Corporate governance in China: CEO compensation, company performance and ultimate ownership

LI, CHAOJIE

Corporate governance in China: CEO compensation, company performance and ultimate ownership

by

Chaojie Li

A thesis submitted in fulfilment of the requirements for the degree of Doctorate of Business Administration (DBA)

Durham Business School

Durham University

2011

Abstract

This dissertation contributes to the international literature by examining the relation between chief executive officer (CEO) compensation and firm performance in China, especially under different types of ultimate shareholders, who have differing motivations and objectives regarding the structure of CEO compensation. I use unbalanced panel data from more than 1,300 Chinese A-share listed companies over 2005-2009 and find that performance, especially one of market-based measurement, has a significant impact on CEO compensation. CEO compensation levels have risen in recent years due to economic gains rather than poor corporate governance. Firms that operate under other central government ministries (SOECG) than those of the ultimate shareholder do not use performance as a guideline for CEO pay, although they have the highest CEO compensation level amongst all five groups. The size of the board directors and independent directors are contributes positively to CEO compensation. While the degree of ownership concentration and size of supervision board are negative related to CEO compensation. Moreover, CEO gets higher pay if independent direct especially financial one working province is same as companies headquarter. Most of these results are consistent with my hypothesis. Shareholders, managers, government, and others who must make improvements in China's corporate governance standards should find these results useful. In addition, the findings can offer future research directions.

Acknowledgements

Many people have contributed to my academic journey and completion process of my DBA thesis. I would like to acknowledge them with their helps and supports.

First of all, I would like to deliver my greatest grateful to my parents for their endless support and encouragement.

I am extremely grateful to my supervisors Dr Michael Guo and Dr Sarah Xiao for their constructive and unfailing guidance throughout my DBA study. Their doors always opened when I met any difficulties and problems. It would be impossible to finish my research without their support and encouragement.

I would like to deeply thank Dr Mike Nicholson, who gave me the opportunity to start my DBA program at Durham University. I am also indebted to Dr Rebecca Stratling. She provided me a lot of ideas during the beginning of my thesis writing.

I would like to express my appreciation to Dr Jun Hua for his guidance to usage of STATA and some helpful discussions of my data. I would also like to thank my friends and other PhD candidates for their support.

Finally, a special thanks to my partner Jiayue Wang, who spend most time with me in the UK. I could not imagine how difficult to finish my study without her love, support and encouragement.

Statement of Copyright

TABLE OF CONTENTS

I. Introduction

Executive compensation has attracted wide attention from both theoretical and empirical researchers in the past two decades. Berle and Means (1932) first introduced the idea of chief executive officer (CEO) pay as a mechanism to align the interests of management with those of shareholders. A key issue of modern corporate governance is how to design compensation packages that give appropriate incentives to CEOs to maximise firm performance. To design an appropriate compensation package, the usual approach is to test the relationship between CEO compensation and firm performance, as well as other firm factors, such as characteristics of corporate governance and operations.

Most past research is based on data from developed countries, such as the United States and the United Kingdom, while little research has focussed on developing countries. China, in particular, has gone through an enormous economic transition in the past two decades. It is necessary to investigate the unique ownership structure of China's state-owned enterprises (SOEs) to contribute to the international corporate governance literature.

Because management serves as an agent for shareholders, the potential exists for management to put its own interests ahead of those of shareholders. Corporate

governance is designed to minimise such conflicts of interest. Effective corporate governance systems are designed to monitor management's activities, reward good performance, and discipline managers who do not act in the best interests of shareholders. The modern era of executive compensation research began in the early 1980s with the ascendancy of agency theory. Agency theory argues that there should be a positive relationship between CEO pay and firm performance. However, empirical results in the past two decades offer mixed conclusions. Many studies report weak or even negative relationships between pay and performance. Some critics argue that the CEO pay is related not only to firm performance but also to other factors. For example, if the board of directors is influenced by the CEO, the board does not structure the CEO compensation package to maximise shareholder value. Consequently, researchers have turned their attention to governance structure, industry, regulation, and so forth, trying to examine corporate governance in a more complex setting, but the results are still bewildering.

Compensation systems and governance structures have evolved over several centuries in the United States and other industrialised countries. In comparison, the concept of corporate governance in China is relatively new and not well understood. The economic reform that began in China in 1978 has achieved impressive progress in last decades. Enterprise reform has been an important component, which has led to significant progress in developing a modern corporate governance system. The major

driver of continuing enterprise reform is the reform of SOEs, which seeks to strengthen the profit motive. Much of the policy content concerning the recent processes of change in China's ownership system and enterprise reform is related to the guiding principles and the manner in which the corporate governance system is to be gradually structured and established. After 1998, numerous economic ministries were abolished that heretofore had been the link between industry and government, resulting in a reduction of ministerial interventions. As part of the process of economic reform in China, many SOEs were allowed by government to convert to shareholding companies. The establishment of the Shanghai Stock Exchange in December 1990 and the Shenzhen Stock Exchange in April 1991 provide a place for firm to lists and for investors to invest.

Thus, corporate restructuring has transformed former SOEs into profit-making entities listed on stock exchanges, and their executives have gained not only more power in decision-making processes but now must shoulder the primary responsibility to maximise shareholder wealth (Groves et al., 1994). As a result, monitoring management and incentivising top executives are issues of serious concern. Indeed, this incentive mechanism is a primary source of success for Chinese economic reforms, because it aligns the managers' interests with those of shareholders and acts as an important device in solving agency problems (Firth et al., 2006).

China's transformation from a central planned economy to a market economy, together with the 2002 introduction of a new code of corporate governance and accounting and auditing standards. This meant that SOEs are now operating under a newly established 'modern enterprise system'. This shift provides an excellent laboratory in which to examine CEO pay levels and discover reasons why the pay–performance relationship in China is effective. SOEs continue to play a main role in different industries in China. Hence, it is necessary to examine what determines managerial compensation in China's listed firms and investigates whether this relationship is influenced by the unique ownership structure in listed firms.

I propose to examine the relationship between CEO pay and firm performance using recently available data of listed firms in China. The special transition economics and unique SOE structure in China makes executive compensation in these firms unique, and thus this characteristic makes the research very interesting.

In 1998, China's listed firms were required to disclose the compensation of the top managers. Since 2005, however, the China Securities Regulatory Commission (CSRC) has required all the listed company provide total compensation of every director, supervisor, and all members of senior management. This would imply that more detailed financial information for the upper echelons of listed companies' compensation packages is required by both the government and shareholders. It

speaks to a need for more transparency of top management's activities in setting compensation.

The main objective of this research is to examine which factors determine the level of CEO compensation as well as the change of compensation under the framework of agency theory in Chinese-listed firms. This research attempts to address the following questions: Is there any significant relationship between CEO compensation and company performance in Chinese-listed firms, especially SOEs? Which measures, market-based or accounting-based, account for the greatest portion of CEO compensation? Does ultimate ownership affect CEO pay level? Does ownership structure, board composition, or other factors affect the pay–performance relationship? Does past performance affect the current CEO payment? Answering these questions is important to advance academic research and inform market investors, both of which can alleviate the agency problem to some extent.

Contribution to knowledge and practice

Firstly, my research adds to the compensation literature by using actual annual remuneration data for individual CEOs to investigate the relationship between CEO pay and performance in Chinese-listed SOEs. In China, the CEO's received compensation is much higher than that of the other two top executives. The issue of aligning CEO work with shareholder goals combined with understanding the

appropriate incentives that will motivate managerial behaviour in CEOs has grown increasingly important ever since the separation of ownership and control in SOEs. Most prior research in corporate governance in China uses the average pay of the top three executives to proxy CEO pay (e.g., Buck, Liu, and Skovorod, 2008, Chen, Liu, and Li, 2010, Kato and Long, 2006). This situation relates to data availability and government regulations. Thus, the primary limitation of past research has been a lack of explanations that would reveal the complex relationships between CEO pay and performance in Chinese SOEs. It is my belief that my research will fill this gap by using newly unrestricted data to demonstrate the current pay–performance relationship in China.

Secondly, China's listed firms reveal unique ownership characteristics. One typical SOE has one dominant shareholder whose ownership is much higher than that of the next largest shareholder. The largest shareholder usually is empowered to affect firm control. Moreover, a number of listed companies are controlled not only by the largest shareholder but also administered by the central government, with both entities functioning as ultimate controllers. Government usually do not directly hold shares of the company but maintain control and voting rights. Thus, this research divides the type of ultimate ownership into five different groups: 1) central state asset management bureaus (SAMBs), 2) SOEs affiliated with the central government (SOECGs), 3) local state asset management bureaus (LAMBs), 4) SOEs affiliated

with local government (SOELGs) and 5) private and other forms (OTHERS). I will examine whether the type of ultimate ownership has an influence on CEO compensation. In addition, I will compare firms that are run by private investors with those in which SOEs are the largest shareholders to see which type of ownership is more efficient in dealing with the pay–performance relationship in China.

Thirdly, the reform of SOEs has been a key issue since the beginning of China's economic reform, with how to set a proper executive incentive plan being the major problem throughout the period. However, both a lack of incentive or over-incentives for top executives can cause companies to stay stuck in poor performance mode. Although some SOEs are keen to solve the incentive problem, because they lack meaningful theoretic guidelines, they rush to imitate the model of Western businesses and their compensation packages, with no clear conception of annual salary, stock options, and so forth. Further, without clearly stated package design theories and relevant implementation conditions, these hurried actions could cause a cascade of problems. Hence, investigating and establishing particular incentive and governance mechanisms for Chinese SOEs carries important implications for the future. I will research will analyse past lessons and make recommendations that will assist future policymaking.

II. Literature Review

1. Agency Problem

The modern corporation is characterised by a separation of ownership and management. This separation was first recognised as a possible problem by Berle and Means (1932). Shareholders (the principal) play a part as owners, but managers (the agent) maintain operating rights of the firm.

Agency theory is described as a relationship in which both agents and principals seek to derive as much utility as possible with the least possible expenditure. In the framework of agency theory, a principal hires an agent to perform some service or task on the principal's behalf (Jensen and Meckling, 1976). It is assumed that the agent is both risk- and effort-averse, and will act opportunistically. In contrast, the principal is risk-neutral and delegates decision-making authority to the agent. Beyond risk aversion, principal–agent relationships are often characterised by what might be called bounded rationality. That is, agents often cannot understand the goals of principals or do not know how to realise these goals, either because of insufficient guidance or because of a failure to achieve with principals. An agency problem arises, because the agent may not always act in the best interest of the principal. The principal wishes to maximise firm value, while agents seek to maximise their own utility. The different interests lead the rise of agency costs from principal.

There are two types of agency problems: moral hazard and adverse selection. Moral hazard arises when the principal cannot perfectly verify the actions of agents; and adverse selection results from information asymmetry, that is, private information of the agent's intentions or skill level that is unavailable to the principal. The principal can reduce the conflict either by attempting to control the agent or by reducing the information asymmetry. Such efforts include active monitoring, enacting budget controls, or designing incentive systems to reduce dysfunctional behaviour by the agent.

1.1 Different interests between principals and agents

Principals expect agents to use their skill and ability with the firm's resources to reach high levels of profit and to regard value maximisation of the company as their goals. However, although principals expect agents to follow these goals, agents instead often consider their own interests ahead of those of the company. Dyl (1988) indicates that agents may use their power to pursue their own self-interests at the expense of the principals if conflicting interests between them arise. In pursuit of the maximisation of his own interests, the manager always hopes to receive the greatest repayment on the material in accord with his effort. Sometimes, managers exert less effort than shareholders expect, even when they have the same level of incentives. In addition, shareholders' interests are based on long-term company goals, but managers are often

interested in short-term profits. Problems can arise when managers engage in behaviour that optimises their own utility. For example, a manager can make short-term unprofitable investments to increase firm size rather than long-term profitable investments.

1.2 Differences in risk attitudes of principals and agents

Besides the different interests between CEOs and shareholders, they also are exposed to different types of risk. Shareholders of the company can invest in the capital market to diversify their portfolio risk. However the manager's main revenues come from the salary, granted stocks, or options from company. These sources of revenues mostly depend on the operation and development of the company. For example, if the company's value suffers a loss or even descends into bankruptcy, managers will suffer a great personal loss. The direct loss is in the form of cash revenue such as reduction of the salary and bonus, while the indirect loss is the declining value of granted stocks and options. Moreover, the human capital resource of the manager could be depreciated because of the poor management skill. Hirshleifer and Thakor (1992) point out that in order to maintain their reputations in the human resource market, managers must avoid projects that are subject to early and conspicuous failure. We can observe that managers are more risk-averse than are shareholders. They will avoid innovation and choose low risks and a familiar field in which to invest to reduce

the potential for failure. Mishra, McConaughy, and Gobeli (2000) provide evidence to support the notion that a risk-averse CEO receives limited benefits from incentive pay.

Until now, we have found that the agency problem is costly and, to a certain extent, one that has influenced the company's operation and development. Thus, the company's owner must find methods to alleviate the agency problem and lower the agency's costs, and then ensure the manager's behaviour conforms to shareholder goals.

1.3 Agency cost

Ekanayake (2004) and Eisenhardt (1989) explain in the relation between shareholders and managers, the monitoring problem arises because the principal cannot verify whether the agent has behaved appropriately. The problems of risk sharing emerge when the principal and the agent hold different attitudes towards risk. Agency theory attempts to resolve two problems relating to the agency problem: monitoring and risk sharing. Jensen and Meckling (1976) define agency costs as the sum of monitoring expenditures, bonding expenditures, and residual loss. Monitoring costs are the costs associated with watching over the manager. Examples include making accounting statements and hiring auditors to verify them. Bonding costs are expenditures to prove that managers will limit improper efforts. Even with these types of controlling measures, some managerial behaviour still does not maximise owners' wealth, with a resulting residual loss.

2. **Corporate governance**

2.1 Definitions

Corporate governance has been defined as the set of laws, policies, processes, customs, and institutions affecting the way a corporation is administered, directed, or controlled. Williamson (1984) defines corporate governance as the alignment of management's interests with that of their shareholders forming a set of institutional arrangements. Sternberg (1998) argues that corporate governance is a way that shareholders act to ensure that actions of managers are directed at achieving established corporate objectives, that is, to ensure the shareholders receive the expected return and to motivate the managers to obtain the best performance for investors. The above arguments concentrate on the relationship between shareholders and managers and do not take other types of principals or agents into account. This is because of the different corporate governance models used in different countries. There are two major corporate governance models around the world: the Anglo-American model and the non-Anglo-American model. The United States and Germany are prime representatives of each model. In the U.S. model, diverse groups of shareholders own most of the listed companies in the United States and the United Kingdom. By contrast, ownership structures of listed companies in Germany are much more concentrated and the dominant shareholders are usually the state, families, or commercial banks. The word *stakeholder* emerges when discussing the other parties or agents involved in corporate governance system. Freeman (1984) identifies *stakeholders* as a group that can affect or be affected by the company's actions.

Stakeholders normally include shareholders, communities, investors, and other claimants who supply capital, as well as others such as government, suppliers, and employees. With the definition of corporate governance broadened to include stakeholders, John and Senbet (1998) in turn broaden the definition of corporate governance to include it as the mechanism by which the stakeholders exercise control over corporate insiders and management, ensuring their interests are protected. Tirole (2001) defines corporate governance as an institutional design that induces or forces management to internalise stakeholder welfare. This design of a control structure entails the consideration of the utilities of all stakeholders. Corporate governance therefore deals with the interests of stakeholders.

2.2 Corporate Governance Mechanisms

According to agency theory, the separation of ownership and control results in different interests between the principal and the agent that can cause agency problems, reducing firm value. Denis and McConnell (2003) define corporate governance as the set of mechanisms that include both institutional and market-based mechanisms that will encourage managers to make decisions that can maximise the company's value for its owners. Many studies have been done concerning corporate governance mechanisms that have included both internal and external mechanisms. Jensen and Meckling (1976), Fama (1980), and Fama and Jensen (1983) have proposed several ideas that are designed to mitigate the problem of agency and reduce its costs.

Internal mechanisms normally include ownership structure, board of directors, compensation structure, and managerial ownership, aspect generally controlled by the firm. The primary external mechanisms are the market for corporate control (managerial labour market), capital markets, and legal or regulatory issues that are outside of the firm's control. Different kinds of governance mechanisms exist to help shareholders enhance monitoring the activities of managers and ensure that managerial incentives remain aligned with their own. Shareholders may also develop their own superior internal governance mechanisms, such as awarding incentive-based compensation or appointing an independent board of directors.

There may be interdependence amongst these different governance mechanisms; that is, the optimal use of one mechanism may be complementary to, or substituted with, other governance mechanisms. Agrawal and Knoeber (1996), using a simultaneous equations approach in a cross-section of firms, attempt to control for endogeneity. They examine seven potential control mechanisms to mitigate agency problems between managers and shareholders; these include both internal and external mechanisms found inside ownership, blockholder ownership, institutional ownership, outside board members, debt policy, the managerial labour market, and the market for corporate control. The authors present direct empirical evidence of interdependence amongst these mechanisms using a large sample of firms.

2.3 Internal Governance Mechanisms

2.3.1 Ownership structure

Ownership structure is one of the key elements of the corporate governance mechanism (Shleifer and Vishny, 1997). The corporate governance literature notes numerous instances of a separation between ownership and control within many firms. Shareholders usually have less information about the operation of firms than CEO. In addition, CEOs in modern firms are usually overpaid (Jensen and Murphy, 1990). In response to that assertion, firms must set effective corporate governance, and shareholders should monitor and oversee the decision-making process. They need to retain the good managers and fire the bad ones. However, there are considerable monitoring costs that only large shareholders can afford to bear.

Indeed, the agency problem may be based on the assumption that there is a controlling shareholder, since large shareholders have both the interest and energy to monitor managers and reduce agency cost of free rider problem. Large shareholders can also give pressure to CEO by exercising their voting rights or using proxy fight and takeover if necessary. If the large shareholders have large enough share of firm, the incentive of reducing the agency cost is even stronger, because they have a great interest in controlling the company and would like to maximize the profit to grow up the asset. Even though large shareholders play an important role to deal with agency problem, they usually do not consider the interest of minority shareholders, managers

and other employers. Large shareholders can put themselves ahead of small shareholders by paying special dividend to themselves and exploiting business relationship for themselves. Furthermore, other stakeholders, such as creditors' interest may also be expropriated. Large shareholders tend to invest in risky projects where they enjoy the upside potential returns and creditors bear all the excessive risk (Shleifer and Vishny, 1997).

Berle and Means (1932) indicate that a company with dispersed shareholders has less incentive to monitor managers. The presence of many small shareholders means they have no real power in running the firm or even monitoring performance of CEOs. In this case, the CEO has easy access to the firm's resources. Shleifer and Vishny (1986) point out that in a corporation with many small owners, the shareholders will not pay all the monitoring costs, because they will receive no corresponding gain.

Ownership structures in the United States and other developed countries, such as the United Kingdom, Germany, and Japan, vary. Denis and McConnell (2003) summarise the ownership of these countries respectively as follows. Evidence from the United Kingdom's history of equity ownership is similar to that of the United States in which the shares of most publicly traded firms are relatively widely held. Evidence from Germany and Japan shows a history of equity ownership that is more concentrated than that of the United States. Moreover, banks in Germany and Japan play more

important roles in governance. Prowse (1992) discusses the concentrated ownership of Japanese firms, noting the most important blockholders in Japan are the financial institutions, which hold larger numbers of equity positions in firms than the United States. Franks and Mayer (2001) find that ownership in German firms is characterised by very high levels of concentration especially associated with holdings by other firms and families. Faccio and Lang (2002) use a large dataset that includes 5,232 corporations to examine the ownership and control in 13 Western European countries. They summarise that widely held ownership structures are adopted more often in the United Kingdom and Ireland, and family-controlled firms are more important in continental Europe.

2.3.2 Board of directors

The board of directors is the link between shareholders and management. The major role of the board is to protect shareholder wealth and ensure a return on investment. A board of directors is the collective group of individuals elected by shareholders to monitor the firm's management. Most international corporations have boards of directors. Fama and Jensen (1983) argue that the key internal corporate mechanism for shareholders (owners) is a board of directors whose function is to resolve agency problems due to separate ownership and control. The board of directors representing shareholders' interests and is normally appointed by large shareholders within the corporation. Fama (1980) considers a board of directors to be a low-cost mechanism of governance when comparing with other options, such as takeovers executive.

Brown and Brown (1999) argue that the board aims to be involved in long-term strategic planning, objectives, and interests of the owner. In other words, the board of directors is a line of defence that ensures a successful alignment of managers' interests with those of shareholders and opposes those managers who would act contrarily towards shareholders.

The primary functions of boards are to hire, fire, monitor, compensate management, arrange the voting process on important decisions such as mergers and acquisitions, the firm's capital structure, and so forth (Denis and McConnell, 2003; Becht et al., 2002). The board of directors is often considered as a legally constituted body acting collectively rather than as a mere group whose members serve in individual capacities.

The determinants of board structure and board composition have attracted wide attention in corporate governance literatures. Good board structure and board composition could bring more benefits to shareholders and reduce extensive monitoring cost. Fama and Jensen (1983) indicate that both internal and external directors should apply as part of board composition. Internal directors deal with company's complex operation process. Meanwhile, external directors engage with monitoring top managers activity and decision making process. External directors usually hold majority of board seats to ensure board independence. Shareholders will produce a large amount of incentive to external directors to make them not collude with top managers. The increase of internal directors will produce reduction of board

independence and the increase of external directors will result in excessive monitoring cost. Construct a proper board composition should be the leading issue to shareholders. Boone et al. (2007) conclude a large number of factors could affect board structure and board composition using U.S. dataset. They put those factors into three main categories names scope of operation, monitoring and negotiation. Under scope of operation assumption, board size and proportion of independent directors strongly related to firm size, firm age and number of business segments. Under monitoring assumption, board size effect by free cash flow, industry concentration and takeover defence. However, board independence is less effect by those factors. Under negotiation assumption, proportion of independent directors is determined by CEO tenure, CEO ownership, outside director ownership and so forth. Linck et al. (2008) also adopted a comprehensive investigation on board structure and board composition. They applied almost 7,000 firms from 1990 to 2004 in U.S. and found board size become smaller with more independent in 1990s. They also indicate that firm choose board structure based on costs and benefits of monitoring and advising. Larger firms tend to have larger and more independent boards. Guest (2008) summarised recent development on board size and composition in both U.S. and U.K. from 1995 to 2008. They also applied U.K. data to compare those evidences from U.S. and found board structure are not determined by monitoring related factors. Dittmann et al. (2010) emphasize that board size in Germany is largely determined by law and half of board members should worker representatives[1].

[1] German co-determination act does not apply to smaller companies with less than 2,000 employees, where the

The board of directors thus is an essential component of a large firm in modern society, including corporate and non-corporate organisations. Many scholars in the fields of economics and finance have studied this topic, and much evidence abounds concerning the effectiveness of board of directors across many countries. Warther (1998) models the board with a utility function significantly aligned with shareholder interests in order to accomplish its monitoring function. This alignment can be achieved by linking the directors' compensation with the firm's value. On the one hand, numerous companies have adopted stock incentive-based compensation plans for their directors, arguing that such plans serve to better align directors and shareholders. On the other hand, incentive pay may jeopardise a board's focus, independence, and integrity. In this situation, a board may focus on short-term instead of long-term performance. Cordeiro, Veliyath, and Eramus (2000) find that the director's total compensation is unrelated to firm performance. However, Benito and Conyon (1999) observe a positive relation between directors' cash compensation and firm performance for a sample of U.K. companies. Moreover, the board of directors is always concern about its reputation, a concern that shareholders can exploit to ensure alignment of their interests. The board's effectiveness in executing its monitoring function is determined by its independence, size, and composition. Hermalin and Weisbach (2001) surmise that the quality of board decisions is somewhat influenced by its composition and size when they face issues of CEO replacement, acquisition, executive compensation, and so forth.

---

required proportion of worker representatives is only one third.

2.3.3 CEO compensation

One possible method to reduce agency problem is executive compensation plans, that is, how to structure the contractual relation between the principal and the agent to provide appropriate incentives for the latter to make decisions that will maximise the former's wealth. Becht et al. (2002) propose that the structure of executive compensation contracts can have a large influence in aligning shareholders and management's interests; hence, proper incentive design can decrease agency cost. Jensen and Meckling (1976) also pointed out that an appropriate compensation package can reduce agency costs.

According to Stephenson (2004), executive compensation system should accomplish three important goals. Firstly, executives should be rewarded for their long-term performance rather than simply for meeting short-term goals. Stock options, which usually are used as long-term incentives, should have shorter option terms and longer vesting periods to reduce short-run interest and retain good talent. Restricted shares are another option whereby the settle values are assessed at the end of tenure. Secondly, the goal is to ensure that all executive should not be treated accordingly to an identical standard. Executive compensation should reflect different degrees of market complexity and decision-making accountability. Thirdly, executive compensation should be clearly explained to all shareholders and investor: its

structure, the amount of reward, whether a match exists between performance and reward, and so forth.

2.3.3.1 Optimal contract

When complete monitoring is possible, a first-best solution can be achieved by employing an enforceable contract that penalises dysfunctional behaviour. Generally, complete monitoring is either impossible or prohibitively costly; thus, only an imperfect estimator of actions can be used in contracting. Optimal contracts will be a second-best solution, because of the problem of moral hazard. By using additional information about the agent's actions, contracts generally can be improved (Holmstrom, 1979).

Agency theory implies that the optimal contract is the one in which there is a balance between fixed forms of compensation and variable forms of compensation that are contingent on performance. Jensen and Meckling (1976) suggest a mix of pay as a mechanism to resolve the agency problem. In the 1950s, Patton (1955) defined *compensation* as salary, bonus, and deferred payment. The total pay package of a CEO increases the content and usually consists of salary, short-term and long-term incentive awards, benefits, and others. Hoskisson et al. (1989) state CEO compensation is an important governance mechanism that helps align the interest of agents with principals. Lewellen and Huntsman (1970) point out that the short-term

executive compensation is effective. Long-term incentives can include stock ownership, stock option, and so forth. Finkelstein and Hambrick (1989) note that the different components in the mix of top management compensation reflect a shared risk between principles and agents.

2.3.3.2 Managerial power

Good internal governance mechanism could reduce agency cost and maximum shareholder's wealth. Fama and Jensen (1983) argue that outside directors with their incentives should carry out monitoring task and do not collude with managers to expropriate shareholder's residuals. That is effective internal governance component like independent directors could constrain the influence of powerful CEO, which results in strong pay-performance relationship. From managerial power point of view, the making process of CEO compensation contract is not purely independent. The compensation package is not only related to firm's performance which represent best interests of shareholders, but it's related to some factors that shareholders could not easily to observe. CEO has sufficient power to influence compensation setting and decision making process. Bebchuk and Fried (2003) constructed a comprehensive view of managerial power approach. They indicated that managerial power approach could not complete substitute optimal contract approach. However, managerial power approach served as substantial supplement with those outcomes could not explained alone by optimal contract approach. Under managerial power approach, CEOs use their power to influence board and compensation committee to generate excess

payment that higher than what they should receive under optimal contract. They called this behaviour as rents extraction. Higher managerial power lead higher rents extraction. If independent director or member of compensation committee is friend of CEO or appointed by CEO, they could easily cooperate with CEO to setting compensation package. Lambert et al. (1993) find that CEOs receive higher pay when part of the board is appointed by them.

Managerial power determined by several factors. Finkelstein (1992) argues that manager's power could express from four aspects names structural power, ownership power, expert power and prestige power. Bebchuk and Fried (2003) indicate that managerial power depends on ownership structure and board composition. They argue that firm with concentred ownership have greater monitoring power to monitor CEO and board. It results in reduction of CEO managerial power. From this point of view, rents extraction problem is more influenced in U.S. and U.K. companies with dispersed ownership.

2.3.3.3 Structure of CEO compensation

Short-term compensation

Salary is the basic form of CEO compensation and is a general form of payment many companies adopt. The level of salary depends on several factors, such as work experience, age, educational background, and so forth. Salary is set annually and will

not change frequently after setting. O'Rourke (1998) addresses the role of salary in the compensation package as the tool to attract and retain high quality human resources. Ogden and Watson (2004) indicate that salary reflects the demand and supply equilibrium price in the human resource market. Baker et al. (1988) relate the salary increase to the promotion of executives in order to examine the incentive effect. They find that salary only shows a significant increase when it is associated with a promotion. Murphy (1999) notes that salary is a good incentive for risk-averse CEOs because they naturally prefer an increase in dollars received rather than other variable of compensation.

Bonus is another component of short-term compensation, providing incremental cash compensation to base salary (Holthausen, Larcker, and Sloan, 1995). The amount of the CEO's bonus usually correlates to objective company performance, such as profit, return on equity, growth in sales, and so forth. Short-term accounting-based measures act as the core. The above characteristic of the bonus makes its incentive function on the manager exceed the salary. Although the annual salary- and bonus-based compensation system can reflect the manager's contribution to the company, it cannot incentivise long-term behaviour of the executive, unless long-term bonuses are part of the package. Zeckhauser and Pound (1990) indicate that the bonus payment as an incentive may cause problems, because the bonus is usually paid based on the firm's performance in the current fiscal year, suggesting the bonus cannot offer an incentive,

considered over the long run. For example, when a company is under merger, acquisition, or involved in other long-term investment, returns on these investments cannot be embodied in the current year's accounting figures, which could be very low or even zero in the initial year of investment. Considering the personal revenues of salary and bonus, a CEO might conduct some quick but risky business during his tenure rather than engage in a project with a long return period. Jensen and Murphy (1990) apply the pay–performance model and use the change of firm wealth as the measurement of company performance. They find that although a bonus accounts for a significant part of the whole compensation, it bears no relation to firm performance. Baker et al. (1988) explain such an insensitivity of the bonus to firm performance as its basis on the whole company's performance, which reflects the collective effort of all the firm's employees rather than the CEO's individual contribution.

Long-term compensation

Granted stocks are defined as the value of restricted stocks granted during the year. Granting stock to a CEO is a kind of long-term incentive to associate the CEO's interest with the performance of company, because the value of the stock directly relates to his or her own interests. Hoskisson et al. (1989) state that the stock-based incentive plan attributes more risk-sharing to agents and principals. When one CEO owns all the stock of a company, the relationship between principal and agent does not exist at that moment. The incentive problem will fully to be solved. Murphy (1985)

finds the compensation package that includes a stock-based component is significantly related to the performance of company when examining Fortune 500 U.S. companies. However, in the real business world, most CEOs own only a few shares of stock or even none at all. Kole (1997) reveals that granted stocks are more common in research-and-development intensive firms than in non-research-and-development ones.

Stock options are defined as the aggregate value of all options granted to the executive during the year as valued by the company. Stock options are a type of compensation that were formerly awarded as executive long-term incentives. They emerged in the United States in the 1980s, growing quickly throughout the 1990s in U.S.-European business circles. The main benefit of stock options in principle-agent theory as a compensation to CEOs is that they can motivate the manager to act on behalf of the shareholder's interest by maximising the value of the firm when they meet choice. In addition, stock option remuneration can attract and retain excellent and capable workers (Hall and Murphy, 2003). Finally, it can mitigate cash flow during financial constraints, helping the company compensate for a lack of liquidity, because it does not need to reward its executives with this form of remuneration immediately. If the CEO is granted stocks rather than options, he may focus on short-term profit to boost the share price in order to acquire greater compensation rather than concentrating on long-term plans and development of the company.

2.4 External Governance Mechanisms

2.4.1 Managerial labour market

The managerial takeover market is an important external mechanism for shareholders and firm governance. It serves as the last monitor of shareholders to regulate managers. The study of top executive turnover is a major area of research in corporate governance mechanism. The literature is replete with examples of executive takeover and its link to firm performance, for replacing the executive often brings major change within firms, if they are grappling with financial woes or continuous poor performance. Fama (1980) points out that the managerial labour market applies direct pressure on firms concerning how to compensate managers and how to dispose of them, according to how well or poorly the firm performs. Moreover, when the firm's compensation system is unresponsive to good performance, managers will leave. A competitive managerial labour market provides the manager with information into human capital regarding to their past performance. It will determine the pay level of the managers in the future. For example, managers will maximise firm value and shareholder interest throughout the period of their contract, because it suits their own best interests. Therefore, an executive's personal reputation in the managerial labour market is an important disciplinary tool for shareholders to wield.

Martin and McConnell (1991) indicate that the takeover market plays an important role for discipline as regards executive managers. Shareholders can monitor executive

managers' performance, controlling them to align both parties' interests. Denis and Denis (1995) examine the relationship between management turnover and improvement of firm performance, and find that large and significant operating performance declines will force changes in top management, with a significant improvement of operating performance expected to follow. The corporate takeover market in the United Kingdom is also active. Franks and Mayer (1996) examine hostile takeovers taken on as a discipline function on governance. On the one hand, they find that takeovers are associated with high levels of change on the board of directors. On the other hand, the takeover market in many countries is not active or even nonexistent.

2.4.2 Legal and regulatory systems

Other external governance mechanisms are legal and regulatory systems. La Porta et al. (2000) indicate that legal protection of investors can be regarded as a potentially useful way to monitor corporate governance. Over the past two decades, many researchers have generated evidence revealing cross-country differences in corporate governance. Each nation's different financial systems depend on the quality of legal rules, regulations, and investor rights in the respective countries. Shareholders' and creditors' capabilities and rights in turn are influenced by these legal rules and regulations. Thus, insuring their interests of investment requires a high level of protection.

Roe (2003) finds that compared with countries that practice laissez-faire economics, many social-democratic countries prefer to establish regulations to protect workers' rights instead of shareholders' interests. These countries have more concentrated ownership structures and a larger labour influence in corporate governance with weaker shareholder protection. La Porta et al. (1999) argue that some countries have powerful controlling shareholders, from both political and economic perspectives. Politicians can establish laws to entrench shareholders and reduce minority rights. A number of empirical studies have demonstrated that common law countries provide better investor protection than do civil law countries. La Porta et al. (1997) offer three equity-based financial measurements and find all three measurements reflect higher investor protection in common law countries compared with civil law countries, especially in France. La Porta et al. (1999, 2000) provide more evidence comparing investor protection in civil law-based countries and common law countries. They show that shareholders in United States and the United Kingdom enjoy a greater degree of legal protection with common law systems. These countries have more advanced financial markets, more dispersed ownership, and more efficient capital allocation across firms.

Overall, such evidences gives support to a structure encompassing legislation, regulations, and rules in corporate governance in different countries. Legal systems

are not regulating corporate activities in a vacuum. Instead, companies must adapt to the limitations of the comprehensive regulation environment in which they operate.

3. Corporate governance in China

3.1 Background of Corporate Governance in China

Corporate governance in China has been proposed and improved against the back drop of reform and the policy of the opening-up of trade and commerce to a global economy. As China has sought to develop an economy encompassing commodities and a free market, this has required that state-owned factories under the planned economy transform themselves into joint-stock companies. Upon the establishment of the *Company Law* and China's entry into the World Trade Organisation (WTO), corporate governance in China has become gradually driven by laws and markets.

3.1.1 State-owned factories under the planned economy transform into joint-stock companies under the market economy

After the founding of the People's Republic of China in 1949, China adopted the planned economy, with the national economy becoming wholly dependent on government directives. All economic entities lacked the right of autonomy. During this period, the state-owned economy completely dominated all commercial sectors, and the government was the only contributor for state-owned companies with ownerships and the right to operate. State-owned companies conducted activities

under administrative orders by the government, which planned and arranged the procurement of raw materials, production of goods, realisation of marketing, and distribution of products. Financially, these companies implemented unified collection and allocation. All corporate profits and depreciations were wholly handed over as part of the government budget. Necessary funds for production, such as basic construction funds, replacement and renovation funds for fixed assets, and technical innovation funds were allocated uniformly by the government. Even the current funds had to be appropriated by the financial authority. Companies were deprived of the rights to manage their finances and to operate independently. After the reform in 1978, China gradually transformed its central planned economy system into the commodity economy system and market economy system, which required the market to begin functioning as the basic tool for allocating resources and the government to relinquish its role of economic dominance and assume a part as adjuster and regulator. The government began granting power and profits to SOEs that obtained the right to operate independently. After the joint-stock reform, state-owned companies clarified relations between ownership and management and converted to joint-stock companies in which the internal governance structure must be built up simultaneously to form the complete corporate governance structure. This redefining of the boundary between rights and profits enabled owners and agents to understand more clearly their own duties and perform properly for maximising corporate value and ownership wealth.

3.1.2 Corporate governance requirements for Chinese companies that compete in the international market

Since China has carried out the reform and opening-up policy, Chinese enterprises have gained many opportunities to participate in international trading. Meanwhile, they were tapping into the international market. Especially after China's entry into the WTO, China intensified its participation in international economic trading and market competition, which required domestic companies to comply with international corporate governance standards. Participants in international competition, especially large cross-national companies, constructed modern corporate system with clearly established ownership rights and defined obligations. However, due to imperfect internal corporate governance, unclear definitions of rights, obligations, and profits, low-efficiency of operating and limited capabilities of participating in international competition, Chinese companies were in the dry tree. Chinese enterprises that intended to compete internationally needed to learn how to establish modern corporate systems and perfect corporate governance structures.

3.2 Three Stages of Corporate Governance Reform in China

The reform of corporate governance in China can be divided into three phases. The first was the preliminary stage (1978-1992) during which the government granted power to companies, and corporate governance drew great attention, as the reform of the management system of state-owned companies. The second was the exploration stage (1993-2002) during which most companies conducted joint-stock reforms, and

all joint-stock companies were required to establish perfectly the internal corporate governance system according to *Company Law*. The third was and continues to be the improvement and mature-development stage (2003-present) during which the governance system of Chinese companies has been standardised and boosted in terms of the enactment of new *Company Law*. Corporate governance began to achieve positive effects on corporate development.

3.2.1 Preliminary stage for corporate governance reform in China (1978-1992)

With the 1978 reform and opening-up policy, China generalised its household contract responsibility system and extended it to all domestic cities in the 1980s. The reform of SOEs was important. To energise the state-owned economy, the model of centralised management required changing, and companies were granted power to awaken their motivation to pursue private enterprise. After several experiments, officials and scholars diverged markedly in respect to paths of reform. Some suggested a responsibility system and some suggested a joint-stock system, with the government finally selecting the former. From 1984-1993, there were two rounds of responsibility system executed throughout the nation. Wen and Zhang (2009) conclude that the responsibility system evoked the passion of employees and contractors, and increased the operating benefits of the companies as well. However, as companies' residual right to control and residual claims were handed over to contractors, the benefit conflict between corporate owners and contractors intensified,

and owners' benefit was damaged. Moreover, unclear ownership was adverse to corporate governance. Under the spread of the responsibility system, the joint-stock system started to be experimented with the support of some local governments and generalised universally by replacing the responsibility system. To implement the joint-stock system, companies must construct a corporate governance structure and set up shareholders' meetings, and establish boards of directors and supervisors to clarify each party's obligations and rights according to law. Thus did initial corporate governance emerge in the earliest joint-stock companies of China.

At the end of the 1980s and the beginning of 1990s, thousands of companies experimented with the joint-stock system throughout the nation with the experimental areas extending from coastal regions into the mainland. Experimental companies included small state-owned companies, and later, medium and large state-owned companies. In addition, financial investors covered such firms domestically and then internationally. The increased quantity of joint-stock companies inspired related stakeholders to advocate for the circulation of stock, triggering the emergence of stock trading at the end of the 1980s, culminating with the founding of the Shanghai and Shenzhen Stock Exchange at the beginning of the 1990s. The stock exchange stipulated strict listing regulations and guidelines, especially governance structure rules for companies to be listed, which further enhanced the governance structure of joint-stock companies.

3.2.2 Exploration stage for corporate governance reform in China (1993-2002)

The *Decision of the Central Committee of the Communist Party of China on Some Issues Concerning the Establishment of the Socialist Market Economy* was approved at the 3rd session of the 14th National Congress of the Chinese Communist Party in November 1993, which put forward the establishment of a socialist market economy system. It was also pointed out that the operation mechanism of state-owned companies should be transformed to adapt to the demands of the market economy and offer a modern corporate system featuring clear ownership, clarified rights and obligations, separation of government functions, and enterprise management.

The first *Company Law* of China was approved at the 5th session of the Standing Committee of the 8th National People's Congress on 29 December 1993, which clearly specifies the requirements of the corporate governance structure, referring to the establishment of shareholders' meetings, board of directors, board of supervisors, and the position of managers in a joint-stock company. Companies registered in the administration for industry and commerce should come into strict accord with the *Company Law* and create a comprehensive corporate governance structure. Corporate governance has become a compulsory requirement for the establishment and operation of companies.

On 21 August 1996, the CSRC formally issued *Measures for the Administration of Stock Exchange*[2], amongst which Article IV stipulates 'all stock exchanges shall be regulated and administered by the CSRC'. Securities registration and settlement institutions established in the stock exchange also shall be 'regulated and administered by the CSRC'. Meanwhile, all nominees for 'chairman, vice chairman, CEO, and deputy general manager' of a stock exchange shall be 'nominated by the CSRC and submitted to the local people's government before being selected or appointed by the board'. The administration of a stock exchange therefore was transferred to the central government and made uniform throughout the nation. Subsequently, the central government adopted uniform corporate governance for listed companies, such as the issuance of *Governance Rules for Listed Companies* and a proposal for establishing independent director systems for listed companies. Stringent laws and rules as well as strict regulation by stock exchanges drove the corporate governance structure of to-be-listed companies.

China joined the WTO in 2001, which brought both competition and challenges for Chinese companies. Compared with international competitors, Chinese companies were weak in many aspects primarily arising from incomplete governance structures,

[2] *Temporary Measures for the Administration of Stock Exchange*, issued by the CSRC 7 July 1993, was abolished at the time.

unclear separation of internal rights and obligations, undefined rewards and penalties, and insufficient incentives. Because China was open to the world and welcomed international competitors, some Chinese companies attempted international trade. Compared with the regulations of the Chinese stock exchange, Western countries have more complete legal systems. As a result, Chinese companies needed to reform both their management operations and corporate governance structure to be listed on foreign exchanges.

During this exploration stage, companies generally established relatively complete corporate governance mechanisms. The level of corporate governance was dramatically improved. However, numerous conflicts in Chinese companies typically emerged, such as a fragmentation of authority and a lack of property representatives in state-owned companies. Generally, the corporate governance structure did not function as effectively as was expected, and the reform needed to be furthered.

3.2.3 Improvement and mature-development stage for corporate governance reform in China (2003-present)

After the convening of 16th Congress of the Chinese Communist Party, China deepened its reform of its economic system. The reform of the shareholder structure improved the standards of corporate governance for listed companies. After the new *Company Law* was issued in 2006, the corporate governance system gradually came in line with international conventions.

Prepared according to European and American laws, its formal issuance enhanced the purposes of corporate governance and stipulation that shareholders have audit rights. Minority shareholders have the right to request, convene, and preside over shareholders' meetings. Cumulative voting system can be carried out in accordance with the articles of association or resolutions at shareholders' meetings when directors and supervisors are elected therein.

At the beginning of 21st century, the reform regarding the management system of state-owned assets was accelerated. After more than ten years of reform, most state-owned companies had completed joint-stock reform and transformed into joint-stock companies with better internal governance structures. As promoted by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC), this new round of reform for central government-controlled companies focussed on listing by combining primary corporate assets and businesses. The holistic listing further enhanced corporate governance, improved the timeliness and effectiveness of information disclosure, and strengthened regulations of corporate activities. Meanwhile, SASAC emphasised the construction of an independent directors' system and external supervisors' function, and reformed the remuneration system for executive management. Overall, SASAC has played an important role in promoting the construction of a modern corporate system in state-owned companies.

3.3 Internal Governance Mechanism in Listed Companies of China

3.3.1 Ownership structure of listed companies in China

The unique ownership structure is a key feature of Chinese-listed firms. There is a highly concentrated shareholding structure, with severe restrictions on share-ownership transfer. The most important characteristic of China's listed firms is their state shareholdings. A typical listed Chinese stock company has a mixed ownership structure composed of the state, legal persons, and domestic individual investors. Each of the three predominant shareholders holds about one-third of all shares. The state retains control of about three-quarters of all shares, making it the controlling owner of most listed companies (Fung and Leung, 2001).

In the early stage, Xu and Wang (1999) were the first to divide ownership structure by nature of shares into four groups: state, legal person, domestic individuals, and foreign-owned shares. They posit different performance occurs under different types of shares.

State shares are those held directly by central or local government, which are represented by local financial bureaus and the state asset management department.

The ultimate owner of state shares is the State Council of China. In addition, state shares can be held by the parent of the listed firms, especially an SOE. State shares are not tradable but can be transferred to a domestic institution upon approval of the CSRC.

Legal person shares are shares owned by domestic institutions. Legal person holding can be classified as state-owned legal person shares and public legal person shares. Domestic institutions include industrial enterprises, power companies, trust and investment companies, securities companies, foundations and funds, banks, construction and real estate development companies, and so forth. Legal person shares are also not tradable but can be transferred to domestic institution upon approval of the CSRC.

Domestic individuals' shares are classified as tradable A-shares[3], and can be held and traded mostly by individuals or some domestic institutions. There is no restriction on the number of shares traded or on holding periods. These shares are the only type of stock tradable amongst domestic investors. However, tradable A-shares are to account for no less than 25% of total outstanding shares when a company makes its initial public offering (IPO).

[3] A-shares are issued by domestic companies and are held and traded in Chinese Yuan (RMB) by domestic investors only.

Foreign shares are available exclusively to foreign investors and some authorised domestic securities firms. Foreign shares include B-shares[4] and H-shares[5].

Du and Liu (2002) use the same criteria to investigate the relationship between performance and share types. The advantage of this classification method is that it incorporates the priority held by state shares. The disadvantage is that the legal-person share is too vague to define whether it belongs to state shares or public shares. Chen et al. (2009) also indicate this classification method is problematic when dealing with legal person shares.

Later on, many researchers use the largest shareholder as the dominant shareholder to distinguish company ownership type. Performance outcomes under different ownership are mixed (Chen and Xu, 2001, Wu, 2002, Bai et al., 2005, Firth, Fung, and Rui, 2006, 2007). Many of the largest shareholders are not the actual controllers of their companies. For example, the Ministry of Education cannot hold the stock directly for itself but could gain control of the listed companies via the parent

[4] B-shares are stocks issued by domestic companies registered on the mainland, but traded in hard currency by foreign investors, including overseas Chinese and individuals and institutions from foreign countries as well as from Hong Kong (China), Macao, and Taiwan (China). Individual domestic investors have been allowed to trade B-shares since February 2001.

[5] H-shares are issued and listed by domestic companies in Hong Kong (China).

company. Thus, classifying the parent company as a non-SOE category is strictly improper but reflects weakness of a company's actual ownership type.

La Porta et al. (1999) introduce the concept of the 'ultimate controller', followed by Liu et al. (2003) as the first to apply ultimate ownership theory to Chinese corporate governance research. More recently, Xia and Fang (2005), Xu et al. (2006), and Chen et al. (2009) also use the term 'ultimate controller' to divide all Chinese-listed companies into different subgroups.

I have divided Chinese companies into four categories: SOEs administered by the central government, SOEs administered by local governments, non-state-owned companies (individual or family control), and foreign companies (wholly foreign-owned, joint venture, partnership). Current laws restrict foreign companies be listed in domestic securities markets. Therefore, listed companies in domestic securities markets are divided into three categories: state-owned listed companies under the administration of the central government, state-owned listed companies under the administration of local governments, and non-state-owned listed companies.

3.3.1.1 SOEs under the administration of the central government

State-owned listed companies under the administration of the central government are charged and administered by the central government or the central state-owned assets administration with huge quantity and scale of corporate assets as well as a large number of employees. In respect to shareholding structure, the holding ratio of state-owned shareholders is normally higher than 50%. In some significant industries, it even exceeds 90%. State-owned listed companies under the administration of the central government can be classified mainly into three categories.

The first category refers to listed companies administered by SASAC under the State Council and held by central government. National law stipulates that SASAC under the State Council represents the government in performing contributors' obligations for companies and takes responsibilities for performance assessment, employee appointment, and significant investment decisions. Such companies usually have high-quality core assets packed and listed, and absolutely control at least one listed company. They are mainly distributed across military, petroleum, chemical, power, metallurgy, coal, and other mineral resources industries as well as large equipment manufacturing, vehicle, and commercial aircraft manufacturing, telecommunication, aviation, shipping, architecture, construction, real estate development, and seaport industries.

The second category refers to listed companies jointly controlled by the Ministry of Finance and Huijin Company. They normally cover banking, trusts, securities, and insurance industries.

The third category refers to listed companies controlled by other departments and authorities related to the central government, such as Guang-Shen Railway, Da-Qin Railway controlled by the Ministry of Railways, and Sunny Loantop controlled by China Tobacco Group. These are normally state monopolies in which companies controlled by state administration are entrusted to perform contributors' responsibilities.

3.3.1.2 SOEs under the administration of local governments

SOEs under the administration of local governments are administered by local governments or LAMBs with small quantities and scale of assets and a small number of employees. In respect to shareholding structure, the proportion of shareholding depends mainly on the industrial features of the listed companies and regional influence. Companies belonging to competitive industries have a relatively low proportion of state holding; companies that have significant local influence or are monopolies or that belong to public utility industries have a relatively high proportion of state holding. State-owned listed companies under the administration of local governments can be divided into two categories.

The first category refers to listed companies administered by LAMBs. These companies mainly cover airports, seaports, key roads, urban water supply, gas supply, electric power supply, public transportation, metallurgy, coal, and other mineral resources industries, as well as equipment manufacturing, vehicle, and industry monopolies.

The second category refers to listed companies administered by other local government bureaus. The government usually has a great impact on these companies.

3.3.1.3 Non-state-owned listed companies

Non-state-owned listed companies (non-SOEs) are normally set up and controlled by families or individuals with direct contributions. Securities markets of China were mainly towards SOEs at the beginning of establishment and as private companies developed and played an important role in the national economy, securities markets started to accept non-SOEs to be listed later on. In addition, major shareholders universally and absolutely control non-SOEs. However, the proportion of their dominate shareholding is not as high as that of SOEs.

3.3.2 Shareholders' meeting

According to the *Company Law*[6], the shareholders' meeting, consisting of all shareholders acting as the authority of the company, shall exercise the following duties: to decide the operating guidance and investment plans; to elect and replace directors and supervisors not represented by employees; to decide the remuneration of directors and supervisors; to review and approve reports of the board of supervisors; to review and approve annual financial budget proposals and final accounts; to review and approve profit distribution proposals and deficit recovery proposals; to make resolutions on the increase or decrease of registered capital; to make resolutions on the issuance of corporate bonds; to make resolutions on the merger, separation, dissolution, liquidation, and change of corporate form; to revise the articles of association; to exercise other duties specified in the articles of association.

According to *Regulations on the Shareholders' Meeting of Listed Companies*[7] and *Guidance on the Articles of Association of Listed Companies*[8], the shareholders' meeting of listed companies shall review and discuss significant issues of the company, such as the purchase or sale of significant assets within one year that exceeds 30% of audited assets and provision of external guarantees that have material impact on the operation of the company.

[6] *Company Law of the People's Republic of China*, revised and approved at the 18th meeting of the Standing Committee of the 10th National People Congress of the People's Republic of China on 27 October 2005.
[7] *Regulations on the Shareholders' Meeting of Listed Companies* (Z.J.F.[2006]21).
[8] *Guidance on the Articles of Association of Listed Companies* (Z.J.G.S.Z.[2006]38).

All governance guidelines and reports issued or being issued by different countries always recognise and support the control functions of the shareholders' meeting, highlight shareholders' participation, and detail shareholders' rights. However, in China, since the equity is held mainly by a small number of shareholders, when the company transforms into a joint-stock concern, the shareholders' meeting itself is reduced to a mere formality; minority shareholders, whether they attend shareholders' meetings or not, cannot affect decided procedures and content.

3.3.3 Board of directors

The board of directors is responsible to the shareholders' meeting, and exercises its duties according to *Company Law*: to convene shareholders' meetings and report work to the shareholders' meeting; to implement the resolutions of the shareholders' meeting; to decide the operating plan and investment proposal; to prepare the annual financial budget proposal and final accounts; to prepare the profit distribution proposal and deficit recovery proposal; to prepare proposals on the increase or decrease of registered capital and issuance of corporate bonds; to prepare proposals on the merger, separation, dissolution, liquidation, and change of corporate form; to decide the setup of internal management organisation; to decide the appointment or dismissal of managers and their remuneration and decide the appointment or dismissal of deputy managers, financial managers upon managers' nomination and their remuneration; to stipulate basic management rules; to exercise other duties specified in the articles of association.

According to *Governance Principles for Listed Companies* and *Guiding Opinion on Establishment of Independent Director Systems by Listed Companies* issued by the CSRC, listed companies must set up an independent director system. The board of directors of listed companies shall include independent directors comprising at least one-third. Independent directors must be independent from the company and major shareholders, and may not take any other position in this listed company. Independent directors may perform duties independently without being affected by major

shareholders, ultimate controllers, and any other companies or individuals that are interested parties of the listed company. To fully function, independent directors shall be entitled with the following special authorities from the listed company except for those specified in laws and regulations: major related transactions (referring to transactions that the listed company intends to conclude with the related party and whose total value exceeds 3,000,000 Chinese Yuan (RMB) or 5% of the company's net assets audited recently) should be approved by the independent directors before being submitted to the board of directors for discussion; before the independent directors make their judgment, an intermediary agency can be employed to produce an independent financial advisory report, which will serve as the basis for their judgment. The independent directors can put forward the proposal to the board of directors relating to the appointment or removal of the accounting firm; they can propose to the board of directors to call an interim shareholders' meeting; they can propose to call a meeting of the board of directors; they can appoint an external auditing or consulting organisation independently; they can solicit the proxies before the convening of the shareholders' meeting. Consent from more than half of all the independent directors shall be obtained if an independent director desires to exercise the above-mentioned power. In addition, independent directors shall express independent opinions on the major events occurred in the listed company. They shall provide independent opinions on the following matters to the board of the directors or to the shareholders' meeting: nomination, appointment, or replacement of directors; appointment or dismissal of senior managers; remuneration for directors and senior

managers; any existing or new loan borrowed from the listed company by or other fund transfer made by the company's shareholders, actual controllers, or affiliated enterprises that exceeds 3,000,000 RMB or 5% of the company's net assets audited recently, and whether the company has taken effective measures to collect the amount due; events that the independent director considers to be detrimental to the interests of minority shareholders; other matters stipulated by the articles of association.

3.3.4 Board of supervisors

According to *Company Law,* the board of supervisors exercises following powers: to check the financial affairs of the company; to supervise the duty-related acts of the directors and senior managers, to put forward proposals on the removal of any director or senior manager who violates any law, administrative regulation, the articles of association, or any resolution of the shareholders' meeting; to demand any director or senior manager to make corrections if his or her act has injured the interests of the company; to propose to call interim shareholders' meetings, to call and preside over shareholders' meetings when the board of directors does not exercise the function of calling and presiding over shareholders' meetings as prescribed by law; to put forward proposals at shareholders' meetings; to initiate actions against directors or senior managers as specified; other duties as provided for by the articles of association. The board of supervisors shall include shareholders' representatives and employee representatives of the company at a ratio of no less than one-third.

The board of supervisors plays an important role for supervision of authority. However, the board of supervisors in China is weak in internal function and exists in name only. It only performs duties by following procedures without any real supervisory function. In some companies, there is no board of supervisors or the position of supervisor is repeatedly set from board member. Even some supervisors and managers conspired to damage major shareholders' interests. The imperfect corporate governance in China is partly due to lack of function by the board of supervisors.

3.3.5 The CEO in China

The appointment of and the power exercised by the CEO in Chinese-listed companies are different from that enjoyed by CEOs in foreign-listed companies. As indicated above, the CEO in China is responsible for the routine management, production, and operation activities of the company with certain decision-making right. The CEO's decision-making power is discounted considerably under special circumstances in which major shareholders have absolute control rights. In China, the CEO thus mostly represents the rights of controlling shareholders to implement their decisions.

3.3.5.1 The CEO in SOEs

For SOEs under the administration of the central government, the appointment of the CEO is very important. Some key industries are related to the safety of the national economy and even national defence, such as petroleum, chemical, telecommunications, and power. Therefore, CEOs in these types of companies are normally appointed by the central government. Candidates' political awareness, morality, and work experience are first considerations. After the CEO has been selected, the board of directors shall carry out appointment procedures.

For SOEs under the administration of local governments, the appointment of the general manager is normally effected by local governments. Normally, the CEO in these types of companies is decided by local governments in advance and then formally appointed by the board of directors. However, compared with CEOs in SOEs under the administration of the central government, they are more professional with relatively extensive decision-making rights. Especially in recent years, to promote the operation and management level of SOEs, local governments frequently organise external recruitment and select talent from the manager market, breaks the previous selection framework to some extent.

3.3.5.2 The CEO in non-SOEs

Due to special family holdings or personal holdings, the controlling family or individual is inclined to appoint an obedient agent as the CEO. There are mainly two categories.

In small and family business companies, major shareholders or chairman normally hold the CEO position at the same time. This makes the decision procedure more efficient but riskier. Bigger and highly marketised companies normally are aimed at corporate development, and they recruit talent in the manager market by providing competitive remuneration. The appointed CEO has certain decision-making power, but his or her rights are strictly supervised by the shareholders' meeting and the board of directors, with individual decision-making restricted.

3.3.6 CEO compensation in China

In the United States and other developed countries, debate is growing concerning whether CEOs are overpaid. However, in China, the situation is different, with the issue concerning under-compensation of top management. Yang (1998) argues that the concern about management compensation focuses on the design of an appropriate system for compensation. The main part of the CEO compensation package in China is composed mainly of base salary. The very popular granted stock option seen in other countries is rare in China. Wei (1999) tries to find an explanation for this phenomenon, and he finally concludes the reason relies on government determining

the compensation system. Firth, Fung, and Rui (2006) state that many managers in China seek political status rather than economic rewards while they are in the positions. Moreover, top management compensation often depends on the relative earning of co-workers and local living standards for the sake of fairness.

Before the 1970s, management compensation was not determined by either firm performance or individual contribution, but reflected other factors, such as region, industry, size, job title, occupation, and seniority of individual. The first step of China's executive compensation reform began in the 1980s when a profit responsibility contract system was introduced. Managers were allowed to retain a portion of profit for themselves and other workers. Later, in 1985, compensation reform allowed the SOE's wage budget to be linked to the firm's economic performance and permitted the SOE to set its own internal wage. However, the wage budget needed to be approved in advance to avoid exceeding the governmental standard wage bill, and as managers still did not have right to hire and fire employees, this reform certainly lacked real incentive effects.

A 'yearly salary system' was experimented with in 1992 and has been widely used since 1997. It is composed of a fixed component and variable component. The fixed salary is paid monthly and depends on the average wage of co-workers and the size of the firm. The variable salary is paid yearly and is linked to the economic performance

of the firm in the year. Recently, China's policy makers appear to recognise the important of executive compensation as an effective incentive for top management.

Zheng (1998) points out that SOEs lack a compensation system based on financial performance. He attributes this to the following. Firstly, there is a problem in the chain of the principal–agent relationship, because corporate control from the active market needs to go through various layers of bureaucracy. Secondly, the management's input is not recognised in socialism; thus, no system awards managerial performance. Thirdly, managerial appointments in SOEs are decided by central or local government. Finally, information asymmetry leads to an inefficient incentive scheme for the state to motivate the managers of partially privatised SOEs.

Firth et al. (2006) summarise the characteristics of management compensation in China, especially in SOEs. The government influence in setting policy and objective, and the dominance and influence of government officials in the management of firms have a great impact on the design of management compensation. Moreover, there is unseen upper limit for CEO compensation because of socialist characteristics of Chinese society. The firms attempt to be fair and moderate the wage difference between workers and executives. Huang and Zhang (1995) reveal that the salary of a CEO in SOEs is about three times that of an unskilled worker. Further, non-cash benefits, such as better housing, education allowance, and entertainment expenses are

very popular amongst CEOs and top management in China, perquisites that are difficult to measure.

3.3.6.1 Research concerning CEO compensation in China

Conyon and He (2008) estimate data from 1,481 firms in 2001-2005 and examine the relation between executive annual compensation and firm value using ordinary least squares (OLS) regression methods. Their total compensation uses the average of the top three management members as the proxy. Independent variables include sales, return on assets (ROA), total shareholder returns, firm risk, ownership concentration, size of boards, and CEO duality. These variables are all lagged by one period to mitigate any endogeneity concerns. They found that executive compensation is positively related to firm size, performance, and growth opportunity, and there is a negative relation to firm risk. Compensation is higher in firms that are privately owned and lower when the ownership is concentrated. Further, CEO compensation is positively related to the proportion of independent directors and unrelated to board size.

Firth, Fung, and Rui (2006) examine data samples of all non-financial firms that have been listed on the stock exchanges of Shanghai and Shenzhen since 1998, which are obtained from company annual reports. In order to test the pay and performance they use two regression analyses: one is used to explain the level of pay and the other seeks

to explain changes in pay. They relate the level of pay to firm performance after controlling for firm size, industry, and geographical area. In order to see whether ownership has an impact on performance-related pay, they include main and interactive effects of the dominant shareholder. CEO compensation is the log pay of the CEO. Firm size is proxied by log of book value of the assets of the firm. Two performance measures are used here: return on sales and annual stock returns, the first of which is accounting-based and the other is market-based. Their main results show that firm size is positively and significantly associated with compensation levels. To further test pay–performance sensitivities in Chinese firms, they examine changes in CEO compensation. Their procedure is similar to that of Jensen and Murphy (1990), and they partition their results on the basis of ownership. Change in CEO pay is regressed on change in shareholder wealth, change in operating income, and change in size. The results of this regression indicate that accounting performance and firm size are important in explaining pay levels.

Firth, Fung, and Rui (2007) apply a similar procedure and find a positive pay–performance relation in China when performance is measured as ROAs. However, CEO compensation does not respond to stock returns. They also indicate that state ownership has a negative relation with compensation level, while foreign invested firms have a positive relation between firm value and compensation level. Further, foreign-invested firms show a higher pay for performance sensitivity. CEO

compensation is negatively related to the size of board of directors. Firms with many non-executive directors or without CEO/chairman duality are more likely to use performance-based pay.

Li et al. (2007) analyse the importance of the corporate governance environment by testing the relationship between CEO compensation and board/shareholding characteristics. They estimate the data from all listed firms in the Shanghai and Shenzhen Stock Exchange in 2000-2001 with available CEO compensation data and a complete set of board and shareholding information. Three models are estimated. Model 1 restricts the set of explanatory variables to the firm's board structure characteristics. In Model 2, the set of explanatory variables is related to the firm's ownership structure. Model 3 jointly considers the firm's board composition and ownership structure. All models include industry dummies and a time dummy to control for industry and time effects. Heteroskedasticity of residuals is addressed by using two robust regression methods. The first one is an OLS regression with robust errors based on White's (1980) heteroskedasticity-consistent estimators. The other is an iteratively reweighted least squares (IRLS) regression, which, unlike OLS, assigns equal weight to all observations. IRLS regression involves an iterative procedure that assigns higher weights to well-behaved observations and lower weights to outliers. Their results show that there is no relation between CEO compensation and quality of corporate governance. In particular, they find that CEO compensation is uncorrelated

with CEO duality and board size. Further, they report a positive relation between CEO compensation and CEO ownership. Foreign-invested firms also have a positive effect on CEO compensation.

Kato and Long (2006) estimate two standard measures of pay–performance relation for executives indicated in Murphy (1999) for Chinese-listed firm from 1998-2002. Total cash compensation including salary and bonus is proxied by the average of the top three executives. In the first model, executive compensation is regressed on the change in shareholder value of firm. Next, they estimate elasticity of pay with respect to shareholder value by regressing the change in the log of executive compensation on the change in the log of shareholder value of the firm. In order to test the robustness of the pay–performance relation, they also use other accounting-based variables, such as stock returns, sales growth, change in pre-tax income, and the presence of negative pre-tax income. Finally, they augment the standard CEO pay equation with a variable indicating the degree to which the firm is owned by the state and an interaction term involving, for example, a state ownership variable and firm performance. They find statistically significant sensitivities and elasticity of annual compensation for top executives with respect to shareholder value. This sensitivity is greater than that found in developed countries (Jensen and Murphy 1990, Murphy 1999). Further, they find that sales growth is significantly linked to executive compensation. Firms that are less state-controlled are more in line with those of the shareholders.

The results from Chinese scholars also show a mixed picture. Sun and Zhao (2006) measure the relationship between executive compensation and corporate performance in China. They use random selection of 108 listed firms in China from 2000-2002 and apply linear regression techniques to analyse the relation between compensation and ROA and return on equity (ROE). They find a very small correlation between compensation and ROE, which means there is no linear correlation between ROE and CEO compensation. However, the correlation between ROA and compensation is very large, which indicates ROA and CEO compensation has a significant linear correlation. They conclude that CEO compensation levels should be supported by firm performance rather than returns of shareholders.

Tao, Wei, and Li (2007) use cross-section data that selected 120 listed firms in China in 2006. Their regression results analyse the relationship between top executive compensation and firm size, ROA, ROE, and sales. Their results show that CEO compensation responses positively to firm performance and firm size.

Zhang, Zhao, and Zhang (2003) also use cross-section data that included 127 listed Chinese firms in 2001, applying OLS and robustness tests. Executive compensation and firm size are used in log form. Their results show that there is a positive

relationship between both executive compensation and earnings per share (EPS), and compensation and firm size.

Chen (2006) chooses all the A-listed firms as the research sample and aims to analyse the relation between CEO compensation and company performance. However, he only used ROE as the proxy for firm performance. The remainder of independent variables include the proportion of independent, the proportion of state ownership, CEO duality, and the size of the board of directors. His results show that there are positive relations between CEO compensation and ROE, and the size of the board of directors and CEO duality, while it is negative between CEO compensation and the proportion of state ownership.

Li and Ni (2007) use ROE and CEO annual compensation in the financial statements of all listed firm from 2002-2003. They apply linear regression to check the CEO incentive plan in China. They find that the change of CEO compensation has a significant relation with firm performance in last year. However, CEO compensation only has very weak relation with the current year performance.

Li (2000) and Wei (2000) analyse the management compensation with 748 listed Chinese firms in 1998 as the research sample. They show that there is no relation

between CEO compensation and firm performance (proxied by ROE). However, CEO compensations respond significantly to firm size.

Li and Xia (2006) use all Chinese firms listed in the technology sector from 2001-2003 to test the relation between senior management compensation and firm performance. Senior management includes all the members in the board of directors and board of supervisors. The modelling method is the stepwise linear regression. The firm performance is composed of four variables: ROA, sales, EPS, and net asset per share. In addition, they also use log form of total assets as the control variables. Their results show that there is no significantly positive relation between annual compensation of senior management and firm performance.

3.4 External Governance Mechanism in Listed Companies of China

The external governance mechanism indicates that governments, creditors, employees (workers), suppliers, consumers, and related stakeholders supervise and counterbalance corporate operators. External governance is effectively supplementary to internal governance. As the socialist market economy system is gradually improved, external governance factors, such as laws and regulations, restraints by administrative and supervisory departments, the manager market, and so forth continue to play an

important role. In particular, restraints by administrative authorities surpass even supervisory restraints by internal governance.

3.4.1 Legal restrictions on listed companies of China

Firstly, listed companies must comply with all laws and regulations. These laws include not only those applicable to listed companies, but also those applicable to all companies. Currently, they include but are not limited to the following: *Law of the People's Republic of China on the State-Owned Assets of Enterprises* (effective 1 May 2009), *Real Right Law of the People's Republic of China* (effective 1 October 2007), *Company Law of the People's Republic of China* (revised 28 October 2005), *Securities Law of the People's Republic of China* (revised 28 October 2005), *Some Opinions of the State Council on Promoting the Reform, Opening, and Steady Growth of Capital Markets* (31 January 2004), *Law of the People's Republic of China on Commercial Banks* (27 December 2003), *Law of the People's Republic of China on the People's Bank of China* (revised 27 December 2003), *General Principles of the Civil Law of the People's Republic of China, Trust Law of the People's Republic of China, Guaranty Law of the People's Republic of China, Criminal Law of the People's Republic of China, Contract Law of the People's Republic of China, Law of the People's Republic of China on Negotiable Instruments, Law of the People's Republic of China on Commercial Banks,* and *Law of the People's Republic of China on Foreign-funded Enterprises.* Amongst *Company Law of the People's Republic of*

China and *Securities Law of the People's Republic of China* are basic principles for listed companies.

Secondly, listed companies must accord with administrative regulations issued by the government, local regulations, department rules, and other rules stipulated by supervisory bodies, including but not limited to *Regulations on the Shareholders' Meeting of Listed Companies* (2006), *Guidance on the Articles of Association of Listed Companies* (2006), *Guidance on Training for Senior Managers of Listed Companies* (2005), *Opinions on Improving the Quality of Listed Companies* (2005), *Guiding Opinion on Establishment of Independent Director Systems by Listed Companies* (2001), and *Governance Rules for Listed Companies* (2002).

According to the practices in China, laws and regulations for listed companies have been improved in recent years, and these laws, regulations, and rules have a growing influence on listed companies. Many listed companies have received punishments and penalties for violations, which functions as a warning to some extent.

3.4.2 Restrictions on listed companies of China by administrative authorities

China is at the transition period from the planned economy system to the socialist market economy system. It is characterised by legal improvements, existing government administration, and remaining administrative restraints.

Firstly, listed companies must receive supervision by the CSRC, which is the authority administering all securities markets throughout the nation. The CSRC performs administrative functions upon authorisation from the State Council and conducts centralised and unified regulatory efforts on the securities industry based on laws and regulations. Its functions include but are not limited to the following: to formulate regulations and detailed implementation rules on the supervision of listed companies; to urge listed companies to complete corporate governance structures; to supervise the merger and combination activities of domestic-listed companies; to supervise and guide exchange stock and send organisations to supervise information disclosure of listed companies; to supervise listed companies and their directors, supervisors, senior managers, and major shareholders in abiding by the provisions of the securities laws; to assist related authorities in supervising stock issuance, convertible bonds issuance and foreign spinoff listings of listed companies; to coordinate with related authorities to deal with delisting of listed companies and significant risk incidents. The CSRC has the absolute right of supervision over listed companies as an important part for external supervision. It takes many effective

measures to promote the corporate governance of listed companies and improve standardised operations. It requires that companies be listed to construct a perfect governance mechanism. After listing, companies shall receive an annual audit and the CSRC must monitor changes on the governance structure.

Secondly, listed companies must receive supervision by industry administrations. For example, China Banking Regulatory Commission CBRC supervises all listed commercial banks and listed financial assets management companies; China Insurance Regulatory Commission CIRC supervises all listed insurance companies and their branches. Almost every listed company is under the supervision of its own industry administration.

Thirdly, listed companies must receive supervision from the government administration. In the Chinese securities market, listed companies of a large scale are normally state-owned companies. Any governance problem in these companies not only affects the image of the companies, but also influences the reputation of related authorities and even governments. Therefore, governments carry out strict management on listed companies in different ways.

3.4.3 Restrictions on listed companies by the managerial labour market

As the securities markets develop and many Chinese companies are listed in domestic or overseas securities markets, the manager market, based on listed companies, matures and develops with significant influence on the governance of listed companies by managers. If a listed company demonstrates poor operation, negative performance, or violation of reporting finance rules, its managers may lose their own value in the market with lifelong effects. Thus, such restraints or concerns over reputation cause managers to moderate their own behaviours and make efforts to improve the operating performance of listed companies. To promote corporate performance, they must fulfil their duties inside and avoid abusing privileges. Towards this end, general managers of listed companies will endeavour to perfect internal corporate governance, enhance system construction, strengthen external information disclosure by listed companies, and improve the efficiency of decisions. The development of the manager market and the phenomenon of manager recruitment in the manager market by many listed companies boosts and improves the corporate governance structure of listed companies.

III. Hypotheses

In this section, I discuss factors that can affect CEO compensation. These include performance, firm size, ownership type, ownership concentration, size of the board of directors, independent directs, CEO–chairman duality and size of the board of supervisors Then, I offer ten hypotheses related to each factor.

1. Performance

Performance has been used as an important part to determine CEO compensation in most countries. According to the principal–agent theory, all shareholders of listed companies have the ownership and rights of surplus value. Although CEOs have the right to control and manage company's operation, they cannot share extra profits arising from their efforts in operation. Moreover, despite a lack of surplus value claims, they must take responsibility for the consequences from their operation. Under a different allocation of risks and profits, the CEO would prefer to select relatively safe investment projects with low risks. Such selection results enable CEOs to ensure relatively stable profits from stable corporate performance. However, concerning the corporate benefits and shareholders' interest, companies may lose development opportunities. The long-term interests of both companies and shareholders may suffer damaged due to imprudent selection. Therefore, listed companies always try to link shareholders' and CEOs' interests by designing a compensation system that is normally subject to corporate performance. Shareholders will decide CEO compensation based on observable performance to motivate their agents to contribute

and avoid selfish behaviours. This could result in a CEO receiving higher pay when corporate performance is good and lower pay when the corporate performance fails to meet annual goals of either company or shareholders.

Previous literature has documented considerable analysis of the relationship between firm performance and executive compensation. Most has been directed at the CEO level, under the assumption that executive compensation can be used to align the interests of CEOs with shareholders.

Barkema and Gomez-Mejia (1998) summarise the research on the relation between top management compensation and firm performance, documenting more than 300 studies in the last 70 years. They point out that even with different data samples, measurement of CEO compensation and firm performance, statistical techniques, and model specification, most research has found weak or even statistically insignificant relationships between pay and performance.

In early research, Murphy (1985) measures shareholder return and sales growth and find that executive compensation is statistically associated with firm performance. Veliyath and Bishop (1995) provide a positive correlation between shareholder stock returns and CEO cash compensation with a cross-section data sample. In addition,

Conyon et al. (2001) find a positive relationship between executive pay and firm performance.

However, Barro and Barro (1990), Garen (1994), and Aggarwal and Samwick (1999) find no significant evidence to show the relationship between pay and performance. Jensen and Murphy (1990) empirically estimate the relationship between firm performance and CEO pay, which included salary, bonus, stock option, stock appreciation, and dismiss. It shows that CEO compensation has a weak correlation with shareholder wealth or company value. Tosi et al. (2000) find the weak link between CEO pay and company performance in which less than 5% of CEO pay can be explained by the performance factor. For markets other than the United States, Mengistae and Xu (2004) examine the extent to which agency theory may explain CEO compensation in Chinese SOEs during the 1980s. They find a weak or even negative relation between CEO compensation and SOE performance in their 10-year sample. Merhebi et al. (2006) determine that CEO compensation research in Australia has found a negative pay–performance relation or none at all.

Subsequently, considerable research has been applied to try to find the reason for the weak relationship. Yermack (1995) provides empirical evidence that with the high ‘noise’ of earnings, managerial performance is difficult to assess. Bebchuk and Fried (2003) point out such performance cannot determine the industry performance and

economy situation. When certain industries boom, even an inefficient manager could receive a high profit from his options awards.

The results of research on the relationship between CEO compensation and company performance in China are mixed. Firth et al. (2006) tested the relationship between compensation and firm performance in 549 Chinese-listed companies from 1998-2000. They find positive relations between CEO pay and firm performance measured in both accounting terms and shareholder wealth terms. Kato and Long (2006) also report a positive relationship between CEO cash compensation and company performance. More recently, Conyon and He (2011) find executive pay is positively correlated to firm performance, using both shareholder returns and ROA to proxy performance and average pay of top executives from 2000-2005 to proxy CEO compensation. In the Chinese literature, Song and Zhang (2002), Zhang, Zhao, and Zhang (2003), Gao and Song (2007), and Sun and Zhao (2006) show a positive relationship between CEO compensation and various types of performance. In contrast, other researchers report no relationship between CEO pay and company performance in China (Li, 2000; Wei, 2000, and Hu, 2003). Most scholars also show a positive pay–performance sensitivity in Chinese-listed companies (Firth et al., 2006; Firth et al., 2007; Kato and Long 2006; Conyon and He, 2011).

Whether there is a significant relationship between CEO compensation and company performance in Chinese-listed firms, especially SOEs, is an empirical question. The current form of executive compensation in most SOEs in China is the yearly salary system, in line with the Chinese government expectation that listed SOEs will adopt more efficient and Western-style corporate governance with a strong pay–performance link for top executives. Accordingly, I offer the following hypothesis:

***Hypothesis 1*: There is a positive relationship between CEO compensation and firm performance in China's listed firms.**

There are two primary measures of a firm's economic performance, namely, accounting-based and market-based measurements. The most common proxy of each measurement is ROA and EPS. Both measures are used, because each has strengths and weaknesses in evaluating firm performance. Seth (1990) points out that the difference between market-based and accounting-based measurements is that the former reflects the present value of future streams of income and the latter concentrates on past performance. He argues that the market measures for financial performance are proper, because they reflect 'the consensus of the market's overall estimate of the firm's potential to create shareholder value' in the current and future period. On the other hand, Lambert (1993) and Sloan (1993) confirm the superiority of accounting-based measure of company performance. They provide evidence that accounting income has a less noisy signal related to CEO effort than do stock returns.

The data available to me enable a consideration of total cash compensation, which includes salary and bonus, while other forms of compensation, especially stock-related compensation, are not well-used in China. Very few firms have executive stock options; further, they offer limited disclosure. The limited information offered on stock options made it difficult to value these grants. Some firms disclosed they that pay an executive bonus dependent on stock returns without formula. One major explanation of the limited use of stock option points to CEO in most large government-controlled SOEs being are appointed by the central government. This means their political role is more important than their management role. Another explanation is that the long-term nature of stock options may be unattractive to both CEO and top management in China.

2. Firm size

The relationship between CEO compensation and firm size is another very consistent empirical result in the compensation literature. Researchers are interested in the firm size–executive pay relation for several reasons. Firstly, executive pay is tied to firm size, because it is considered a symbol of power and prestige for executives, which is easily recognised. Secondly, CEOs can exercise more influence over firm size than performance and therefore use firm size as a criterion for compensation (Kroll et al.,

1990). Previous research indicated that firm size could affect the pay–performance relationship (Jensen and Murphy, 1990; Sanders and Carpenter, 1998). Higher levels of compensation are expected to be paid to executives in larger firms (Gaver and Gaver, 1995), because the larger the operational scope, the greater the demands on top executives. Executives in larger firms may be much wealthier and less risk-averse, compared with their counterparts in small firms and thus able to accept higher compensation. Moreover, since it is believed that executives who manage larger and more complex firms bring greater knowledge and ability than do executives of smaller and less complex firms, they merit a higher level of compensation on the external labour market (Becker, 1964; Rosen, 1982).

Murphy (1985) argues that large firms tend to pay their CEOs more. Large and low-performance firms may employ highly paid CEOs, while smaller and high-growth firms employ relatively lower-paid CEOs. The omission of a measure of firm size could induce a bias in the estimate of the pay–performance sensitivity of these firms. Rosen (1992) has done a wide review of empirical findings on executive compensation. He argues that CEOs operating larger firms should earn higher compensation because of their higher marginal productivity.

Recent studies are consistent with past results and confirm the relation between firm size and CEO compensation. Core et al. (1999) bring up that firm size is a proxy for

surveying executive compensation and complexity associated with firm sales. Baker and Hall (2004) also indicate that there is a positive correlation between CEO pay and firm size.

Firm size is not exogenous to CEO compensation but in this relationship, these influence each other. If a CEO has an incentive to expand the firm size by different methods (acquisition of assets, repurchase, investment, and so forth), then the pay is expected to increase in subsequent periods. In China, large SOEs are politically more important in a socialist economy. Government should have a greater incentive to protect and assist large firms, due to businesses' relationship to society. Hence, I propose a positive relationship between CEO compensation and firm size in China's listed firms that is consistent with the literature:

***Hypothesis 2*: There is a positive relationship between CEO compensation and firm size in China's listed firms.**

3. Ownership type

The unique ownership structure is a key feature of Chinese-listed firms. Most listed companies in China are SOE or transferred from SOE. Different SOEs also belong to different groups. The concept of ultimate ownership was first introduced by La Porta et al. in 1999. Since then, the tracing of the ultimate controller concept has become

more valuable on an international basis when research was correlated to ownership. As more listed companies became commonplace in China, the CSRC required them to adopt modern corporate governance systems with a strong pay–performance relationship. CEO compensation package should be based on company performance. However, listed companies, especially SOEs, normally get some degree of effect from controlling shareholder or acting as the ultimate controller when setting CEO compensation. SOEs cannot eliminate governmental administrative interference when dealing with the CEO pay level. Using the ultimate ownership conception from La Porta et al. (1999), I classified all Chinese A-share listed company into five groups. 1) SAMB-SOEs administered by SASAC under the State Council; 2) SOELG-SOEs administered by other central government ministries; 3) LAMB-SOEs administered by local state assets management bureaus; 4) SOEs administered by the local government; and 5) OTHERS, non-SOE companies that include private firms, individuals, educational institutions, or collective ownership.

Chen et al. (2009) investigated the relationship between ownership and company performance. They found that privately listed firms in China are not necessarily superior to certain types of SOEs. In considering the objective and policy of companies, I have redeveloped the classification of Chinese-listed companies as above to reflect the following: Non-SOE companies usually are more marketised than

are SOEs. Most companies in this group are privately listed companies with higher CEO compensation levels and a strong pay–performance link.

SAMB-controlled companies usually have a huge quantity and scale of corporate assets as well as a large number of employees. Companies under this group are the first group of SOEs transferred into listed companies. To some extent, the central government gives priority and preferential policy to these SOEs. These companies practiced modern corporate governance at the first stage of reform. Performance-related CEO compensation was introduced in corporate management along with reform. They also encourage hiring more professionals and talent at the board and management levels to promote more efficient operation. CEO compensation in this group should better than other SOEs but lower than that of private companies. In addition, the degree of CEO compensation marketisation is relatively high.

SOELG-controlled companies are distributed across financial industries and monopoly industries. The central government imposes very high restrictions and regulations on this group of companies. The CEO compensation level in this group is relatively high, compared with other SOEs. Changes in CEO pay cannot depend solely on company performance. The marketisation degree of CEO compensation is relatively low.

LAMB-controlled companies are similar to SAMB-controlled companies but not identical. Compensation levels and company size in this group are much lower and smaller than are those of SAMBs. LAMB-controlled companies also practice modern corporate governance systems. Companies put together professional management teams from either the manager market or overseas markets. The CEO compensation level should be lower than SAMB- and OTHER-controlled companies should but better than other SOEs.

SOGLG-controlled companies are influenced by local government. CEO nomination and the setting of CEO compensation is usually influenced by local government to some extent. The CEO compensation level and the pay–performance link are relatively low and weak.

OTHERS-controlled companies are more focussed on economic benefit and earnings. Government holds less sway over board operations. The setting of CEO compensation is similar to the ways of Western countries with performance-based incentives. CEO compensation level in this group should be highest, compared with other groups.

In considering these types of special ownership in China, I offer the following five hypotheses:

***Hypothesis 3.1*: CEO compensation is lower when the company is controlled by the state.**

***Hypothesis 3.2*: CEO compensation in OTHERS-controlled companies is higher than in SAMB-controlled companies.**

***Hypothesis 3.3*: CEO compensation in OTHERS-controlled companies is higher than in SOECG-controlled companies.**

***Hypothesis 3.4*: CEO compensation in OTHERS-controlled companies is higher than in LAMB-controlled companies.**

***Hypothesis 3.5*: CEO compensation in OTHERS-controlled companies is higher than in SOELG-controlled companies.**

4. Ownership concentration

Previous literature has addressed that if there are many small shareholders – thus a dispersed ownership – the manager will hold more power. They could take this change to award themselves higher pay. Minority shareholders do not have enough power or the incentive to monitor the manager. However, ownership concentration can partly serve to align the conflict of interests between controlling and minority shareholders (Shleifer and Vishny, 1986, 1997; Mitton 2002; Lins, 2003). Lee and O'Neill (2003) note that concentrated ownership can increase the incentives for large shareholders to obtain and disclose more detailed information. As a result, minority shareholders benefit from the information environment created by large controlling shareholders. Further, communication between major shareholders and top managers can reduce information asymmetry. Thus, concentrated ownership can make top managers take a longer view of the firm's long-term development based on more

communication and efficient monitoring. Santerre and Neun (1986) apply the Herfindahl index as the degree of stock dispersion and find a negative relation between degree of holder control and executive compensation. Holderness (2003) points out that many larger-percentage shareholders are top managers or directors in some public corporations. Holderness and Sheehan (1988) investigate the manager as blockholder: will he pay himself more, compared with similar size but more diffuse firms? They conclude that the majority do receive larger salaries, but the extra amount is small, compared with the average investment necessary to achieve majority ownership. On the other hand, Bertrand and Mullainathan (2000) and Mehran (1995) confirm the role of outside blockholders in monitoring the compensation of top executives.

The relation between ownership concentration and performance should be positive from the point of view of shareholder–management agency conflict. As the share size increases, the monitoring effect from the large shareholders increase, but the relevant cost does not grow greater. Moreover, blockholders are assumed to be better informed than are average investors. Thus, they are more capable in controlling managers. Better information could also lead to higher insights into the company, which can reduce monitoring costs. Hence, blockholders have both the motivation and capability to control management.

On the other hand, as introduced by Burkart et al. (1997), private benefits of control suggest a negative relation between ownership concentration and firm performance. Large shareholders are better informed and have more control rights than minority shareholders. They might use these advantages to exploit their own interests, rather than the interests of all shareholders. Barclay et al. (1993) and Zingales (1994) offer empirical support for this theory. Zingales (1994) points out private action can consist of self-trading or insider contracts. Moreover, blockholder and minority shareholders may have different investment time horizons and goals. Minority shareholders can do nothing to prevent such actions against their interests. As blockholders gain more control over influencing company decisions, the possibility of successfully executing actions injurious to minority shareholders arises.

In my study, I define large shareholders as holders of blocks of 5% or more of a listed company's share, which is classified by previous literature. Chinese-listed firms are required to disclose in annual reports the names of holders of blocks of shares of 5% or more, or at least the top 10 shareholders and the percentage of their ownership, thus making the data available. Since most listed firms in China usually have concentrate ownership and particularly the state is often the largest shareholder, it is believed that managers in Chinese-listed firm have less managerial power and tend to not pay excessive compensation to themselves. I offer the following hypothesis:

***Hypothesis 4*: There is a negative relation between CEO compensation and the concentration of ownership in China's listed firms.**

Board of directors

5. Independent directors

The primary board-related issue is board composition. Board composition characteristics include three main types of directors: inside directors, outside directors, and affiliated individuals. Inside directors are always full-time management employees and can be executive officers, chairman, or financial officers. Byrd and Hickman (1992) consider that inside directors provide valuable information about a firm's activities. Baysinger and Butler (1985) claim that outside directors are independent and fulfil the role of directors in the corporate control view of firm. To be truly independent, outside directors must not be currently working in the firm or have any strong psychological or economic relationship with its CEO. In addition, they define the affiliated directors, who are not full-time employees of the firm but have a relation with it to some extent. Affiliated directors can be investment bankers, commercial bankers, lawyers, consultants, suppliers, and so forth. Both outside directors and affiliated directors are independent directors.

Fama and Jensen (1983) suggest that both outside and inside directors are valuable to the company. Insiders can provide experience and expertise that offers support to the

firm's operation while more exposed to potential self-dealing problem. In contrast, outsiders can be additional monitoring devices, adding their experience and value to the company. Fama and Jensen (1983) claim that an effective board should be composed of a large fraction of outside independent directors who hold significant positions in other company. Fama (1980) claims that outside directors are an essential part of the board because of the potential for collusion amongst inside directors. Bhagat, Brickley, and Coles (1987) state outside directors have a greater incentive to oversee the manager's actions than inside directors do. They are more likely to dismiss top management. The reason may rely on the personal liability for corporate actions, that is, they care about and wish to preserve their reputation on the human resource market.

Although the corporate governance literature makes the case that the proportion of independent directors will be negatively associated with top executive pay, empirical evidence has been mixed (e.g., Boyd, 1994; Kren and Kerr, 1997) with some studies reporting significant positive relationships (Lambert et al., 1993; Firth et al., 1999). In addition, Thian (2005) concludes that in China, independent directors are usually lacking knowledge and experience, so they always cannot direct management decisions. A rationale for the positive relationship is that independent directors may quote the high pay for the CEO as a comparison benchmark when they renegotiate their compensation at the firms for which they work. Another reason is the larger the

companies and boards, the larger numbers of independent directors needed. CEO compensation will be affected by company size, as I discussed above.

In China, Tenev and Zhang (2002) indicate that possible measures to strengthen the independence of the board of directors can focus on increasing the number of external and independent directors. According to CSRC 2001, rules on establishing an independent board of directors in listed companies require that at least one-third of the board consist of independent directors and include at least one accounting professional. This rule provides minimum seats of independent directors and ensures board independence. However, both Chen (2006) and Firth et al. (2007) found no relationship between proportion of independent directors and CEO compensation. More recently, both Li et al. (2007) and Conyon and He (2008) reported a positive relationship between them. These results implicate that the function of independent directors in Chinese list firm do not present well. The ineffective monitoring of in dependent director brings CEOs higher compensation.

Considering the quality and quantity of independent directors in China, I offer the following hypothesis:

***Hypothesis 5.1*: There is a positive relationship between CEO compensation and the proportion of the independent directors included on the board in China's listed firms.**

In addition, the space out of which independent directors' work can affect CEO compensation. Firstly, they have enough time and space to monitor the CEO's activity if independent directors working place and company headquarters are in same province. Secondly, they are familiar with the level of living expenses and average wage costs in that area. Thus, they will not quote a higher pay to a CEO that goes over local compensation benchmarks. Wang (2004) points out that the Chinese working income gap has expanded to some extent in recent years, and the most outstanding phenomenon is the enlargement of a working income gap in different areas. By looking at the whole country, the working income gap increased between the eastern and western areas constantly. The income level of each area is different, depending on living standards and development degree. Independent directors and company are not in same province willing to quote a higher pay if they are not familiar with company local living expenses. The reason for this phenomenon is they can also receive a higher pay or other benefits from CEO. Thus, I offer the following hypothesis:

***Hypothesis 5.2*: CEO compensation is higher when independent directors and company headquarters are in different provinces.**

6. Board size

Board size also contributes to board effectiveness and efficiency. Jensen (1993) believes that corporate boards become less effective as they grow in size, which is

based on the premise that larger boards likely are slower to react. If the size of the board is too large, for example, more than twenty people, they are less likely to function effectively and are easier for the CEO to control. This could be cause by animosity and retribution from the CEO. Yet Lipton and Lorsch (1992) show that if the size of the board increases, its capacity for monitoring increases as well. However, the benefit of monitoring cannot compensate for the cost of extra directors. Dey (2008) confirms that smaller board sizes can be more effective as monitors as well. Small boards have fewer disagreements amongst their members, who operate more efficiently and are better organised in exerting board functions than their peers on larger boards. Yermack (1996) finds an inverse association amongst the firm's market value and the size of the board of directors, which was measured with Tobin's *Q*. Further, he notes that small boards are more likely to dismiss the CEO following periods of poor performance and that CEO compensation is more sensitive to performance in small firms. In addition, according to a stock return analysis done by Yermack, when the board shrinks, stock returns react positively. This implies that investors see small boards as better governance structures, since larger boards are less effective and more susceptible to CEO influence. In order to decrease the disadvantages from a larger board, Shareholders prefer either reduce board size or increase board independence. The inefficient board monitoring caused by larger and complex board also exists in China. Hence, I offer the following:

***Hypothesis 6*: There is a positive relationship between CEO compensation and the size of the board of directors in China's listed firms.**

7. CEO and chairman duality

CEO duality exists when a firm's CEO also assumes the role of board chair of the directors. Prior studies suggest that a dual CEO/chair would have a higher agency problem, since the CEO is more likely to be entrenched (Yermack, 1996; Core et al., 1999). CEO entrenchment occurs when CEOs gain enough power to use the firm to pursue their own interests rather than that of shareholders. Mallette and Fowler (1992) point out that the CEO entrenchment is positively related to the CEO's tenure with a company. This is because a CEO can influence the board of directors though the director nomination process over time. Finkelstein and D'Aveni (1994) point out that duality leads to CEO entrenchment by challenging a board's ability to monitor and discipline. A number of researchers suggest agency problems worsen when the CEO is also the board chair, because this violates the separation of decision management and decision control. Separating decision management and decision control could help to alleviate agency problems by limiting managerial power to take advantage of shareholders, thus damaging their interest. This in turn damages a board's ability to monitor CEO's decisions, which gives CEOs greater opportunities to explore personal interests against those of the firm's shareholders. Iyengar and Zampelli (2009) argue from the perspective of agency theory: CEOs maximise their own utility and minimise individuals' risk at shareholders' expense. On the other hand, the independent board functions to monitor CEOs' decisions, ensuring they act in shareholders' best interests. When the CEO chairs the board of directors, the separation of decision management

and decision control is breached, with the board less able to monitor the CEO. In this case, a CEO may make decisions of personal benefit at the expense of shareholder wealth, which in turn negatively affects a firm's performance. Jensen (1993) argues that when the CEO also holds the position of board chair, internal control systems fail, as the board cannot effectively perform its key control functions. Ryan and Wiggins (2001) argue that CEO/chairman duality gives the CEO more power to affect the board, which weakens board control over the firm's compensation policy.

Agency theory suggests that CEO duality reduces the monitoring ability of the board and thus entrenches the CEO. On the other hand, organisational theorists argue that combining CEO and chairman positions is important, because it creates a unified leadership for the firm. Agency theory would suggest that the chairman be an independent outside director in order to serve most effectively as a direct monitor of the CEO. CEO duality promotes entrenchment and can lead to opportunistic behaviour. The empirical evidence on CEO duality is mixed. Core et al. (1999) and Brickley et al. (1997) report that duality leads to higher CEO pay in the United States. Xu (2003) finds that companies with state shareholders are more likely to have CEO duality. Hence, I offer the following hypothesis:

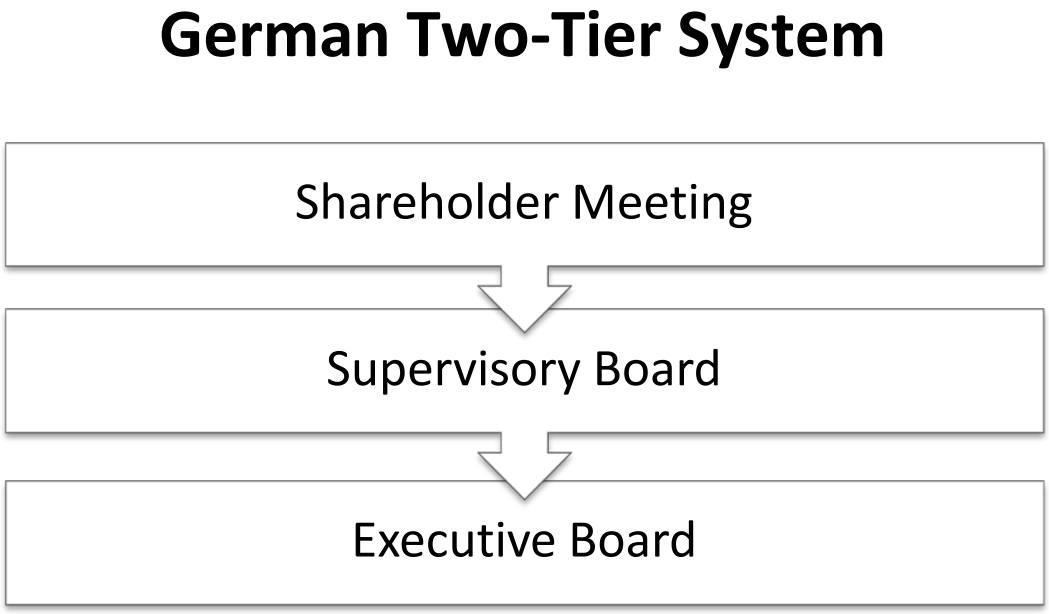
***Hypothesis 7*: CEO compensation is higher when the CEO played the chairman role simultaneously in China's listed firms.**

Board of supervisors

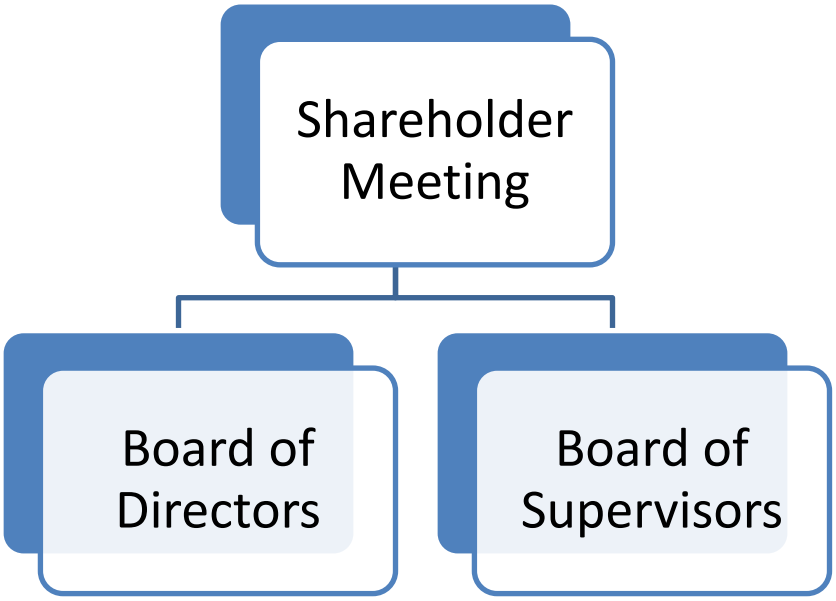
8. Size of the board of supervisors

Another important component of the Chinese corporation is the board of supervisors. The main function of the board of supervisors is to monitor management and supervise directors, managers, and other top management.

From the international point of view, the board of supervisors can be divided into two major types, namely, the German model and Japanese model.



Japanese System



Germany's corporate governance is taken up by the two-tier system. A management board and a supervisory board are established under the shareholder meeting and the supervisory board is upon the management board. German company law gives the supervisory board greater powers; these include appointing and dismissing members of the management board, setting up directors' compensation plans, monitoring the executive director to determine whether to operate the company according to the articles of association, and so forth. In contrast, the responsibility and the function of the board of supervisors in Japan are of a purely monitoring nature. Their position is equal to that of the board of directors. While, they will perform a supervisory role by simply saying that it will, without actually giving the board any significant powers. The board of supervisors in China is similar to the Japanese model. Under Chinese *Company Law*, the listed companies give both the board of directors and the board of

supervisors an equal say. The law stipulates that the supervisory board be composed of no less than three members whose term of office is three years. The supervisory board should be composed of shareholders' representatives and a proper proportion of representatives for employees. However, the *Company Law* does not address the exact proportion in the board of supervisors; it only requires that the corporate charts properly stipulate the proportion. The supervisor may not be the same person as any director or manager or chief financial officer. Supervisors shall attend meetings of the board of directors as non-voting participants. Further, the *Code of Corporate Governance for Listed Companies in China* issued by the CSRC and the State Economic and Trade Commission (2001) requires that supervisors should have related knowledge or work experience concerning accounting and law.

Li et al. (2007) point out that in the governance structure of Chinese-listed firms, the board of supervisors functions as an additional control layer that aims to monitor the behaviour of the CEO and board directors. Members of the supervisory board usually hold shares and consist of shareholders and workers' representatives. Since they are delegates for workers' interests, high CEO compensation could be viewed as damaging. In Germany where they have reserved seats on the board, workers' representatives naturally tend to vote against excess CEO compensation. Sheng (2004) notes that the Chinese supervisory system does not work well due to the following factors. Firstly, qualifying and electing supervisors is problematic to some extent.

They usually have lower educational knowledge and related working experience than directors and managers. Secondly, adequate power of the supervisory board is absent. Directors and managers do not need to report regularly to the board of supervisors. Thirdly, supervisors lack the necessary incentive and disciplinary mechanisms. Supervisors are not involved in the selection of directors and managers.

Dahya et al. (2002) argue that a board of supervisors does not always have adequate information and resources to perform its own duties. Tenev and Zhang (2002) point out that supervisors overall have less business and working experience than do directors. They also criticise that supervisors generally meet less frequently than the board of directors, and the meeting is not well attended. Supervisors often agree with decisions made by the board of directors and top management rather than contest them. Thus, this type of comparatively low quality, less professional supervisor results in their inability to act in supervisory roles for directors and managers.

If the size of the board of supervisors is large, it will offer more opinions from workers and minority shareholders, which leads to lower CEO compensation levels. Increasing supervisory board size will also increase monitoring quality and lead to the reduction of CEO compensation. The average number of supervisors in Chinese-listed companies is around three and only one person is a worker representative. This situation potentially makes boards of supervisors in China ineffective. Giving more

position and power to boards of supervisors, especially workers' representatives, will increase the quality of monitoring and lead to better corporate governance.

According to Li et al. (2007) and Buck et al. (2008) with no significant relationship between size of the board of supervisors and CEO compensation, I offer the following hypothesis:

***Hypothesis 8*: There is no relationship between CEO compensation and the size of the board of supervisors in China's listed firms.**

IV. Variables, Data, and Methodology

In this section, I discuss both independent and dependent variables, and the methodology used to test the relationship between them. The main research question is to test the relationship between CEO compensation and firm performance. However, past literature has used a considerable number of different variables to proxy both performance and compensation. The dependent variable in this study is CEO compensation, which is defined as the CEO total cash compensation, including base salary, bonuses, and commission. The independent variables consists of company performance, company operating characteristic, shareholding characteristic, board characteristic, CEO personal characteristic, and other factors. First, I will discuss the available dataset and principles that underscored its choice. The procedures for measuring both dependent and independent variables are discussed afterwards.

1. Variables

CEO Compensation (CEOPAY)

The total CEO pay package usually consists of salary, short-term incentive award, long-term incentive, benefits, and other elements. Salary is the basic form of CEO compensation and is also a general way of payment adopted by many companies.

The basic salary is set by the general industry level adjusted by company size, which is a best proxy for managerial skill requirement, job complexity, and span control. Bonus is another component of short-term compensation, which can be in the form of increasing salary or the form of direct cash received. The CEO's amount of bonus usually has a relation with objective performances of the company. However, it cannot incentivise long-term behaviour of the executive. The bonus payment as an incentive may raise problems, because the bonus is usually paid on the base of the firm performance of the current fiscal year. Thus, it is necessary to include the long-term incentive in the compensation package. Granted stock and stock option are two kinds of long-range incentives to associate CEO interest with company performance, because the stock values relate directly to their own interests. Stock options are contracts that give the recipient the right to buy a share of stock at a pre-specified exercise price for a pre-specified term. They not only help to attract and retain excellent manager but also conserve cash flow during financial constraints. However, compensation in the form of stock options is not commonly used in China. Until 2010, only 167 companies have stock-related pay out of total number of 2,062 companies listed in A-shares in China.

In previous literature, we observe several measures of executive compensation, such as total executive pay and average executive pay. Total executive pay is defined as the total annual cash compensation for all directors, supervisors, and high-level

executives. Average executive pay is calculated by total executive pay divided by the number of all directors, supervisors, and high-level executives. The most often used metric in Chinese data is the top three executive's average pay, which includes total annual cash compensation for CEO and the two other highest-paid executives. Instead, in this study, I use CEO real individual annual total compensation as the proxy of CEO pay. The data allow us to consider total cash compensation (including salary and bonus) rather than the whole compensation package with equity ownership and stock option. That is because data on other forms of compensation (e.g. equity ownership or stock option) are available for only a small number of companies, which is different from other international studies on executive compensation outside the United States.

Since 1998, the CSRC required all listed Chinese companies to disclose the total amount of compensation for the board of directors, the supervisory board, and senior management. However, it changed policy in 1999 and required disclosure of the total amount of compensation only for all directors and managers. In 2001, the CSRC changed the regulation of annual reporting again, stipulating that the sum of the top three executives and the sum of the top three directors must be disclosed in the company's annual report. To the best of my knowledge, most past research related to pay–performance relationship in China has used the top three executives' average pay as the proxy of CEO compensation. Since 2005, the CSRC required that CEO total cash compensation must be systematically recorded and disclosed. I use these newly

available CEO annual total compensation figures in the company as a proxy for the pay of the CEO, which include annual base salary, bonuses, and commissions.

Below is a summary of several past studies on executive compensation (Table 1):

Authors	Dependent Variable	Independent Variables	Data Sample	Main Findings
Lewellen and Huntsman (1970)	Cash compensation and total compensation	Profitability variables, market values variables and total sales	50 firms from Fortune magazine list from 1942 to 1963 with three-year intervals	Cash compensation and total compensation positive related to firm profit and market value. Sales variable is statistically insignificant in all cases.
Agarwal (1981)	Cash compensation: salary plus bonus	Job complexity variables, employer's ability variables and human capital variables.	168 U.S. life insurance companies.	Job complexity is significant related CEO compensation, profit as proxy of employer's ability and work experience as proxy of human capital are positive related to CEO compensation.
Murphy (1985)	Salary, bonus, salary plus Bonus, deferred compensation, stock options and total compensation	4 position dummies, sales, stock index, stock variance,	461 executives from 1964 to 1981	Executive compensation is positively related to company performance and company performance measured by shareholder return and growth in sales
Coughlan and Schmidt (1985)	Change in cash compensation: salary plus bonus	Sales growth, stock price performance	249 corporations from Forbes magazine surveys from 1978 to 1980	Change in cash compensation is positively related to abnormal stock price performance and not related to sales growth
Lambert and Larcker (1987)	Cash compensation: salary plus bonus	ROE and security market return (RET)	370 firms from 1970 to 1984	Cash compensation is more associated with accounting returns than with levels of security market returns.

Authors	Dependent Variable	Independent Variables	Data Sample	Main Findings
Abowd (1990)	Annual percentage increase in total salary and bonus as a percentage of base salary	ROA, ROE, after tax gross economic return and total shareholder return	372 firms from Compustat data file from four industries 1982-1986	Executive compensation is significantly related to after tax gross economic return and TSR. On the other hand, weak results reported between compensation and accounting performance ROA and ROE
Jensen and Murphy (1990)	Change in cash compensation, change in stock option and change in total compensation	Change in stock return	1049 firms from 1974 to 1986	CEO total compensation and stock option is relatively insensitive to company performance measured by stock return.
Boyd (1994)	Total cash compensation: salary, bonus, and long-term or deferred income.	Board control variables, firm size and ROE	193 firms in 12 industry groups in 1980	CEO compensation not significantly related and firm size and performance (ROE). Also, CEO compensation was greater in firms with lower levels of control.
Conyon (1997)	Change in cash compensation: salary plus bonus	Shareholder return, sales, remuneration committee and CEO duality dummies	213 large UK companies between 1988 and 1993	CEO compensation is positively related to current shareholder return. Company with remuneration committees seems lower growth rates in top director compensation.

Authors	Dependent Variable	Independent Variables	Data Sample	Main Findings
Hall and Liebman (1998)	Change in cash compensation include salary and bonus, stock option	Firm return in current year and last year	478 companies in 1980-1994	Positive pay–performance sensitivities using both cash compensation and stock option.
Conyon, Peck, and Sadler (2001)	Total cash compensation, long-term incentive plans and total compensation	Total shareholder return, total capital employed, age, job position, and ROA	100 largest U.K. firms from 1997-1998	CEO compensation level is lower than United States, pay gap is positive related to size, no significant relationship between compensation and performance.
Hartzell and Starks (2003)	Total direct compensation, change in cash compensation, and change in total direct compensation	Change in shareholder wealth, total institutional ownership, and Tobin's *Q*	1,914 firms on the S&P ExecuComp database from 1992-1997	Ownership concentration is negatively related to total compensation but positively related pay–performance sensitivity.
Kato and Kubo (2006)	Cash compensation	ROA, stock returns, sales, and number of employees	51 Japanese firms (18 listed and 33 unlisted firms) from 1986-1995	Japanese CEOs cash compensation is indeed sensitive to firm performance, especially accounting measures as opposed to stock market measures.
Firth, Fung and Rui (2006)	Cash compensation	Return on sales (ROS), stock return (RET), ownership, and assets	549 Chinese-listed companies from 1998-2000	ROS and RET are positive related to CEO compensation but not significant. Size is positively and significantly related to CEO pay.

Authors	Dependent Variable	Independent Variables	Data Sample	Main Findings
Kato, Kim and Lee (2007)	Cash compensation	ROA, stock returns, and growth rate	246 firms in KOSPI200 from 1998-2001	CEO cash compensation is significantly related to stock market performance. Significant executive pay-performance sensitivity in Korea.
Firth, Fung, and Rui (2007)	Cash compensation	ROA, stock returns, ownership, firm size, equity risk, board size, board composition, and duality	549 Chinese-listed companies from 1998-2000	Lagged ROA is significantly and positively associated with CEO PAY. No relation between pay and lagged stock return. Size is positive and highly significant.
Li et al. (2007)	Cash compensation	Board size, duality, supervision board size, outside directors, ROA, and firm size	206 Chinese-listed firms from 2000-2001	No statistically significant relation-ship between CEO compensation and board structure variables (board size, duality, and SB size). Higher proportion of outside directors has a positive effect on CEO compensation.
Buck, Liu, and Skovorod (2008)	Cash compensation	ROA, TSR, shareholder value, profits, firm size, board size, SB size	601 Chinese-listed firms from 2000-2003	CEO compensation and firm performance mutually affect each other through both reward and motivation.

Firm Performance (ROA EPS)

Company performance can take many forms. For example, Murphy (1985) uses stock price as the proxy for the firm performance. Jensen and Murphy (1990) apply the market value of the firm as the proxy. There are two commonly used proxies in previous literature – accounting-based and market-based measurements. Seth (1990) points out that the difference between market-based and accounting-based measurements is that the former reflects the present value of future streams of income, and the latter concentrates on past performance. In addition, Pavlik, Scott, and Tiessen (1993) conclude that when considering cash compensation, accounting performance is more important compared with stock performance. On the other hand, if the compensation includes granted stock or stock options, in this case stock performance is more important. Singh and Agarwal (2003) reach a conclusion that accounting-based performance measures are better predictors of short-term compensation compared with market-based performance measures. However, since the accounting measures are usually the proxies of profitability, they are subject to several drawbacks (Gomez-Mejia, Tosi, and Hinkin, 1987). Firstly, executives can manipulate accounting data to make them look good. In this case, the firm's true value cannot be adequately captured. They commonly manipulate depreciation policies, change inventory valuation procedures, use short-term, non-capitalised leases to obtain productive equipment, and apply other window dressing techniques, such as holding borrowed money as cash until the year's end.

Poster (1985) argues that company stock is one of the most effective devices to align managers' interests with those of shareholders. Dividend payments lower the retained

profits that are available for reinvestment, and research and development. Over time, the stock price will decrease. However, Deckop (1987) criticises that finding, noting stock prices are so volatile and are subject to external events that have nothing to do with the efficiency of a company. Madura, Martin, and Jessel (1996) also confirm that company stock prices tend to move with the market, which hides the different performances of different companies. Because of these concerns, some scholars (Bickford, 1981; Ellig, 1984) suggest using a combination of stock price and profitability data.

In this study, I use both accounting-based and market-based measurements. The first one is ROA, which is defined as profits divided by the book value of total assets. This is how many dollars of profit they could get for each dollar of assets they have. The second one is EPS. This is defined as the portion of a company's profit allocated to each outstanding share of common stock.

Operation (Size, MB)

Researchers are interested in the firm size–executive pay relation for several reasons. Firstly, executive pay is tied to firm size, because it is considered an easily recognised symbol of executive power and prestige. Secondly, the CEO can exercise more influence over firm size than performance and therefore can use firm size as a criterion for compensation (Kroll et al., 1990). Jensen and Murphy (1990) conclude that firm size could affect the pay–performance relationship.

Firm size is generally measured by assets, but sales can be used to determine firm size as well (Baker, Jensen, and Murphy, 1988; Newman and Banister, 1998). Sales volume is also considered a measure of firm size, because CEOs earn profit for the company through the volume of sales – the higher the sales volume, the higher the firm's profit. In a small firm, because of the small number of units sold, even a big improvement in managerial efficiency does not yield a large increase in total profits. In contrast, in a large firm, even a small increase in profits per unit can result in a large increase in total profits. Thus, if the executive compensations are based on the sales of the firm, it will show the relation with firm size. Large firms with high sales volume are able to compensate CEOs with a higher base salary.

Some research (Simon, 1957; Baumol, 1962) indicates that executive compensation should be associated with firm size. Large companies usually aim to maximise total sales rather than maximise profit. Moreover, as the maximum sales are often associated with minimum profit in economic theory, shareholders willingly accept the firm's scale as the measurement of company performance. Thus, if executive compensation is based on the firm's sales, this relation will be reflected in firm size. Further, since large companies usually have more complex job and require greater skill to operate, CEOs in large companies are usually paid more. Here, I use sales as a proxy for firm size.

Firm growth opportunity also been widely considered as control factors of operation to affect CEO compensation in both theory and empirical literatures. Firms with high growth opportunity need higher quality executives. More complex operation likely to

brings higher pay to CEO. Consist with Core et al. (1999), firm growth opportunity can be measured by market to book ratio. I use market to book ratio as additional control variables for firm operation beside firm size.

Shareholding (SOE, SAMB, SOECG, LAMB, SOELG, OTHERS, Concentration)

A key feature of many of China's privatised state-owned listed firms is that the state retains significant ownership. Thus, the listed firms are actually partially privatised. Chen, Firth, and Xu (2009) argue that the different forms of state ownership lead to different performance. They classify Chinese-listed companies by ultimate controller into four categories (SAMB, SOECG, SOELG, and PRIVATE). In my study, I presume different ownership could lead to different CEO compensation. According to Chinese laws and regulations, all Chinese-listed A-share companies can be divided into two big groups – SOEs and non-SOEs. If we consider different ultimate controller types, these companies can be further classified into five categories: 1) SAMB-SOEs administered by SASAC under the State Council; 2) SOELG-SOEs administered by other central government ministries; 3) LAMB-SOEs administered by local state asset management bureaus; 4) SOELG-SOEs administered by the local government; and 5) OTHERS, non-SOE companies that include private firms, individuals, educational institutions, or collective ownership.

In the modern firm, shareholders usually monitor management actions and can take steps to discipline or fire poorly performing executives. However, this monitoring cost is very high and only large shareholders can afford it. Thus, when a firm has a dispersed ownership characteristic, the CEO usually has greater managerial power

and could award him/herself higher pay. The theoretical foundation for the use of the Herfindahl index as a measure for ownership concentration is provided by Demsetz and Lehn (1985). A standard proxy for the degree of ownership concentration is the Herfindahl index, defined as the sum of the squared of proportionate shareholdings of the three or five largest shareholders in the company. I use the Herfindahl index to capture the shareholding concentration for my data sample. The concentration is defined as the sum of squares of proportionate shareholdings of the five largest shareholders in the company.

Board Characteristic (Board IDD IDDLOCAL DUAL)

The board of directors represents shareholder interests, and its members normally are appointed by large shareholders within the corporation. The board's major role is to oversee managers' actions on behalf of the shareholders. That is, they try to ensure a successful alignment of mangers' interest with that of shareholders and against managers who would act contrarily to such interests.

The board of directors is an important internal control mechanism in corporate governance. Board size has an important role in determining the effectiveness of the board. Jensen (1993) argues that a large board finds it difficult to monitor the CEO effectively. That is because as the board size becomes larger, the difficulty of coordination, communication, and processing problems is greater than the advantage with more people involved.

Independent directors supposedly provide more independent monitoring of CEOs. Hermalin and Weisbach (1998) argue that an independent director could provide better monitoring. Fama and Jensen (1983) suggest that an independent director can add firm value by providing expert knowledge. However, Crystal (1991) notes that since the independent director are usually hired by CEOs, s/he is less effective at monitoring CEO compensation. In China, there are limited independent directors in Chinese-listed firms, and most of them are represents of state.

The primary function of the chairman is to organise board meetings, monitor CEO, and make decisions about hiring, terminating, and compensating the CEO. A person with the role of both CEO and chairman would have a conflict of interest when carrying out these various responsibilities. Thus, if the board wants to be effective, it is important to separate the chairman and CEO.

The effect of the board of director on CEO compensation can be captured with following four variables: size of the board (BOARD), proportion of the independent director (IDD), independent director working area (IDDLOCAL), and duality (DUAL). The size of the board is measured by the log of directors served on the board. Proportion of the independent directors is defined as the percentage of independent directors on the board. The independent director working area is a dummy variable. It is equal to 1 if working area and company headquarters are in same province, and 0 otherwise. Duality is captured by a dummy variable. When the CEO is also the chairman of the board, *DUAL=1*, and *0* otherwise.

Supervisory Board (SUP)

Supervisory board are an additional control layer in the governance structure and aim to monitor managers and directors. Members of the supervisory board usually consist of shareholders' and workers' representatives. A large supervisory board can address workers' pay grievances in a meaningful manner. However, Dahya et al. (2002) find that because the supervisory board is often limited to the working report from CEOs, members do not have access to enough information to complete their mission. Tenev and Zhang (2002) suggest that CEOs can easily manipulate supervisory board to get a high compensation. Thus, it is important to find whether this additional monitoring layer operate efficient. I use size of supervisory board to proxy board quality. The size of the supervisory board is measured by the log of directors served on the supervision board.

Personal Characteristic (Age)

From a human capital point of view, executive compensation could be affected by certain individual characteristic such as age, tenure, education, and so forth. A CEO who is and who has longer CEO tenure may have more power to design his or her compensation package. However, a CEO with long tenure might also receive larger ownership of granted stock or options. In China, it is uncommon for most firms to give their managers stocks or options, with the result that such data are difficult to uncover. Tosi and Gomez-Mejia (1989) point out CEOs need a greater incentive to inspire their continued efforts necessary for both shareholders and company when

they reach retirement age. Therefore, the older the CEO, the greater the compensation s/he should receive.

Madura, Martin, and Jessel (1996) find that CEO compensation may be dependent on an individual's specific characteristics. It is possible that the compensation of CEO is related to CEO's human capital. The older the CEOs are, the more years of work experience, and more accumulated human capital. Thus, CEO's age is employed as a control variable.

See ***Table 2*** for a summary of all variables.

2. Data source

Since it was required that, from 2005 forward, CEO real total compensation be recorded and reported, my data range is from 2005-2009 and covers more than 1,300 companies with a total of 6,383 observations. CEO compensation data were manually gathered from company annual reports, and company financial data were obtained from the GilData Company, which summarises all key items from annual reports of each firm regulated by the CSRC. Ownership structure data were assembled from the research database (CSMAR) developed by Shenzhen GTA Information Technology Company.

Executive compensation data for Chinese-listed companies were not available until 1998. Since 1998, listed companies have been required to disclose top executive compensation. Required compensation disclosures in the annual report are total compensation to the members of the board of directors, the supervisory board, and senior management. The reported total compensation is the total cash compensation and includes base salary, bonuses, and commission. However, only the sums of the top three executives and the top three directors are reported. Since 2005, the CSRC has required that all listed companies not divide the compensation amongst board of directors, supervisors, and senior management. Instead, they are to provide the total compensation of every single director, supervisor, and senior manager.

3. Methodology

The aim of this study is to explain, predict, and test the relationship between CEO compensation, firm performance, and other factors in China; thus, I apply a quantitative approach. In quantitative research, the purpose is to quantify the relationship between dependent and independent variables.

Economic theory considers that CEO compensation is designed to link executive pay to firm performance measures by shareholder returns or profit, which aligns the CEO's interest with shareholders. Ogden and Watson (2004) state as an optimal employment, it should contain the 'non-contingent' salary, which aimed to attract and

retain high-quality executives, and the performance incentive, which aims to align the interests of executives and the shareholders.

$$W^* = w(S^*, P^*)$$

where W^* is the optimal contract, S^* is the base salary, and P^* is the performance-related payment.

To test the relation between pay and other variables for the unbalanced panel data, I use Pooled-OLS (ordinary least square). Fixed effect and random effect also considered to capture the individual firm effects and time period effect. OLS using pooled data is the leading method of estimation. Fixed effects and random effects are used to capture the unobserved effect. The fixed effect is efficient when the error terms are serially unrelated and homoskedastic. The random effect is useful when the unobserved is considered to be uncorrelated with all the explanatory variables. All estimation is done using STATA 11. I begin with estimating a standard measure of pay–performance with the level of CEO pay as the dependent variable. The hypotheses constructed in the last part suggests that several factors help determine CEO compensation.

Model 1

$$\text{CEOPAY} = a_0 + a_1 ROA + a_2 EPS + a_3 Size + a_4 SOE + a_5 concentration + a_6 Board + a_7 IDD + a_8 IDDLOCAL + a_9 DUAL + a_{10} SUP + a_{11} Age + a_{12} MB + u$$

[Eq. 1]

The first regression shows the effect of the firm performance on CEO pay level. This is followed by regressions with the control variables about firm size, ownership characteristic, board characteristic, personal characteristic, and so forth. *CEOPAY* is the natural log of CEO total cash payment. *ROA* is the return on assets, which are used to measure the company's profitability. *EPS* is the earnings per share, which is a market-based measure of firm performance. *Size* is the firm size that is measured by nature log of the total sales of the firm. *SOE* is a dummy variable equal to 1 when company's largest shareholder is the state and 0 otherwise. *Concentration* is the Herfindahl index as a measure for ownership concentration. *Board* is the size of board of directors and measured by nature log of total number of board members. IDD is proportion of the independent directors. *DUAL* is a dummy variable equal to 1 when CEO is also the chairman of the board and 0 otherwise. *SUP* is the natural log of total number of supervisors. *Age* is the natural log of CEO's actual age. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province and 0 otherwise. MB is market to book ratio.

Model 2

$$\text{CEOPAY} = a_0 + a_1 ROA_{t-1} + a_2 EPS_{t-1} + a_3 Size + a_4 SOE + a_5 concentration + a_6 Board + a_7 IDD + a_8 IDDLOCAL + a_9 DUAL + a_{10} SUP + a_{11} Age + a_{12} MB + a_{13} CEOPAY_{t-1} + u \quad \text{[Eq. 2]}$$

The second regression tests pay–performance relationship using lag value of performance variables. It aims to test whether CEO compensation is not only dependent on performance of the current year but also the prior year. Annual reports in China are usually released in the May or June of the coming year; thus, the performance is usually assessed with a delay.

Model 3

$$\text{CEOPAY} = a_0 + a_1 ROA + a_2 EPS + a_3 Size + a_4 SAMB + a_5 SOECG + a_6 LAMB + a_7 SOELG + a_8 OTHERS + a_9 concentration + a_{10} Board + a_{11} IDD + a_{12} IDDLOCAL + a_{13} DUAL + a_{14} SUP + a_{15} Age + a_{16} MB + u$$

[Eq. 3]

According to Chinese new *Company Law* and characters of company operation, I further separate total companies by different ultimate ownership into five groups. *SAMB* is a dummy variable equal to 1 if the ultimate controller is the central state asset management bureau (SAMBs). *SOECG* is a dummy variable equal to 1 if the ultimate controller is other central government ministries (SOECGs). *LAMB* is a dummy variable equal to 1 if the ultimate controller is local state asset management bureaus (LAMBs). *SOELG* is a dummy variable equal to 1 if the ultimate controller is local government. *OTHERS* is a dummy variable equal to 1 if the ultimate controller is a private firm, individual, educational institution, or collective ownership. I set the *OTHERS* group as the base group, because it has the most companies. I compared each group with OTHERS to investigate whether ownership has effect on CEO compensation setting. My aim is to test the whether the different ultimate controller will have an impact on the CEO compensation.

To further test pay–performance sensitivities in Chinese firms, I construct the pay–performance sensitivity model using a first-difference of log compensation (Jensen and Murphy, 1990). A model of the change in compensation on the change in performance implies a contemporaneous-only relationship.

Model 4

$$\Delta\text{CEOPAY} = a_0 + a_1\Delta ROA + a_2\Delta EPS + a_3 Size + a_5 concentration + a_6 Board + a_7 IDD + a_8 IDDLOCAL + a_9 DUAL + a_{10} SUP + a_{11} Age + a_{12} MB + u$$

[Eq. 4]

$\Delta CEOPAY$ is the change in the CEO's pay. ΔROA is the change in ROA. ΔEPS is the change in EPS. The rest of the variables are still included as the control variables. I applied Equation 4 for SOEs and non-SOEs separately, to see whether there are different stories for these two groups. Further, I applied Equation 4 for each ultimate controller group, which includes SAMB, SOECG, LAMB, SOELG, and OTHERS. These results will report under which type of ultimate controller practice companies achieve better corporate governance with strong pay–performance link.

In addition, we also report the coefficients from the following regression that allows current payment revisions to be based on changes of past as well as current performance.

Model 5

$$\Delta\text{CEOPAY} = a_0 + a_1 ROA_{t-1} + a_2 EPS_{t-1} + a_3 Size + a_4 SOE + a_5 concentration + a_6 Board + a_7 IDD + a_8 IDDLOCAL + a_9 DUAL + a_{10} SUP + a_{11} Age + a_{12} MB + u \quad \text{[Eq. 5]}$$

The reason for conducting this regression is expressed well by Jensen and Murphy (1990): the timing of performance payments is often ambiguous. Compensation decisions may be made before the fiscal year earning data become available. Moreover, it is possible that even with available data, the stock price change and the earnings increase are not incorporated into the CEO payment in the current fiscal year. Sometimes the measure and decision of the CEO's conduct may not have a direct, immediate effect on company accounting levels or market-based performance. Jensen and Murphy also specify in the case of bonus, it may be paid on the basis of measurement in the previous year, and usually, the proxy does not clarify when the bonus payment year differs from the bonus measurement year.

V. Results

In this section, I discussed results of my research. There are two parts including statistical descriptions and a discussion of empirical results.

1. Statistical descriptions

Table 3 provides descriptive statistics of CEO compensation in all Chinese A-share listed companies from 2005-2009. Note that one RMB is equal to approximately $0.15 U.S. dollars. Average (median) CEO compensation in 2005 is 243,525 (180,000) RMB, in 2006 is 285,550 (210,000), in 2007 is 440,556 (275,500), in 2008 is 450,817 (304,800), and in 2009 is 483,776 (339,200). Average (median) CEO compensation in 2005-2009 is equivalent to U.S. dollars $36,529 ($27,000), $42,833 ($31,500), $66,083 ($41,325), $67,623 ($45,720), and $72,566 ($50,880). I compared CEO compensation levels with those of the United States (an Anglo-American system country), Germany (a non-Anglo-American system country), and Japan (another Asian country). Hodgson (2007) reports the average CEO total compensation of U.S. S&P 500 companies in 2006 was around $14,783,144. Fabbri (2011) reports the CEO pay per head in Germany's 500 largest firms in 2006 was almost €700,000/$1,050,000. Lloyd (2010) reports the average top executive pay in 2004 in Japan 100 TSE-listed firms was around $610,000. In summary, the CEO pay level in China is much lower than in these developed countries that use different categories and apply different corporate governance systems. Although average CEO compensation in China has increased every year, CEO average pay in the United States in 2006 was still 14 times more compared with China's CEO average pay in 2009. The minimum CEO compensation was 140 RMB in 2005, and the maximum

was 47,704,000 RMB in 2009. The total number of A-share listed companies in China increased from 1,388 to 1,866 during the period of 2005-2009. This statistic indicates that a large gap persists between CEOs, and this may be because CEO compensation in China under different ultimate ownership types is irregular and uneven.

Table 4 provides descriptive statistics of CEO compensation in SAMB-controlled companies. There are 210, 220, 235, 240, and 255 companies in 2005, 2006, 2007, 2008, and 2009 controlled under this category. The average (median) CEO compensation in 2005, 2006, 2007, 2008, and 2009 is 287,314 (205,965) RMB, 400,415 (256,000) RMB, 529,513 (350,000) RMB, 507,195 (378,667) RMB, and 501,620 (389,000) RMB. CEO pay from 2005-2007 increased and remained around 500,000 RMB in 2007-2009. Compared with Table 3, CEO compensation in SAMB-controlled companies is slightly higher than the average level of the whole country.

Table 5 provides descriptive statistics of CEO compensation in SOECG-controlled companies. There are 56, 63, 75, 78, and 82 companies in 2005, 2006, 2007, 2008, and 2009 controlled under this category. The average (median) CEO compensation in 2005, 2006, 2007, 2008, and 2009 is 291,032 (256,000) RMB, 380,856 (281,143) RMB, 708,334 (343,000) RMB, 727,626 (438,300) RMB, and 767,269 (480000) RMB. The statistics are similar to SAMB-controlled firms that show CEO pay from 2005-2007 increased rapidly and continued to increase but more slowly in 2007-2009. The CEO compensation level from 2007 is much higher than for SAMB-controlled firms and the average level of the whole country.

Table 6 provides descriptive statistics of CEO compensation in LAMB-controlled companies. There are 464, 482, 498, 510, and 521 companies in 2005, 2006, 2007, 2008, and 2009 controlled under this category. The average (median) CEO compensation in 2005, 2006, 2007, 2008, and 2009 is 231,517 (178,650) RMB, 268,106 (218,000) RMB, 372,207 (282,350) RMB, 396,890 (300,000) RMB, and 435,636 (330,000) RMB. The average CEO pay in 2006-2007 has the highest rate of increase, which rose about 110,000 RMB. However, the overall payment level is still significantly lower than that for CEOs in SAMB and SOECG groups.

Table 7 provides descriptive statistics of CEO compensation in SOELG-controlled companies. There are 101, 117, 125, 123, and 126 companies in 2005, 2006, 2007, 2008, and 2009 controlled under this category. The average (median) CEO compensation in 2005, 2006, 2007, 2008, and 2009 is 215,634 (155,000) RMB, 259,628 (170,000) RMB, 374,555 (278,750) RMB, 380,025 (267,000) RMB, and 439,021 (320,000) RMB. SOECG-controlled companies also experienced high growth rates for CEO compensation in 2006-2007. This result is similar to LAMB-controlled firms.

Table 8 provides descriptive statistics of CEO compensation in OTHERS-controlled companies, which include private, collective, and educational institutions. There are 503, 565, 651, 722, and 842 companies in 2005, 2006, 2007, 2008, and 2009 controlled under this category. The average (median) CEO compensation in 2005,

2006, 2007, 2008, and 2009 is 223,547 (167,000) RMB, 242,550 (180,000) RMB, 318,025 (228,000) RMB, 392,451 (267,150) RMB, and 441,260 (308,000) RMB. Although the pay level is relatively lower than other groups, the increase rate of CEO compensation in this group is steady.

The above tables show two common characteristics. Firstly, the CEO compensation level in China has greater differences in different companies. The highest CEO compensation normally has dozens of times compared with the lowest CEO compensation. Secondly, the average CEO compensation is higher than the median of CEO compensation. That means most CEOs receive compensation higher than the standard CEO pay level under the same group.

Table 9 shows descriptive statistics of key variables used in this study by type. This table includes the average figure of all observations. The average CEO compensation includes all companies and all years are 391,788 RMB. The average CEO compensation in SAMB- and SOECG-controlled companies is higher than the mean value of all companies that are 452,562 RMB and 597,227 RMB. Companies controlled by LAMBs, SOELGs, and OTHERS provide lower CEO average compensation compared with all samples. SAMB and SOECG companies present a large scale of sales. These two groups of companies response for national economy and direct administered by central government. This dominated situation is unachievable in companies in other groups. ROA of companies in OTHERS is considerably larger than that of others. However, when considering the EPS, all groups show similar performance, which is the reason I use both market-based and

accounting-based measurements to proxy the performance. The average size of boards of directors is around nine members in Chinese-listed companies. This result is similar to U.S. companies (Jensen, 1993). The proportion of independent directors is retained one-third across the board, and the average size of the supervisory board is four members.

Table 10 shows descriptive statistics of key variables used in this study by year. We can see average CEO compensation increased each year in 2005-2009. Average sales also present a steady growth situation. The average value of Herfindahl, board size, proportion of independent directors, and supervisory board size shows nearly no change.

Table 11 provides descriptive statistics of CEO compensation by CSRS industry categories as well as ultimate ownership type. Manufacturing industry has the most company observations, 4,556, more than half of all observations. The manufacturing companies belonging to OTHERS group almost account for 42% of the total number of manufacturing companies. CEO gets highest average compensation from the real estate industry, 500,081 RMB. In the real estate industry, CEO gets both the highest and the lowest average compensation in SAMB-controlled companies and SOELG-controlled companies. In contrast, CEOs in the farming, forestry, animal husbandry, and fishery industry receive the lowest average compensation. Under the same industry, CEOs receive the highest and the lowest average compensation in OTHERS-controlled companies and SOELG-controlled companies. Overall, the CEO usually

gets relatively lower average pay from SOECG- and LAMB-controlled companies across all industries.

2. Empirical results

Table 13 presents the regression results between CEO compensation and other independent variables using both accounting-based and market-based measurements. The results show that performance as measured by ROA is statistically significant at the 10% level. This means there is a positive relationship between CEO compensation and company performance in Chinese corporations. This result is similar to earlier prior research (Buck et al. 2008; Firth, Fung, and Rui 2007; Kato and Long 2006; Li et al. 2007). In contrast, Li and Xia (2006) report that that there is no significant positive relation between annual compensation of senior management and firm performance. In addition, ROE is also a commonly used accounting performance proxy. Both Chen (2006) and Tao, Wei, and Li (2007) find positive relations between CEO compensation and ROE. The Chinese government has practiced modern corporate governance system only in the past two decades. They have worked to improve to better governance structures and as result, the relationship between pay and performance should be positive.

Company size has a very strong positive relationship with CEO pay. This result is in line with most past research (Firth, Fung, and Rui 2007; Jensen and Murphy 1990; Kato and Long 2006; Rosen 1992). After controlling for firm size and other variables, the SOE dummy is negatively related to CEO pay. This result indicates that CEO pay

in state or government controlled company (SOEs) is lower than in private and other form controlled company (non-SOEs). The ownership concentration is negatively related to CEO pay. The special characteristic of highly concentrated ownership in China has some degree of influence in monitoring CEO behaviour and compensation setting. Companies with higher concentrated ownership tend to pay a lower degree of CEO compensation. Both board size and proportion of independent directories are positively related to CEO pay. These results are consistent with my Hypothesis 6 and Hypothesis 5.1. In addition, a negative relationship between the size of supervisory board and CEO pay has been reported. This result is not what I expected according to previous studies in China. However, this is a good sign for Chinese corporate governance. One possible reason for this result is my dataset use CEO real pay as proxy of CEO compensation and data range is more recent. New Chinese *Company Law* established from 2006 and required board member of supervisory board should contain at least 1/3 worker representative which differ from old *Company Law*. As I argued before, worker representative seems to be more efficient on the board of supervisors.

After controlling for other variables, CEO duality is positively related to CEO pay. That means having a chairman's status bring greater compensation to CEO. Previous literature shows a mixed picture of the relation between duality and performance. Some argue that with different people in the chairman and CEO positions, the board can achieve better monitoring and control over the CEO. However, Donaldson and Davis (1991) argue that duality can help CEOs make quick decisions and outperform other companies. On the empirical side, some suggest a positive relationship between CEO duality and CEO pay (Brickley et al. 1997; Core et al. 1999). In contrast,

Conyon (1997) finds no effect in his British data sample. Firth, Fung, and Rui (2007) show that for China, the chairman position will set CEO pay that is unrelated to company performance. In my data sample, about 200 companies have duality and most of them come from SOEs. From managerial power point of view, if the CEOs are also the chairman at the same time, they have extra power to control board. Board of directors either working inefficient or totally lose function. The working area of independent directors also effect CEO compensation. After control other variables, CEO gets higher pay when independent director especially financial one working area and company headquarters are in same province. Independent directors could be easily influenced by CEO if they are in same province. Social network in china is very important. Independent directors would happy to receive wider interpersonal relationship introduced by CEO. Thus, independent directors are likely to work cooperative with CEO. In addition, CEO pay in Chinese corporations especially in SOEs increases progressively with age. The result shows a significant positive relationship between CEO pay and CEO age in all significant regressions.

The EPS as market-based performance indicator is strongly related to CEO pay. This result offered further indications that CEO compensation is linked with company performance in Chinese-listed firms. Compared with ROA, EPS presented more explanatory power on pay–performance relationship. The rest of the variables have similar results with links to CEO pay. This result is consistent with past research on corporate governance internationally (Gao and Song, 2007; Singh and Agarwal, 2003; Zhang, Zhao, and Zhang, 2003).

In addition, I put both performance variables into the same equation. I found no relation between ROA and CEO pay. On the other hand, EPS still exhibits a very strong relationship with CEO pay. This result means there is some interaction between ROA and EPS. In this case, EPS is a better variable to explain pay–performance relationship in Chinese-listed firms.

In Model 2, I use the lagged value of performance variables to test the pay–performance relationship. As shown in Table 14, I found the relationship between ROA and CEO pay went from positive to no relationship after controlling for other variables. This result indicates that CEO pay does not relate to last year's accounting performance. The CEO compensation setting depends more on the current year's financial performance. In contrast, lagged EPS remains a strong positive relationship with CEO pay after controlling for other variables. This result means the setting of CEO compensation depends on both current year and past year market performance. CEOs are rewarded not solely by the performance of the current year but also the difference from last year. Junarsin (2011) finds similar results when using lagged value of ROA and EPS.

Table 15 presents different CEO pay levels under different ultimate controller types. I use OTHERS as base group, because OTHERS is the biggest subgroup. After controlling for ROA, EPS, firm size, and other variables, SAMB, LAMB, and SOELG are negatively related OTHERS. Only SOECG is positively related OTHERS. In other words, CEO pay level is lower in SAMB-, LAMB-, and SOELG-controlled companies compared with private and other companies. In the meantime, CEO pay in

SAMB-controlled companies is higher than LAMB-controlled companies and SOELG-controlled companies. CEO pay in SOECG-controlled companies is higher than in privately controlled companies. This result is different from my Hypothesis 3.2. One possible explanation of this result is that most companies in this category are banking companies, insurance companies, security companies, and other state monopolies. These companies usually have an important effect on the Chinese economy, and CEOs in these companies need higher skills and more experience. The central government tends to provide a subsidy and set a higher compensation level for these CEOs to encourage their good management of the company. However, CEO compensation in SOECG-controlled companies was subject to very high restrictions from the central government that changed the rule of CEO compensation being dependent on company performance. In order to test this hypothesis, I changed the performance control variable to EPS to see if there was any difference under a different model. It turns out that with EPS the result stays the same. CEO pay in private and other companies is still higher than in SAMB-, LAMB-, and SOELG-controlled companies. SOECG-controlled companies outperform the other four groups in terms of CEO compensation. These results are consistent with Firth et al. (2007) who note that companies with significant government ownership have lower CEO compensation than do private companies.

In stage two, I test pay–performance sensitivities in Chinese-listed companies using a different combination. This approach is introduced by Jensen and Murphy (1990), and it has been well-used after that. Firstly, I use change of ROA as performance indicator to test pay–performance sensitivity. I have divided all A-share listed companies into two groups named SOEs and non-SOEs. Table 16 shows that there is a positive and

significant relationship between change in pay and change in ROA in SOEs. In contrast, it shows no significant pay–performance sensitivities in non-SOEs. These results can be explained as follows. SOEs have a very high concentrated ownership structure and relatively higher degrees of regulations and restrictions. A change in CEO pay is more depends on a change in company performance. On the other hand, CEO pay setting in non-SOEs is more flexible, because most of them originate from family or group businesses. They have not been subject to the modern corporate governance to as great an extent. Further, it is not dependent only on change in company accounting performance reported on the balance sheet every year. In addition, I test pay–performance sensitivity using change in EPS as a performance indicator. I find different and interesting results compared with the last regression. Change in pay remains a strong positive relationship with change in EPS in SOEs. Change in pay also presents a positive relationship with change in EPS in non-SOEs. This result means when performance is linked to shareholder wealth in non-SOEs, a change in pay could be linked to a change in company performance. The owner of a non-SOE tends to pay more attention to market-based performance, that is, EPS rather than those that are accounting based. In summary, if we divided all Chinese A-share listed companies into SOEs and non-SOEs, SOEs practice better governance mechanisms with strong pay–performance relationship.

According to company ultimate controller types, I further divided all companies into five subgroups named SAMBs, SOECGs, LAMBs, SOELGs, and OTHERS. Table 18 shows pay–performance sensitivities are various in these different groups. When I use change in ROA as performance proxy, change in pay of SOECGs, SOELGs and OTHERS have no significant relationship with change in ROA. On the other hand,

SAMBs and LAMBs reflect positive pay–performance sensitivities. In addition, SAMBs present a better coefficient compared with LAMBs. Then, I applied EPS as a performance proxy. The results are similar to those found in Tables 16 and 17, the change of EPS shows stronger explanatory power over the changes of CEO compensation. Coefficients for the change of EPS, except those for SOECG and OTHERS controlled firms, are positive and statistically significant. Although firms with SOECG as their ultimate controller pay their CEO the highest amount of compensation, there is no relation between change of CEO pay in SOECG and changes of EPS. This can be explained because most firms in this group are in banking or transportation industries, which are subject to strict regulation and monitoring. The extent of compensation increase has been limited and capped. In 2008, the Ministry of Finance in China issued a decree restricting the increase of the compensation in the financial industry, although performance has improved significantly, in order adapt to both the domestic and international economic situation as well as promote the fair distribution of wealth amongst all the industries.

In summary, companies controlled by SAMBs and LAMBs have better pay–performance relationships. That indicates SAMBs and LAMBs have more efficient corporate governance mechanisms with strong performance-related incentives offered to their top executives. They have tried to achieve a greater marketisation management mode with less government influence. Further, they have introduced several key elements from the modern Western corporate governance system. They hire a number of highly skilled experts or professional workers as employees with better operations. In the next stage, SOELGs and SOECGs should have a series of reforms to acquire a more efficient corporate governance system. Corporate

governance in privately listed companies is uneven. One possible reason for this phenomenon is that large, old companies have better governance structures compare with new, smaller companies. They, too, need to adopt more Western-style governance models to improve their operational quality and efficiency.

Finally, I tested whether past performance will effect change in CEO pay. Table 20 shows regression of pay-performance sensitivities using lag value of performance variables. Neither lag value of ROA nor lag value of EPS has any relationship on change of CEO pay. These results indicate that change in CEO compensation in Chinese-listed companies does not depend on the company's past performance.

3. Robustness test

In order to test the robustness of my results, I employed four types of methods and estimation results separated into table 21, table 22, table 23, table 24, table 25, table 26 and table 27. Most results are similar as my main results which indicate that my estimations are robust.

Firstly, I adopt natural log of company total assets as alternative indicator of company size. Company total assets are also common used size indicator suggested by previous empirical works as I described before. With company total assets, ROA is more significant with CEO compensation and the coefficient is better than that used sales. Other variables remain strong and significant relation with CEO compensation. In

addition, scholars applied different variables to proxy both accounting-based performance and market-based performance (Abowd 1990; Firth et al. 2006, 2007; Kato and Long 2006; Conyon and He 2008). In that case, I use ROE replace ROA as measurement of accounting-based performance and annual stock return replace EPS as measurement of market-based performance. Regression results listed in table 22 and most results remain consistent with my main findings.

Secondly, I cut my full sample data into a smaller sample which include data from 2005 to 2007. The reason for this estimation is to find whether there is time effects exist in my dataset. As shows in table 23, all results are consists with my main findings. Alternatively, I introduce year dummy variables into regressions to control time effects and reported into table 24. The results of this estimation are similar as first method that consists with my main results.

Thirdly, I introduced industry dummies into my main regressions. As shows in table 25, all results are similar with my previous estimations.

Finally, according to firth et al. (2007) and firth et al. (2010), the region may have impact on CEO compensation. To test whether this phenomenon effect pay-performance relationship in my study, I use two kind of index to control region effect. First, I use consumption level index of each province from 2005 to 2009. I calculate average level of each province for these 5 years, then generate an average level of all provinces. Provinces with higher than average consumption level are coded to 1 and

represent more developed areas. Provinces with lower than average consumption level are coded to 0 and represent less developed areas. Table 26 shows results with control of region. The results are consists with my main findings. Second, I replace consumption level index by GDP index. The results remain consistent as shows in table 27.

VI. Conclusion

This dissertation investigates the relationship between CEO compensation and firm performance, with considerations regarding the control of the ultimate shareholder, firm size, ownership concentration, size of board, size of independent directors, size of supervision board, duality, and other control factors. The agency theory literature suggests that because of the separation of ownership and management, CEOs always seek to maximise their own interests rather than those of shareholders. This is due to the disparity between the agent and principal in terms of interest and risk attitude. CEO compensation as a corporate governance internal mechanism has been considered as an effective way to align CEOs interests with shareholders.

This topic has been examined intensively in developed countries. However, there is a relatively small amount of literature focussed on emerging countries, especially China. China has come through a series of economic reforms and policies of opening up trade and commerce, especially concerning the reform of SOEs. Chinese companies have grown increasingly aware of the importance of modern corporate governance systems. They are keen to solve agency problems by introducing both internal and external mechanisms. These make transitory China a unique and interesting research subject from the perspective of corporate governance. I contribute to the literature by providing evidence of the relationship between CEO compensation and firm performance with newly released data of individual CEO compensation. I have explored CEO compensation under different ownership characteristics.

I offer two ways of classifying the different ownership structures. Firstly, I divide my sample into two subsamples: SOEs and non-SOEs. Then, I subdivide those into five groups according to the property of ultimate shareholders: 1) SAMB-SOEs administered by SASAC under the State Council; 2) SOELG-SOEs administered by SOECGs; 3) LAMB-SOEs administered by LAMBs; 4) SOEs administered by the local government; and 5) OTHERS, non-SOE companies that include private firms, individuals, educational institutions, or collective ownership.

My results show that a positive relation exists between CEO compensation and firm performance, especially when the performance is measured by market-based variables. The larger the firm size, the higher the CEO compensation. Moreover, the diverse ownership leads to higher compensation in my data sample; and the size of the board of directors and independent directors contribute positively as well to the CEO compensation. In addition, the age of the CEO, the size of the supervision board, and past performance also have an impact on CEO compensation. Further, SOEs tend to offer their CEOs a lower compensation package than do non-SOEs. In the five-group scenario, CEO compensation in privately controlled companies is higher than in the three-group one, but lower than the SOECGs. In addition, while a change of performance is positively related to the changes of CEO compensation in the full sample, no relation was found for companies controlled by SOECGs. The contrast between a high compensation level and an insignificant relation with performance in SOECG can be explained by the fact that most firms in this group are found in the financial and transportation industry, which offers good economic benefits and is subject to strict regulation and monitoring.

Overall, our results show that the increase in CEO compensation results from the economic improvement rather than poor corporate governance. However, we still find unbalanced resources available for companies with different ownership properties, in terms of fund allocation, human resources, and policy subsidy. With the corporate governance standard improving greatly in the future, we expect to see CEOs given more autonomy, becoming more involved with decision-making, and having greater accountability. There will be a stronger relation between CEO compensation and firm performance, especially non-SOEs and firms from certain highly regulated industries. CEO duality will be gradually eliminated and CEO compensation will reflect international market forces. Further, the Chinese government should encourage financial disclosure. Improving transparency in the disclosure process will improve the effect of external mechanisms, such as the managerial labour market, and legal and regulatory systems. All these changes will provide additional data for future research.

VII. Reference

Abowd, John M. (1990) Does Performance-Based Managerial Compensation Affect Corporate Performance? *Industrial and Labor Relations Review*, 43(3), 52-73.

Agarwal, N. C. (1981) Determinants of Executive Compensation, *Industrial Relations: A Journal of Economy and Society*, 20(1), 36-45.

Aggarwal, R.K and Samwick, A.A (1999) The other side of the trade-off: the impact of risk on executive compensation, *Journal of Political Economy*, 107(1), 65-105.

Agrawal, A, and Knoeber, C.R., (1996) Firm Performance and Mechanisms to Control Agency Problems Between managers and shareholders, *Journal of Financial and Quantitative Analysis*, 31, 377-90.

Baber, W.R., Janakiraman, S.N. and Kang, S.K. (1996) Investment opportunities and the structure of executive compensation, *Journal of Accounting and Economics*, 21, 297-318.

Bai, C., Liu, Q., Lu, Z., Song, M. and Zhang, J. (2005) An Empirical Study on Chinese Listed Firms Corporate Governance, *Economic Research Journal*, 2, 81-91.

Baker, G.P., and B.J Hall (2004) CEO incentive and firm size, *Journal of Labor Economics*, 22, 767-798.

Baker, G.P., Jensen, M.C., and Murphy, K.J. (1988) Compensation and incentives: Practice vs. theory, *Journal of Finance*, 43,595-616.

Barclay, M. J., Holderness, C. G., and Pontiff, J. (1993) Private benefits from block ownership and discounts on closed-end funds, *Journal of Financial Economics*, 33(3), 263–291.

Barkema, H. G. and Gomez-Mejia, L. R. (1998) Managerial Compensation and Firm Performance: A General Research Framework, *The Academy of Management Journal*, 41(2), 135-145.

Barro, J.R., and Barro, R.J. (1990) Pay, performance and turnover of bank CEOs, *Journal of Labor Economics*, 8(3), 448-481.

Baumol, W.J (1962) On the theory of expansion of the firm, *American Economic Review*, 52, 1078-1087.

Baysinger, B.D, Butler, H.N (1985) Corporate governance and the board of directors: performance effects of change in board composition, *Journal of Law, Economics and Organization*, 1, 101-24.

Bebchuk, L.A and Fried, J. M. (2003) Executive compensation as an agency problem, *Journal of Economic Perspective*, 17(3), 71-92.

Becht M., Bolton, P., and Roell, A., (2002) Corporate Governance and Control, National Bureau of Economic Research, Working Paper number 9371, December 2002.

Becker, G.S. (1964) *Human capital: A theoretical and empirical analysis: With special Reference to Education.* New York, NY: National Bureau of Economic Research.

Benito, Andrew and Martin J. Conyon, (1999) The governance of directors' pay: evidence from UK companies, *Journal of Management and Governance,* 3, 117-136.

Berle, A.A., Jr and Means, G.C. (1932) *The modern corporation and private property*, New York: Macmillan.

Bertrand M. and Mullainathan S. (2000) Agents with and without principals, *American Economic Review*, 90(2), 203-08.

Bhagat, S., Brickley, J.A. and Coles, J.L. (1987) Managerial Indemnification and Liability Insurance: The Effect on Shareholder Wealth, *Journal of Risk and Insurance,* 54(4), 721-736.

Bickford L. C. (1981) Long- Term Incentives for Management, Part 6: Performance Attainment Plans, *Compensation and Benefits Review*, 13, 14-29.

Boone, A. L., Casares Field, L., Karpoff, J. M. and Raheja, C. G. (2007) The determinants of corporate board size and composition: An empirical analysis, *Journal of Financial Economics*, 85(1), 66-101.

Boyd, B. K. (1994) Board control and CEO compensation, *Strategic Management Journal*, 15, 335-344.

Brickley, J., Coles, J., Jarrell, G. (1997) Leadership structure: separating the CEO and chairman of the board, *Journal of Corporate Finance*, 3, 189-220.

Brown, David A. H. and Brown, Debra L. (1999) Who Does What? A Practical Guide to the Roles, Responsibilities and Relationships of Directors, Executives and Shareholders, Conference Board of Canada.

Buck, T., Liu, X. and Skovoroda R. (2008) Top executive pay and firm performance in China, *Journal of International Business Studies*, 39(5), 833-850.

Burkart, M., Gromb, D., and Panunzi, F. (1997) Large shareholders, monitoring, and the value of the firm, *Quarterly Journal of Economics*, 112(3), 693–728.

Byrd, J. W. and K. A. Hickman (1992) Do outside directors monitor managers? Evidence from tender offer bids, *Journal of Financial Economics*, 32(2), 195-222.

Chen, G., Firth, M. and Xu, L. (2009) Does the type of ownership control matter? Evidence from China's listed companies, *Journal of Banking and Finance*, 33(1), 171-181.

Chen, J. J., Liu, X. and Li, W. (2010), The Effect of Insider Control and Global Benchmarks on Chinese Executive Compensation, *Corporate Governance: An International Review*, 18(2), 107-123.

Chen, Xiaoyue and Xu, Xiaodong (2001) Equity Structure, Firm Performance and the Protection for Investors Interest, *Economic Research Journal*, 11, 3-11.

Chen, Yan (2006) Empirical research on corporate performance, corporate governance and executive compensation, *Journal of Central University of Finance and Economics*, 4, 92-96.

Conyon, M. J. (1997) Corporate Governance and Executive Compensation, *International Journal of Industrial Organization*, 15, 493-509.

Conyon, M. J., and He, L. (2008) Executive compensation and CEO equity incentives in China's listed firms, SSRN Working Paper, Available at SSRN: http://ssrn.com/abstract=1261911

Conyon, M. J., and He, L. (2011) Executive Compensation and Corporate Governance in China, *Journal of Corporate Finance*, Article in Press, Accepted Manuscript.

Conyon, M. J., Peck, S. I., and Sadler, G. V. (2001) Corporate tournaments and executive compensation: Evidence from the UK, *Strategic Management Journal*, 22(8), 805-815.

Conyon, M. J. and Sadler, G. V. (2001) CEO compensation, option incentives, and information disclosure, *Review of financial economics*, 10, 251-277.

Cordeiro, J., Veliyath, R. and Eramus, E. J. (2000) An empirical investigation of the determinants of outside Director compensation, *Corporate Governance: An International Review*, 8 (3), 268-279.

Core, J.E., Holthausen, R.W. and Larcker, D.F. (1999) Corporate governance, chief executive officer compensation, and firm performance, *Journal of Financial Economics*, 51(3), 371-406.

Coughlan A. T. and Schmidt R. M. (1985) Executive compensation, management turnover and firm performance, *Journal of Accounting and Economics*, 7, 43-66.

Crystal, Graef S. (1991) Why CEO Compensation Is So High? *California Management Review*, 34(1), 9-29.

Dahya, J., Karbhari,Y. and Xiao, J., (2002) The supervisory board in Chinese listed companies: problems, causes, consequences and remedies, *Asia Pacific Business Review*, 9(2), 118 - 137.

Deckop, J.R. (1987) Top Executive Compensation and the Pay for Performance Issue , In D. Balkin and L. Gomez-Mejia Eds. *New Perspectives in Compensation*, (New York: Prentice-Hall), 285-293.

Demsetz, H., and K. Lehn， (1985) The structure of corporate ownership: Causes and consequences, *Journal of Political Economy*, 93, 1155-1177.

Denis, D.K., McConnell, J.J., (2003) International corporate governance, European Corporate Governance Institute, Finance Working Paper Number 05/2003, January.

Denis, D.J. and Denis, D.K. (1995) Performance changes following top management dismissals, *Journal of Finance*, 50, 1029-57.

Dey, Aiyesha (2008) Corporate Governance and Agency Conflicts, *Journal of Accounting Research*, 46, 1143–1181.

Dittmann, I., Maug, E. and Schneider, C. (2010) Bankers on the Boards of German Firms: What They Do, What They Are Worth, and Why They Are (Still) There*, *Review of Finance,* 14(1), 35-71.

Donaldson, L. and Davis, J. H. (1991) Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns, *Australian Journal of Management*, 16(1), 49-64.

Du, Ying and Liu, Liguo (2002) Ownership structure and corporate governance efficiency: an empirical work from Chinese listed company, *Management World*, 11, 124-133.

Dyl E.A, (1988) Corporate control and management compensation: Evidence on the agency problem, *Management and Decision Economics*, 9, 21-26.

Eisenhardt, K.M. (1989) Agency theory: Assessment and review. Academy of Management Review, 14, 57-74.

Ekanayake, S. (2004) Agency theory, national culture and management control systems. *Journal of American Academy of Business*, 4(1), 49-54.

Ellig, B.R. (1984) Incentive plans: Over the long term, *Compensation Review*, 16(2), 39-54.

Fabbri, Francesca (2011) What explains the rise in CEO pay in Germany? A panel data analysis for 1977-2009, working paper, Available from: http://client.norc.org/jole/soleweb/11218.pdf [accessed 15th May 2011].

Faccio, M., and Lang, L. H. P. (2002) The ultimate ownership of western European corporations, *Journal of Financial Economics*, 65(3), 365-395.

Fama, E. (1980) Agency problems and the theory of the firm, *Journal of Political Economy*, 88(2), 288-307.

Fama, E. F., and Jensen, M. C. (1983) Separation of ownership and control. *Journal of Law and Economics*, 26(2), 301-325.

Finkelstein, S. (1992) Power in Top Management Teams: Dimensions, Measurement, and Validation, *The Academy of Management Journal*, 35(3), 505-538.

Finkelstein, S., and D'Aveni, R.A. (1994) CEO Durality as a Double-edged sword: How Boards of Directors Balance Entrenchment Avoidance and Unity of Command, *Academy of Management Journal*, 37, 1079-1108.

Finkelstein, S., and Hambrick, D.C. (1989) Chief executive compensation: A study of the intersection of markets and political processes，*Strategic Management Journal*, 10, 121- 134.

Firth, M., Tam, M., and Tang, M. (1999) The determinants of top management pay. *The International Journal of Management Science*, 27(6), 617-635.

Firth, M., Fung, M. Y. P. and Rui, O. M. (2006) Corporate performance and CEO compensation in China, *Journal of Corporate Finance*, 12(4), 693-714.

Firth, M., Fung, M. Y. P. and Rui, O. M. (2007) How ownership and corporate governance influence chief executive pay in China's listed firms, *Journal of Business Research*, 60(7), 776-785.

Franks, J., and Mayer, C. (1996) Hostile takeovers and the correction of managerial failure, *Journal of Financial Economics*, 40,163-181.

Franks, J., and Mayer, C. (2001) Ownership and control of German corporations, *Review of Financial Studies*, 14, 943–977.

Freeman, R.E. (1984) *Strategic Management: A stakeholder approach*. Boston: Pitman.

Fung, H. and Leung, W. (2001) Chinese financial liberalization: implications for corporate governance, *The Chinese Economy*, 34(1).

Gao, Lei and Song, Shunlin (2007) Executive compensation and corporate performance, *Finance and Economics*, 4, 96-104.

Garen, J. E. (1994) Executive compensation and principal-agent theory, *Journal of Political Economy*, 102, 1175–1199.

Gaver, J.J. and Gaver, K. M. (1995) Compensation policy and the investment opportunity set, *Financial Management*, 24(1), 19-33.

Gomez-Mejia, L.R, Tosi, H and Hinkin, T. (1987) Managerial control, performance, and executive compensation, *Academy of Management Journal*, 30, 51-70.

Groves T., Hong Y., McMillan, J. and Naughton, B., (1994) Autonomy and Incentives in Chinese State Enterprises, *The Quarterly Journal of Economics*, 109(1), 183-209.

Guest, P. M. (2008) The determinants of board size and composition: Evidence from the UK, *Journal of Corporate Finance*, 14(1), 51-72.

Hall, B. J., and Liebman, J. B. (1998) Are CEOs Really Paid Like Bureaucrats? *Quarterly Journal of Economics*, 113(3), 653-691.

Hall, Brian J., and Murphy, Kevin J., (2003) The Trouble with Stock Options, *Journal of Economic Perspectives*, 17, 49-70.

Hartzell, J.C., Starks, L.T. (2003) Institutional investors and executive compensation, *Journal of Finance*, 58(6), 2351-2375.

Hermalin, B. E. and Weisbach, M. S. (1998) Endogenously Chosen Boards of Directors and Their Monitoring of the CEO, *American Economic Review*, 88(1), 96-118.

Hermalin, B. E. and Weisbach, M. S. (2001) Boards of Directors as an Endogenously Determined Institution: A Survey of the Economic Literature, National Bureau of Economic Research, Working Paper number W8161, March 2001.

Hill, C.W. and P. Phan, (1991) CEO tenure as a determinant of CEO pay, *Academic of Management Journal*, 34(3), 707-717.

Hirshleifer, D., and Thakor, A.V. (1992) Managerial conservatism, project choice and debt, *Review of Financial Studies*, 5, 437-470.

Hodgson, Paul (2007) Preliminary CEO pay survey, Executive Summary, Available from: http://www.thecorporatelibrary.com [accessed 15th May 2011].

Holderness, C. G. (2003) A survey of blockholders and corporate control, FRBNY, *Economic Policy Review*, 9(1), 51-61

Holderness C. G. and Sheehan D.P. (1988) The role of majority shareholders in publicly held corporations: An exploratory analysis, *Journal of Financial Economics*, 20, 317-346.

Holmstrom, B. (1979), Moral Hazard and Observability, *Bell Journal of Economics*, 10, 74-91.

Holthausen, Robert W., Larcker, David F. and Sloan, Richard G., (1995) Annual bonus schemes and the manipulation of earnings, *Journal of Accounting and Economics*, 19(1), 29-74.

Hoskisson, R. E., M.A, Hitt, T. Turk and B. Tyler, (1989) Balancing corporate strategy and executive compensation: agency theory and corporate governance, *Research in Personal and Human Resources Management*, 7, 25-47.

Hu. Ming (2003) An empirical study on top manager compensation and company performance in listed firms, *Finance and Trade Economics*, 4, 59-62.

Huang, Q. and Zhang, Y. (1995) On the Absence of Agent's Incentive in the State Owned Enterprises, *Economic Research Journal*, 8, 13-15.

Iyengar, Raghavan J. and Zampelli, Ernest M. (2009) Self-selection, endogeneity, and the relationship between CEO duality and firm performance, *Strategic Management Journal*, 30, 1092–1112.

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

Jensen, M.C. (1993) The modern industrial revolution, exit, and the failure of internal control systems, *Journal of Finance 48*, 831-880.

Jensen, M.C., and Murphy, K.J. (1990) CEO incentives: it's not how much you pay, but how, *Harvard Business Review*, 3, 138-153.

Jensen, M.C., and Murphy, K.J. (1990) Performance pay and top management incentives, *Journal of Political Economy*, 98, 225-264.

John, K., and Senbet, L. (1998) Corporate governance and board effectiveness, *Journal of Banking and Finance*, 22(4), 371-403.

Junarsin, Eddy (2011) Executive Compensation and Firm Performance: An Empirical Examination, *European Journal of Economics*, 28, 163-179.

Kato, T., Kim, W. and Lee J. H. (2007) Executive compensation, firm performance, and Chaebols in Korea: Evidence from new panel data, *Pacific-Basin Finance Journal*, 15(1), 36-55.

Kato, T. and Kubo, K. (2006) CEO compensation and firm performance in Japan: Evidence from new panel data on individual CEO pay, *Journal of the Japanese and International Economies*, 20(1), 1-19.

Kato, Takao and Long, Cheryl, (2006) Executive Compensation, Firm Performance, and Corporate Governance in China: Evidence from Firms Listed in the Shanghai and Shenzhen Stock Exchanges, *Economic Development and Cultural Change, University of Chicago Press*, 54(4), 945-983.

Kole, S. (1997) The complexity of compensation contracts. *Journal of Financial Economics,* 43, 79-104.

Kren, L. and Kerr, J.K. (1997) The effect of outside directors and board shareholdings on the relation between chief executive compensation and firm performance, *Accounting and Business Research,* 27(4), 297-309.

Kroll, M., Simmons, S. A. and Wright, P. (1990) Determinants of chief executive officer compensation following major acquisitions, *Journal of Business Research,* 20(4), 349-366.

La Porta, R., Lopez-de-Silanes, F., Schleifer, A., Vishny, R. (1997) Legal determinants of external finance, *Journal of Finance*, 52, 1131-50.

La Porta, R., Lopez-de-Silanes, F., Schleifer, A., Vishny, R. (1998) Law and finance, *Journal of Political Economy*, 106(6), 1113-1156.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. (1999) Corporate ownership around the world, *Journal of Finance,* 54, 471-517.

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

Lambert, R.A. (1993) The use of accounting and security price measures of performance in managerial compensation contracts: a discuss, *Journal of Accounting and Economics,* 16, 101-123.

Lambert, R., Larcker, D. and Weigelt, K. (1993), The Structure of Organizational Incentives, *Administrative Science Quarterly*, 38 (3), 438-461.

Lambert, R. A. and Larcker, D. F. (1987) An Analysis of the Use of Accounting and Market Measures of Performance in Executive Compensation Contracts, *Journal of Accounting Research*, 25, 85-125.

Lee, P. M. and O'Neill, H. M. (2003) Ownership structures and R&D investments of U.S. and Japanese firms: Agency and stewardship perspectives, *Academy of Management Journal*, 46, 212-225.

Levinthal, D. (1988) A survey of agency models of organizations. *Journal of Economic Behavior and Organizations*, 9, 153-185.

Lewellen, W.G., and Huntsman, B., (1970) Managerial pay and corporate Performance, *American Economic Review*, 60,710-720.

Li, D., Moshirian, F., Nguyen, P. and Tan, L. (2007) Corporate governance or globalization: What determines CEO compensation in China? *Research in International Business and Finance*, 21(1), 32-49.

Li, Liangzhi and Xia, Jian (2006) A study on the relationship between the income of the managerial staff and the performance of the public companies--Based on investigation in the electronic sector, *Contemporary Finance and Economics*, 2, 64-69.

Li, Xiyuan and Ni, Yan (2007) An empirical study on executive income and firm performance of listed firms in China, *Economic Management in China*, 6, 67-72.

Li, Zengquan (2000) Incentive mechanism and company performance: An empirical study on Chinese listed firms, *Accounting Research*, 1, 24-30.

Lin, Cyril (2001) Corporatisation and Corporate Governance in China's Economic Transition, *Economics of Planning*, 34(1-2), 5-35.

Linck, J. S., Netter, J. M. and Yang, T. (2008) The determinants of board structure, *Journal of Financial Economics,* 87(2), 308-328.

Lins, K. (2003) Equity ownership and firm value in emerging markets, *Journal of Financial and Quantitative Analysis*, 38, 159-184.

Lipton, M., and Lorsch, J.W. (1992) A modest proposal for improved corporate governance, *Business Lawyer,* 48, 59-77.

Liu, S., Sun, P. and Liu, N. (2003) The Ultimate Ownership and Its Shareholding Structures: Does It Matter for Corporate Performance? *Economic Research Journal*, 4, 51-62.

Lloyd, Terrie (2010) How much is too much for a CEO's salary? JAPAN TODAY, Available from: http://www.japantoday.com/category/commentary/view/how-much-is-too-much-for-a-ceos-salary [accessed 15th May 2011].

Madura, J., Martin, A.D., and Jessel, K.A., (1996) Determinants of CEO compensation in small publicly-traded businesses, *American Business Review*, 14, 80-88.

Main, B. G. M. (1991) Top executive pay and performance, *Managerial and Decision Economics,* 12(3), 219-229.

Mallette, P., & Fowler, K. L. (1992) Effects of board composition and stock ownership on the adoption of "poison pills", *Academy of Management Journal*, 35, 1010-1035.

Martin, K.J., McConnell, J.J. (1991) Corporate performance, corporate takeovers, and management turnover, *Journal of Finance*, 46(2), 671-87.

Mehran, H. (1995) Executive Compensation Structure, Ownership and Firm Performance, *Journal of Financial Economics*, 38(2), 163-184.

Mengistae, T. and Xu, L. C. (2004) Agency theory and executive compensation: The case of Chinese state-owned enterprises, *Journal of Labor Economics,* 22, 615-637.

Merhebi, R., Pattenden, K., Swan, P. L. and Zhou, X. (2006) Australian chief executive officer remuneration: pay and performance, *Accounting and Finance, Accounting and Finance Association of Australia and New Zealand*, 46(3), 481-497.

Mishra, C. S., D. L. McConaughy and D. H. Gobeli, (2000) Effectiveness of CEO pay-for-performance, *Review of Financial Economics,* 9: 1-13.

Mitton, T., (2002) A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis, *Journal of Financial Economics,* 64(2), 215-241.

Morck, R., Shleifer, A., Vishny, R.W. (1990) Do managerial objectives drive bad acquisitions? *Journal of Finance*, 45(1), 31-48.

Murphy, Kevin J., (1985) Corporate Performance and Managerial Remuneration: An Empirical Analysis, *Journal of Accounting and Economics*, 7, 11-42.

Murphy, Kevin J., (1999) Executive Compensation, in Orley Ashenfelter and David Card, eds., *Handbook of Labor Economics*, Vol. III, North Holland.

Newman, H. A., and Bannister, J. W. (1998) Cross-sectional difference in corporate compensation structure, *Journal of Managerial Issues*, 10, 223-239.

O'Rourke, J. T. (1998) In search of incentives, *Credit Union Management*, 21, 14-15.

Ogden S., and Watson R. (2004) Remuneration Committees and CEO Pay in the UK Privatized Water Industry, *Socio-Economic Review*, 2, 33-63.

Patton, A. (1955) Industry patterns of executive compensation, *Harvard Business Review*, 33(5), 121-132.

Pavlik, E., Scott, T. and Tiessen, P. (1993) Executive compensation: issues and research, *Journal of Accounting Literature*, 12, 131-89.

Peck, Sarah W. (2004) Do Outside Blockholders Influence Corporate Governance Practices?, *Advances in Financial Economics*, 9, 81-101.

Poster, C.Z. (1985) Executive compensation: Taking long-term incentives out of the corporate tower, *Compensation and Benefits Review*, 17(2), 20-31.

Prowse, S.D. (1992) The structure of corporate ownership in Japan. *Journal of Finance*, 47(3), 1121–1140.

Roe, M. (2003) *Political Determinants of Corporate Governance*, Oxford University Press, Oxford.

Rosen, Sherwin (1982) Authority, Control and the Distribution of earnings, *Bell Journal of Economics*, 13, 311-323.

Rosen, Sherwin (1992) Contracts and the Market for Executives, in Lars Werin and Hans Wijkander (eds), *Contract Economics*, Oxford: Blackwell, chapter 7, 181-211.

Ryan, Harley Jr. and Wiggins, Roy III, (2001) The influence of firm- and manager-specific characteristics on the structure of executive compensation, *Journal of Corporate Finance*, 7(2), 101-123.

Sanders, W. G., and Carpenter, M.A. (1998) Internationalization and firm governance: The roles of CEO compensation, top team composition, and board structure. *Academy of Management Journal*, 41(2), 158-179.

Santerre, Rexford E. and Neun, Stephen P. (1986) Stock dispersion and executive compensation, *The Review of Economics and Statistics*, 68(4), 685-687.

Seth, A. (1990) Value creation in acquisitions: A re-examination of performance issues, *Strategic Management Journal*, 11, 99-115.

Sheng, Jin (2004) *The Legal Supervisory Mechanism of Chinese Listed Companies*, Thesis (M.L.), University of Toronto.

Shleifer, A. and Vishny, R.W. (1986) Large shareholders and corporate control, *Journal of Political Economy*, 94, 461-488.

Shleifer, A. and Vishny, R.W. (1997) A survey of corporate governance, *Journal of Finance*, 52(2), 737–783.

Simon, H.A. (1957) Compensation of executives. *Sociometry*, 20, 32-42.

Singh, P. and Agarwal, N. C. (2003) Executive Compensation: Examining an Old Issue from New Perspectives, *Compensation Benefits Review*, 35(2), 48-55.

Sloan, R.G. (1993) Accounting earnings and top executive compensation, *Journal of Accounting and Economics*, 16, 55-100.

Song Z. and Zhang Z. (2002) An Empirical Research on the Relationship Between the Manager Pay and Firm Performance of Chinese Public Companies, *Journal of Chongqing University*, 25(11), 90-93.

Stephenson, C. (2004) Dean Carol Stephenson on Executive Compensation, *Ivey Business Journal*, 68(5), 1.

Sternberg E. (1998) *Corporate Governance: Accountability in the Marketplace*, London: Institute of Economic Affairs.

Sun, Shimin and Zhao, Xinan (2006) The relationship between executive compensation and corporate performance of companies, *Commercial Research*, 02, 83-03.

Tao, Jinyuan, Wei, Xiangqian and Li, Peng (2007) The correlation analysis between the performance of China public companies and the high level executives' compensation, *East China Economic Management*, 21(5), 108-111.

Tenev, Stoyan and Zhang, Chunlin (2002) Corporate Governance and Enterprise Reform in China, World Bank and the International Finance Corporation, Washington, D.C.

Thian, Y., (2005) Independence of the board of directors and globalization of China's corporations: lessons in effective corporate governance, *Perspectives*, 6, 47–58.

Tirole, Jean (2001) Corporate Governance, *Econometrica*, 69(1), 1-35.

Tosi, H.L, and Gomez-Mejia, L. (1989) The decoupling of CEO pay and performance: An agency theory prospective, *Administrative Science Quarterly*, 34, 169-89.

Tosi, H., Werner, S., Katz, J. and Gomez-Mejia, L. (2000) How much does performance matter? A meta-analysis of CEO pay studies, *Journal of Management*, 26(2), 301-339.

Veliyath R and JW Bishop (1995) Relationship between CEO compensation and firm performance: empirical evidence of Labor Market Norms, *The International Journal of Organization Analysis*, 9, 553-571.

Wang, Wenli (2004) Analysis for Imbalance Development and the Income Gap between East and West Region Resident in China, *Inquiry Into Economic Problems*, 02, 90-92.

Warther, V. (1998) Board effectiveness and board dissent: a model of the board's relationship to management and shareholders, *Journal Corporate Finance*, 4, 53-70.

Wei, Feng (1999) Managerial Motivation Mechanism, Theory, Practice and Changes, *Shanghai Economic Review*, 8, 37-43.

Wei, Gang (2000) Incentives for Top-Management and performance of listed companies, *Economic Research Journal*, 3, 32-40.

Weir, C. M., Laing, D. and Mcknight P. J. (2002) Internal and external governance mechanisms: their impact on the performance of large UK public companies, *Journal of Business Finance and Accounting*, 29, 579-611.

Wen, zongyu and Zhang, xiaojie (2009) *30 years reform in China*, Shandong People's Publishing House.

White, Halbert (1980) A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity, *Econometrica*, Econometric Society, 48(4), 817-38.

Williamson, O. (1984) Corporate governance. *Yale Law Journal*, 93(7), 1197-1230.

Wu, Shukun (2002) Ownership structure and firm performance: an empirical research on Chinese public companies, *China Industrial Economy*, 1, 80-87.

Xia, Lijun and Fang, Yiqiang (2005) Government Control, Institutional Environment and Firm Value: Evidence from the Chinese Securities Market, *Economic Research Journal*, 5, 40-51.

Xu, L. Xin Y. and Chen G. (2006) Ownership Concentration, Outside Blockholders and Operating Performance: Evidence from Chinese Listed Companies, *Economic Research Journal*, 1, 90-100.

Xu, Xiaodong, (2003) Ownership of the largest shareholder, firm performance and the effectiveness of corporate governance, *Doctoral Thesis*, Tsinghua University.

Xu, X. and Wang, Y. (1999) Ownership structure and corporate governance in Chinese stock companies, *China Economic Review*, 10, 75-89.

Yang, Yuyan (1998) Research on Agency Problems of State Owned Enterprises, *Investment Research*, 7, 8-12.

Yermack, David, (1995), Do Companies Award CEO Stock Options Effectively? *Journal of Financial Economics*, 39, 237-269.

Yermack, David, (1996) Higher valuation of companies with a small board of directors, *Journal of Financial Economics*, 40, 185-212.

Zeckhauser, R. J. and Pound, J. (1990) Are Large Shareholders Effective Monitors? An Investigation of Share Ownership and Corporate Performance, in Hubbard, R. G., ed. *Asymmetric Information, Corporate Finance, and Investment*, University of Chicago Press, 149-180.

Zhang, Junrui, Zhao, Jingwen and Zhang, jian (2003) An empirical analysis of executive incentive and company performance in Chinese listed firms, *Accounting Research*, 9, 29-34.

Zheng, Chunxuan (1998) A Study of the Motivation and Constraint Mechanisms of the Management of the State Owned Enterprises, *Journal of Finance and Economics*, 5, 27-31.

Zingales, L. (1994) The value of the voting right: a study of the Milan Stock Exchange experience. *Review of Financial Studies*, 7(1), 125–148.

VIII. Tables

Table 1 Summary of several past studies on executive compensation

Table 2 Summary of all variables

Variables	Definition
Compensation	
CEOPAY	Natural log of CEO Total cash compensation: includes base salary, bonuses and commission
Performance	
ROA	Return on assets, after tax profits divided by the book value of total assets (Accounting-based)
EPS	Earnings per share, the portion of a company's profit allocated to each outstanding share of common stock
Operation	
SIZE	Natural log of total volume of sales

Ownership	
SOE	**Dummy variable equal to 1 if state is the largest shareholder in the company**
SAMB	**Dummy variable equal to 1 if company controlled by state asset management bureaus**
SOECG	**Dummy variable equal to 1 if company controlled by central government**
SOELG	**Dummy variable equal to 1 if company controlled by local government**
LAMB	**Dummy variable equal to 1 if company controlled by local state management bureaus**
Others	**Dummy variable equal to 1 if company controlled by individual or family**
Concentration	**Sum of the squared of proportionate shareholdings of the five largest shareholders in the company**
Board Characteristics	
Board	**The size of the board: natural log of total number of directors on the board**
IDD	**Proportion of the independent directors: percentage of independent directors on the board**
SUP	**The size of the supervision board: natural log of total number of supervisors on the board**
DUAL	**Dummy variable equal to 1 if CEO also company's chairman**
IDDLOCAL	**Dummy variable equal to 1 if independent director and the company are in the same province**
Control Variables	
AGE	**Natural log CEO's age**
MB	**Market to book ratio**
Others	
△PAY	**Change in pay: current year minus last year**
△ROA	**Change in ROA: current year minus last year**
△EPS	**Change in EPS: current year minus last year**

Table 3 Descriptive statistics of CEO compensation in all Chinese A-share listed companies from 2005 to 2009

Descriptive statistics of CEO compensation in all Chinese A-share listed companies from 2005 to 2009

Year	number of company	number of CEO	pay min	pay max	pay mean	pay median
2005	1388	1054	140	2756000	243524.98	180000
2006	1495	1253	2000	5845000	285550.08	210000
2007	1628	1414	3400	47704000	440556.17	275500
2008	1723	1459	3300	9548700	450816.98	304800
2009	1866	1460	5300	11702700	483776.24	339200

*Data from 2005 to 2009 and pay in Chinese RMB

*Year is calendar year; number of company is total number of listed companies in A-share in China; number of CEO is CEOs with available compensation data; pay min is minimum value of CEO annual total compensation; pay max is maximum value of CEO annual total compensation; pay mean is mean value of CEO annual total compensation; pay median is median value of CEO annual total compensation.

Table 4 Descriptive statistics of CEO compensation in SAMB controlled companies

Descriptive statistics of CEO compensation in SAMB controlled companies

Year	number of company	number of CEO	pay min	pay max	pay mean	pay median
2005	210	158	7763	2756000	287314.16	205965
2006	220	181	14600	5845000	400415.3	256000
2007	235	195	25000	7105300	529512.77	350000
2008	240	200	10800	6846400	507194.88	378667.2
2009	255	196	22600	5200000	501619.79	389000

*Data from 2005 to 2009 and pay in Chinese RMB

*Year is calendar year; number of company is total number of listed companies in A-share in China; number of CEO is CEOs with available compensation data; pay min is minimum value of CEO annual total compensation; pay max is maximum value of CEO annual total compensation; pay mean is mean value of CEO annual total compensation; pay median is median value of CEO annual total compensation.

Table 5 Descriptive statistics of CEO compensation in SOECG controlled companies

Descriptive statistics of CEO compensation in SOECG controlled companies

Year	number of company	number of CEO	pay min	pay max	pay mean	pay median
2005	56	49	12000	2678300	291031.61	256000
2006	63	51	2000	4461800	380855.55	281143
2007	75	64	12000	9631000	708333.89	343000
2008	78	63	12000	7892800	727626.21	438300
2009	82	63	10000	5306000	767268.75	480000

*Data from 2005 to 2009 and pay in Chinese RMB

*Year is calendar year; number of company is total number of listed companies in A-share in China; number of CEO is CEOs with available compensation data; pay min is minimum value of CEO annual total compensation; pay max is maximum value of CEO annual total compensation; pay mean is mean value of CEO annual total compensation; pay median is median value of CEO annual total compensation.

Table 6 Descriptive statistics of CEO compensation in LAMB controlled companies

Descriptive statistics of CEO compensation in LAMB controlled companies

Year	number of company	number of CEO	pay min	pay max	pay mean	pay median
2005	464	354	140	1807000	231517.19	178650
2006	482	415	5700	1950000	268105.78	218000
2007	498	446	10000	5729100	372207.44	282350
2008	510	441	3300	4997000	396889.71	300000
2009	521	413	11664	4566000	435636.34	330000

*Data from 2005 to 2009 and pay in Chinese RMB

*Year is calendar year; number of company is total number of listed companies in A-share in China; number of CEO is CEOs with available compensation data; pay min is minimum value of CEO annual total compensation; pay max is maximum value of CEO annual total compensation; pay mean is mean value of CEO annual total compensation; pay median is median value of CEO annual total compensation.

Table 7 Descriptive statistics of CEO compensation in SOELG controlled companies

Descriptive statistics of CEO compensation in SOELG controlled companies

Year	number of company	number of CEO	pay min	pay max	pay mean	pay median
2005	101	83	21600	966000	215633.65	155000
2006	117	103	28200	1250000	259628.25	170000
2007	125	110	30000	2950000	374554.79	278750
2008	123	110	31300	3663400	380024.69	267000
2009	126	95	5300	2706000	439021.33	320000

*Data from 2005 to 2009 and pay in Chinese RMB

*Year is calendar year; number of company is total number of listed companies in A-share in China; number of CEO is CEOs with available compensation data; pay min is minimum value of CEO annual total compensation; pay max is maximum value of CEO annual total compensation; pay mean is mean value of CEO annual total compensation; pay median is median value of CEO annual total compensation.

Table 8 Descriptive statistics of CEO compensation in OTHERS controlled companies

Descriptive statistics of CEO compensation in OTHERS controlled companies

Year	number of company	number of CEO	pay min	pay max	pay mean	pay median
2005	503	380	8307	1399464	223546.89	167000
2006	565	475	7200	1494064	242550.06	180000
2007	651	563	3400	4210000	318025.13	228000
2008	722	608	5000	4580000	392450.61	267150
2009	842	663	10000	4860000	441259.85	308000

*Data from 2005 to 2009 and pay in Chinese RMB

*Year is calendar year; number of company is total number of listed companies in A-share in China; number of CEO is CEOs with available compensation data; pay min is minimum value of CEO annual total compensation; pay max is maximum value of CEO annual total compensation; pay mean is mean value of CEO annual total compensation; pay median is median value of CEO annual total compensation.

Table 9 Descriptive statistics of key variables used in this study by type

Descriptive statistics of key variables used in this study

Variables	ALL	SAMB	SOECG	SOELG	LAMB	OTHERS
CEOPAY	391787.84	452561.56	597227.36	338024.09	345177.22	338554.3
ROA	2.4748464	0.0299399	0.0230869	0.0187632	0.0241668	6.0715152
EPS	0.2263364	0.2554672	0.2255123	0.1733037	0.2523608	0.2026012
Size	5359583389	12763110325	25646230282	4481511921	4082031462	1394367526
BOARD	9.3190876	9.8676599	9.8853868	9.7945205	9.4516262	8.7556993
IDD	3.3105177	3.5004382	3.4469914	3.4195205	3.341986	3.1395564
SUP	4.022562	4.4019264	4.5415473	4.2418525	4.2679308	3.5584975

*Mean value of variables used in model. Data include all companies and all years from 2005 to 2009; SAMB, SOECG, LAMB, SOELG and OTHERS represent different ultimate ownership type.

Table 10 Descriptive statistics of key variables used in this study by year

Descriptive statistics of key variables used in this study by year

Year	CEOPAY	ROA	EPS	Size	Herfindahl	BOARD	IDD	SUP
2005	243469.3	-0.0169026	0.0881792	2940000000	0.2120592	9.572927	0.3476476	4.129647
2006	285587.6	0.0132889	0.1801195	3700000000	0.1712266	9.444087	0.3510593	4.070796
2007	443056.3	0.6304457	0.3625921	6320000000	0.1746687	9.407542	0.3591782	4.063089
2008	444248.5	-0.005506	0.1909696	7090000000	0.1726202	9.251408	0.3614917	3.969718
2009	484952.8	0.0332453	0.311849	7270000000	0.179048	9.131906	0.3657307	3.927486

*Mean value of variables used in model. Data include all companies in each year from 2005 to 2009

Table 11 Descriptive statistics of CEO compensation by CSRS industry categories as well as ultimate controller type

Descriptive statistics of CEO compensation by CSRS industry categories as well as ultimate controller type

CRSC industry categories		Num	SAMB	Num	SOECG	Num	LAMB	Num	SOELG	Num	OTHERS	Num	ALL
Farming, Forestry, Animal Husbandry, And Fishery	A	10	225617	10	173571.4	65	175331	11	53441.5	83	236914.5	181	201166.7
Mining	B	44	490813	11	731296.7	105	370675.5	NA	NA	16	125527.3	180	407843.9
Manufacturing	C	688	374137	151	272662.4	1335	332745.7	295	297313.4	1984	330810.9	4556	335480.4
Utilities	D	108	412888	15	318600	146	293049	26	245621.6	26	261016.5	326	331286.1
Construction	E	37	681525	14	468507.1	67	253994.8	NA	NA	61	416480.3	179	417056.3
Transportation And Warehousing	F	72	684857	19	486752.6	124	329095.6	64	311878.8	40	416157.2	333	410258

Information Technology	G	95	427175	27	372648	73	225121	10	277925	284	326872.6	511	358923.1
Wholesale And Retail Trade	H	41	378959	15	586560	199	436754.8	29	375189.9	166	288853.6	460	381749
Finance And Insurance	I	4	1762325	31	2855814	20	679533.3	10	1843400	15	1695740	127	2732240
Real Estate	J	25	1807375	11	481825	159	486579.8	46	323133.7	259	428423.1	509	500080.7
Social Services	K	20	637080	18	723831.7	86	326464	30	183904.7	92	456735.3	246	410919.5
Communication And Cultural Industries	L	6	279717	5	512650	NA	NA	40	369226.3	14	245500	65	348525.9
Conglomerates	M	10	432930	27	500192.5	96	421122	31	452728	243	287454.1	427	361992.1

* Industry categories are classified by CSRC; Num is number of companies under this category; SAMB, SOECG, LAMB, SOELG and OTHERS represent different ultimate ownership type.

Table 12 Correlation matrix

	CEOPAY	ROA	EPS	SIZE	SOE	Herfindahl	Board	IDD	SUP	IDDLOCAL	DUAL	AGE	MB
CEOPAY	1												
ROA	0.0093	1											
EPS	0.2395	0.0914	1										
SIZE	0.4111	-0.032	0.2632	1									
SOE	-0.0345	-0.0096	0.0069	0.1251	1								
Herfindahl	0.0336	-0.0108	0.126	0.2881	0.1927	1							
Board	0.1231	-0.0239	0.0771	0.26	0.1443	0.0308	1						
IDD	0.0461	0.0388	0.006	0.0051	-0.046	0.0416	-0.2926	1					
SUP	0.0326	-0.0092	0.0393	0.1919	0.1671	0.067	0.3388	-0.1007	1				
IDDLOCAL	0.0491	0.017	0.0204	0.0299	0.0263	0.0563	-0.0512	0.0136	0.0161	1			
DUAL	0.05	-0.0078	-0.0333	-0.0974	-0.0952	-0.0562	-0.091	0.0529	-0.0924	-0.004	1		
AGE	0.1029	-0.0021	0.0063	0.0905	0.0968	0.0463	0.0906	-0.034	0.083	0.0539	0.1301	1	
MB	-0.02	-0.0054	0.0043	-0.0298	-0.0282	-0.0114	-0.0362	-0.0137	-0.002	0.0205	0.0184	0.02	1

* CEOPAY (Dependent variable) is natural log of CEO total cash compensation. ROA is return on assets. EPS is earnings per share. Size is log of company total annual sales. SOE is a dummy variable equal to 1 if company controlled by state. Herfindahl is concentration measured by Herfindahl 5 index. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio.

Table 13 Regression of CEO compensation on firm performance and other factors

Variables	Accounting-based Performance=ROA	Market-based performance=EPS	Combined ROA and EPS
Intercept	4.17***	4.60***	4.60***
	(12.02)	(13.44)	(13.44)
ROA	0.18*		0.02
	(1.65)		(0.20)
EPS		0.24***	0.24***
		(15.05)	(14.95)
Size	0.25***	0.23***	0.23***
	(34.64)	(30.91)	(30.88)
SOE	-0.13***	-0.12***	-0.12***
	(-5.97)	(-5.49)	(-5.49)
Concentration	-0.63***	-0.71***	-0.71***
	(-7.13)	(-8.20)	(-8.20)
Board	0.39***	0.36***	0.36***
	(6.86)	(6.48)	(6.48)
IDD	1.10***	1.08***	1.08***
	(4.98)	(4.99)	(4.98)
SUP	-0.10***	-0.10***	-0.10***
	(-2.84)	(-2.76)	(-2.76)
IDDLOCAL	0.07***	0.07***	0.07***
	(3.51)	(3.43)	(3.43)
DUAL	0.19***	0.19***	0.19***
	(6.14)	(6.16)	(6.16)
Age	0.52***	0.55***	0.55***
	(6.39)	(6.86)	(6.86)
MB	-0.01	-0.02	-0.02
	(-0.22)	(-0.50)	(-0.50)
Observations	6383	6383	6383
Adjusted-R^2	0.2047	0.2317	0.2316
F-stat	150.34	175.94	161.25

CEOPAY (Dependent variable) is natural log of CEO total cash compensation. Two performance measures were used in regression. ROA is return on assets which represent accounting based performance. EPS is earnings per share which represent market based performance. Size is log of company total annual sales. SOE is a dummy variable equal to 1 if company controlled by state. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 14 Regression of CEO compensation on firm performance and other factors using lag value of performance variables

Variables	Accounting-based Performance=ROA	Market-based performance=EPS	Combined ROA and EPS
Intercept	1.36***	1.58***	1.58***
	(4.60)	(5.32)	(5.33)
ROA $_{t-1}$	0.53		-0.80
	(0.36)		(-0.52)
EPS $_{t-1}$		0.10***	0.11***
		(5.38)	(9.03)
CEOPAY $_{t-1}$	0.71***	0.70***	0.70***
	(66.15)	(63.22)	(63.16)
Size	0.07***	0.06***	0.06***
	(10.04)	(9.02)	(9.03)
SOE	-0.05***	-0.04**	-0.04**
	(-2.56)	(-2.36)	(-2.37)
Concentration	-0.15*	-0.19***	-0.19***
	(-1.92)	(-2.45)	(-2.45)
Board	0.06	0.06	0.06
	(1.18)	(1.23)	(1.24)
IDD	0.15	0.16	0.17
	(0.83)	(0.89)	(0.90)
SUP	0.02	0.02	0.02
	(0.62)	(0.67)	(0.65)
IDDLOCAL	0.03**	0.04**	0.04**
	(1.99)	(2.24)	(2.25)
DUAL	0.07***	0.07***	0.07***
	(2.74)	(2.76)	(2.75)
Age	0.20***	0.21***	0.21***
	(2.89)	(3.09)	(3.09)
MB	0.03	0.03	0.03
	(0.97)	(1.02)	(1.02)
Observations	4297	4297	4297
Adjusted-R^2	0.604	0.6066	0.6066
F-stat	547.04	533.13	510.51

CEOPAY (Dependent variable) is natural log of CEO total cash compensation. Two performance measures were used in regression. ROAt-1 is lag value of return on assets which represent accounting based performance. EPS t-1 is lag value of earnings per share which represent market based performance. CEOPAYt-1 is lag value of CEOPAY. Size is log of company total annual sales. SOE is a dummy variable equal to 1 if company controlled by state. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 15 Regression of CEO compensation under different ultimate controller types

Variables	Accounting-based Performance=ROA	Market-based performance=EPS
Intercept	3.98***	4.46***
	(11.31)	(12.85)
ROA	0.18*	
	(1.63)	
EPS		0.24***
		(14.98)
Size	0.26***	0.23***
	(34.88)	(30.95)
SAMB	-0.09***	-0.06*
	(-2.76)	(-1.84)
SOECG	0.10*	0.12**
	(1.85)	(2.36)
LAMB	-0.19***	-0.17***
	(-7.37)	(-6.72)
SOELG	-0.20***	-0.18***
	(-4.89)	(-4.43)
Concentration	-0.64***	-0.73***
	(-7.23)	(-8.38)
Board	0.37***	0.34***
	(6.60)	(6.20)
IDD	1.11***	1.09***
	(5.02)	(5.04)
SUP	-0.09***	-0.09***
	(-2.49)	(-2.50)
IDDLOCAL	0.09***	0.08***
	(4.12)	(4.00)
DUAL	0.18***	0.18***
	(5.86)	(5.97)
Age	0.55***	0.57***
	(6.74)	(7.12)
MB	0.01	-0.01
	(0.15)	(-0.16)
Observations	6383	6383
Adjusted-R^2	0.2097	0.2363
F-stat	121.98	142.07

SAMB is a dummy variable equal to 1 if company controlled by central state assets management bureau. SOECG is a dummy variable equal to 1 if company controlled by other central ministries. LAMB is a dummy variable equal to 1 if company controlled by local state assets management bureau. SOELG is a dummy variable equal to 1 if company controlled by local government. OTHERS is set as base group because it have most companies in this group. Other variables remain in regression as control variables and definition of these variables same as previous. MB is market to book ratio.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 16 Pay-performance sensitivities in SOES and Non-SOEs (Accounting-based)

Variables	SOEs	Non-SOEs
Intercept	-0.31	-0.01
	(-0.58)	(-0.02)
ΔROA	**0.28****	**0.01**
	(2.24)	**(0.76)**
Size	-0.08	0.21
	(-0.07)	(0.27)
Concentration	0.03	-0.02
	(0.23)	(-0.15)
Board	-0.03	-0.06
	(-0.38)	(-0.99)
IDD	0.32	-0.39
	(1.05)	(-1.58)
SUP	0.06	0.03
	(1.24)	(0.76)
IDDLOCAL	0.02	0.02
	(1.22)	(0.99)
DUAL	0.06	0.02
	(1.22)	(0.67)
Age	0.08	0.08
	(0.68)	(1.99)
MB	-0.05	0.10
	(-0.82)	(2.83)
Observations	1709	2888
Adjusted-R^2	0.0066	0.0054
F-stat	1.12	1.55

ΔCEOPAY (Dependent variable) is change in log of CEO compensation. ΔROA is change in ROA. Size is log of company total annual sales. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 17 Pay-performance sensitivities in SOES and Non-SOEs (Market-based)

Variables	SOEs	Non-SOEs
Intercept	-0.30	0.02
	(-0.56)	(0.04)
ΔEPS	**0.12*** **	**0.05*** **
	(4.08)	**(3.92)**
Size	0.07	0.20
	(0.06)	(0.26)
Concentration	0.03	-0.02
	(0.22)	(-0.15)
Board	-0.04	-0.08
	(-0.46)	(-1.09)
IDD	0.30	-0.40
	(1.02)	(-1.60)
SUP	0.06	0.03
	(1.33)	(0.73)
IDDLOCAL	0.02	0.02
	(0.76)	(0.88)
DUAL	0.06	0.03
	(1.12)	(0.77)
Age	0.08	0.08
	(0.61)	(0.97)
MB	-0.05	0.09
	(-0.85)	(2.78)
Observations	1709	2888
Adjusted-R^2	0.0075	0.007
F-stat	2.28	3.04

ΔCEOPAY (Dependent variable) is change in log of CEO compensation. ΔEPS is change in EPS. Size is log of company total annual sales. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 18 Pay-performance sensitivities under different ultimate controller types (Accounting-based)

Variables	SAMB	SOECG	LAMB	SOELG	OTHERS
Intercept	0.36	0.19	-0.27	-0.83	-0.49
	(0.42)	(0.12)	(-0.45)	(-0.71)	(-1.03)
ΔROA	**0.94*** **	**0.87**	**0.27** **	**0.27**	**0.01**
	(2.61)	**(1.24)**	**(2.40)**	**(1.28)**	**(0.58)**
Size	-0.02	-0.01	0.01	-0.02	0.02*
	(-1.33)	(-0.18)	(0.06)	(-0.57)	(1.83)
Concentration	0.13	-0.45	0.04	-0.09	0.12
	(0.60)	(-1.19)	(0.27)	(-0.33)	(0.89)
Board	-0.02	-0.11	-0.05	0.20	-0.06
	(-0.12)	(-0.47)	(-0.55)	(1.13)	(-0.79)
IDD	0.01	-0.06	0.22	0.68	-0.48
	(0.00)	(-0.05)	(0.65)	(1.01)	(-1.56)
SUP	0.05	0.13	0.07	-0.01	0.05
	(0.74)	(0.89)	(1.28)	(-0.13)	(0.84)
IDDLOCAL	0.02	0.04	0.05	-0.01	0.01
	(0.51)	(0.38)	(1.51)	(-0.09)	(0.29)
DUAL	0.06	0.07	0.04	0.08	0.03
	(0.01)	(0.31)	(0.75)	(0.82)	(0.68)
Age	0.05	0.04	0.07	0.17	0.13
	(0.24)	(0.12)	(0.52)	(0.63)	(1.28)
MB	0.19	0.86	0.05	0.14	0.11
	(0.58)	(0.97)	(1.49)	(0.72)	(1.30)
Observations	650	197	1480	362	1804
Adjusted-R^2	0.0012	0.0333	0.003	0.0144	0.0014
F-stat	1.08	0.64	1.44	0.51	1.24

ΔCEOPAY (Dependent variable) is change in log of CEO compensation. ΔROA is change in ROA. SAMB is company controlled by central state assets management bureau. SOECG is company controlled by other central ministries. LAMB is company controlled by local state assets management bureau. SOELG is company controlled by local government. OTHERS is company controlled by other forms. Size is log of company total annual sales. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 19 Pay-performance sensitivities under different ultimate controller types (Market-based)

Variables	SAMB	SOECG	LAMB	SOELG	OTHERS
Intercept	0.26	0.10	-0.22	-0.84	-0.46
	(0.30)	(0.06)	(-0.38)	(-0.72)	(-0.95)
ΔEPS	**0.25*** **	**0.11**	**0.14*** **	**0.13** **	**0.03***
	(4.61)	**(0.80)**	**(4.54)**	**(2.22)**	**(1.79)**
Size	-0.02	-0.01	0.01	-0.02	0.02
	(-1.22)	(-0.25)	(0.01)	(-0.67)	(1.81)
Concentration	0.14	-0.44	0.04	-0.09	0.12
	(0.65)	(-1.17)	(0.33)	(-0.34)	(0.87)
Board	-0.03	-0.12	-0.06	0.19	-0.07
	(-0.25)	(-0.49)	(-0.64)	(1.12)	(-0.85)
IDD	-0.08	0.08	0.24	0.73	-0.50
	(-0.16)	(0.07)	(0.70)	(1.09)	(-1.60)
SUP	0.05	0.13	0.07	-0.01	0.05
	(0.75)	(0.91)	(1.37)	(-0.08)	(0.85)
IDDLOCAL	0.02	0.05	0.05	-0.01	0.01
	(0.40)	(0.49)	(1.44)	(-0.01)	(0.22)
DUAL	-0.01	0.04	0.04	0.07	0.03
	(-0.05)	(0.20)	(0.68)	(0.76)	(0.75)
Age	0.08	0.07	0.07	0.17	0.12
	(0.40)	(0.19)	(0.48)	(0.67)	(1.24)
MB	0.11	0.01	0.05	0.16	0.11
	(0.34)	(0.94)	(1.46)	(0.79)	(1.26)
Observations	650	197	1480	362	1804
Adjusted-R^2	0.023	0.0287	0.0129	0.0236	0.0029
F-stat	2.52	0.55	2.94	0.85	1.53

ΔCEOPAY (Dependent variable) is change in log of CEO compensation. ΔEPS is change in EPS. SAMB is company controlled by central state assets management bureau. SOECG is company controlled by other central ministries. LAMB is company controlled by local state assets management bureau. SOELG is company controlled by local government. OTHERS is company controlled by other forms. Size is log of company total annual sales. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 20 Pay-performance sensitivities using lag value of performance variables

Variables	Accounting-based Performance=ROA	Market-based performance=EPS
Intercept	-0.13	-0.17
	(-0.44)	(-0.55)
ROA $_{t-1}$	0.01	
	(0.38)	
EPS $_{t-1}$		-0.02
		(-1.21)
Size	0.01	0.01
	(0.18)	(0.51)
SOE	0.01	0.01
	(0.07)	(0.03)
Concentration	-0.02	-0.02
	(-0.28)	(-0.19)
Board	-0.05	-0.05
	(-1.05)	(-1.04)
IDD	-0.09	-0.09
	(-0.49)	(-0.48)
SUP	0.05	0.05
	(1.49)	(1.46)
IDDLOCAL	0.02	0.02
	(1.11)	(1.07)
DUAL	0.03	0.03
	(1.07)	(1.04)
Age	0.08	0.08
	(1.19)	(1.15)
MB	0.06	0.06
	(2.14)	(2.13)
Observations	4605	4605
Adjusted-R^2	0.0003	0.0006
F-stat	1.14	1.26

ΔCEOPAY (Dependent variable) is change in log of CEO compensation. ROA$_{t-1}$ is lag value of return on assets which represent accounting based performance. EPS $_{t-1}$ is lag value of earnings per share which represent market based performance. SOE is a dummy variable equal to 1 if company controlled by state. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 21 Robustness test 1a, size proxy replaced from sales to assets

Variables	Accounting-based Performance=ROA	Market-based performance=EPS	Combined ROA and EPS
Intercept	3.41***	3.88***	3.86***
	(9.84)	(11.35)	(11.31)
ROA	0.36***		0.17*
	(3.28)		(1.65)
EPS		0.26***	0.25***
		(16.21)	(15.95)
Size	0.32***	0.29***	0.29***
	(37.18)	(34.09)	(34.11)
SOE	-0.11***	-0.10***	-0.10***
	(-4.81)	(-4.40)	(-4.40)
Concentration	-0.66***	-0.76***	-0.76***
	(-7.56)	(-8.87)	(-8.87)
Board	0.27***	0.24***	0.24***
	(4.70)	(4.29)	(4.28)
IDD	0.73***	0.74***	0.73***
	(3.33)	(3.45)	(3.38)
SUP	-0.18***	-0.17***	-0.17***
	(-4.97)	(-4.82)	(-4.84)
IDDLOCAL	0.08***	0.07***	0.07***
	(3.70)	(3.63)	(3.61)
DUAL	0.21***	0.20***	0.20***
	(6.67)	(6.68)	(6.71)
Age	0.42***	0.46***	0.46***
	(5.29)	(5.84)	(5.83)
MB	0.01	-0.01	-0.01
	(0.05)	(-0.27)	(-0.25)
Observations	6394	6394	6394
Adjusted-R^2	0.2234	0.2528	0.253
F-stat	168.17	197.67	181.47

CEOPAY (Dependent variable) is natural log of CEO total cash compensation. Two performance measures were used in regression. ROA is return on assets which represent accounting based performance. EPS is earnings per share which represent market based performance. Size is log of company total assets. SOE is a dummy variable equal to 1 if company controlled by state. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 22 Robustness test 1b, applied different performance measurements

Variables	Accounting-based Performance=ROE	Market-based performance=TSR	Combined ROE and TSR
Intercept	4.22***	4.15***	4.18***
	(11.90)	(11.59)	(11.41)
ROA	0.06***		0.06***
	(6.22)		(5.95)
EPS		0.02**	0.02*
		(2.38)	(1.87)
Size	0.25***	0.25***	0.25***
	(31.56)	(33.36)	(30.74)
SOE	-0.13***	-0.13***	-0.13***
	(-5.91)	(-5.82)	(-5.64)
Concentration	-0.65***	-0.66***	-0.70***
	(-7.39)	(-7.32)	(-7.66)
Board	0.36***	0.35***	0.32***
	(6.29)	(6.05)	(5.56)
IDD	1.02***	1.15***	1.08***
	(4.60)	(5.00)	(4.68)
SUP	-0.08**	-0.09***	-0.08**
	(-2.23)	(-2.53)	(-2.16)
IDDLOCAL	0.07***	0.07***	0.07***
	(3.37)	(3.14)	(3.22)
DUAL	0.20***	0.17***	0.19***
	(6.31)	(5.22)	(5.50)
Age	0.55***	0.54***	0.56***
	(6.75)	(6.52)	(6.67)
MB	0.02	-0.03	-0.01
	(0.57)	(-0.97)	(-0.03)
Observations	6180	6011	5833
Adjusted-R^2	0.1896	0.2017	0.1891
F-stat	132.46	139.08	114.32

CEOPAY (Dependent variable) is natural log of CEO total cash compensation. Two performance measures were used in regression. ROE is return on equity which represents accounting based performance. TSR is annual total shareholder return which represents market based performance. Size is log of company total assets. SOE is a dummy variable equal to 1 if company controlled by state. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 23 Robustness test 2a, all data from 2005 to 2007

Variables	Accounting-based Performance=ROA	Market-based performance=EPS	Combined ROA and EPS
Intercept	3.47***	4.02***	4.02***
	(7.67)	(9.13)	(9.13)
ROA	0.20**		0.02
	(1.94)		(0.22)
EPS		0.38***	0.38***
		(14.82)	(14.68)
Size	0.27***	0.23***	0.23***
	(28.41)	(23.75)	(23.70)
SOE	-0.07***	-0.06**	-0.06**
	(-2.54)	(-2.11)	(-2.11)
Concentration	-0.72***	-0.84***	-0.84***
	(-6.34)	(-7.56)	(-7.56)
Board	0.40***	0.40***	0.40***
	(5.58)	(5.72)	(5.72)
IDD	1.23***	1.16***	1.16***
	(4.15)	(4.02)	(4.01)
SUP	-0.11***	-0.13***	-0.13***
	(-2.50)	(-2.86)	(-2.86)
IDDLOCAL	0.10***	0.09***	0.09***
	(3.68)	(3.52)	(3.51)
DUAL	0.16***	0.15***	0.15***
	(3.83)	(3.67)	(3.67)
Age	0.54***	0.62***	0.62***
	(5.21)	(6.08)	(6.08)
MB	-0.02	-0.01	-0.01
	(-0.35)	(-1.00)	(-1.00)
Observations	3594	3594	3594
Adjusted-R^2	0.2331	0.2767	0.2765
F-stat	100.29	125.93	115.41

CEOPAY (Dependent variable) is natural log of CEO total cash compensation. Two performance measures were used in regression. ROA is return on assets which represent accounting based performance. EPS is earnings per share which represent market based performance. Size is log of company total annual sales. SOE is a dummy variable equal to 1 if company controlled by state. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 24 Robustness test 2b, estimations with year dummies

Variables	Accounting-based Performance=ROA	Market-based performance=EPS	Combined ROA and EPS
Intercept	4.16***	4.55***	4.55***
	(12.32)	(13.63)	(13.63)
ROA	0.18*		0.04
	(1.69)		(0.35)
EPS		0.23***	0.22***
		(14.15)	(14.05)
Size	0.23***	0.21***	0.21***
	(32.35)	(29.07)	(29.05)
SOE	-0.09***	-0.08***	-0.08***
	(-4.15)	(-3.77)	(-3.77)
Concentration	-0.49***	-0.58***	-0.58***
	(-5.64)	(-6.79)	(-6.78)
Board	0.43***	0.40***	0.40***
	(7.74)	(7.37)	(7.38)
IDD	0.67***	0.68***	0.68***
	(3.09)	(3.20)	(3.19)
SUP	-0.09***	-0.09***	-0.09***
	(-2.63)	(-2.56)	(-2.56)
IDDLOCAL	0.07***	0.07***	0.07***
	(3.17)	(3.27)	(3.26)
DUAL	0.17***	0.17***	0.17***
	(5.58)	(5.64)	(5.65)
Age	0.70***	0.72***	0.72***
	(8.82)	(9.17)	(9.17)
MB	-0.01	-0.01	-0.01
	(-1.02)	(-1.14)	(-1.14)
Year dummies	+	+	+
Observations	6383	6383	6383
Adjusted-R^2	0.2485	0.271	0.2709
F-stat	141.66	159.2	149.24

CEOPAY (Dependent variable) is natural log of CEO total cash compensation. Two performance measures were used in regression. ROA is return on assets which represent accounting based performance. EPS is earnings per share which represent market based performance. Size is log of company total annual sales. SOE is a dummy variable equal to 1 if company controlled by state. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio. Year dummies are five dummy variables equal to 1 if companies in 2005, 2006, 2007, 2008 and 2009 respectively.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 25 Robustness test 3, main regressions with industry dummies

Variables	Accounting-based Performance=ROA	Market-based performance=EPS	Combined ROA and EPS
Intercept	4.67***	5.12***	5.13***
	(13.53)	(14.92)	(14.91)
ROA	0.16*		0.08
	(12.07)		(0.08)
EPS		0.24***	0.24***
		(15.15)	(15.07)
Size	0.26***	0.24***	0.24***
	(31.07)	(32.05)	(32.02)
SOE	-0.13***	-0.11***	-0.11***
	(-5.90)	(-5.35)	(-5.35)
Concentration	-0.62***	-0.69***	-0.69***
	(-6.74)	(-7.96)	(-7.96)
Board	0.27***	0.25***	0.25***
	(4.82)	(4.54)	(4.54)
IDD	1.00***	0.98***	0.98***
	(4.72)	(4.66)	(4.65)
SUP	-0.11***	-0.10***	-0.10***
	(-3.08)	(-2.92)	(-2.92)
IDDLOCAL	0.06***	0.06***	0.06**
	(2.84)	(2.70)	(2.70)
DUAL	0.20***	0.19***	0.19***
	(6.15)	(6.43)	(6.43)
Age	0.46***	0.49***	0.49***
	(5.89)	(6.28)	(6.28)
MB	-0.01	-0.01	-0.01
	(-0.12)	(-0.30)	(-0.30)
Industry	+	+	+
Observations	6383	6383	6383
Adjusted-R^2	0.2546	0.2777	0.2776
F-stat	84.56	107.66	103.16

CEOPAY (Dependent variable) is natural log of CEO total cash compensation. Two performance measures were used in regression. ROA is return on assets which represent accounting based performance. EPS is earnings per share which represent market based performance. Size is log of company total annual sales. SOE is a dummy variable equal to 1 if company controlled by state. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio. Industry is thirteen dummies equal to 1 if companies in certain category according to CSRC.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 26 Robustness test 4a, main regressions with control of area (by consumption level)

Variables	Accounting-based Performance=ROA	Market-based performance=EPS	Combined ROA and EPS
Intercept	4.42***	4.82***	4.82***
	(13.16)	(14.54)	(14.54)
ROA	0.21**		0.06
	(1.98)		(0.55)
EPS		0.23***	0.23***
		(14.71)	(14.59)
Size	0.23***	0.21***	0.21***
	(32.92)	(29.38)	(29.37)
SOE	-0.07***	-0.06***	-0.06***
	(-3.29)	(-2.86)	(-2.86)
Concentration	-0.66***	-0.74***	-0.74***
	(-7.72)	(-8.76)	(-8.76)
Board	0.36***	0.34***	0.34***
	(6.64)	(6.28)	(6.28)
IDD	1.04***	1.03***	1.03***
	(4.89)	(4.92)	(4.89)
SUP	-0.02	-0.02	-0.02
	(-0.62)	(-0.57)	(-0.57)
IDDLOCAL	0.04*	0.03*	0.03*
	(1.74)	(1.70)	(1.69)
DUAL	0.16***	0.16***	0.16***
	(5.38)	(5.40)	(5.41)
Age	0.48***	0.51***	0.51***
	(6.13)	(6.60)	(6.60)
MB	0.01	0.01	0.02
	(0.32)	(0.04)	(0.04)
Area	+	+	+
Observations	6383	6383	6383
Adjusted-R^2	0.2578	0.2817	0.2817
F-stat	185.72	209.62	193.5

CEOPAY (Dependent variable) is natural log of CEO total cash compensation. Two performance measures were used in regression. ROA is return on assets which represent accounting based performance. EPS is earnings per share which represent market based performance. Size is log of company total annual sales. SOE is a dummy variable equal to 1 if company controlled by state. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio. Area is a dummy variable equal to 1 if companies in more developed province and equal to 0 if companies in less developed province.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.

Table 27 Robustness test 4b, main regressions with control of area (by GDP)

Variables	Accounting-based Performance=ROA	Market-based performance=EPS	Combined ROA and EPS
Intercept	4.11***	4.53***	4.52***
	(12.00)	(13.40)	(13.39)
ROA	0.21**		0.05
	(1.93)		(0.50)
EPS		0.24***	0.24***
		(14.81)	(14.69)
Size	0.24***	0.22***	0.22***
	(33.70)	(30.09)	(30.07)
SOE	-0.09***	-0.08***	-0.08***
	(-4.05)	(-3.63)	(-3.63)
Concentration	-0.64***	-0.72***	-0.72***
	(-7.31)	(-8.36)	(-8.36)
Board	0.39***	0.36***	0.36***
	(6.98)	(6.61)	(6.61)
IDD	1.13***	1.12***	1.11***
	(5.20)	(5.22)	(5.20)
SUP	-0.06*	-0.06*	-0.06*
	(-1.83)	(-1.77)	(-1.78)
IDDLOCAL	0.06***	0.05***	0.05***
	(2.67)	(2.61)	(2.61)
DUAL	0.18***	0.18***	0.18***
	(5.76)	(5.78)	(5.79)
Age	0.51***	0.53***	0.53***
	(6.35)	(6.82)	(6.81)
MB	0.01	-0.01	-0.01
	(0.15)	(-0.14)	(-0.13)
Area	+	+	+
Observations	6383	6383	6383
Adjusted-R^2	0.2278	0.253	0.2529
F-stat	157.86	181.16	167.22

CEOPAY (Dependent variable) is natural log of CEO total cash compensation. Two performance measures were used in regression. ROA is return on assets which represent accounting based performance. EPS is earnings per share which represent market based performance. Size is log of company total annual sales. SOE is a dummy variable equal to 1 if company controlled by state. Concentration is sum of squares of proportionate shareholdings of the five largest shareholders in the company. Board is log of board size which measured by total numbers of directors on the board. IDD is proportion of independent directors on the board. SUP is log of total numbers of supervisors on board of supervisors. IDDLOCAL is a dummy variable equal to 1 if working area of independent director and company's headquarters are in same province. DUAL is a dummy variable equal to 1 if CEO is also the chairman of the company. Age is log of CEO natural age. MB is market to book ratio. Area is a dummy variable equal to 1 if companies in more developed province and equal to 0 if companies in less developed province.

t-statistics are reported in brackets. ***, **, and * represent statistical significances at the 1%, 5%, and 10% levels, respectively.