Board of director compensation in China: To pay or not to pay? How much to pay? [1]

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Abstract

For Chinese listed firms over the period 2005 through 2015, we find that the compensation of independent and non-independent directors is influenced by both director characteristics and firm ownership structure. We measure director compensation by both the propensity to be paid and the level of compensation. We find that director busyness and tenure positively influence director compensation, whereas the state ownership negatively influence director compensation. For independent directors, we find cash flow rights from controlling shareholder leads to higher director compensation in non-state-owned firms. Lastly, our evidence suggests that women directors in China are not underpaid.

[1]We thank participants in Brown-bag seminar from School of Economics and Finance, Victoria University of Wellington; PHD proposal defense from School of Economics and Finance, Victoria University of Wellington; 2017 FMCG PHD symposium. All remaining errors are our own.

1 Introduction

Ideally, a board of directors lessens agency problems between managers and shareholders. An important function of the board of directors is to monitor management (Jensen (1986), Shleifer and Vishny (1997) and Hermalin and Weisbach (2003). In addition, directors provide management guidance on the operation of the firm (Jensen (1993), Adams and Ferreira (2007) and Adams, Hermalin, and Weisbach (2010)). Director compensation should motivate directors to perform these functions effectively(Adams, Hermalin, and Weisbach (2010)). Although director compensation is widely studied in developed countries, there is limited research on director compensation in China, where the ownership structure and governance issues differ from those in US and UK(Jiang and Kim (2015)). This study examines director compensation in China.

In US and UK, the ownership of listed firms is dispersed and the main conflict is between the managers and shareholders. Ideally, a director compensation scheme eases this agency problems between managers and shareholders. In contrast, in China, the ownership of listed firms is highly concentrated and the main conflict is between large and minority shareholders. Director compensation in China should be motivated to mitigate the conflict between large shareholders and minority shareholders. In practice, the compensation committee proposes the compensation scheme which is voted by the board of directors. With the concentrated ownership, the large shareholders in China have substantial influence on board of director compensation. Therefore, director compensation in China may not motivated to resolve conflict between large and minority shareholders but simply reflect the influence of large shareholders.

Unlike previous literature focusing only on directors who are paid, our study includes directors who are ostensibly unpaid by the listed firms. The practice of ostensibly paying zero compensation is common in China, where 36% of non-independent directors and 6%

of independent directors receive zero compensation. The scope of our study examines both the propensity of a director to be unpaid and the level of director compensation provides a complete picture of director compensation in China.

We investigate the influence of director characteristics and ownership structure on director compensation. Relative to the relationship between director characteristics and compensation, we explore the influences of gender, director busyness and director tenure on director compensation. Relative to the relationship between ownership structure and compensation, we explore the influence of state ownership, ownership concentration, excess control rights and connections to controlling shareholders on director compensation.

Female directors comprise 15% of the independent directors and 11% of non-independent directors in our sample. We find no evidence that in China female directors are underpaid. Our results are inconsistent with the literature that suggest women executives are underpaid (Fagenson and Jackson, 1993, Zelechowski and Bilimoria, 2004, Chen, Ezzamel, and Cai, 2011). However, our results support the literature that the underpayment of female executives declines in a multivariable setting with controls (Bertrand and Hallock, 2001). We find some evidence that non-independent women directors are less likely to be unpaid. To the best of our knowledge, this is the first work that investigates the influence of gender in Chinese boardrooms on both the propensity to be unpaid and the level of compensation.

In our sample, 31% of independent directors are busy directors (hold more than two directorships at the same time) and hold on average 2.14 directorships. We find that in China busy independent directors are less likely to be unpaid and receive higher level of compensation. Specifically, for an independent director that holds more than two directorships, the probability of being unpaid decreases by 11.18% and the level of compensation

increases by 2.78%.[2] A strand of the literature advances, that busy directors are of high quality (Fama and Jensen, 1983, Gilson, 1990, Kaplan and Reishus, 1990, Brickley, Linck, and Coles, 1999, Coles and Hoi, 2003, Brown and Maloney, 1999, Fich and Shivdasani, 2007, Field, Lowry, and Mkrtchyan, 2013). However, another strand of the empirical literature finds the relationship between busy directors and compensation is mixed (Andreas, Rapp, and Wolff, 2012, Ertugrul and Hegde, 2008). Therefore, our study provides further evidence that director compensation increases with busyness. To our knowledge, this is the first work that examines the influence of busyness on director compensation in China.

The average tenure in our sample equals to 6.11 years for independent directors and 5.9 years for non-independent directors. We find that in China both independent directors and non-independent directors with longer tenure are less likely to be unpaid and receive higher level of compensation. Specifically, a one standard deviation increase in tenure for an independent director implies that probability of being unpaid decreases by 13.53% and the level of compensation increases by 1.62%.[3] Dou, Sahgal, and Zhang (2015) suggests that the directors with more experiences (measured by tenure) are better monitors and advisors. If the tenure of director serves as a good proxy for the quality of director, then the director with longer tenure should be less likely to be unpaid and receive higher level of compensation. In contrast, Chen, Ezzamel, and Cai (2011) find that in China the compensation of top three executives is negatively related to their tenure. Our study provides further evidence that director compensation increases with tenure and thus supports the idea that director tenure is an indicator of director quality.

[2]Assume Prob(Unpaid(*Busy director(0/1)* =0))=A and Prob(Unpaid(*Busy director(0/1)* =1))=B, we calculate the percentage change in the probability being unpaid as

$$\%\Delta(\textit{Unpaid(0/1)}) = \frac{B-A}{A}$$

.

[3]Similarly, a one standard deviation increase in tenure for a non-independent director implies that probability of being unpaid decreases by 11.68% and the level of compensation increases by 13.94%.

The literature on director compensation and ownership structure is limited.[4] We investigate how ownership structure affects the director compensation in China. China is an excellent laboratory to study this question alone to different ownership structures including state ownership, ownership concentration, excess control rights and connections to controlling shareholders.

State ownership is very common in China. In our sample, 48% of the listed firms are state owned. We find that in China both independent and non-independent directors working in a state-owned company are more likely to be unpaid and receive lower level of compensation. Specifically, for an independent director working in a state-owned company, the level of compensation decreases by 7.92%. For a non-independent director working in a state-owned company, the probability of being unpaid increases by 31.20% and the level of compensation decreases by 11.57%. Firth, Fung, and Rui (2007) find that in China the state ownership reduces the level of CEO compensation. Moreover, Barontini and Bozzi (2011) find that in Italy the state ownership reduces the level of director compensation. Our findings provides further evidence that state ownership reduces director compensation.

The ownership of listed firms in China is concentrated. The ultimate controlling shareholders on average own 33% of share of the listed firms.[5][6] We find that in China independent directors are less likely and non-independent directors are more likely to be unpaid when

[4]There are a few of studies concerning the relationship between ownership structure and director compensation in other countries. For example, Barontini and Bozzi (2011) study how ownership structure affects the director compensation in Italian listed firms. Pinto and Leal (2013) study how ownership structure influences the board compensation in Brazilian listed companies. Munisi and Mersland (2016) investigate how ownership composition affects the board compensation in listed sub-Saharan African companies.

[5]In China, the proportion of ownership measures the proportion of cash-flow rights since dual class shares structure is not allowed

[6]We use the ownership of ultimate controlling shareholder rather than the ownership of the largest shareholder to measure the ownership concentration. In China, pyramid ownership structure is very common. The ultimate controlling shareholders may control the listed firms through one of their subsidiaries. In this way, the ownership of the largest shareholders in the listed firms may exaggerate the economics stakes of the actual controllers in the listed firms. For example, company A owns 51% of company B and company B owns 51% of company C(the listed firm). The largest shareholder of company C(the listed firm) is firm B(the subsidiary of firm A), which owns 51% share of company C. However, company C is actually controlled by company A, which only owns 26.01% share of company C.

the ultimate controlling shareholders have more ownership in the listed firms. The level of compensation for both independent directors and non-independent directors increases with the ownership of the ultimate controlling shareholders. Specifically, a one standard deviation increase in ownership implies that, for an independent director, probability of being unpaid decreases by 6.46% but the level of compensation increases by 0.59%; for an non-independent director, probability of being unpaid increases by 4.36% and the level of compensation increases by 6.78%. Prior literature suggests that higher ownership of the controlling shareholders leads to greater incentive to monitor the CEO, thereby reducing the rent-extraction and compensation of the CEO (Dyl, 1988, Core, Holthausen, and Larcker, 1999, Cyert, Kang, and Kumar, 2002, Conyon and He, 2011). From this perspective, monitoring due to concentrated ownership may substitute for monitoring from the board or directors. Consistent with this theory, Barontini and Bozzi (2011) find that, in Italy, directors receive less compensation when the ownership is more concentrated. However, our findings that the level of director compensation increases with the ultimate controlling shareholder's ownership suggests that the ultimate controlling shareholders may attract more experts and high-rank bureaucrats to the board with higher compensation.

In Chinese listed firms, the ultimate controlling shareholders often have control rights that exceed their cash-flow rights(measured by ownership). The average divergence between control rights and cash-flow rights is 5.64%. We find no effect of excess control rights on the compensation of independent directors.[7] However, we find a statistically significant and economically important influence of excess control rights on compensation of non-independent directors. Specifically, a one standard deviation increase in the excess control rights of the largest shareholders increases the probability of being unpaid by 3.29% and the level of non-independent director compensation by 7.72%. Our findings are opposite to the literature

[7]We measure the excess control rights by the percentage difference between control rights(measured by voting rights) and cash-flow rights(measured by ownership) of the ultimate controlling shareholder

that suggest board of director compensation decreases with the divergence between control rights and ownership (Yeh and Woidtke, 2005, Barontini and Bozzi, 2011).

Related directors are non-independent directors holding positions in both the listed firms and controlling firms.[8] Because related directors are uncommon in western countries, the literature on the relationship between related directors and compensation is scant. However, related directors are very common in China, where 41% of non-independent directors in our sample are related directors. We find that related directors are more likely to be unpaid and receive lower compensation. Specifically, for a non-independent director that holds a position in a controlling firm, the probability of being unpaid increases by 89.95% and the level of compensation decreases by 30.65%. Our results are consistent with Lo, Wong, and Firth (2010) who suspect but do not test that a related director is more likely to be unpaid as controlling shareholders may pay part or all of director compensation. To our knowledge, our study is the first work that empirically examines both the level of compensation and the propensity being unpaid for related directors.

The remainder of the paper is organised as follows. Section 2 provides the relevant institutional background in China. Section 3 discuss the related literature and develop hypotheses. Section 4 describes our sample selection and variable construction. Section 5 presents the empirical method for testing and reports the main empirical results. Section 5 presents the robustness tests. The final section concludes the paper.

[8]According to the regulation from China Securities Regulatory Commission (CSRC), an individual holds a position in a controlling firm can not serve as an independent director in the listed firm. Therefore, the related directors in our sample are all non-independent directors

2 Institutional background

2.1 Ownership structure in China

Ownership structure in China is different from that in the US in several ways. First, state ownership is very common in China. For example, during 2005-2015, almost half (49%) of the Chinese listed firms are controlled by the government or quasi-state institutions (such as other state-owned companies). Second, ownership is highly concentrated in China. For example, during 2005-2015, the ultimate controlling shareholder owns, on average, over one-third of listed firms, while the five largest shareholders own over half of the firm. Third, institutional ownership is less common in China than in US. For example, in 2010, institutional investors in China own 16.6% of tradable shares, while the domestic financial institutions in US own almost 50% of US stocks.[9]

State ownership affects firm objectives. First, state owned companies likely have political objectives in addition to financial objectives. These political objectives include, but are not limited to, maintenance of employment, direct control of important industries such as banking, energy and telecommunication, and politically motivated job placement (Liu and Lu, 2007). Second, state ownership may lead to soft budget constraints, which arises when the government supports a firm in financial difficulty. Kornai (1980) suggests that the soft budget constraint undermines a firm's incentive to perform productively and efficiently. Taking the state-controlled banking system as the given institutional environment, Che and Qian (1998) develop a model that explains how state-owned companies suffer from the soft budget constraint problem. Because the government controls both the state-owned companies and banks, it can require a bank to refinance the companies for political reasons.

[9]Jiang and Kim (2015) believe that the institutional ownership in China is overestimated since non-tradable shares are not included in calculation. In contrast, Edelen, Ince, and Kadlec (2016) believe that the institutional ownership in US is underestimated since foreign institutional ownership is excluded in calculation.

In addition to high levels of state ownership, China has high levels of concentrated ownership. The influence of concentrated ownership (shareholders that holds a high percentage of the firm's stock) on corporate governance is mixed. On one hand, concentrated ownership may improve governance by intensifying monitoring of management. This monitoring story is primarily based on the developed countries literature. In the developed countries such as the US and UK, ownership is normally very dispersed, therefore, the shareholders have limited incentives and powers to monitor the management.[10] However, this agency problem can be moderated by a large shareholder who has both financial incentives and means to monitor the management (Shleifer and Vishny (1986), Shleifer and Vishny (1997)). On the other hand, concentrated ownership may worsen corporate governance. LaPorta et al. (1999) suggest that in many countries a controlling shareholders may expropriate wealth from minority shareholders.[11] Expropriations include activities ranging from outright theft and fraud to intercorporate loans, loan guarantees for majority shareholders, and selling assets or products below market prices to majority shareholders. In China, controlling shareholders expropriate wealth from minority shareholders mainly through the granting loans and related-party transactions(Liu and Lu (2007), Jiang, Lee, and Yue (2010)). Some of these practices may add value in ways that counteract a corresponding market frictions. For example, intercorporate loan may help reduce external financing constraints and transaction costs of the borrowing firms. However, minority investors almost always lose when the controlling shareholder expropriates.

[10] Due to either free ride problems or the relatively high monitoring costs to the limited monitoring benefits.

[11] According to Porta, Lopez-de Silanes, and Shleifer (1999), a controlling shareholder does not need to be a majority owner. Actually, they use a 20% share ownership cutoff to identify the existence of controlling shareholders. Therefore, based on the 20% threshold, most listed firms in China are likely to have controlling shareholders.

2.2 Board structure in China

Similar to Germany, China operates under two-tier board system, which includes a director board and a supervisory board. The 1993 Chinese Company Law requires all listed companies to adopt a two-tier board structure, which consists of a director board and a supervisory board. Under the 1993 Chinese Company Law, the director board is a decision-making unit, while the supervisory board is an agency that monitor directors and executives of the company. The supervisory board has the same rank but far less authority than the director board. Unlike the German Supervisory Board, the Chinese Supervisory Board does not appoint or dismiss directors and executives. Rather, the supervisory board monitors the director board and, if anything goes wrong, requires directors and executives to correct their misbehavior. If the misbehavior is not been fixed, the supervisory board may report the misbehavior directly to the regulatory authorities. At the same time, the supervisory board in China bears no legal consequences when the firm goes wrong, limiting its incentives to monitor the directors and executives.[12] Clarke (2006) suggests that the supervisory board plays no real role in corporate governance. Because of its limited capabilities and incentives, the supervisory board in China is considered ineffective in monitoring, and therefore, Tian (2001) and Tam (1999) suggest that the structure of corporate governance in China is similar to the Anglo-Saxon unitary board rather than the two-tier board.

2.3 The independent director in China

Ownership structure influences independent director responsibilities. For example, when ownership is dispersed, an important agency problem is the conflict between inside managers and outside shareholders. Correspondingly, an important objective of independent directors is to hold managers accountable for performance. However, when ownership is

[12]Through the case study, Dahya, Karbhari, and Xiao (2002) find supervisors escaped any legal prosecution or penalty in financial scandals.

highly concentrated, an important governance issue is the minimization of wealth expropriation of controlling shareholders from the firm's minority shareholders. Therefore, an important responsibility of independent directors in China is to monitor large controlling shareholders on behalf of minority shareholders.[13]

To promote the influence of independent directors, the China Securities Regulatory Commission (CSRC) requires that, in listed firms, at least one-third of their board members are independent directors. Also, the CSRC discourages the independent directors from holding the listed firm's shares to protect the independence of the independent directors from controlling shareholders.[14] Not surprisingly, in China, the equity incentives contracts for independent directors are not allowed and the shareholding of independent directors are extremely low.[15]

However, this regulation may not be fully effective since the controlling shareholders can minimize monitoring by keeping the proportion of independent directors to the minimum one-third required. In our sample, the median proportion of independent directors is one-third, which is exactly the minimum required ratio.[16] More importantly, controlling shareholders may nominate independent directors and influence director election. According to 2001 guidance opinion, the whole appointment process of independent directors could be divided into three stages: 1) the nomination stage 2) the CSRC check stage 3) the selection stage.[17] At the first stage, director board, supervisory board or the shareholder who holds not less than 1% of the shares in the listed company could nominate the candidate for independent

[13]In 2001, when the independent director system was introduced to Chinese listed firms by CSRC, they explicitly state that the the primary and legally explicit responsibility of independent directors is to monitor large controlling shareholders on behalf of minority shareholders. see *Guidelines for Introducing Independent Directors to the Board of Directors of Listed Companies 2001*

[14]For example, the independent directors are not allowed to directly or indirectly hold more than 1% of the listed firm's shares, nor are they allowed to be one of the top 10 shareholders of the listed firm

[15]The average shareholding of independent directors in our sample period is lower than 0.01%.

[16]The proportion at the 75th percentile is only 0.4, which is barely over the minimum ratio.

[17]See *Guidelines for Introducing Independent Directors to the Board of Directors of Listed Companies 2001*

director. After the nomination, the China Securities Regulatory Commission (CSRC) checks the qualifications and backgrounds of nominees to decide whether the nominees are eligible to serve as the independent directors.[18] At the end, the shareholder's general meeting elects the independent directors from the eligible candidates for independent director.

3 Literature and Hypothesis Development

3.1 Director compensation and director characteristics

A portion of the literature advances that women executives are underpaid. For example, Fagenson and Jackson (1993) find that in 1992 women executives on average earned 66.2 percent of male executives' compensation in the United States. Likewise, Zelechowski and Bilimoria (2004) find that women non-CEO inside directors earn considerably less than men inside directors. Moreover, Chen, Ezzamel, and Cai (2011) find that in China female executives receive approximately 6.7% less pay compared to male executives. In contrast, Bertrand and Hallock (2001) find that this gap narrows to less than 5% after controlling for firm size, occupation and job experience. Although there is no literature that explores the propensity for women to be unpaid while sitting on boards, the literature on payment level suggests that the propensity of women to be unpaid should be higher than for men. Thus, our hypothesis is:

H1a*: For woman directors, the propensity to be unpaid is higher and the level of compensation is lower, ceteris paribus.*

Fama and Jensen (1983) contend that the busyness of an outside director signals the quality of outside director. That is, higher quality outside directors are more frequently offered additional outside directorships. Recent literature provides further empirical evidence

[18]The nominees who fail to meet the CSRC requirement may serve as candidates for company director but not as candidates for independent director.

that higher quality directors are more sought after and that the quality of director is positively related to busyness (Gilson (1990), Kaplan and Reishus (1990), Brickley, Linck, and Coles (1999), Coles and Hoi (2003), Brown and Maloney (1999) and Fich and Shivdasani (2007)). Moreover, Field, Lowry, and Mkrtchyan (2013) suggest that the connections and experience of busy directors make them better advisors. If the busyness of director serves a good proxy for the quality of director, then the busy director demands and receives higher compensation. Our hypothesis is therefore:

H1b*: For busy directors, the propensity to be unpaid is lower and the level of compensation is higher, ceteris paribus.*

Dou, Sahgal, and Zhang (2015) suggest that the tenure of directors may serve as a proxy for their ability. They provide three reasons. First, more experienced directors work with multiple CEOs, which aids them in assessing the ability of the current CEO. Second, directors with long tenure have a larger financial stake in the company than their short tenure counterparts, aligning their interests with that of the shareholders. Third, longer tenure periods certify the position of the director, helping her balance the CEO's influence in the boardroom. Consistent with positive effect of tenure, Dou, Sahgal, and Zhang (2015) find that the directors with longer tenure attend more meetings and serve on more committees. Moreover, CEOs in firms with a larger number of experienced directors tend to have lower compensation and are more likely to leave when the firm performs poorly. These firms are also less likely to restate earnings and make acquisitions (and those that are made are more likely to be profitable). Overall, Dou, Sahgal, and Zhang (2015) evidence that the boards with a higher proportion of experienced directors are better at both monitoring and advising. If the tenure of director serves a good proxy for the quality of director, then the director with longer tenure should receive higher compensation. However, Chen, Ezzamel, and Cai (2011) find that in China the compensation of top 3 executives is negatively related to their tenure. Our hypothesis is therefore:

***H1c**: For directors with long tenure, the propensity to be unpaid is lower and the level of compensation is higher, ceteris paribus.*

3.2 Compensation and ownership structure

The literature finds that ownership structure influences CEO compensation. Firth, Fung, and Rui (2007) find that the CEOs in Chinese listed firms receive less compensation in state-owned firms than their counterparts in non-state-owned firms. This difference in compensation arises because the CEOs of state-owned firms are often state bureaucrats and their compensation aligns with the senior officer salary levels. Likewise, Barontini and Bozzi (2011) find that director compensation is lower when the firms are state-owned in Italy. Chen, Lou, and Soderstrom (2016) document that the Chinese government imposes a cap on executive compensation in state-owned firms companies due to social concerns. The evidence that salary levels of CEOs are lower in state-owned firms suggests that same relationship holds for members of the board of directors. This evidence lead us to conjecture that:

***H2a**: For directors who serve in the state-owned companies, the propensity to be unpaid is higher and the level of compensation is lower, ceteris paribus.*

When the controlling shareholders have more ownership, they are motivated to monitor the CEOs and top management (Dyl, 1988),(Core, Holthausen, and Larcker, 1999), (Cyert, Kang, and Kumar, 2002) and (Claessens, Djankov, Fan, and Lang, 2002). Monitoring due to concentrated ownership may substitute for monitoring from the board of directors. In the substitution case, director compensation decreases. Consistent with the substitution case, directors in European countries receive less compensation when the ownership is more concentrated (Barontini and Bozzi, 2011, Andreas, Rapp, and Wolff, 2012). In addition to monitoring, the board of directors may provide advisory or political connections. Experts and influential politicians add value to corporations. If controlling shareholders are motivated to increase value, they may appoint more experts and high-rank bureaucrats to the board,

increasing the director compensation. Therefore, the relationship between the ownership of ultimate controlling shareholders and compensation is an empirical question. Basing on the idea that ownership concentration and board monitoring are substitutions, we posit the following hypothesis:

H2b*: For directors who serve in firms with a highly concentrated owners, the propensity to be unpaid is higher and the level of compensation is lower, ceteris paribus.*

Claessens, Djankov, Fan, and Lang (2002) find that concentrated owners East Asian countries may have control rights that exceed their cash-flow rights in the firms. Firm value falls when the control rights of the ultimate controlling shareholder exceed their cash-flow rights. Claessens, Djankov, Fan, and Lang (2002) suggest this decrease of firm value is due to the risk of expropriation of minority shareholders by controlling shareholders. Yeh and Woidtke (2005) suggest that controlling shareholders influence the board selection process and, when the divergence between control rights and cash flow rights is higher, controlling shareholders may select both board members that are more likely to make decisions favoring controlling shareholders and those that are less likely to monitor. Moreover, Barontini and Bozzi (2011) find that, in Italy, the directors receive less compensation when the divergence between control rights and cash flow rights is higher. This evidence lead us to conjecture that:

H2c*: For directors in firms where the divergence between control and cash flow rights is large, the propensity to be unpaid is higher and the level of compensation is lower, ceteris paribus.*

Chen, Luo, and Soderstrom (2016) find that a large number of CEOs in state-owned firms are paid directly by the Chinese government (or parent firms controlled by the Chinese government) rather than by companies for which they work. Likewise, Lo, Wong, and Firth (2010) suspect that directors who hold positions in both the listed firm and the parent firm are paid part or all by the controlling shareholders. Our hypothesis is therefore:

***H2d**: For directors who hold positions in a related firm, the propensity to be unpaid is higher and the level of compensation is lower, ceteris paribus.*

4 Data and variable construction

4.1 Sample Construction

The sample for this study consists of all firms listed on the ShangHai Stock Exchange (SSE) and ShenZhen Stock Exchange (SZSE) for the period 2005-2015. We choose the sample period from 2005 to 2015 since the director' compensation information is not reported at the individual level until 2005. The improved reporting is a result of a regulation by the China Securities Regulatory Commission(see CSRC (2005)), which requires listed firms to report compensation information for each individual executive beginning in 2005. The board composition, director profile, equity ownership, director meeting attendance and accounting data are collected from the Chinese Listed Firms Research Series database and the stock price data are collected from the China Stock Market Series database, which both are the subsets of China Stock Market and Accounting Research (CSMAR) database.[19] The director profile data contains information on director compensation and director characteristics, such as the director's tenure, gender, age and director shareholding.

To construct a director-level dataset, we merge director profile data with director meeting attendance data by year, stock code and director name. We then merge this director-level dataset with equity ownership, board composition and accounting data by year and stock code. We drop observations where values of total compensation are missing. Our final sample

[19]The CSMAR database is widely regarded as the most comprehensive and authoritative database to study corporate finance and corporate governance in Chinese listed firms. According to a report issued by ShenZhen GTA, the CSMAR database has been used in papers published in a dozen leading international journals including *Journal of Finance, Journal of Financial Economics, Journal of Financial and Quantitative Analysis and Reviews of Financial Studies.*

consists of 226,322 director-firm years, and 2,893 firms, whose number varies from 1,375 in 2005 to 2,843 in 2015.

4.2 Dependent variables

To test what explains the propensity to be unpaid, we use the variable *Unpaid(0/1)* as the dependent variable. A value of 1 is assigned if a director does not receive compensation in a given period and zero otherwise. Table 2 shows that 6% independent directors and 36% non-independent directors are unpaid. To test what determines the compensation level, we use the variable *Ln(Compensation)* as the dependent variable. *Ln(Compensation)* is the natural logarithm of compensation of a director in a given period. Table 2 shows that the average annual compensation is about 57,654 CNY (equivalent to 8,478 USD with the exchange rate of 6.8 CNY/USD) for an independent director and 288,193 CNY (equivalent to 42,381 USD with the exchange rate of 6.8 CNY/USD) for a non-independent director in China, which are far less than that of their counterparts at developed countries.

4.3 Variables of interest

To test how director characteristics affect compensation, we construct several director characteristics variables. *Woman(0/1)* is a dummy variable that equals to 1 if the director is female and zero otherwise. *Busy director(0/1)* is a dummy variable that equals to 1 if the independent director holds more than one directorship and zero otherwise. *Busy director(0/1)* could also serve as a proxy for director capacity. *Tenure* measures the number of years a director has served on the board. Table 2 shows that the number of directorships and the proportion of female directors in independent director sample are similar to those in the Adams and Ferreira (2008). The non-independent director sample, however, includes fewer female and additional directorships. On average, in our sample, the independent director is

53 years old and has 6.11 years working experience as a director and the non-independent director is 49 years old and has 5.9 years working experience as a director, which are both younger and less experienced than those in the existing literature.[20]

To test how ownership structure affects the director compensation, we construct several measures of ownership structure. *State-owned(0/1)* is a dummy variable equal to 1 if the firm is state-owned and zero otherwise. Table 2 shows that 48% of the firms in our sample are state-owned. *Ownership concentration* equals the proportion of ownership(cash-flow rights) held by the ultimate controlling shareholders. *Excess control right* measures the difference between control rights and ownership of the ultimate controlling shareholders. Table 2 shows that the ultimate controlling shareholders of listed firms in China have high ownership. Specifically, the ultimate controlling shareholders on average own 33% share from the listed firms. Such concentrated ownership may emphasize that the main conflicts in Chinese listed firms are not between shareholders and the manager but between the ultimate controlling shareholders and the minority shareholders. For the ultimate controlling shareholders, the divergence between controlling rights and cash flow rights is about 6% on average, which is similar to that in Chou, Chuang and Yin (2013). We use related director to measure the connection to large shareholders, where *Related director(0/1)* is a dummy variable that equals to 1 if the non-independent director holds a position in the controlling firm and zero otherwise. Related directors are very common in China, where 41% of non-independent directors in our sample are related directors.

4.4 Control variables

For all regressions, we control for director, board and firm features. The director level control variables include *CEO/COB(0/1)*, *Age*, *Age*^{2},*Number of meetings(id)*, *Number of meetings(firm)*, and *Ln(Share ownership)*, where *CEO/COB(0/1)*, *Number of meetings(firm)*,

[20]For example, the age and tenure of outside directors in Adams and Ferreira (2008) are 60 and 9.63.

and*Ln(Share ownership)* are applied only to non-independent directors and *Number of meetings(id)* is applied only to independent directors. The board level control variables include *Ln(CEO compensation)*, *Duality*, *Board size* and *Board composition(ind%)*. The firm level control variables include *Cash holdings*, *Ln(Total Assets)*, *Book leverage*, *Lagged ROA* and *Lagged stock volatility*.[21] We also control for industry and year in all regressions. Table 1 provides a summary of all variable definitions.

Table 2 shows that the average board in China has about nine members. However, only 36% of them are independent directors. This ratio is far below than that observed in developed countries literature and only slightly above the required ratio from the China Securities Regulatory Commission(CSRC).[22] On average, the board has 8.38 meetings a year for independent directors and 9.49 meetings for directors. The duality is about 0.21. For the firm characteristics, the average size of firm is about 42.09 billions CNY (6.19 billions USD), however, this figure is unrepresentative for Chinese listed firms since the median and upper 25th percent sample are far smaller than the mean, where these two figures equals to 2.74 billions CNY (0.4 billions USD) and 6.7 billions CNY (0.99 billions USD) respectively. The average book leverage for Chinese listed firms is 48%. The average ROA of Chinese listed firms is 3%. The average rate of cash holding for Chinese listed firms is 16% and the annual volatility of stock share is 0.15.Table 3 provides the correlation matrix for the key variables in the whole sample.

[21]Similar to Chou, Chuang and Yin (2013), the ROA is the annual return on book assets and the volatility is the variance of monthly stock returns. For both ROA and volatility, we lagged them for one year.

[22]The China Securities Regulatory Commission(CSRC) required the listed firms in China have at least 1/3 of their board members to be independent directors.

5 Testing approach and results

5.1 Testing approach

The general structure of our testing model is:

$$Y_{ijt} = f(\alpha + \mathbf{CHAR}\delta + \mathbf{OWN}\lambda + \mathbf{X}\beta + \epsilon_{ijt}), \tag{1}$$

where i represents the director, j the firm, and t the year. The dependent variable Y_{ijt} is either *Unpaid(0/1)* or *Ln(Compensation)*. The functional form $f(.)$ is logistic when the dependent variable is *Unpaid(0/1)* and linear when the dependent variable is *Ln(Compensation)*. **CHAR** represents a matrix of director characteristic variables including *Woman(0/1)*, *Busy director(0/1)* and *Tenure*. **OWN** represents a matrix of ownership structure variables including *State-owned(0/1)*, *Ownership concentration*, *Excess control right* and *Related director(0/1)*. **X** represents a matrix controls variables including director age, director share ownership, board characteristics variables, firm characteristics variables, year and industry. Lastly, α represents the constant term in the regression and ϵ_{ijt} is the error term.

In robustness testing, we modify our base testing model and estimate

$$Y_{ijt} = f(\alpha + \mathbf{CHAR}\delta + \mathbf{OWN}\lambda + \mathbf{X}\beta + \mu_i + \epsilon_{ijt}), \tag{2}$$

where μ_i is a director effect. Because μ_i is perfectly correlated with gender, we can not use gender and director fixed effects. Rather, we estimate a hierarchical model where μ_i is a random intercept, which controls for time invariant director heterogeneity.

5.2 Director compensation and characteristics

Table 4 tests the propensity to receive zero compensation and the level of compensation for both independent and non-independent directors. Columns (1) and (2) test using the sample of independent directors. Columns (3) and (4) test using the sample of non-independent directors. Columns (1) and (3) test using a logit regression model where the dependent variable is the propensity to received zero compensation.[23] Columns (2) and (4) test using an OLS regression model where the dependent variable is the natural logarithm of compensation.

Table 5 reports the estimated effect of variables of interest on both the propensity to receive zero compensation and the level of compensation. Columns (1) and (2) report the predicted sign of regression coefficients. Columns (3) and (4) report the percentage change of both *Unpaid(0/1)* and the level of compensation from their mean values for independent directors when a one standard deviation increase (from the mean value) in continuous variables and one unit increase (from zero to one) in dummy variables. Columns (5) and (6) report the percentage change of both *Unpaid(0/1)* and the level of compensation from their mean values for non-independent directors when a one standard deviation increase (from the mean value) in continuous variables and one unit increase (from zero to one) in dummy variables.

5.2.1 Compensation and gender

Table 4 reports that the coefficient associated with *Woman(0/1)* is statistically no different than zero in explaining the both the propensity to receive zero compensation and the level of compensation for an independent director. In contrast, Column (3) reports that the coefficient associated with *Woman(0/1)* is negative and statistically significant at the 10% level in explaining the propensity to receive zero compensation for a non-independent

[23] We do not present the results of probit regression model since they are similar to those of logit regression model.

director. Column (4) reports that the coefficient associated with *Woman(0/1)* is statistically no different than zero in explaining the level of compensation of a non-independent director.

Table 5 shows the economic importance of *Woman(0/1)* on director compensation.[24] For non-independent directors, the propensity to be unpaid decreases 4.33% from its mean (35.57%) for a female director relative to a male director. Overall, we find no evidence that women directors are underpaid than their male colleagues in China. Therefore, our results reject Hypothesis H1a that female directors have both a higher propensity to receive zero compensation and receive a lower level of compensation.

5.2.2 Compensation and busy independent director

Column (1) in Table 4 reports that the coefficient associated with *Busy director(0/1)* is negative and statistically significant at less than the 5% level in explaining the propensity to receive zero compensation. Column (2) reports that the coefficient associated with *Busy director(0/1)* is positive and statistically significant at less than the 1% level in explaining the level of compensation. Our evidence suggests that the busy directors are less likely to be unpaid and receive a higher level of compensation, and thereby supports Hypothesis H1b. Table 5 reports the estimated economic impact of *Busy director(0/1)* on director compensation. For busy directors, the propensity to receive zero compensation decreases 11.18% from its mean (6.11%) and the level of compensation increases 2.78% from its mean (57.65 Thousands CNY).

5.2.3 Compensation and director tenure

Column (1) and (3) in Table 4 report that the coefficient associated with *Tenure* is negative and statistically significant at less than the 1% level in explaining the propensity to

[24]We only report here the marginal effect of *Woman(0/1)* on the propensity to be unpaid for non-independent directors since other coefficients associated with *Woman(0/1)* is statistically no different than zero.

receive zero compensation for both independent directors and non-independent directors. In contrast, Column (2) and (4) in Table 4 report that the coefficient associated with *Tenure* is positive and statistically significant at less than the 1% level in explaining the level of compensation for both independent directors and non-independent directors. Therefore, our results support Hypothesis H1d that directors with longer tenure have both a lower propensity to receive zero compensation and receive a higher level of compensation.

Table 5 reports the estimated economic impact of *Tenure* on director compensation. For independent directors, a one standard deviation increase in *Tenure* decreases *Unpaid(0/1)* by 13.53% from its mean (6.11%) and increases the level of compensation by 1.62% from its mean (*57.65 Thousands CNY*). For non-independent directors, a one standard deviation increase in *Tenure* decreases *Unpaid(0/1)* by 11.68% from its mean (35.57%) and increases the level of compensation by 13.94% from its mean (*288.19 Thousands CNY*).

5.3 Director compensation and ownership structure

5.3.1 Compensation and state ownership

Column (1) in Table 4 reports that the coefficient associated with *State-owned(0/1)* is statistically no different than zero in explaining the propensity to receive zero compensation for independent directors. Column (3) reports that the coefficient associated with *State-owned(0/1)* is positive and statistically significant at less than the 1% level in explaining the propensity to receive zero compensation for non-independent directors. Column (2) and (4) in Table 4 report that the coefficient associated with *State-owned(0/1)* is negative and statistically significant at less than the 1% level in explaining the level of compensation for both independent directors and non-independent directors. Overall, our evidence suggests that the directors working in a state-owned firm are more likely to be unpaid and receive lower level of compensation. Therefore, our results support our Hypothesis H2a that direc-

tors working in the state-owned companies have both a higher propensity to receive zero compensation and receive a lower level of compensation.

Table 5 reports the estimated economic impact of *State-owned(0/1)* on director compensation. For independent directors, the level of compensation decreases 7.92% from its mean (*57.65 Thousands CNY*) if a firm shifts from non-state owned to state owned. For non-independent directors, the propensity to receive zero compensation increases 31.20% from its mean (35.57%) and the level of compensation decreases 11.57% from its mean (*288.19 Thousands CNY*) if a firm shifts from non-state owned to state owned.

5.3.2 Compensation and ownership concentration

Ownership concentration affects director compensation differently over the types of directors. Column (1) and (3) in table 4 report that, in explaining the propensity to receive zero compensation, the coefficient associated with *Ownership concentration* is negative and statistically significant at less than the 1% level for independent directors but positive and statistically significant at less than the 1% level for non-independent directors. Column (2) and (4) in table 4 report that, in explaining the the level of compensation, the coefficient associated with *Ownership concentration* is statistically no different than zero for independent directors but positive and statistically significant at less than the 1% level for non-independent directors. Our results suggest that, when the ultimate controlling shareholders have more cash-flow rights, the independent directors are less likely to be unpaid while the non-independent directors are more likely to be unpaid. However, the level of compensation of non-independent is increasing with the cash-flow rights of ultimate controlling shareholders. Our results reject the Hypothesis H2b that directors are more likely to be unpaid and receive lower level of compensation when the ownership is more concentrated in the case of independent director and partially support Hypothesis H2b in the case of non-independent director. Overall, our evidence does not support the previous studies finding that the di-

rectors receive less compensation when the ownership is more concentrated (Barontini and Bozzi (2011)).

Table 5 reports the estimated economic impact of *Ownership concentration* on director compensation. For independent directors, the propensity to receive zero compensation decreases 6.46% from its mean (6.11%) and the level of compensation increase 0.59 % from its mean (*57.65 Thousands CNY*) if the ownership of the ultimate controlling shareholders increases by one standard deviation. For non-independent directors, the propensity to be unpaid increases 4.36% from its mean (35.57%) and the level of compensation decreases 6.78% from its mean (*288.19 Thousands CNY*) if the ownership of the ultimate controlling shareholders increases by one standard deviation. Additionally, our evidence suggest board function and ownership concentration are compliments and not substitutions.

5.3.3 Compensation and excess control rights

Columns (1) and (2) in Table 4 report that the coefficient associated with *Excess control right* is statistically no different than zero in explaining both the propensity to receive zero compensation and the level of compensation for an independent director. Also, Column (3) and (4) in Table 4 report that, for a non-independent director, the coefficients associated with *Excess control right* are positive and statistically significant at less than the 1% in explaining both the propensity to receive zero compensation and the level of compensation. Our results reject our Hypothesis H2c that director is more likely to be unpaid and receives lower level of compensation when the excess right is bigger in the case of independent directors and partially support our Hypothesis H2c in the case of non-independent directors.

Table 5 reports the estimated economic impact of *Excess control right* on director compensation. For a non-independent director, a one standard deviation increase in *Excess control right* increases the probability of being unpaid by 3.29.% from its mean (35.57%) and the level of compensation by 7.72.% from its mean (*288.19 Thousands CNY*).

5.3.4 Compensation and related non-independent director

Column (3) in Table 4 reports that the coefficient associated with *Related director(0/1)* is positive and statistically significant at the 1% level in explaining the propensity for a non-independent director to receive zero compensation. Besides, Column (4) in Table 4 reports that the coefficient associated with *Related director(0/1)* is negative and statistically significant at the 1% level in explaining the level of compensation. The results indicate that the directors related to the controlling shareholders are more likely unpaid and receives lower level of compensation. Therefore, our results support Hypothesis H1c that related directors have both a higher propensity to receive zero compensation and receive a lower level of compensation.

Table 5 reports the estimated economic impact of *Related director(0/1)* on director compensation. For related directors, the propensity to receive zero compensation increases 89.95% from its mean (35.57%) and the level of compensation decreases 30.65% from its mean (288.19 Thousands CNY).

6 Robustness tests

6.1 Tenure and new director

Table 6 provides the regression results of *Tenure*, $Tenure^2$ and *New director*. Columns (1) and (5) report that, for both independent directors and non-independent directors, the coefficients associated with *Tenure* are negative and statistically significant at less than the 1% level in explaining the propensity to be unpaid but positive and statistically significant at less than the 1% level in explaining the level of compensation. Column (2) and (6) report that the coefficients associated with $Tenure^2$ are opposite to the coefficients associated with *Tenure*, suggesting a nonlinear relationship between director compensation and director

tenure. Columns (3) and (7) report the regression results of *New director*. The coefficients associated with *New director* are positive and statistically significant at less than the 1% level in explaining the propensity to be unpaid but negative and statistically significant at less than the 1% level in explaining the level of compensation. The above results indicate that rookie directors are more likely to be unpaid and receive less compensation. Columns (4) and (8) report the regression results of *Tenure* and $Tenure^2$ when *New director* is included. For independent directors, when *New director* is included, the coefficients associated with *Tenure* and $Tenure^2$ in explaining the propensity to receive zero compensation becomes statistically no different than zero, while the coefficients associated with *Tenure* and $Tenure^2$ in explaining the level of compensation changes to the opposite signs. However, there is not change in the coefficients of *Tenure* and $Tenure^2$ for non-independent directors when *New director* is included.

6.2 Time invariant director heterogeneity

Since gender and other time invariant director characteristics are perfectly correlated, we can not use director fixed effects. Rather, we estimate a hierarchical model, as show in Equation (2). Table 8 provides the regression results. Most of the results from the hierarchical model are similar to the results from baseline model, suggesting that the results from baseline model are robust to the director effect. However, a few of the coefficients change the signs or level of significance. Specifically, when director effect is included, the coefficient associate with *State-owned(0/1)* in explaining the propensity to be unpaid of an independent director changes from positive and statistically significant at less than the 10% level to statistically no different than zero.

6.3 State-owned firms versus Non-state-owned firms

Our baseline results suggest that, when the ultimate controlling shareholders have more cash-flow rights, independent directors are less likely to be unpaid and receive higher level of compensation. However, the regression results by state-owned and non-state-owned sub-samples suggest that this positive relationship between independent director compensation and ownership concentration only holds for non-state-owned firms. Besides, our baseline results find that, when the ultimate controlling shareholders have more cash-flow rights, the non-independent directors are more likely to be unpaid and receive higher level of compensation. The regression results from sub-samples suggest that the negative relationship between the propensity of non-independent directors to be unpaid and ownership concentration only holds for state-owned firms and positive relationship between director compensation and ownership concentration only holds for non-independent director without either CEO or COB titles.

Table 7 provides the regression results by state-owned and non-state-owned sub-samples. Column (1) and (2) report results for independent directors. Column (3) to (8) report results for non-independent directors. Panel A reports results for directors working in state-owned firms. Panel B reports results for directors working in non-state-owned firms.

7 Conclusion

Compensation motivates board members to attend their board responsibilities. Although director compensation has been extensively researched in the US, the topic is under-researched in China, where the ownership structure and governance issues differ from those in US.[25] Therefore, our study of director compensation in China fills this gap. Moreover, our study

[25]Brick, Palmon, and Wald (2006) suggest that director compensation receives attentions in US only recently.

identifies and explains an unique governance issue in China that a substantial proportion of board of directors are ostensibly unpaid.

Our results show that the director compensation is associated with both firm ownership structure and director characteristics. Moreover, ownership structure and director characteristics differently impact director compensation of independent directors versus non-independent directors. Specifically, we find that, in China, female independent directors are not underpaid, while female non-independent directors are less likely to be unpaid. Also, the busyness of directors decreases the propensity of independent director being unpaid and increases the level of director compensation, suggesting that the multiple directorships are a proxy of director quality. In contrast, related directors are more likely to be unpaid and receive less compensation. Likewise, both independent directors and non-independent directors with high tenure are less likely to be unpaid and receive higher compensation.

Consistent with the previous literature, we find that both independent directors and non-independent directors working in state-owned firms receive less compensation. State-ownership does not affect the propensity to be unpaid for independent directors but increases the propensity to be unpaid for non-independent directors.

When the ownership is more concentrated, independent directors are less likely to be unpaid, while non-independent directors are more likely to be unpaid. However, when the ownership is more concentrated, the level of compensation for both independent directors and non-independent directors increase. Separating sample into state-owned firms and non-state-owned firms, we find that the positive relationship between compensation of independent directors and ownership concentration holds only in non-state-owned firms.

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Table 1: Variable definitions

This table provides the variable name and description. Panel A provides the dependent variables. Panel B provides the variables of interest. Panel C provides the control variables.

Variable	Description
Panel A. Dependent variables	
Ln(Director compensation)	Logarithm of compensation to a director in a year
Unpaid(0/1)	Dummy variable equal to 1 if the director is unpaid and zero otherwise
Panel B. Variables of interest	
Woman(0/1)	Dummy variable equal to 1 if the director is female and zero otherwise
Busy director(0/1)	Dummy variable equal to 1 if an independent director holds more than two directorships and zero otherwise
Related director(0/1)	Dummy variable equal to 1 if the director holds a position in the controlling firm and zero otherwise
Tenure	The number of years an individual has served as a director
State-owned(0/1)	Dummy variable equal to 1 if the firm is state-owned and zero otherwise
Ownership concentration	The proportion of ownership(cash-flow rights) held by the ultimate controlling shareholders
Excess control rights	The percentage difference between controlling rights and cash-flow rights of the ultimate controlling shareholders.
New director	Dummy variable equal to 1 if it is the first time this individual serves as a board of director in a firm and zero otherwise
Panel C. Control variables	
CEO/COB(0/1)	Dummy variable equal to 1 if the director is CEO or COB and zero otherwise
Age	The age of a director
Age^2	The squared of the age of a director
Ln(Share holding)	Logarithm of share holding to a director in a year
Ln(CEO compensation)	Logarithm of CEO compensation in a year
Number of meetings(id)	The number of board meetings for an independent director during a year
Number of meetings(firm)	The number of board meetings for a firm during a year
Duality	Dummy variable equal to 1 if the CEO and chairman is the same person and zero otherwise
Board size	The number of directors on board
Board composition	The percentage of independent directors on board
Cash holdings	The cash and marketable security divided by the book value of total assets
Firm size	Logarithm of book values of assets
Leverage	The ratio of book value of debts to book value of assets
Lagged ROA	The net income divided by the book value of total assets over last year
Lagged volatility	The variance of monthly stock returns over last year

Table 2: Summary Statistics

This table provides the summary statistics for all variables. Table 1 provides all variable definitions. Panel A provides the summary statistics for independent director. Panel B provides the summary statistics for non-independent director. Panel C provides the summary statistics for board characteristics in firm-year. Panel D provides the summary statistics for firm characteristics in year. All monetary terms are denominated in Chinese Yuan(CNY).

	Obs	Mean	SD	25th	Median	75th
Panel A. Independent Director Characteristics						
Unpaid(0/1)	60,318	0.06	0.24	0	0	0
Director compensation	60,318	57.65	53.48	34.08	50	70
Woman(0/1)	60,318	0.15	0.35	0	0	0
Busy director(0/1)	60,318	0.31	0.46	0	0	1
Number of directorships	60,318	2.21	1.64	1	2	3
Tenure	60,318	6.11	3.67	3	6	8
Age	60,318	53.15	9.61	46	51	60
New director	60,318	0.17	0.37	0	0	0
Panel B. Non-independent Director Characteristics						
Unpaid(0/1)	95,173	0.36	0.48	0	0	1
Director compensation(Thousands CNY)	95,173	288.16	537.20	0	120	400
Woman(0/1)	95,173	0.11	0.31	0	0	0
Related director(0/1)	95,173	0.41	0.49	0	0	1
Tenure	95,173	5.90	3.91	3	5	8
Age	95,173	49.05	7.64	44	49	54
New director	95,173	0.13	0.33	0	0	0
Share ownership(Millions Shares)	95,160	5.47	34.36	0	0	0.03
Panel C. Board Characteristics(by firm-year)						
Board size	16,543	8.95	1.91	8	9	9
Board composition(ind%)	16,543	0.37	0.05	0.33	0.33	0.40
Duality	16,543	0.21	0.41	0	0	0
Number of meetings(id)	16,542	8.38	3.72	6	8	10
Number of meetings(firm)	16,529	9.49	3.85	7	9	11
Panel D. Firm Characteristics(by year)						
State-owned(0/1)	16,543	0.48	0.50	0	0	1
Ownership concentration	16,543	0.33	0.17	0.20	0.32	0.45
Excess control rights	16,543	0.06	0.08	0	0	0.10
Cash holding rate	16,543	0.16	0.15	0.06	0.11	0.21
Total assets(Millions CNY)	16,543	42096.66	578838.91	1285.93	2741.52	6703.21
Leverage	16,543	0.53	1.59	0.30	0.47	0.64
ROA	16,543	0.03	0.69	0.01	0.03	0.06
Annual volatility	16,491	0.15	0.11	0.10	0.13	0.18

Table 3: Cross-correlations

This table provides the correlation matrix of the key variables. Panel A provides the correlation matrix for non-independent director. Panel B provides the correlation matrix for independent director. Table 1 provides all variable definitions. All monetary terms are denominated in Chinese Yuan(CNY). Superscripts *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Panel A. Non-independent director	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) *Unpaid(0/1)*	1								
(2) *Director compensation*	-0.359**	1							
(3) *Woman(0/1)*	-0.0121**	-0.0205**	1						
(4) *Related director(0/1)*	0.396**	-0.148**	-0.0177**	1					
(5) *Tenure*	-0.0455**	0.0995**	-0.0381**	0.0155**	1				
(6) *State-owned(0/1)*	0.223**	-0.0798**	-0.0807**	0.186**	0.136**	1			
(7) *Ownership concentration*	0.0354**	0.00133	0.00195	0.00600	-0.112**	0.192**	1		
(8) *Excess control right*	0.0426**	-0.0104**	-0.0109**	0.119**	0.0302**	-0.163**	-0.407**	1	
(9) *New director*	0.0529**	-0.0560**	0.0167**	-0.0204**	-0.329**	-0.0619**	0.0716**	-0.0218**	1

Panel B. Independent director	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) *Unpaid(0/1)*	1								
(2) *Director compensation*	-0.281**	1							
(3) *Woman(0/1)*	0.00753	-0.0243**	1						
(4) *Busy director(0/1)*	-0.0216**	0.0343**	-0.0358**	1					
(5) *Tenure*	-0.0293**	0.0659**	-0.0302**	0.441**	1				
(6) *State-owned(0/1)*	0.00665	0.0400**	-0.0324**	0.000626	0.0393**	1			
(7) *Ownership concentration*	-0.0165**	0.0820**	-0.0258**	0.0230**	0.00998*	0.182**	1		
(8) *Excess control right*	-0.00269	-0.0342**	0.00216	-0.00740	-0.0161**	-0.160**	-0.404**	1	
(9) *New director*	0.224**	-0.177**	0.0147**	-0.0332**	-0.222**	-0.0875**	0.0612**	-0.0191**	1

Table 4: Testing Hypothesis 1 and 2

This table provides the baseline regression results. The regression on both propensity being unpaid and level of compensation are reported with coefficients. Table 1 provides all variable definitions. The regressions control for time and industry effects. All monetary terms are denominated in Chinese Yuan(CNY). Superscripts *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Independent directors		Non-independent directors	
	Unpaid(0/1)	Ln(compensation)	Unpaid(0/1)	Ln(compensation)
Explanatory variables	(1)	(2)	(3)	(4)
Woman(0/1)	0.0642	-0.00971	-0.127***	0.0121
	(0.0489)	(0.00630)	(0.0268)	(0.0130)
Busy director(0/1)	-0.131***	0.0274***		
	(0.0437)	(0.00513)		
Tenure	-0.0400***	0.00415***	-0.0330***	0.0196***
	(0.00535)	(0.000681)	(0.00211)	(0.00113)
State-owned(0/1)	0.0786*	-0.0823***	0.660***	-0.110***
	(0.0416)	(0.00522)	(0.0200)	(0.0112)
Ownership concentration	-0.429***	0.0339**	0.604***	0.353***
	(0.120)	(0.0152)	(0.0563)	(0.0292)
Excess control right	-0.109	-0.0100	0.882***	0.924***
	(0.239)	(0.0300)	(0.114)	(0.0623)
Related director(0/1)			1.764***	-0.371***
			(0.0167)	(0.0108)
CEO/COB(0/1)			-1.476***	0.773***
			(0.0201)	(0.00870)
Age	-0.0245	0.0158***	0.0105	0.0787***
	(0.0180)	(0.00244)	(0.00947)	(0.00466)
Age^2	0.000267*	-0.000115***	0.000122	-0.000815***
	(0.000161)	(2.20e-05)	(9.35e-05)	(4.69e-05)
Ln(Share ownership)			-0.0808***	0.0285***
			(0.00167)	(0.000628)
Ln(CEO compensation)	-0.0307***	0.00577***	-0.0492***	0.0294***
	(0.00373)	(0.000541)	(0.00197)	(0.00132)
Number of meetings(id)	-0.283***	0.0468***		
	(0.00857)	(0.000820)		
Number of meetings(firm)			-0.00646***	-0.00135
			(0.00222)	(0.00121)
Duality	0.0786*	0.00807	-0.199***	0.0745***
	(0.0461)	(0.00566)	(0.0229)	(0.0100)
Board size	-0.00902	0.0146***	-0.00173	0.00790***
	(0.0109)	(0.00141)	(0.00478)	(0.00271)
Board composition(ind%)	-0.733**	0.475***	-0.432**	0.386***
	(0.361)	(0.0419)	(0.180)	(0.0870)
Ln(Total Assets)	0.0681***	0.124***	-0.0405***	0.270***
	(0.0149)	(0.00220)	(0.00760)	(0.00421)
Cash holdings	-0.744***	0.355***	0.333***	0.533***
	(0.145)	(0.0174)	(0.0622)	(0.0311)
Book leverage	0.0151**	0.00430*	0.0466***	-0.0109
	(0.00728)	(0.00251)	(0.0117)	(0.00678)
Lagged ROA	-0.000148***	1.93e-05	0.00119**	-0.000728*
	(5.01e-05)	(2.67e-05)	(0.000530)	(0.000375)
Lagged stock volatility	-0.188	-0.0110	0.233***	-0.00928
	(0.116)	(0.0141)	(0.0553)	(0.0410)
Year effects	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes
Director effect	No	No	No	No
Observations	60,231	56,633	95,160	61,305

Table 5: Estimated economic impact

We report the estimated effect of a one standard deviation increase (from the mean value) for continuous variables and one unit increase (from zero to one) for dummy variables on both the probability a director is unpaid and the level of director compensation. Table 1 provides all variable definitions. Columns 3 and 4 provide the predicted signs by hypothesis. Columns 5 and 6 provide the percentage changes of both the propensity to be unpaid and the level of director compensation from the mean value for independent directors. Columns 7 and 8 provide the percentage changes of both the propensity to be unpaid and the level of director compensation from the mean value for non-independent directors. n.s. denotes not statistically significant. n.a. denotes not applicable. Superscripts *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

		Predicted Sign		Independent Percent Change		Non-independent Percent Change	
Hypothesis	Variable of Interest	Unpaid	Level	Unpaid	Level	Unpaid	Level
H1a	Woman(0/1)	+	-	n.s.	n.s.	-4.39***	n.s.
H1b	Busy director (0/1)	-	+	-11.18***	2.78***	n.a.	n.a.
H1c	Tenure	-	+	-13.53***	1.62***	-11.68***	13.94***
H2a	State-owned(0/1)	+	-	6.61*	-7.92***	31.20***	-11.57***
H2b	Ownership Concentration	+	-	-6.46***	0.59**	4.36***	6.78***
H2c	Excess control rights	+	-	n.s.	n.s.	3.29***	7.72***
H2d	Related director (0/1)	+	-	n.a.	n.a.	89.95***	-30.65***

Table 6: Robustness–Tenure and new director

This table provides the regression results for *Tenure*, $Tenure^2$ and *New director*. Table 1 provides all variable definitions. Panel A provides the regression results on the propensity being unpaid. Panel B provides the regression results on the level of compensation. Columns (1)-(4) provide the regression results of independent directors. Columns (5)-(8) provide the regression results of non-independent directors. We include all other variables from the baseline regressions(both variables of interest and control variables) as our control variables here. The regressions control for time and industry effects. All monetary terms are denominated in Chinese Yuan(CNY). Superscripts *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Independent directors				Non-independent directors			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Unpaid(0/1)								
Tenure	-0.0399***	-0.177***		-0.0158	-0.0646***	-0.149***		-0.137***
	(0.00622)	(0.0171)		(0.0176)	(0.00413)	(0.0106)		(0.0113)
$Tenure^2$		0.00928***		0.00102		0.00539***		0.00477***
		(0.00107)		(0.00112)		(0.000655)		(0.000681)
New director			1.144***	1.130***			0.350***	0.107***
			(0.0434)	(0.0468)			(0.0238)	(0.0254)
Observations	60,231	60,231	60,231	60,231	95,160	95,160	95,165	95,160
Panel B. Ln(compensation)								
Tenure	0.00415***	0.0311***		-0.0162***	0.0302***	0.0708***		0.0547***
	(0.000946)	(0.00283)		(0.00286)	(0.00211)	(0.00589)		(0.00604)
$Tenure^2$		-0.00176***		0.000738***		-0.00252***		-0.00173***
		(0.000175)		(0.000174)		(0.000349)		(0.000353)
New director			-0.444***	-0.462***			-0.273***	-0.182***
			(0.00807)	(0.00835)			(0.0153)	(0.0153)
Observations	56,633	56,633	56,633	56,633	61,305	61,305	61,305	61,305
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 7: Robustness–State-owned versus non-state-owned

We separate the whole sample into two sub-samples: 1) directors working in State-owned firms; 2) directors working in Non-State-owned firms. Panel A provides the regression results of state-owned firms. Panel B provides the regression results of non-state-owned firms. For each sub-samples, we provides the regression results of independent directors, non-executive non-independent directors, CEO and COB. The regression on both propensity being unpaid and level of compensation are reported with coefficients. We include all other variables from the baseline regressions(both variables of interest and control variables) as our control variables here. The regressions control for time and industry effects. All monetary terms are denominated in Chinese Yuan(CNY). Superscripts *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Independent directors		Non-independent directors					
			Non-executive directors		CEO		COB	
	Unpaid(0/1)	Ln(compensation)	Unpaid(0/1)	Ln(compensation)	Unpaid(0/1)	Ln(compensation)	Unpaid(0/1)	Ln(compensation)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. State-owned firms								
Ownership concentration	0.0141	-0.0930***	1.200***	0.485***	1.539***	-0.413***	2.189***	-0.105
	(0.168)	(0.0226)	(0.0896)	(0.0678)	(0.485)	(0.0659)	(0.207)	(0.136)
Excess control right	-0.101	0.0972**	2.561***	1.044***	2.679**	0.538***	2.920***	0.0196
	(0.351)	(0.0442)	(0.189)	(0.141)	(1.055)	(0.137)	(0.429)	(0.286)
Observations	30,042	28,187	34,713	15,794	6,310	6,292	6,446	3,128
Panel B. Non-State-owned firms								
Ownership concentration	-0.790***	0.131***	-0.110	0.667***	-0.739	0.0716	-0.0693	0.180*
	(0.181)	(0.0205)	(0.0915)	(0.0462)	(0.807)	(0.0583)	(0.287)	(0.106)
Excess control right	-0.276	-0.00847	-0.168	0.737***	-3.512**	-0.207	2.036***	0.356
	(0.344)	(0.0411)	(0.182)	(0.102)	(1.605)	(0.127)	(0.508)	(0.226)
Observations	30,189	28,446	34,622	24,343	7,149	7,227	5,516	4,521
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 8: Robustness–Director effects

This table provides the mixed regression results with director effects. The regression on both propensity being unpaid and level of compensation are reported with coefficients. Table 1 provides all variable definitions. The regressions control for time, industry and director effects. All monetary terms are denominated in Chinese Yuan(CNY). Standard errors are adjusted and clustered on the director identifier. Superscripts *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Independent directors		Non-independent directors	
	Unpaid(0/1)	Ln(compensation)	Unpaid(0/1)	Ln(compensation)
Explanatory variables	(1)	(2)	(3)	(4)
Woman(0/1)	0.105	-0.0117	-0.189***	-0.0391
	(0.0796)	(0.00955)	(0.0562)	(0.0244)
Busy director(0/1)	-0.188***	0.0281***		
	(0.0654)	(0.00607)		
Tenure	-0.0530***	0.00614***	-0.211***	0.0139***
	(0.00825)	(0.000914)	(0.00830)	(0.00191)
State-owned(0/1)	0.0892	-0.0589***	4.567***	-0.130***
	(0.0669)	(0.00759)	(0.149)	(0.0191)
Ownership concentration	-0.622***	0.0503**	0.783***	0.303***
	(0.192)	(0.0214)	(0.147)	(0.0442)
Excess control right	-0.134	0.0241	4.543***	0.337***
	(0.383)	(0.0406)	(0.334)	(0.0882)
Related director(0/1)			4.465***	-0.0763***
			(0.130)	(0.0137)
CEO/COB(0/1)			-5.142***	0.488***
			(0.164)	(0.0142)
Age	-0.0590*	0.0239***	0.105***	0.0760***
	(0.0308)	(0.00351)	(0.0240)	(0.00802)
Age^2	0.000559**	-0.000181***	0.000307	-0.000790***
	(0.000279)	(3.16e-05)	(0.000235)	(8.11e-05)
Ln(Share ownership)			-0.355***	0.0229***
			(0.0109)	(0.00106)
Ln(CEO compensation)	-0.0405***	0.00345***	-0.115***	0.00987***
	(0.00555)	(0.000544)	(0.00663)	(0.00115)
Number of meetings(id)	-0.375***	0.0636***		
	(0.0134)	(0.00103)		
Number of meetings(firm)			-0.00244	-0.00468***
			(0.00628)	(0.000992)
Duality	0.0888	0.00339	-0.530***	0.0150
	(0.0703)	(0.00674)	(0.0669)	(0.0114)
Board size	0.00432	0.0181***	0.00712	0.0142***
	(0.0168)	(0.00188)	(0.0138)	(0.00372)
Board composition(ind%)	-0.537	0.493***	0.408	0.107
	(0.548)	(0.0524)	(0.532)	(0.0998)
Ln(Total Assets)	0.103***	0.0948***	-0.221***	0.208***
	(0.0251)	(0.00328)	(0.0218)	(0.00723)
Cash holdings	-0.998***	0.242***	0.880***	0.273***
	(0.215)	(0.0213)	(0.183)	(0.0294)
Book leverage	0.0210**	0.00276	0.159***	-0.000540
	(0.0107)	(0.00243)	(0.0259)	(0.00387)
Lagged ROA	-0.000197***	-1.96e-05	0.00444***	-0.000395**
	(5.79e-05)	(2.45e-05)	(0.00130)	(0.000157)
Lagged stock volatility	-0.388*	-0.00775	0.566***	-0.0101
	(0.199)	(0.0116)	(0.144)	(0.0198)
Year effects	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes
Director effect	Yes	Yes	Yes	Yes
Observations	60,231	56,633	95,160	61,305