on a firm to fire its CEO. The number of CEO/chairman duality and directors' shareholdings have negative effects on the probability of forced CEO dismissal. The latter is also positively related to state share ownership, which is consistent with the finding of You and Du (2012). Firms with more employees have a lower probability of forcibly dismissing their CEO. The coefficients of percentage of independent directors are negative, but not significant, which is consistent with the findings of Kato and Long (2006a) on Chinese market.

#### *4.2 Compensation, Firm Performance, and Topic-Focused Board Meetings*

Table 5 reports estimates from equation (2), in which we use panel data techniques with fixed effects to examine the effects of topic-focused boarding meetings on the link between executive compensation and firm performance in China. Compensation comprises salary,

bonuses, and stipends. Panel A reports the accounting-based performance measures: ROA, ROE, and the profit margin; panel B reports the market-based performance measures: Market to book value and the stock return. The sub-columns 1 to 6 represent each of the board meeting topics.

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Inset Table 5 about here  
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Table 5 shows that there is a positive relationship between executive compensation and firm performance. To begin with, we find that all of the accounting-based measures of firm profitability have significantly positive influences on executive compensation, across all models. This indicates that a CEO's pay is generally higher when accounting performance is good. Secondly, we find executive compensation and stock returns to be positively associated, but no significant results for the market to book value. Our results coincide with prior research (Conyon and He, 2012; Firth et al., 2006). Overall, our models suggest that compensation is positively related to firm performance.

As for the interaction terms, all the coefficients of accounting-based performance interacted with the frequency of meetings on growth strategy are significantly positive. This indicates that the sensitivity between executive compensation and firm performance is higher when a firm has more meetings on growth strategy, which is consistent with our conjectures about the role of topic-focused meetings. We do not find similar results for the market measures of performance. Moreover, none of the interactions between other meeting topics and firm performance is statistically significant. Figure 2 displays the impact of firm performance on CEO compensation for each type of meetings. If a certain type of board activities enhance the relationship between CEO compensation and firm performance, the CEO pay-performance sensitivity should be greater (more positive) with a higher level of monitoring activities,

showing an upward trend. For three types of meetings (Panel A nomination, Panel C management routines and Panel E change of equity structure), the downward trends suggest that the increase of frequency of meetings is likely to decrease the sensitivity of CEO compensation to firm performance. Although meetings on compensation (Panel B) and corporate control transaction (Panel D) seem to enhance the relationship between CEO payment and firm performance, the impacts are not statistically significant. The meetings on growth strategies (Panel F) demonstrate an upward trend line with narrow confidence intervals. Overall, the results signify that more meetings discussed firms' mergers and acquisitions and the use of IPO proceeds would improve the linkage between compensation and firm performance.

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Additionally, we find that firms that hold more meetings discussing nomination or compensation may provide higher CEO compensation. This could be seen as evidence of the strong bargaining power of Chinese CEOs. Board size and the proportion of independent directors tend to have a positive effect on CEO compensation, as do the existence of a major shareholder and firm size which is consistent with Cao et al., (2011). However, state-owned firms are no different to other firms when it comes to CEO pay level coincided with Conyon and He (2011).

## **5. Robustness Tests**

### *5.1 Alternative measures of CEO dismissal and compensation.*

As mentioned when we defined the variable of CEO dismissal, using public information to classify forced or unforced CEO dismissals may be problematic. Following previous research

(e.g., Kaplan and Minton, 2012; Kato and Long, 2006b), we employ a binary variable that equals one to measure any type of CEO personnel change, regardless of the reason for dismissal. We re-estimate the logit equation (1) using this new definition of CEO dismissal (forced and unforced) as the dependent variable to test our hypotheses H1a and H2a. Our results are qualitatively similar to those obtained using forced CEO dismissal.

We also use the individual-level CEO payment data available from the year 2005 as a robustness check, the sample including 3,454 listed-firm-year observations over the period of 2005-2010. The results based on the individual data are similar to those based on aggregate compensation (Appendix C). The coefficient on the interaction term (nomination meeting frequency  $\times$  ROA) is significantly negative, which suggests that the link between executive compensation and a firm's accounting performance is likely to be weakened by such meetings. Unreported results for ROE and the profit margin are similar to those for ROA.

Furthermore, considering the influence of the compensation paid to peers in the same industry, we use relative aggregate executive compensation as the payment measure. We calculate the relative aggregate executive compensation by subtracting the industrial median of the average compensation of the three highest executives in firms within the same industry and year. Our results are similar after performing this robustness check.

### *5.2 Relative Performance Measures.*

For the sensitivity analysis, we also adopt industry-adjusted performance measures, since the evaluation of a CEO's performance may be based on his/her industry peers (e.g. Morck, Shleifer, and Vishny, 1988). The firm's relative performance is measured as the firm's performance minus the median performance of firms in the same industry and year. The unreported outcomes remain qualitatively similar. We also use a different time period (2005-2010 instead of 2003-2010), reflecting the change in disclosure quality after 2005. Again, our main results stay qualitatively unaltered.

### *5.3 Eleven meeting topics recorded in the CSMAR*

In order to test whether our results are affected by grouping strategies on meeting topics, we re-estimate equations (1) and (2) using meeting frequencies of eleven topics recorded in the CSMAR (see Column 2 of Table 1). Except for meetings on nomination, the interactions of other types of meetings are not significant for CEO dismissal and performance sensitivity. Regarding the CEO compensation sensitivity to firm performance, the interactions of meetings on merger and acquisitions (6) and use of IPO proceeds (9) and firm performance are positively significant, while other interactions are not significant. Meetings and merger and acquisitions (6) and the use of IPO proceeds (9) were combined into meetings on growth strategies in the main analysis. Therefore, unreported results for eleven meeting topics show consistent results with our main analysis based on the six major topics.

### *5.4 China-specific control variables.*

As our study is based on Chinese listed firms, we further add more control variables to consider the special institutional and economic environment. After the US board system has been introduced to China in year 2001, the supervisory board of directors still exists. Thus, we add the size of supervisory board to control for the potential effect of the monitoring from supervisors. Regarding the regional imbalances in economic growth, we add the Chinese government transparency index (or regional dummies) accordingly. Our key results remain unaltered after considering characteristics of the Chinese market.

### *5.5 Endogeneity Problems.*

In addition, we adopt the IV and GMM (IV-GMM) method to control for potential endogeneity problems, particularly simultaneous causality concerns. We instrument the potentially endogenous variables of firm performance and topic-focused board meetings using a set of exogenous variables, selected according to economic rationales.

Following the literature, we instrument the firm performance using the second and third lags of performance and the first lagged GDP, which could be correlated with the lagged performance, but not directly related to CEO compensation (e.g. González et al., 2014; Shin and Seo, 2011). We also use average-independence and average-board-meetings to capture the industry-average level of board independence and board activity<sup>10</sup>. Firms' governance arrangements are likely to be associated with those of their peers in the same industry, due to having the same business arrangements and market environment (Liu et al., 2015). Therefore, the industry average of board independence and board activity could affect the board effectiveness of any firm in that industry, and thereby the frequency of board meetings. Moreover, since the stickiness of board meetings may be an issue, we use the second and third lag of topic-focused meeting frequencies as instruments in their own individual estimations.

We perform a “difference-in-Sargan-statistic” test to examine whether endogeneity exists in firm performance and topic-focused meetings. The results show that the topic-focused meeting frequency can actually be treated as exogenous in the CEO dismissal model, as the F-statistics were insignificant in all cases. However, topic-focused meetings should be treated as endogenous in the compensation model, and firm performance as endogenous in both models. Next, we check whether the suitability of our instruments is confirmed by the identification tests. Based on the Sargan-Hansen test, we cannot reject the null that our instruments are uncorrelated with the error terms, that is, unrelated to CEO dismissal and compensation. The results of the Kleibergen-Paap rk and Stock and Yogo statistics for the weak identification problem are significant in all cases, rejecting the null that our instruments are weakly related

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<sup>10</sup> Average-independence is measured as the mean value of the percentage of independent directors in other firms in the same industry and year. Average-board-meetings is the mean value of board meeting frequency in other firms in the same industry and year.

to firm performance or topic-focused board meetings. Overall, our instruments are valid for reducing the simultaneous causality concerns (e.g. Baum, 2006; Wooldridge, 2002). The IV-GMM estimates are in line with our earlier findings.

## **6. Conclusions**

The purpose of this paper is to provide a better understanding of how board activity affects board effectiveness in linking CEO compensation/dismissal to firm performance. In our empirical examination, to measure board activity, we decided to move beyond the frequency and target the contents of board meetings. Board meetings, the main venue for directors to fulfill their monitoring obligations, are normally topic-focused. As shown in our data, the topics of meetings include the management and directors' nominations and compensation, management routines, firm control transactions, changes in equity structure, and growth strategies. Although the role of board meetings has been widely discussed by academics and practitioners, previous studies tend to portray them as standardized at the firm level.

To fill this gap in the literature, we exploit a unique dataset on board meeting agendas of Chinese listed firms over the period 2003-2010. First, we examine whether the sensitivity of CEO dismissal (compensation) to performance is significantly negative (positive), which generally reflects the effectiveness of the board monitoring and even the efficiency of corporate governance. Secondly, we examine the influences of topic-focused meetings on these two sensitivities. The rationale behind this is that discussing certain topics could enhance the informativeness of the board, thus helping directors to strengthen those sensitivities, thereby improving the corporate governance mechanism.

Our results reveal that CEO dismissal is significantly negatively and compensation positively correlated to all of the accounting-based performance measures. However, the market-based performance measures play a limited role in explaining the probability of CEO

dismissal or the size of compensation. Our results suggest that a firm's profitability is still the main criterion used to evaluate the CEO's performance. We also find that the frequencies of meetings on major topics are diverse, as are the roles of such meetings in monitoring the top management. In particular, the sensitivity between CEO compensation and performance is stronger when there are more board meetings on growth strategies, such as mergers and acquisitions and applying IPO proceeds. When directors discuss firm growth strategies, they could obtain comprehensive information about history and current firm performance and future strategies. Our results suggest the soft information captured in board meetings is likely to influence directors' evaluations of the CEO's capability, and they will change the CEO compensation scheme accordingly, to motivate the CEO and other managers. Meanwhile, most of the major topics of board meetings are not likely to affect the sensitivity between CEO turnover and performance. In fact, meetings on nominations could even reduce both turnover-performance and pay-performance sensitivity.

The findings of our study suggest that differences in the effects of different meeting topics on the CEO pay/dismissal-to-performance sensitivities and highlight the need for more tailored approaches towards board requirements. In the countries that carry out good 'corporate governance guidance' policies, regulators' agendas have stayed focused on board composition and structure, and the total number of annual meetings, as the means to allow boards to best perform their duties. A sound board structure following such guidance alone cannot 'make great boards great' (Sonnenfeld, 2002). To a certain degree, our study reflects the complexities involved in the board decision-making process. Thus, it calls for a reconsideration of the current one-size-fits-all approach taken by the regulators. Particularly in China, the regulators should consider introducing regulations to prevent potentially self-interested behaviour from CEOs in making nominations and personnel changes to the directors and top management, which impacts the independence of the directors and the monitoring function of the board.

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**TABLE 1**

Specific Topics of Board Meetings in Chinese Public Firms. This table reports the specific major topics discussed in the board meetings of Chinese listed firms. The eleven categories (by CSMAR code) of meetings are based on the *Code of Corporate Governance in China* (2001). We combine some topics as they have similar effects.

Major topics	CSMAR code (According to CSRC requirements)	Notes
Nomination	Personnel – 1	Including directors, CEO, and other senior executives
Compensation	Compensation - 2	Emolument of directors and executives
Management routines	Financial report - 3 Audit - 7	Approval of financial reports, profit distribution, amendments and supplements of reports, etc; switches of auditors, audit opinion.
Corporate control transaction	Related-party transaction - 4 Loans Guarantees - 5 Disposal of assets - 10	Loan guarantees are promises by the listed firm (the guarantor) to assume the debt obligation of a borrower if that borrower defaults; disposal of assets means the gain or loss calculated as the net disposal proceeds, minus the asset's carrying value.
Change of equity structure	Ownership changes - 8 Equity division reform - 11	
Growth strategies	Mergers and acquisitions - 6 Use of IPO proceeds - 9	

**TABLE 2**

CEO Dismissal, Compensation and Board Meetings. This table reports the rate of CEO dismissal, the executive compensation (the average of the three highest-paid executives' compensation), the annual number of board meetings, and the frequencies of board meetings on major topics, in Chinese public firms from 2003 to 2010. In panel A, the CEO dismissals rate refers to the percentage of CEO replacements in the single year in question. Executive compensation (000s RMB) is the average compensation of the three highest-paid executives and directors, including basic salary, bonuses, and other benefits. Annual number of board meetings expresses the average frequency of board meetings. Panel B shows the frequencies of meetings on the six major topics individually: nomination, compensation, management routines, corporate control transaction, change of equity structure, and growth strategies.

A) Annual CEO dismissal rate, executive compensation and board meeting frequency								
Year	Observations	CEO dismissal	Compensation (RMB 000 s)			Annual meeting frequency		
2003	1089	0.186	180.981			7.593		
2004	1142	0.163	218.296			7.373		
2005	1216	0.171	234.334			7.515		
2006	1194	0.175	263.719			8.246		
2007	1205	0.155	348.931			9.878		
2008	1221	0.143	394.388			9.765		
2009	1196	0.142	443.337			8.729		
2010	1188	0.162	527.037			9.026		
Total	9485	0.162	328.803			8.533		

B) Meeting frequencies on major topics								
	2003	2004	2005	2006	2007	2008	2009	2010
Nomination	22	75	628	428	499	643	644	400
Compensation	2	2	35	44	37	90	91	106
Management routines	3	10	158	256	222	142	198	225
Corporate control transactions	40	59	1370	1439	1543	1647	1641	1348
Change of equity structure	6	5	467	1023	105	53	46	37
Growth strategies	10	9	121	106	142	194	270	160
Firms	1069	1142	1216	1194	1205	1221	1197	1188

**TABLE 3**  
Descriptive Statistics for Main Independent Variables

	Definition	Mean	Median	STDEV	the 25 <sup>th</sup> percentile	the 75 <sup>th</sup> percentile	N
ROA	Net profit divided by total assets	0.049	0.048	0.067	0.026	0.078	9487
ROE	Net profit divided by shareholders' equity	0.042	0.062	0.185	0.020	0.112	9487
Profit margin	Net income divided by operating revenue	0.044	0.047	0.208	0.015	0.103	9487
Market to book value	Market value of a firm divided by book value	1.597	1.223	1.046	1.026	1.746	9483
Stock return	Annual return with cash dividend reinvested	0.456	0.071	1.066	-0.262	0.978	9487
Board size	Logarithm of number of directors	2.225	2.197	0.210	2.197	2.398	9376
Duality	An indicator equals one if the same person acts as CEO and chairman, and zero otherwise	0.118	0.000	0.323	0.000	0.000	9399
Independent directors %	Fraction of independent directors on board	0.352	0.333	0.050	0.333	0.364	9376
Directors' shareholdings %	Percentage of shares owned by top management	0.005	0.000	0.034	0.000	0.0002	9486
State-owned enterprises	Dummy equals one if the firm is controlled by the state or government agencies, and zero otherwise	0.713	1.000	0.452	0.000	1.000	9487
Majority	Dummy equals one if the firm has a majority shareholder (shareholdings over 50%), and zero otherwise	0.271	0.000	0.445	0.000	1.000	9481
Log(employees)	Logarithm of number of employees in the firm	7.435	7.537	1.399	6.671	8.300	9449

**TABLE 4**

The Effects of Meetings on the Six Major Topics, on the Link between CEO Dismissals and Firm Performance. This table presents series of logistic regressions with random effects. CEO dismissal is the dependent variable, which equals one if the CEO leaves the job involuntarily, and zero otherwise. In panel A, firm performance is measured by ROA, ROE, and the profit margin respectively. In panel B, firm performance is measured by the market to book value and the stock return. Nominations, compensation, management routines, firm control transactions, changes of equity structure and growth strategies are the major topics discussed. Topic-focused meeting frequency is the annual meeting frequency for each topic. The interaction terms between firm performance and topic-focused meeting frequency capture the meetings' moderate effects on the relationship between CEO dismissal and firm performance. Other variable definitions are provided in Table 3. Models are estimated over the period 2003-2010. †p < .10, \*p < .05, \*\*p < .01

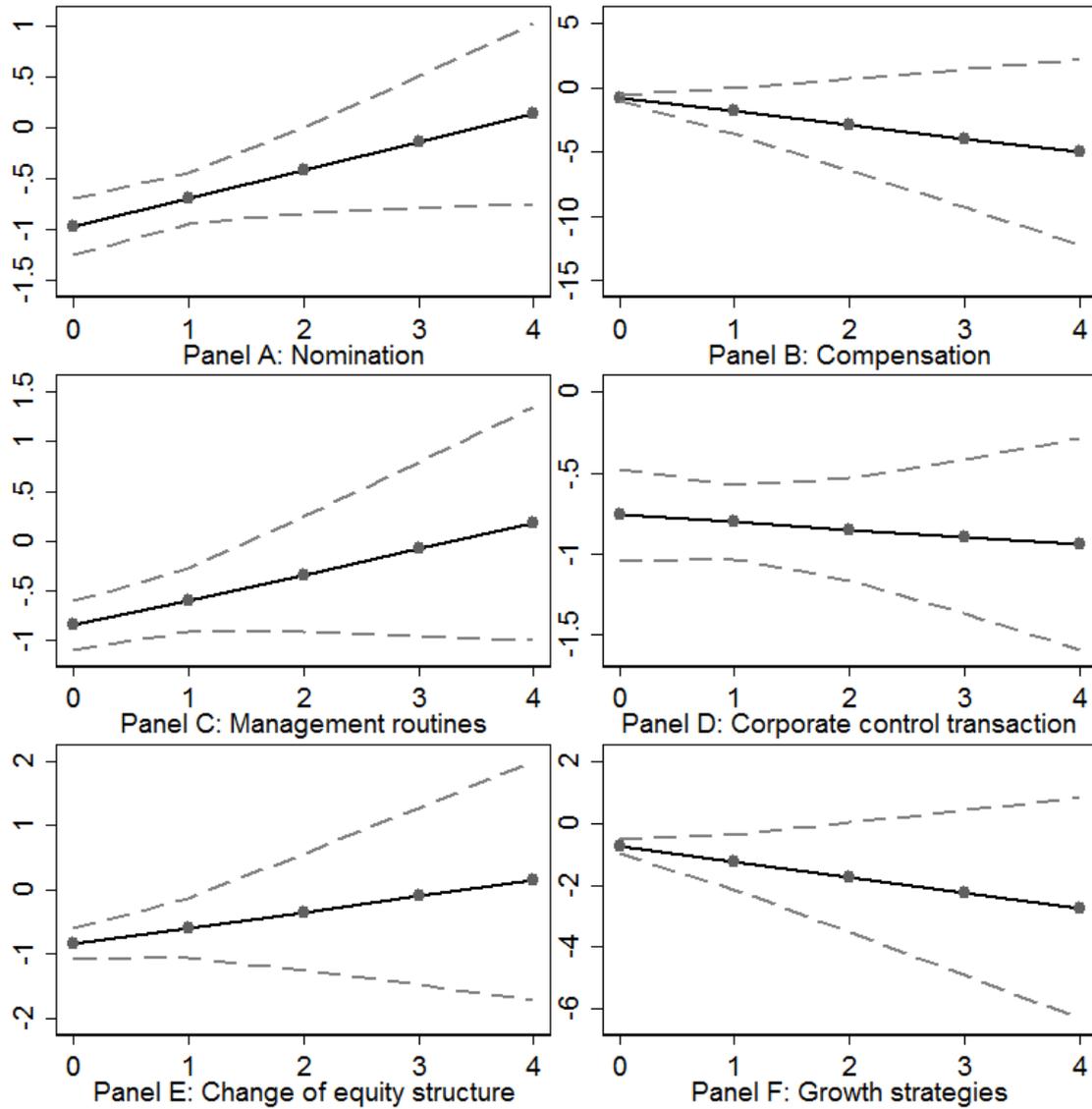
**A) Firm performance measured by accounting measures: ROA, ROE and profit margin**

CEO dismissal	1. Nominations; 2. Compensation; 3. Management Routines; 4. Firm Control Transactions; 5. Change of Equity Structure; 6. Growth Strategies																	
	(1) ROA						(2) ROE						(3) Profit margin					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
ROA <sub>t-1</sub>	-4.280** (0.528)	-3.774** (0.480)	-3.789** (0.496)	-3.916** (0.576)	-3.915** (0.497)	-3.821** (0.486)												
ROE <sub>t-1</sub>							-0.970** (0.141)	-0.766** (0.118)	-0.853** (0.124)	-0.757** (0.146)	-0.839** (0.124)	-0.762** (0.118)						
Profit margin <sub>t-1</sub>													-1.154** (0.154)	-0.925** (0.140)	-0.954** (0.145)	-0.918** (0.160)	-1.049** (0.143)	-0.926** (0.141)
Topic-focused meeting frequency <sub>t-1</sub>	-0.032 (0.049)	0.060 (0.199)	0.211** (0.079)	0.020 (0.032)	0.008 (0.082)	-0.172 (0.114)	0.003 (0.046)	-0.055 (0.176)	0.246** (0.079)	0.023 (0.028)	0.013 (0.070)	-0.171 (0.102)	-0.004 (0.046)	-0.066 (0.173)	0.235** (0.078)	0.024 (0.028)	-0.024 (0.072)	-0.183† (0.103)
ROA <sub>t-1</sub> × topic-focused meeting frequency <sub>t-1</sub>	0.966† (0.574)	-3.356 (2.700)	-0.038 (0.844)	0.033 (0.363)	0.210 (0.981)	-0.479 (1.403)												
ROE <sub>t-1</sub> × topic-focused meeting frequency <sub>t-1</sub>							0.277* (0.129)	-1.060 (0.916)	0.257 (0.158)	-0.045 (0.100)	0.246 (0.244)	-0.495 (0.459)						
Profit margin <sub>t-1</sub> × topic-focused meeting frequency <sub>t-1</sub>													0.479** (0.171)	-0.911 (0.772)	0.085 (0.272)	-0.059 (0.121)	0.733* (0.327)	-0.345 (0.462)
Log(board size) <sub>t-1</sub>	-0.128 (0.175)	-0.139 (0.175)	-0.141 (0.175)	-0.138 (0.175)	-0.138 (0.175)	-0.144 (0.175)	-0.156 (0.177)	-0.163 (0.177)	-0.159 (0.177)	-0.167 (0.177)	-0.167 (0.177)	-0.172 (0.177)	-0.142 (0.176)	-0.146 (0.177)	-0.150 (0.176)	-0.148 (0.176)	-0.145 (0.177)	-0.154 (0.177)
Duality <sub>t-1</sub>	-0.542** (0.118)	-0.539** (0.118)	-0.544** (0.118)	-0.541** (0.118)	-0.542** (0.118)	-0.543** (0.118)	-0.522** (0.118)	-0.520** (0.119)	-0.527** (0.118)	-0.522** (0.118)	-0.522** (0.118)	-0.522** (0.118)	-0.530** (0.118)	-0.529** (0.118)	-0.535** (0.118)	-0.531** (0.118)	-0.530** (0.118)	-0.532** (0.118)
Independent directors % <sub>t-1</sub>	-0.680 (0.705)	-0.736 (0.704)	-0.764 (0.703)	-0.726 (0.703)	-0.727 (0.704)	-0.718 (0.705)	-0.677 (0.711)	-0.720 (0.712)	-0.749 (0.709)	-0.729 (0.710)	-0.713 (0.711)	-0.711 (0.711)	-0.612 (0.708)	-0.678 (0.710)	-0.703 (0.708)	-0.678 (0.709)	-0.664 (0.710)	-0.655 (0.710)
Directors' shareholdings % <sub>t-1</sub>	-3.206* (1.445)	-3.130* (1.447)	-3.094* (1.443)	-3.130* (1.445)	-3.171* (1.445)	-3.064* (1.446)	-3.243* (1.460)	-3.208* (1.464)	-3.135* (1.459)	-3.191* (1.462)	-3.239* (1.462)	-3.116* (1.463)	-3.327* (1.453)	-3.267* (1.457)	-3.198* (1.452)	-3.241* (1.455)	-3.312* (1.454)	-3.190* (1.455)
State-owned enterprises <sub>t-1</sub>	0.193* (0.081)	0.192* (0.081)	0.202* (0.081)	0.193* (0.081)	0.192* (0.081)	0.191* (0.081)	0.217** (0.082)	0.216** (0.082)	0.225** (0.082)	0.219** (0.082)	0.216** (0.082)	0.215** (0.082)	0.226** (0.081)	0.225** (0.082)	0.235** (0.082)	0.226** (0.081)	0.225** (0.082)	0.222** (0.082)
Majority <sub>t-1</sub>	0.077 (0.075)	0.075 (0.075)	0.076 (0.075)	0.075 (0.075)	0.077 (0.075)	0.074 (0.075)	0.045 (0.076)	0.041 (0.076)	0.044 (0.076)	0.041 (0.076)	0.045 (0.076)	0.042 (0.076)	0.055 (0.076)	0.053 (0.076)	0.055 (0.076)	0.053 (0.076)	0.058 (0.076)	0.053 (0.076)
Log(employees) <sub>t-1</sub>	-0.090** (0.027)	-0.089** (0.027)	-0.088** (0.027)	-0.090** (0.027)	-0.089** (0.027)	-0.089** (0.027)	-0.098** (0.027)	-0.098** (0.027)	-0.096** (0.027)	-0.099** (0.027)	-0.098** (0.027)	-0.097** (0.027)	-0.104** (0.027)	-0.103** (0.027)	-0.101** (0.027)	-0.104** (0.027)	-0.104** (0.027)	-0.102** (0.027)
Year and industry dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Wald $\chi^2$	171.319	169.614	175.805	169.602	168.834	171.446	151.743	145.854	158.269	148.102	147.596	151.024	159.173	151.616	159.543	151.67	156.023	153.885
Prob > $\chi^2$	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Firm-years	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867

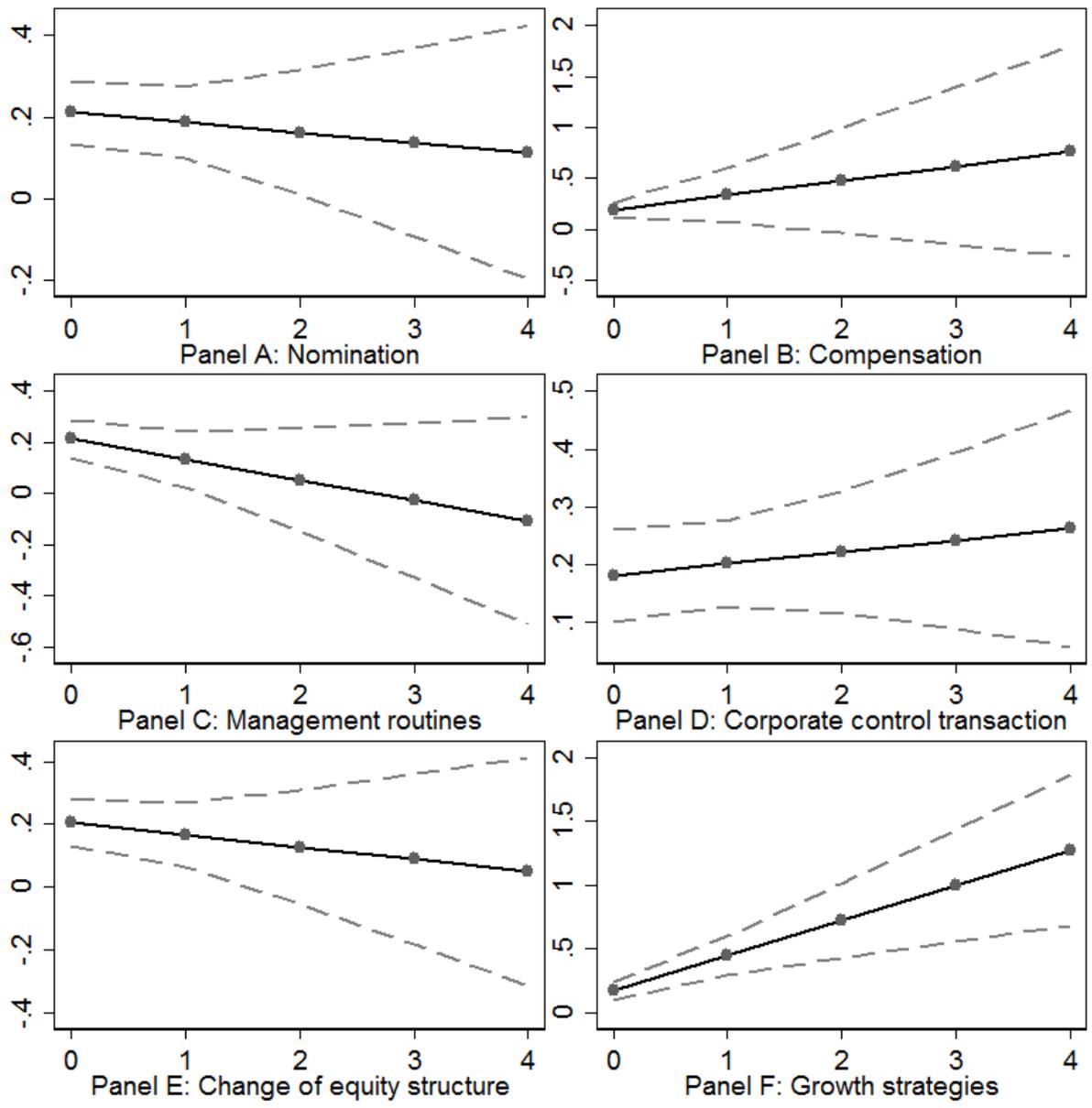
B) Firm performance measured by market measures: market to book value and stock return

1. Nominations; 2. Compensation; 3. Management Routines; 4. Firm Control Transactions; 5. Change of Equity Structure; 6. Growth Strategies

	(4) Market to book value						(5) Stock return					
	1	2	3	4	5	6	1	2	3	4	5	6
Market to book value <sub>t-1</sub>	0.024 (0.054)	0.001 (0.051)	-0.008 (0.053)	-0.056 (0.063)	-0.006 (0.051)	-0.011 (0.051)						
Stock return <sub>t-1</sub>							-0.125* (0.057)	-0.123* (0.055)	-0.114* (0.056)	-0.175** (0.063)	-0.134* (0.057)	-0.135* (0.056)
Topic-focused meeting frequency <sub>t-1</sub>	0.060 (0.086)	-0.267 (0.314)	0.160 (0.143)	-0.062 (0.054)	-0.151 (0.134)	-0.419* (0.193)	0.014 (0.051)	-0.041 (0.188)	0.316** (0.096)	-0.007 (0.033)	-0.008 (0.082)	-0.245* (0.121)
Market to book value <sub>t-1</sub> × Topic-focused meeting frequency <sub>t-1</sub>	-0.032 (0.046)	0.093 (0.146)	0.056 (0.073)	0.047† (0.028)	0.111 (0.086)	0.123 (0.091)						
Stock return <sub>t-1</sub> × Topic-focused meeting frequency <sub>t-1</sub>							-0.006 (0.038)	-0.086 (0.143)	-0.072 (0.068)	0.031 (0.021)	0.020 (0.067)	0.052 (0.077)
Log(board size) <sub>t-1</sub>	-0.208 (0.178)	-0.203 (0.178)	-0.210 (0.178)	-0.209 (0.178)	-0.208 (0.178)	-0.213 (0.178)	-0.201 (0.178)	-0.199 (0.178)	-0.202 (0.178)	-0.199 (0.178)	-0.200 (0.178)	-0.204 (0.178)
Duality <sub>t-1</sub>	-0.524** (0.119)	-0.522** (0.119)	-0.527** (0.119)	-0.521** (0.119)	-0.524** (0.119)	-0.524** (0.119)	-0.521** (0.119)	-0.519** (0.119)	-0.524** (0.119)	-0.520** (0.119)	-0.520** (0.119)	-0.521** (0.119)
Independent directors % <sub>t-1</sub>	-0.849 (0.716)	-0.828 (0.716)	-0.869 (0.714)	-0.856 (0.715)	-0.832 (0.715)	-0.805 (0.717)	-0.859 (0.715)	-0.844 (0.715)	-0.898 (0.713)	-0.858 (0.714)	-0.842 (0.715)	-0.825 (0.716)
Directors' shareholdings % <sub>t-1</sub>	-3.528* (1.479)	-3.518* (1.478)	-3.410* (1.473)	-3.483* (1.475)	-3.522* (1.476)	-3.382* (1.478)	-3.511* (1.477)	-3.505* (1.479)	-3.401* (1.473)	-3.487* (1.477)	-3.509* (1.478)	-3.386* (1.478)
State-owned enterprises <sub>t-1</sub>	0.227** (0.082)	0.225** (0.082)	0.238** (0.082)	0.228** (0.082)	0.227** (0.082)	0.226** (0.082)	0.221** (0.082)	0.220** (0.082)	0.231** (0.082)	0.223** (0.082)	0.221** (0.082)	0.222** (0.082)
Majority <sub>t-1</sub>	-0.002 (0.076)	-0.003 (0.076)	-0.001 (0.076)	-0.003 (0.076)	-0.003 (0.076)	-0.004 (0.076)	0.004 (0.076)	0.004 (0.076)	0.006 (0.076)	0.004 (0.076)	0.005 (0.076)	0.002 (0.076)
Log(employees) <sub>t-1</sub>	-0.105** (0.028)	-0.106** (0.028)	-0.104** (0.028)	-0.107** (0.028)	-0.106** (0.028)	-0.106** (0.028)	-0.107** (0.027)	-0.108** (0.027)	-0.105** (0.027)	-0.107** (0.027)	-0.107** (0.027)	-0.106** (0.027)
Year and industry dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Wald $\chi^2$	102.291	102.313	112.608	104.779	103.45	106.797	107.102	107.227	118.748	109.353	107.047	110.766
Prob > $\chi^2$	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Firm-years	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867	7867



**Fig. 1.** CEO dismissal-firm performance (measured as ROE) sensitivity of by six types of board meetings. Specifically, we plot  $\partial(\Delta\text{CEO dismissal})/\partial(\text{firm performance})$  as the changes of each meeting number. Horizontal axes denote number of meetings. Vertical axes show the sensitivity of firm performance and CEO dismissal to changes in frequencies of board meeting topics.



**Fig. 2.** CEO compensation-firm performance (measured as profit margin) sensitivity of by six types of board meetings. Specifically, we plot  $\partial(\Delta\text{CEO compensation})/\partial(\text{firm performance})$  as the changes of each meeting number. Horizontal axes denote number of meetings. Vertical axes show the CEO compensation sensitivity to firm performance to changes in frequencies of board meeting topics.



B) Firm performance measured by market measures: market to book value and stock return

1. Nominations; 2. Compensation; 3. Management Routines; 4. Firm Control Transactions; 5. Change of Equity Structure; 6. Growth Strategies

	(4) Market to book value						(5) Stock return					
	1	2	3	4	5	6	1	2	3	4	5	6
Market to book value <sub>t-1</sub>	0.019 (0.012)	0.018 (0.011)	0.022* (0.011)	0.012 (0.011)	0.018 (0.011)	0.016 (0.012)						
Stock return <sub>t-1</sub>							0.037** (0.008)	0.038** (0.008)	0.039** (0.007)	0.032** (0.008)	0.039** (0.008)	0.036** (0.008)
Topic-focused meeting frequency <sub>t-1</sub>	0.015 (0.013)	0.111† (0.060)	0.016 (0.028)	-0.002 (0.010)	0.019 (0.024)	-0.007 (0.031)	0.007 (0.007)	0.083* (0.033)	-0.015 (0.018)	0.001 (0.006)	0.001 (0.011)	0.005 (0.020)
Market to book value <sub>t-1</sub> × topic-focused meeting frequency <sub>t-1</sub>	-0.003 (0.007)	-0.016 (0.027)	-0.019 (0.016)	0.004 (0.006)	-0.014 (0.018)	0.014 (0.015)						
Stock return <sub>t-1</sub> × topic-focused meeting frequency <sub>t-1</sub>							0.004 (0.005)	-0.003 (0.021)	-0.000 (0.011)	0.004 (0.003)	-0.002 (0.010)	0.013 (0.009)
Log(board size) <sub>t-1</sub>	0.115† (0.064)	0.112† (0.064)	0.116† (0.064)	0.114† (0.064)	0.116† (0.064)	0.116† (0.063)	0.109† (0.064)	0.107† (0.064)	0.109† (0.064)	0.108† (0.064)	0.109† (0.064)	0.111† (0.064)
Duality <sub>t-1</sub>	0.008 (0.033)	0.007 (0.033)	0.009 (0.033)	0.007 (0.033)	0.008 (0.033)	0.009 (0.033)	0.007 (0.033)	0.005 (0.033)	0.007 (0.033)	0.006 (0.033)	0.006 (0.033)	0.007 (0.033)
Independent directors % <sub>t-1</sub>	0.416* (0.196)	0.424* (0.195)	0.426* (0.195)	0.424* (0.195)	0.427* (0.195)	0.433* (0.195)	0.424* (0.197)	0.429* (0.196)	0.434* (0.197)	0.425* (0.196)	0.430* (0.197)	0.436* (0.197)
Directors' shareholdings % t-1	0.542 (0.632)	0.546 (0.632)	0.506 (0.628)	0.549 (0.635)	0.544 (0.633)	0.590 (0.642)	0.581 (0.625)	0.574 (0.623)	0.561 (0.624)	0.579 (0.627)	0.574 (0.625)	0.606 (0.627)
State-owned enterprises t-1	-0.074 (0.058)	-0.077 (0.057)	-0.074 (0.057)	-0.074 (0.058)	-0.074 (0.058)	-0.073 (0.058)	-0.076 (0.057)	-0.078 (0.057)	-0.076 (0.057)	-0.076 (0.057)	-0.076 (0.057)	-0.075 (0.057)
Majority t-1	0.067* (0.027)	0.067* (0.027)	0.068* (0.027)	0.068* (0.027)	0.068* (0.027)	0.068* (0.027)	0.066* (0.027)	0.067* (0.027)	0.067* (0.027)	0.067* (0.027)	0.067* (0.027)	0.067* (0.027)
Log(employees) t-1	0.040* (0.018)	0.040* (0.018)	0.039* (0.018)	0.040* (0.018)	0.040* (0.018)	0.039* (0.018)	0.042* (0.018)	0.042* (0.018)	0.041* (0.018)	0.041* (0.018)	0.041* (0.018)	0.041* (0.018)
Year and industry dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Adjusted R-squared	0.397	0.397	0.397	0.397	0.397	0.397	0.400	0.401	0.400	0.400	0.400	0.400
Firm-years	7827	7827	7827	7827	7827	7827	7827	7827	7827	7827	7827	7827

## Appendix A

An Examples of Independent Director' Reports. Compensation (2) and Loan Guarantees (5) were discussed on 27 April 2007 in board meeting of Wuhan Zhongnan Commercial Group Co., Ltd (WHZS, 000785).

**Stock trading code:** 000785 (SHE)

**Company name:** Wuhan Zhongnan Commercial Group Co., Ltd (WHZS)

**Announcement date:** 27 April 2007

**Independent directors:** Tan, Liwen; Li, Yanping; Xie, Huobao

**Topic code:** 2-Compensation; 5- Loan Guarantees

**Opinion type:** unqualified opinion

**Content:**

Pursuant to the "Guiding Opinions on Establishing Independent Directors in Listed Companies", "Shenzhen Stock Exchange Listing Rules", "Articles of Association", and other related regulations, we would like to issue the following opinion on WHZS's following two following issues passed at the fourth meeting of the sixth session of the board of directors:

First, to our best knowledge, we agree that compensations of directors and senior management in 2006 have meet the plan requirements-" the implementation plan of company directors and senior management compensation in 2006" approved by the annual General Meeting (2005).

Second, based on the annual report 2006 of WHZS, the audit report 2006 (2007-421), and the "Special statement of controlling shareholders and other related parties possessing fund of the listed firm" (2007-148) provided by Wuhan Zhonghuan Accounting Firms, we have carefully examined the incurred and accumulative amount of loan guarantees, we believe the loan guarantees for subsidiary companies in 2006 was 160 million RMB, accumulated to 260 million. No other loan guarantees for related parties happened in 2006.

## Appendix B

Correlation of Main Variables. CEO dismissal is a dichotomous variable, which equals one if the CEO leaves the job involuntarily, and zero otherwise. Compensation is equal to the nature logarithm of the average of the three highest-paid executives' compensation. Other variables are lagged values. Meetings definitions are provided in Table 1, and other independent variable definitions are shown in Table 2. †p < .10, \*p < .05, \*\*p < .01

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 CEO dismissal	1																			
2 Compensation	-0.078**	1																		
3 Nomination meetings	-0.001	0.068**	1																	
4 Compensation meetings	-0.009	0.098**	0.161**	1																
5 Management routines meetings	0.033**	-0.028*	0.205**	0.117**	1															
6 Corporate control transaction meetings	-0.003	0.149**	0.281**	0.159**	0.281**	1														
7 Change of equity structure meetings	0.004	0.009	0.033**	0.009	0.069**	0.073**	1													
8 Growth strategies meetings	-0.029**	0.077**	0.114**	0.114**	0.074**	0.225**	0.002	1												
9 ROA	-0.098**	0.314**	-0.035**	0.019†	-0.064**	0.037**	0.007	0.022*	1											
10 ROE	-0.096**	0.230**	-0.049**	0.018†	-0.070**	0.027**	0.006	0.036**	0.742**	1										
11 Profit margin	-0.082**	0.230**	-0.020†	0.012	-0.038**	0.027**	0.009	0.024*	0.729**	0.662**	1									
12 Market to book value	-0.001	0.116**	0.064**	0.060**	0.076**	0.076**	-0.096**	0.041**	0.149**	0.060**	0.072**	1								
13 Stock return	-0.024*	0.191**	0.063**	0.016	0.087**	0.155**	0.099**	0.065**	0.176**	0.127**	0.115**	0.387**	1							
14 Board size	-0.001	0.106**	-0.016	-0.002	-0.038**	-0.017†	0.006	-0.024*	0.056**	0.039**	0.045**	-0.114**	-0.027**	1						
15 Duality	-0.052**	-0.01	0.004	0.045**	0.029**	-0.004	-0.001	0.006	-0.022*	-0.01	-0.018†	0.059**	0.014	-0.084**	1					
16 Independent directors %	-0.017	0.113**	0.074**	0.049**	0.046**	0.077**	-0.007	0.057**	0.022*	0.028**	0.037**	0.112**	0.067**	-0.256**	0.028**	1				
17 Directors' shareholdings %	-0.035**	0.081**	0.012	0.047**	-0.020*	-0.035**	0.003	0.053**	0.026*	0.030**	0.01	0.040**	0.010	-0.018†	0.053**	0.036**	1			
18 State-owned enterprises	0.035**	0.008	-0.036**	-0.036**	-0.057**	-0.004	-0.004	-0.034**	0.001	0.025*	0.032**	-0.140**	-0.036**	0.173**	-0.108**	-0.069**	-0.198**	1		
19 Majority	0.017	-0.032**	-0.019+	-0.043**	-0.050**	-0.015	-0.027**	-0.047**	0.115**	0.082**	0.101**	-0.118**	-0.057**	0.012	-0.069**	-0.037**	-0.073**	0.206**	1	
20 Log(employees)	-0.038**	0.159**	-0.046**	0.005	-0.044**	0.078**	-0.012	0.021*	0.134**	0.097**	0.021*	-0.162**	0.025*	0.227**	-0.057**	-0.020†	-0.018†	0.196**	0.131**	1

## Appendix C

The Effects of Meetings on the Six Major Topics on the Link between CEO Compensation and Firm Performance. This table reports results from panel data regressions with fixed effects. CEO compensation is the pay that the CEO receives from the listed firm, and is the dependent variable. Firm performance is measured by ROA and the stock return. Nominations, compensation, management routines, firm control transactions, changes of equity structure, and growth strategies are the major topics discussed. Topic-focused meeting frequency is the frequency of annual meetings on a given topic. Interaction terms between firm performance and topic-focused meeting frequency capture the meetings' moderating effects on the relationship between compensation and firm performance. Other variable definitions are provided in Table 3. Models are estimated over the period 2005-2010. †p < .10, \*p < .05, \*\*p < .01.

A) Firm performance measured by ROA and stock return												
CEO compensation	1. Nominations; 2. Compensation; 3. Management Routines; 4. Firm Control Transactions; 5. Change of Equity Structure; 6. Growth Strategies											
	(1) ROA						(2) Stock return					
	1	2	3	4	5	6	1	2	3	4	5	6
ROA <sub>t-1</sub>	1.086** (0.309)	0.800** (0.275)	0.845** (0.276)	0.709* (0.310)	0.879** (0.281)	0.762** (0.283)						
Stock return <sub>t-1</sub>							0.032* (0.015)	0.035* (0.015)	0.035* (0.015)	0.028† (0.017)	0.044** (0.014)	0.029* (0.015)
Topic-focused meeting frequency <sub>t-1</sub>	0.013 (0.021)	-0.040 (0.064)	-0.020 (0.031)	-0.015 (0.012)	-0.003 (0.022)	-0.072† (0.042)	-0.011 (0.017)	0.029 (0.047)	-0.022 (0.033)	-0.011 (0.010)	0.014 (0.022)	-0.046 (0.036)
ROA <sub>t-1</sub> × Topic-focused meeting frequency <sub>t-1</sub>	-0.385† (0.223)	1.293 (0.878)	0.029 (0.345)	0.136 (0.155)	-0.102 (0.273)	0.875† (0.476)						
Stock return <sub>t-1</sub> × Topic-focused meeting frequency <sub>t-1</sub>							0.004 (0.005)	-0.003 (0.021)	-0.000 (0.011)	0.004 (0.003)	-0.002 (0.010)	0.013 (0.009)
Log(board size) <sub>t-1</sub>	0.082 (0.142)	0.096 (0.141)	0.093 (0.142)	0.094 (0.142)	0.092 (0.141)	0.090 (0.142)	0.081 (0.143)	0.077 (0.143)	0.081 (0.144)	0.078 (0.144)	0.081 (0.143)	0.075 (0.144)
Duality <sub>t-1</sub>	0.122* (0.060)	0.124* (0.060)	0.123* (0.061)	0.127* (0.061)	0.124* (0.060)	0.123* (0.060)	0.124* (0.060)	0.123* (0.060)	0.124* (0.061)	0.125* (0.061)	0.121* (0.061)	0.124* (0.060)
Independent directors % <sub>t-1</sub>	0.049 (0.350)	0.067 (0.351)	0.077 (0.351)	0.077 (0.352)	0.079 (0.352)	0.081 (0.354)	0.117 (0.348)	0.101 (0.349)	0.104 (0.349)	0.096 (0.348)	0.092 (0.347)	0.102 (0.350)
Directors' shareholdings % <sub>t-1</sub>	0.292 (0.619)	0.286 (0.608)	0.279 (0.625)	0.271 (0.615)	0.291 (0.620)	0.300 (0.623)	0.514 (0.629)	0.510 (0.620)	0.489 (0.636)	0.500 (0.618)	0.490 (0.631)	0.566 (0.643)
State-owned enterprises <sub>t-1</sub>	-0.174 (0.114)	-0.175 (0.112)	-0.176 (0.114)	-0.178 (0.114)	-0.177 (0.114)	-0.169 (0.113)	-0.180 (0.112)	-0.179 (0.113)	-0.177 (0.113)	-0.178 (0.113)	-0.183 (0.113)	-0.172 (0.113)
Majority <sub>t-1</sub>	0.028 (0.059)	0.019 (0.059)	0.020 (0.059)	0.021 (0.059)	0.019 (0.060)	0.019 (0.059)	0.029 (0.059)	0.029 (0.060)	0.028 (0.060)	0.030 (0.060)	0.028 (0.060)	0.027 (0.060)
Log(employees) <sub>t-1</sub>	0.059† (0.033)	0.056† (0.033)	0.056† (0.033)	0.057† (0.033)	0.055† (0.033)	0.058† (0.032)	0.060† (0.033)	0.059† (0.033)	0.059† (0.033)	0.060† (0.033)	0.059† (0.033)	0.059† (0.033)
Year and industry dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Firm-years	3454	3454	3454	3454	3454	3454	3454	3454	3454	3454	3454	3454

