Corporate Governance and Performance: An Analysis of Listed Companies in China

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Abstract of thesis entitled:

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This study investigates the corporate governance system in China. Prior literature of corporate governance mechanisms uses data from the developed economies such as U.S. and the U.K. I examine how the governance mechanisms operate in China using data from Chinese listed firms. If the Chinese corporate governance system is effective, there will be an alignment between managerial compensation and firm performance. Furthermore, governance mechanisms will be able to reduce agency costs and aid the removal of ineffective managers.

On agency cost control, I find that firms with foreign shareholding incur higher agency costs. There is limited but weak evidence that concentrated ownership is associated with lower agency costs. Contrary to previous studies, I find no evidence that legal person shareholding is more effective in reducing agency costs. While it is usually assumed that government share ownership in China creates inefficiencies and agency problems, I find that there is no difference between government and non-government controlled firms. The composition of the board of directors, as reflected in the proportion of non-executive directors, has no association with agency costs.

I also examine the top management compensation and I find that, similar to the developed economies, there is a positive pay-performance relation in China; I also find evidence to support the argument that concentrated ownership and government ownership act to both reduce compensation levels and induce performance related pay for CEOs. The presence of a foreign shareholder is associated with higher pay and I

attribute this to foreign investors demanding better qualified management and the willingness to pay for them.

There are mechanisms to remove ineffective managers in China. I find that there is a significant relationship between turnover and performance and this relationship is more significant in a forced turnover situation. The removal of the key management figure in response of performance deterioration is a natural response of a bureaucratic shareholder and I argue this is the 'scapegoat' behavior. I also argue as government influence is paramount, the ownership structure would not impose any difference in removal mechanism. I also find that there are higher turnovers in both good and poor performing firms. While poor performing managers are removed as a result of poor performance, good performing managers are transferred and promoted in the government hierarchy.

Finally, I study the substitution and complimentarity effect of the different corporate control components. Corporate governance research has identified a number of mechanisms that are intended to ensure that management teams act in the best interests of shareholders. I use the simultaneous equation method to examine the interaction of six ownership and governance control mechanisms. There is evidence of interdependence in the use of different control mechanisms. The empirical results also show that there are significant relationships between corporate governance control mechanisms and firm performance, but the significance of those control mechanisms disappears in the simultaneous equation estimation. This result is consistent with the hypothesis that there is an optimal use of corporate governance mechanisms for an individual firm.

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INTRODUCTION

1. Background

Why do I study the Chinese corporate governance? The simple answer to this question is to understand the mechanisms at work and to make recommendations to improve them. Prior studies on corporate governance mechanisms use data from the developed economies such as U.S. and the U.K. I examine how the governance mechanisms operate in China using data from Chinese listed firms.

China is a fast developing country and has undergone a tremendous economic upheaval. Over the past two decades, there have been significant changes in every aspect of the economy. A key process of the economic reform is the reform and transformation of the state owned enterprises. The Chinese government introduced the joint stock corporation structure to state owned enterprises (SOE) and transformed many SOEs into limited liability companies. The corporatisation process aims to formalize the separation of ownership and management control of the SOE. As a result of the separation of the ownership and management, it is therefore necessary to introduce a workable and effective corporate governance system. The need for an effective corporate governance system is obvious in the economic development process.

Corporate governance is a much-discussed topic in the well-developed economies.[1] There is also growing interest on the corporate governance systems in

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[1] See Shleifer and Vishny (1997) for a summary.

developing and transitional economies.[2] The Chinese governance system offers an interesting contrast to corporate governance systems in the developed economies. In China there is a trend towards providing incentives for the management to maximize shareholder wealth, but a higher priority emphasis is placed on achieving the political objectives of the government. This is especially so when there is significant government ownership. Although the government encourages competition, as a country with a socialistic market economy, the key objective of the government is to maintain a substantial control of the whole economy. There is conflict in these two objectives and as a consequence problems exist in the present Chinese corporate governance structure.

The economic reforms began in 1978 with the transformation and privatization of the state owned enterprises. The Chinese government introduced the joint stock corporation structure to the SOE and this transforms SOEs into limited liability companies. It is hoped that by this transformation, the influence of the government will be greatly reduced to enable the SOE to achieve a greater autonomy and hence improve productivity and profitability. The Chinese Communist Party formally adopted such a policy in their Fourteenth Party Congress held in 1993.[3] This is a watershed line in the development of the Chinese market economy. The decision has a significant impact on the property rights of the SOE and it gives direction to establishing corporations based on the shareholding system.

China has a socialistic market economy. While market economy and competition are introduced there are also the 'socialist' characteristics. Socialist characteristics mean

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[2] For example La Porta et al. (1997, 1998, 1999) compare the corporate governance systems in both developed and transitional economies; see Claessens (1997) for evidence on the corporate governance system in the Czech and Slovak Republics.

public ownership and state control, and state control means direct intervention. In the process of corporatisation, most of the converted state owned corporations remain under the control of the state and direct state intervention is unavoidable. On the other hand, managers are given more autonomy to manage the state assets. The question of monitoring the managers so as to ensure efficient operations has become an important agenda in the government. A corporate governance system is therefore necessary and becomes a relevant issue in the enterprise reform process. Although China has introduced a corporate governance framework based on Western principles during the past decade, the Western corporate governance structure does not cater for the unique socialistic market economy, where there are significant government interventions.

This Chapter is organized as follows: Section 2 examines the Western system of corporate governance. Section 3 presents a review of the development of the Chinese corporate governance system and the problems inherent in it. Section 4 describes the scope of the present study.

2. Corporate Governance

2.1. Definition

From an economist's point of view, Williamson (1984) defines corporate governance as the set of institutional arrangements to align the interests of management and shareholders. Zingales (1998) defines corporate governance as the complete set of constraints that shape the ex-post bargaining over the quasi-rent generated by a firm. There are two conditions under which we need to impose a governance system. First the

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[3] The third Plenum of the fourteenth Chinese Communist Party, November 1993 adopted the decision to establish a

firm can generate quasi-rents and second the quasi-rents are not perfectly allocated ex-ante. Another feature is the incomplete initial contract. In the case of an incomplete initial contract, since it cannot specify the allocation of the firm's surplus in every possible contingency, there is room for bargaining. In the case of a firm, it is the shareholders and the managers that bargain for this surplus. It is impossible for the shareholders to negotiate with the manager for a complete contract for the distribution of the surplus generated by the firm. Corporate governance is the set of constraints placed on managers and shareholders as they negotiate for the distribution and to determine how the values of the firms are to be allocated. In this respect, they do not just negotiate the distribution of the present value of the firm; they are also concerned with the bargaining and distribution of the future surplus value generated by the firm.[4]

Shleifer and Vishny (1997) define corporate governance as follows: it deals the ways in which the suppliers of the finance to the corporations assure themselves of getting a return on their investment. Essentially, governance mechanisms assure investors receive an adequate return and motivate the managers to obtain the best returns for investors. Sternberg (1998) argues that corporate governance is a way of ensuring that actions are directed at achieving the corporate objectives established by the shareholders.

The above views restrict the relationship between the shareholders and the managers and do not take the other stakeholders of the firms into consideration. There are other interested parties and agents to the firms. These interested parties or the

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socialist market economic system and called for a complete reform of the SOEs.
[4] See also Hart (1995). Hart argues that in cases where it is possible to write a complete contract, governance structure does not matter.

stakeholders refer to groups of constituents who have a legitimate claim on the firm (Maltby and Wilkinson 1998, Kelly et al. 1997). The stakeholders of a firm include shareholders, creditors, managers and other claimants who supply capital as well as others such as employees, suppliers, consumers and the government.[5] When the definition of corporate governance is enlarged to include stakeholders, John and Senbet (1998) define corporate governance as the mechanism in which the stakeholders of a corporation exercise control over corporate insiders and management such that their interests are protected. Corporate governance therefore deals with the interests of stakeholders (which include parties like labour unions, consumer interests etc). Corporate governance in this context is the control mechanism for the efficient operation of a corporation on behalf of the stakeholder.

The usual shareholder-manager relationships deal with issues like board of directors, managerial incentives, take-over and corporate control. By taking all stakeholders into consideration, corporate governance takes a broader view and encompasses roles and responsibilities of the stakeholders and it also takes into account social responsibilities. In this respect corporate governance also includes issues of social responsibilities such as environmental matters, employment, social education etc. (Myron et al. 1998).

From a more technical and practical aspect, corporate governance deals with the system in which the companies operate. Cadbury (1992) describes corporate governance as a system by which a company is directed and controlled. The Organisation for the

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[5] The shareholder and manager relationship is among these relationships. A firm can be considered a nexus of contracts (Alchian and Demsetz 1972), and Jensen and Meckling (1976) view the contract between shareholders and managers as one among this nexus of contracts.

Economic Co-operation and Development (OECD) has introduced a set of corporate governance standards and guidelines. The standards and guidelines cover five major areas: (1) the rights of shareholders, (2) the equitable treatment of shareholders, (3) the role of stakeholders in corporate governance, (4) disclosure and transparency and (5) board responsibility (OECD, 1999). A series of articles by La Porta et al. (1997, 1998, and 1999) raise the important issue about the interaction of laws and finance and the role of corporations in economic development. Their main argument is that when the legal framework does not offer sufficient protection to the investors, the entrepreneurs are forced to maintain a large ownership to align their interest with the other shareholders. In this respect, issues on corporate governance cover the whole economic, legal, and financial structure.

2.2.   Agency Problem

No matter which definition of corporate governance we refer to, the core issue of corporate governance is the agency problem. Agency problems arise because of the separation of ownership and control (Berle and Means, 1932). The primary reason for having a corporate governance structure is to reduce the agency problem associated with separation of ownership and control of a firm. In a public listed company there are a large number of small shareholders. These shareholders, even if collectively they have the ultimate control of the company, are too small and numerous to exercise day to day control of the company. They delegate control to professional managers. Because of the separation of ownership and control, there is always the danger of the managers of the

company acting in their own interest instead of the shareholders, and so they do not necessarily maximize shareholder value.

Agency theory posits that there is a potential conflict of interest between the shareholder (principal) and the management (agent). Managers will pursue their interests and these may not be congruent with the shareholders. Shleifer and Vishny (1997) suggest that expropriation of shareholders by managers can take many forms including building empires, enjoying perks, stealing and transferring money from the firms, insider trading, inappropriate investment due to management incompetence and management entrenchment. Jensen and Meckling (1976) define the expropriation as agency costs.

Owing to the impossibility of writing a complete contract on the actions of the manager, control of companies by the market force alone appears to fail as shareholdings are dispersed and small shareholders have no incentive to control. To fulfil the gap, government needs to encourage the implementation of corporate governance structures. This 'encouragement' links the form of legislation to cover the interests of all parties, shareholders, managers, creditors and other stakeholders.

2.3. Building Blocks of Corporate Governance

Agency theory and the corporate governance literature identify and propose an array of devices such as executive compensation contracts, boards of directors' control, and the market for corporate control, which can be used by investors to protect their investments from the self-interested motivations of managers. The western corporate governance system operates through both internal and external mechanisms.

Internal governance refers to the functions of the board of directors and the monitoring role of the external outside directors. The internal governance control structure will act as check and balance mechanisms. The board of directors' control ensures that management act in the interests of the shareholders, management are selected on merit and replaced due to incompetence, and the checking of managerial power and the design of incentive packages for the managers. As the directors of the board are elected by the shareholders, they are obligated to represent the interests of the shareholders in monitoring the management's actions. If the directors are not performing their functions well, they can be replaced. Directors are also held liable for their actions under the law. The Cadbury Report (1992) recommends that firms should adopt a model code of governance practices and it stresses the importance of these internal control mechanisms.

The external mechanism refers to the legal system, and the market for corporate control and lender control. It depends on a comprehensive legal system to regulate the activities of the companies. The legal system not only governs the activities of the corporations, it prevents or reduces intervention activities from the government. An established accounting system and audit mechanism is a characteristic of economies with good governance practices. Financial disclosure requirement is mandatory and independent auditors check and certify the reliability of the financial reports. The company and securities laws and listing requirements regulate the activities of the listed companies. These rules and regulations ensure transparency, which allow the monitoring of performance and management by investors. The rules are there to ensure an open and fair system. All major and important managerial actions affecting the listed companies

and their investors are revealed to the public. The rules and regulations also define the rights, interests and responsibilities of the owners and stakeholders of the firm.

The market for corporate control refers to corporate take-over activities. Corporate take-over is a powerful mechanism to discipline management. Hart (1995) argues that takeovers are potentially one of the most powerful mechanisms for bringing improvement to corporate governance. An under-performing company or an under-valued company can be a target for take-over. A raider takes over the under-performing or under-valued company with the idea of improving its performance. This will increase the value of the company. The raider aims to obtain the gain from the improved management. The threat of take-over will make managers concentrate on maximizing the value of the firm and in the event of managerial failure, bad managers will be replaced.

Borrowing by corporations in form of debts from the financial sector are monitored and scrutinized by the lenders. Lender protection is also achieved by post contractual means. First, the lender can use contractual means to protect their loans by imposing restrictive covenants on the firms and their managers. These covenants will restrict certain borrower actions until the debt is repaid. Second, the lender will require a sufficient flow of information from the debtor. The debtor will, under certain contractual arrangements, provide lenders with different forms of credit information reports. The monitoring role of the lender provides an effective control. Jensen and Meckling (1976) emphasize the role of financial contracts in controlling agency problems and drew attention to designing contracts in aligning the interest of the owner and the agent. The threat of bankruptcy also provides a check on managerial action. Debts put constraints on

the actions of managers. Managers will have to carefully evaluate their financial decisions and actions before taking on debts to finance unprofitable investments.

3. Corporate Governance in China

3.1. Development

The Chinese enterprise reform began in 1978 and it has gone through several stages. The main objective of the enterprise reform is to improve the SOE efficiency and performance. Prior to 1978, the state maintained a very strong control over the activities of the SOE. Everything is done under the central plan. Profits were remitted to the government and deficits were covered by the state. In the second stage of reform beginning from 1978, SOEs were given more autonomy and incentives. During this stage, the profit retention and profit sharing schemes were introduced. These schemes were later converted to the contract responsibility system. The responsibility system has two major defects. First, the contract responsibility system encourages short term and myopic behavior of managers. Second, China still maintains a planned economic system under which the contract responsibility works. The Chinese government is well aware of the inefficiency of a planned economy. Since early 1990, the government identified that 'unclear property rights' and 'lack of separation between government and the enterprises' largely contribute to the inefficiency of the SOE system.

In the Third Plenary session of the Fourteenth Congress of the Chinese Communist Party (CCP) Congress held in 1993, CCP for the first time called for establishing a modern corporation process as a means to transforming and improving the efficiency of the state owned enterprises. In the Fifteenth CCP Congress in 1997,

enterprise reform continues to be the main theme and the Congress calls for continuous reform and recognizes the need to establish a modern corporate governance system. Corporatisaton has become a means of reforming the state owned enterprises. In transforming SOEs into modern corporations, it is intended to clarify the property rights of the SOE by creating a separate entity. Privatized SOEs will be given the autonomy and be solely responsible for their performances.

Ensuring that SOEs are effectively managed and controlled is therefore the ultimate goal of the Chinese corporate governance reform. The Chinese economic reform is a gradual process. The Chinese government implements a whole set of economic laws and regulations associated with corporatisation process. Table 1.1 summarizes the major events of this process.

3.2. External Control Environment

In the Chinese planned economy, a corporate governance system is absent. Legal or statutory rules are non-existent. With the economic reform in process in the past decade, there is also an evolving process in setting up the system (see Table 1.1). A legal framework of laws and regulations is established based on the model of a competitive market adopting the Anglo-American system. The introduction of the Accounting Laws in 1985, were based on the western methodology and concepts. Chow et al. (1995) cited that the adoption of the accounting standards in 1993 as a milestone in China's accounting history. The Company Laws were introduced in 1993. The Securities Laws were finally promulgated in December 1998 even though the trading of public listed shares had begun in 1990. The introduction of the Central Banking and Commercial

Banking Laws in banking reform is also part of this macro process. All these statutes and laws therefore provide an initial framework for the legal environment.

While corporatisation establishes clearer property rights for the SOE, there is a parallel restructuring in the government to reduce government influence and to separate the government and the enterprises. This restructuring aims to reduce the administrative influences of the central government. In 1998, a number of economic ministries were abolished. These economic ministries used to serve as a tie between the industries and the government and act as managerial supervisor to the SOEs. After the restructuring the ministerial intervention from the government will be reduced and the central government has also ordered that any administrative ties with SOEs be done at arm's length.

3.3.   Internal Control Structure

Under the Chinese company laws, a listed firm has four levels of management structure. These four management structures are namely the shareholders' meeting, the board of directors, the supervisory committee, and the management (the managers). The shareholders' meeting has the highest power and authority within the company. It will elect and remove members of the board of directors and the supervisory committee, approve (or otherwise) the company's budget and final accounts, and profit distribution. The meeting also passes resolutions on the increase or decrease of capital, issuance of bond and matters relating to mergers, acquisitions and liquidations. In general, shareholder meetings are held annually and shareholders have one vote for one share held.

The directors are elected by the shareholders in the shareholders' meeting. The laws also stipulate that the term of appointment of a director should not exceed three years. A director may be re-elected for a further term upon the expiration of his term. The laws do not stipulate the number of terms for election. The boards typically consist of 5 to 19 directors. The chairman of the board shall be the legal representative of the company.[6] The board of directors is accountable to the shareholders' meeting. The boards of directors have responsibilities including the execution of the shareholders' resolutions in shareholders' meetings; appointing, removing and remunerating the general managers and senior managers.

The function of the board of Chinese corporations is no different from their western counterparts. Gu et al. (1999) analyse the agendas discussed in board meetings using the questionnaires returned from 104 listed companies. They find that 40% of the agenda is related to the major decisions of the companies such as investments, 34% are related to the operating evaluation of the companies, 24% to personnel and other operational matters including supervision, and the remaining 2% to other matters.

Apart from the board of directors, there is a supervisory committee. Representatives of both the shareholders and the employee are required to sit on the supervisory committee. The essence of the supervisory committee is to monitor the activities of the board of directors. As a socialist country, employees of the company are also allowed to monitor the company activities and the laws specify the importance of the employee representation. The supervisory committee is the watchdog of the company activities. As a matter of independence, directors and senior management staff are not

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[6] The concept of legal person has a distinct meaning in China as he is supposed to represent the firm.

allowed to act as supervisors. The minimum number of supervisors is three. The term of office of a supervisor is three years and upon the expiration may be re-elected. Supervisory committee members also attend the board of directors meetings as non-voting members.

The general manager, chief financial officer and senior managers are appointed by and they are responsible to the board. These managers have the day to day management power in the company. As most of the listed companies are converted from the state owned enterprises, most of the managers of the listed companies are directly transferred from the original state owned enterprises.

4. Scope of the Present Study

Governance systems differ across countries. Monitoring mechanisms vary as a function of ownership, structure of the corporation, role of the banking and finance system, market structure and economic system. Each country applies a different set of rules and structures. To examine the effectiveness of the corporate governance system in China, first I examine the effect of different types of ownership and corporate control mechanisms in monitoring and controlling managers so as to reduce agency costs. This is the subject of Chapter 2. I examine the relationship between agency costs and the different governance mechanisms and ownership structure. The theoretical background is that if the corporate control mechanisms are inefficient, there will be no relationship between the corporate control mechanisms and agency costs. There will be no difference in agency costs across firms with different ownership structures and different types of control mechanisms.

In Chapters 3 and 4, I examine the effectiveness of control mechanisms in terms of setting managerial compensation and removal of ineffective managers. Similarly if control mechanisms are effective, according to agency theory, better motivated managers will be positively associated with firms with better performance. There will be higher turnover associated with poor performing firms.

To conclude this study, I also examine the substitution and complementarity effects of corporate control mechanisms (including ownership) in controlling firm performance. I examine the interaction of the control mechanisms and see how the governance package can improve firm performance. This represents an extension of the past research and in this particular circumstance; I use Chinese firm data for such analysis. This is the subject for Chapter 5. Chapter 6 is the concluding chapter.

Chapter 2

OWNERSHIP, GOVERNANCE MECHANISM AND AGENCY COSTS

1. Introduction

It is now more than two decades since China first set about transforming its moribund economy. The reforms have resulted in a tremendous growth in the economy and have enabled China to rewrite her relations with the world's major powers. One of the key reform objectives was to revitalize the state owned enterprises (SOEs); these play a very important role in the overall economy. It was hoped the reforms would enhance the efficiency, governance, and profitability of the SOEs.

Privatization and corporatization are the key elements of the reform of SOEs. Here, SOEs are transformed into corporations employing modern business practices. There is also a change in the ownership structure. Instead of absolute government control, state owned firms are privatized and shares are issued to the public including local and foreign shareholders. Apart from the changes in ownership structure, the Chinese government is also writing laws to govern commercial transactions and they are advocating modern corporate governance systems. Such systems of laws, regulations, and guidelines are based on international best practices and on Western-style corporate governance systems.

Despite corporatization and privatization, reform of SOEs is not as complete or as successful as other aspects of the economic reforms. First, while government has given up 100% state ownership, this does not mean government has given up its influence.

Government still maintains a tight control and influence over the administrative and economic affairs of the SOEs, even when its voting rights (formerly 100%) have been diluted. Second, although ownership has changed, and direct government ownership reduced, much of the ownership has been passed to legal persons. The legal person shareholdings are mainly controlled by institutions whose ultimate owner is regional or central government and their associated ministries. While direct government ownership has been significantly reduced, the economic behavior of the legal person ownership remains unclear. Some studies show that these legal person ownerships are more profit orientated and hence improve the control and performance of these privatized firms, while there are other studies that conclude otherwise. Thirdly, despite the introduction of a modern corporate governance structure, the effectiveness of such a framework is questionable. The Chinese legal system has lagged behind in supporting the governance framework; for example, there is limited support given to the minority and individual shareholder interests. In common law jurisdictions, the rights and interests of both the supervisory bodies and shareholders are clearly spelt out and closely protected. In China, however, the judiciary and legal system are relatively primitive and hence shareholder interests are often ignored or otherwise abused.

This chapter gives particular emphasis to the agency problem. Due to unclear ownership structures, Chinese firms have serious insider control problems which lead, in turn, to significant agency costs. Using a framework similar to Singh and Davidson (2002), this chapter aims to analyze the relation between agency costs, ownership, and governance control mechanisms in Chinese listed firms; and provides a direct measure of the extent of agency costs. This chapter makes two major contributions to the field. First,

while previous studies focus on the relation between insider ownership and agency costs, I investigate the identity of shareholders and establish the relations between agency costs and the different types of owners. In China, the types of owner have important implications for the objectives of firms and the behavior of managers. Second, I incorporate governance control mechanisms into the analytical framework to gain a better insight into the level of agency costs.

The remainder of this chapter is organized as follows. Section 2 briefly introduces the agency problems, ownership profiles, and corporate governance structures in China. Section 3 reviews the theoretical foundations and the literature and section 4 describe the data and sample collection method. Section 5 discusses the results, and section 6 is the conclusion.

2. Institutional Environment

2.1. Agency Problems in China

There are serious agency problems in China and this stems, in part, from the ownership structure of firms. Despite the privatization and corporatization of state owned enterprises (SOEs), the Chinese government maintains a dominant position in the economy. The central government attaches importance to the dominance of "public" ownership, which they believe is the key element of a socialist market economy. Consequently, even if SOEs are listed, only about one third of the ownership is in the hands of individuals. The government maintains majority ownership of many listed SOEs and plays a direct and active role in controlling their activities. Zhou and Wang (2000)

argue that the root of SOE inefficiency is the high agency costs that result from an obsolete state asset management system.[7]

In the process of corporatization, the Chinese government gradually converted SOEs into shareholding corporations. However, as the government remains the dominant owner, SOE control typically remains in the hands of pre-corporatization managers. Under the planned economy, SOE managers acted as agents to manage the corporations according to government instructions. With the reform of the economy, the ownership of corporations has shifted away from particular ministries or local governments, and is now spread among different institutions and pubic individuals. These new owners have more authority to manage their corporations, including the control of retained profit, which formerly had to be remitted to the central government under the planned economy.

Ownership reform also altered the role of the government as the sole owner and operator of the enterprises. The reforms extended managerial autonomy even if the government remained the major shareholder. Nolan and Wang (1999) argue that Chinese SOEs have evolved from being governed by state administrated plans to having pluralized institutional ownership with de facto management control. Today, managers run the newly privatized firms and they are motivated by personal gain and advancement.

In the process of economic liberalization, managers of SOEs are given more autonomy. For example, through "expanding enterprise autonomy", managers are increasingly being given control rights over the income that is generated from assets, although they have no formal rights to dispose of them. The agency problem in China is potentially more serious than in the West because Chinese managers are not compensated

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[7] State asset management, a legacy of the planned economic system, is characterized by poor monitoring mechanisms

according to performance (Qian 1995, 1996) and pay levels are relatively low. This gives rise to managerial shirking and the increased potential for misappropriation of assets and commercial bribery. Moreover, no clearly accountable representative of the state has both the information and the incentive to monitor the performance of SOEs.

2.2. Ownership Structure

In China, the ownership of listed firms consists of state ownership, legal person ownership, and public ownership. The ultimate owner of state shares is the State Council. Legal person shareholdings comprise those of corporations and financial institutions. There are restrictions on the transfer of state and legal person shares. Public ownership comprises freely tradable shares that are mostly held by individuals. Shares are also issued to foreign investors. On average, state, legal person, and public ownership each account for about one third of the total shares in issue although there is considerable variability across firms. The widely dispersed public shareholders have little influence on the operations of listed firms because the state and the legal person shareholders often own a majority of the shares. Despite the restrictions on the transfer of state and legal person ownership, empirical studies have shown that different types of ownership influence firm performances (Xu and Wang 1999; Qi et al. 2000).

2.3. Corporate Governance System

After the establishment of the stock exchanges in 1990 and 1991, the Chinese government introduced a corporate governance system for listed firm that was based on

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and an ineffective reward system for the SOEs' managers (Zhou and Wang 2000).

those seen in developed economies such as the U.S. and the U.K. Listed companies were given full autonomy to manage themselves. Major decisions were to be made by the board and ratified by the shareholders. However, attempts to adopt Western-style governance practices have been fraught with difficulty because of the lack of laws and regulations to govern commercial activities. Additionally, institutional factors differ between China and the West.[8] This has compounded the difficulties of implementing modern governance practices in China. Tam (2000) argues that the development of corporate governance systems in China has been too rapid.

The salient features of current governance systems in China are the dominant role of the government in the economy, the restrictions on share ownership, the ineffectual monitoring of management by shareholders, concentrated ownership, and the boards of directors being dominated with inexperienced and related directors. Although there have been improvements in each of these areas, they still represent significant impediments to the full-scale adoption of capitalist practices. Rudimentary corporate governance practices inhibit business growth and economic reform. Broadman (1999) argued that many Chinese enterprises are still working in a corporate governance vacuum and insiders have virtually unbridled control over them. Chen et al. (2002) argue that privatization has been unsuccessful because the state continues to have substantial shareholdings and often controls a majority of any given board.

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[8] For example, few independent financial institutions own shares. Most tradable shares are owned by the general public. Blockholders are rare, and their ownership is generally dwarfed by state ownership. There is also an absence of a market for corporate control. Major shareholding transfers have to be approved by the authorities. Moreover, there is no managerial labor market because most senior managers of listed firms are, in theory at least, government servants.

3. Theoretical Issues and Hypotheses

One of the key features of modern corporations is the separation of ownership and control. This gives rise to conflicts of interest between managers and owners. Berle and Means (1932) were among the first to argue that the shareholders of a company with a dispersed shareholder base have less incentive to monitor managers. Because of ownership diffusion, the average shareholder may not be able to exert any real power in the running of the corporation or in monitoring managerial performance. In the absence of other control mechanisms, management has more freedom to use the firm's resources than it would if the owners managed the firm. Jensen and Meckling (1976) posit that there are conflicts between the interests of outside shareholders and the managers of a firm. This leads to the possibility of managers making sub-optimal decisions that improve their own welfare at the expense of shareholders. Shleifer and Vishny (1997) suggest that the expropriation of shareholders by managers can occur in many ways, including the building of personal "empires", enjoying perks, stealing and transferring money from the firm, conducting insider trading, making inappropriate investments due to management incompetence, and entrenchment. Another abuse that is prevalent in emerging economies is that of unfavorable connected transactions (also called related party transactions) where, for example, assets may be sold cheaply to, or bought dearly from, private firms owned by the managers.

Agency theory and the corporate governance literature identify and propose an array of devices to protect investors from the self-interested motivations of managers. For example, the key mechanisms of the corporate governance framework that are identified by Keasey et al. (1997) are ownership (including institutional and managerial ownership),

directors and the board (including the board structure), director's remuneration, auditing and information, and the market for corporate control. The Cadbury Report (1992) recommends that firms should adopt a model code of best governance practices, and stresses the importance of these control mechanisms.

Ownership and governance factors have been observed to have had, at the very least, some small success in reducing agency costs and improving firm performance in the U.S. and other developed countries. As a result of this evidence, and as a consequence of the West's 'preaching' to countries undergoing economic transition, China has adopted, if not entirely embraced, U.S.-style ownership and governance reform in privatized SOEs. It is therefore of interest to see if ownership and governance reform in China has lead to the kind of reductions in agency costs experienced in the U.S. If the promised reductions in agency costs do not materialize, then this may be due to the role of the government or the unique characteristics of China's listed firms and business environment. A failure to reduce agency costs may imply that the reforms are more form than substance. The following sections outline why ownership and governance may have an impact on agency costs. The discussion draws heavily from the U.S. literature although consideration is given to China's unique environment.

3.1. Ownership

High managerial ownership has been advocated as a way to reduce agency costs (Jensen and Meckling 1976) although there are also arguments that very high ownership leads to so-called entrenchment where agency costs increase (Shleifer and Vishny 1997). In China, the impact of managerial ownership is somewhat moot as the shareholdings of

directors and CEOs are minute both in relative and absolute terms. Hence I do not examine management ownership in this study. Instead, I examine institutional, government, foreign, and concentrated ownership, and their associations with agency costs.[9]

3.1.1. Institutional Ownership

There is an extensive literature that advocates the important role that institutional investors can play in monitoring the actions of management (Shleifer and Vishny 1986, 1997; Agrawal and Mandelker 1990). As a detailed example, Smith (1996) examines, and to some extent extols, the shareholder activism by CalPERs, a large California-based institutional investor. In general, the literature argues that institutional shareholders are associated with lower agency costs. China does not have extensive institutional investors of the type seen in the U.S. and so a direct test of their relation with agency costs is not possible. However, China does have legal shares held in large blocks by organizations who may be deemed to be independent of government and who act to maximize wealth. For example, Xu and Wang (1999) and Qi et al. (2000) argue that legal shareholders invest in firms with better performances; note, however, that Chen et al. (2002) find no evidence of such a relation. Because these legal shareholders have large ownership positions and have the resources to analyze firms, they have the potential to force firms to reduce agency costs. I therefore examine whether legal shareholders have an impact on the level of agency costs in Chinese listed firms.

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[9] Additional analyses that include managerial shareholdings showed them to be non-significant.

3.1.2. Government Ownership

A distinct characteristic of Chinese listed firms is the large shareholdings retained by the government. Previous research has attributed the inefficiency of SOEs to government ownership and control. For example, SOEs tend to emphasize political objectives rather than economic efficiency, and have failed to confront the emerging competition from non-state enterprises (Naughton 1995). Profit maximization is not always a key objective for the government as an owner and investor in SOEs. Shleifer and Vishny (1994) argue that the inefficiency of government owned firms is due to the imposition by politicians of objectives other than profit maximization. Dewenter and Malatesta (2000) compare the performance of government owned and privately owned firms, and find that government firms are less profitable, more highly geared, and more labor intensive. Following this argument, government-controlled firms are less efficient and face higher agency costs. However there are contrary views to the above. Lin et al. (1998) and Broadman (1999) argue that in the absence of any shareholder control, managerial autonomy expands and it is impossible to oversee managerial activities. In this circumstance, active government intervention may be necessary. Indeed there are conflicting results in the studies concerning the role of the government in enhancing the performance of privatized firms. Xu and Wang (1999) argue that government ownership increases the agency conflict and has a negative impact on performance; Chen (1998), however, documents a positive relation between government ownership and firm performance. The conflicting views on the impact of government ownership on firm performance and, by extension, to agency costs, lead me to examine this factor in China.

3.1.3. Foreign Ownership

Foreign investors face considerable risks, especially when investing in transitional economies. These risks include political risk, information asymmetry, and inadequate legal protection (LaPorta et al. 1997, 1999). Foreign investors are therefore very concerned about the management of firms in which they invest. On the one hand, foreign investors may pressure firms to be efficient and reduce agency costs (Anderson et al. 2001). On the other hand, however, geographical distance and ignorance of local conditions may make foreign shareholders less influential in monitoring management and thus reducing agency costs (Boardman et al. 1994). The influence of foreign investors in reducing agency costs is therefore an empirical matter and I include this factor in this study.

3.1.4. Concentrated Ownership

There are a substantial number of studies that have addressed the effect of concentrated ownership on firm performance. Pound (1988) presents two competing hypotheses that seek to explain differences in the behavior of large shareholders. The efficient monitoring hypothesis argues that large shareholders have an incentive to monitor, and are sufficiently informed to take up monitoring roles. In contrast, the strategic alliance hypothesis suggests that it is more effective for large shareholders to cooperate with the board on many issues. Shleifer and Vishny (1986) argue that large shareholders have the incentive to monitor firm management, and that the presence of large shareholders enhances firm performance. Empirical studies in developed countries have shown that large shareholders are more active in monitoring (Franks and Mayer

2001; Kang and Shivdasani 1995). Ang et al. (2000) and Singh and Davidson (2002) also show that block ownership is more effective in controlling agency costs. I include a variable to represent highly concentrated ownership in China; this variable uses the proportionate ownership by the three largest owners.

3.2. Board of Directors

A growing body of literature considers the effect of the composition of the board of directors on firm activities (Lee et al. 1992). The studies therein evaluate the degree of alignment between boards and shareholder objectives. In general, the evidence shows that outsider dominated boards provide some form of control over firm activities (Weisbach 1988; Hermalin and Weisbach 1988; Jensen 1986; Mayers et al. 1997). Studies in Western economies therefore predict a negative relation between boards with higher proportions of non-executive directors and agency costs. I examine this issue in China using the proxy for outside directors.

3.3. Control Variables

While ownership and governance factors influence agency costs, other firm characteristics also affect corporate control and hence agency costs. These factors need to be taken into account in the analyses.

Managerial compensation: Managerial compensation can be employed as a device to reduce the agency conflicts between managers and shareholders. A good compensation and reward scheme gives managers the incentives to improve efficiency and desist from non-value added expenditures and activities. The agency theory argues

that there should be a positive relation between CEO pay and financial performance and operational efficiency. However, empirical research provides mixed conclusions, with many studies reporting only a weak link between firm performance and pay (see, for example, the review by Conyon 1997).

Leverage: The agency literature suggests that debt can be useful in reducing agency conflicts. Leverage reduces agency costs by reducing the cash flow that is available for discretionary use by the management (Jensen 1986). Grossman and Hart (1982) argue that the existence of debt forces managers to consume fewer perquisites and become more efficient, as this lessens the probability of bankruptcy and the loss of control. Empirical evidence supports the effectiveness of debt as a control device. Ang et al. (2000) show that lower agency costs are associated with higher leverage in a sample of small U.S. firms. Berger et al. (1997) conclude that leverage offsets agency costs associated with CEO tenure and large board size. Further, Bathala et al. (1994) find that leverage is an alternative to institutional ownership in monitoring agency costs.

Firm size: Numerous studies have argued that firm size is a moderating variable in the determination of the relation between performance and governance structure. Ang et al. (2000) and Singh and Davidson (2002) suggest that there are economies of scale for larger firms. In particular, the proxies for agency costs are likely to be smaller for larger firms. Note that large firms are politically more important in a socialist economy such as that of China and hence they may be more subject to government influence and monitoring. The government has a greater incentive to protect and assist large firms due to social matters, such as protecting employment. Size may therefore have an impact on agency costs in Chinese firms and this impact may be different than in the West

Age: I include firm age as a control variable based on the argument that mature firms are more efficient than younger firms.

Area: Economic development, living expenses, and average wage costs in the coastal cities and areas are much higher than in the interior of China. These differences in economic development will affect operating and administrative costs. A dummy variable is coded 1 if the firm is located in a developed area, open city, and coastal province.

Industry: Singh and Davidson (2002) control for industry sectors in their analyses. To cater for differences in competitive environments and differences in financial ratios across industries, I introduce five industry dummy variables (commercial, industrial, utility, property, and conglomerate).

Area and *Industry* are used in the OLS regressions reported in Section 5, Robustness Tests.

4. Data and Sample Selection

4.1. Data

To examine whether ownership and governance mechanisms have an impact on the agency costs of Chinese firms, I use a sample of all non-financial corporations that were listed on the stock exchanges of Shanghai and Shenzhen in 1998. The analysis is based on information from annual reports over a three-year period from 1998 to 2000. I use company annual reports as the source of information for ownership structure, board composition, and compensation structure. The rest of the data, including performance and debt structure, are obtained from the China Stock Market & Accounting Research

Database.[10] To be consistent with other studies, I exclude those companies that are in the financial sector. This results in a very small loss of data as there are only a few financial companies listed on both exchanges. The sample consists of 549 companies that were listed on the stock exchanges in Shanghai and Shenzhen, and 1647 firm-year observations.

4.2. Agency Costs

Singh and Davidson (2002) and Doukas et al. (2002) use the sum of operating, general, and administration expenses (OGA) scaled by total sales as a proxy measure for agency costs. I use an identical measure. Operating, general, and administration expenses are incurred in sales activities (other than the cost of sales), and expenses are incurred in organizing and managing the operations and production, which includes expenses that are incurred by the board of directors. Additional expenses under the heading of OGA are incurred due to managerial discretion and these are positively related to agency costs. In this manner, higher agency costs will lead to a higher OGA expenses to sales ratio.

A second proxy measure of agency costs is the asset turnover ratio which is defined as sales divided by assets. This proxy is used by Singh and Davidson (2002). Firms with low asset turnover ratios reflect under-utilization of resources and investment in non-productive assets. Low asset turnover ratios imply greater agency conflict and hence higher agency costs.

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[10] This database is compiled by the China Accounting and Finance Research Centre of the Hong Kong Polytechnic University and Shenzhen GTA Information Technology Ltd.

4.3. Ownership and Board of Director Control

I identify four ownership factors: institutional ownership, government ownership, foreign ownership, and concentrated (large) ownership. Apart from the state's shareholding, potentially the most influential shareholders are the legal person shareholders. As discussed earlier, there is conflicting evidence on the association between legal person shareholders and firm performance, while there is no prior research on their association with agency costs. I use legal person shareholding (LSH) as a proxy for institutional shareholding. Specifically, LSH is coded 1 when the legal shareholding exceeds 50%. I also use dummy variables to capture the effect of government and foreign shareholdings. The government shareholding (GOV) dummy variable equals 1 when the state holding is greater than or equal to the next major shareholding in the company while the foreign shareholding (FS) dummy equals 1 when the company also issues foreign shares (B shares and/or H shares). I use the shareholding concentration factor (CONC) to capture the effect of concentrated (large) shareholding. CONC is the sum of the squares of the proportionate shareholdings of the three largest owners. I use board composition to capture the board of directors' control mechanism. As a proxy for the extent of the control that is wielded by the board of directors, prior studies examine the proportion of outside directors on the board. Because there is no statutory requirement for external or independent directors[11] for listed firms in China, I use the proportion of unpaid directors to proxy for outside directors (NONEX).

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[11] Since 2001, the Chinese Securities and Regulatory Commission has requested that listed firms appoint independent directors.

4.4. Control Variables

To capture the management compensation alignment factor I use the log of the highest cash payment to a board member as the proxy for compensation (PAY).[12] I employ the debt equity ratio (LEVERAGE) to capture the effect of debt. I take the natural log of assets as the proxy for size. AGE is the number of years since the firm listed. Table 2.1 provides a summary of the list of variables, their definitions, and the proxies that I use in the subsequent analyses.

4.5. Sample Characteristics

Table 2.1 provides the summary statistics of the list of variables. The agency costs statistics show that the mean (median) OGA expenses to sales ratios are 0.25 (0.13). Singh and Davidson (2002) report a mean expenses to sales ratio (selling, general, and administration costs to sales) of 0.28 for a sample of U.S. listed firms. Another measure of agency costs is the sales to assets ratio and the mean and median ratios are 0.48 and 0.40 respectively, these ratios are much smaller than those reported in the U.S. (Ang et al. 2000, Singh and Davidson 2002).

The proportion of firms with a legal person shareholder as the majority shareholder is 29%. The mean value of GOV is 0.56, i.e. the state owns more shares than the next major shareholder in approximately 56% of the listed companies in the sample. Approximately 16% of the sample companies issue shares to foreign shareholders. The CONC factor ranges from 0.001 to 0.785, with a mean (median) value of 0.22 (0.18). The

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[12] Other forms of compensation, such as share options, are not common in China; and if they do occur, they are not disclosed.

proportion of unpaid directors is approximately 51% for the sample. This is comparable to the proportion of non-executive directors on Western boards.

The highest compensation payment for the Chinese firms ranges from RMB 8,000 to 1 million (USD 1,000 to 125,000) over the period 1998 to 2000. The mean pay is RMB 69,100 with a median of RMB 50,000 and a standard deviation of RMB 73,110. The average long-term debt to equity ratio (LEVERAGE) is 11%. This ratio is low when compared to those of developed economies. The proxy for size is the natural log of book assets; the mean, median, and standard deviation of assets are RMB 1,553 million, RMB 952 million, and RMB 2,085 million, respectively.

5. Results and Discussions

5.1. Univariate Analysis

In Table 2.2, I report the univariate comparison of the agency costs of the sample firms across different ownership and governance mechanisms for the pooled data and for the individual years. The firms are divided into two groups. For the ownership variables LSH, GOV and FS firm type (1) represents firms that have dummy variables that are equal to 1, while for CONCM, firm type (1) represents firms that have a CONC factor that is greater than the median value of the sample. For the governance factors, firm type (1) represents firms that have a NONEX greater than 0.5. I show the statistical tests (t- and z-tests) for the differences between the mean (median) agency costs of the different firm types.

Firstly, I examine the pooled data. There is no difference in the OGA expenses to sales proxy of agency costs for firms with and without a majority presence of legal

person shareholders and between government and non-government controlled firms. I find a positive relation between agency costs and foreign shareholding. Thus, a firm with foreign shareholders has greater agency conflicts, and this significantly increases agency costs. The presence of a large shareholder (as measured by the CONCM factor) reduces the agency costs. Concentrated ownership makes it more economical for these owners to closely monitor management and therefore reduce agency costs. For the governance control mechanism, there is no significant difference for firms with different board of directors' control (boards with more than, or less than, 50% of unpaid directors); thus there is no prima facie evidence that having a majority of outside directors will ensure lower agency costs.

I also use the sales to assets ratio as another proxy for agency cost. The legal entity share ownership variable does not have an impact on the sales to assets ratio. In contrast, government controlled firms have higher sales to assets ratios, and this is indicative of having lower agency costs. The evidence is consistent with the findings of Lin et al. (1998) and Broadman (1999). Firms with foreign shareholders are associated with significantly higher agency costs (i.e. the sales to assets ratio is lower). The concentration factor is not significant. I also find evidence of lower agency costs for firms with a majority of insider directors.

The univariate analyses suggest that firms with foreign shareholders have higher agency costs, and there is some limited evidence that government controlled firms and those firms with concentrated ownership have lower agency costs. The results from the individual year analyses support the findings from the pooled data although statistical significance is weaker. In the next section I add control variables to the analyses and use

multivariate models to examine the agency cost relations.

5.2. Multivariate Regression Analysis

I use regression analysis to investigate the relation between agency costs and the various variables that affect agency costs. I conduct pooled multivariate regression analysis using panel data models:

$$AgencyCosts_{it} = \alpha_i + \beta_1 LSH_{it} + \beta_2 GOV_{it} + \beta_3 FS_{it} + \beta_4 CONCM_{it} + \beta_5 NONEX_{it} + \beta_6 LNPAY_{it} + \beta_7 LEVERAGE_{it} + \beta_8 LNSIZE_{it} + \beta_9 AGE_{it} + \varepsilon_{it}$$

This model of parameter estimation specifies that only the intercept parameter varies, not the response parameters; and the intercept varies only across firms and not over time. All behavioral differences between individual firms and over time are captured by the intercept. I use both a fixed effects model and a random effects model. The fixed effects model assumes that the time-invariant firm-specific effect α_i is correlated with other independent variables, while the random effects model assumes otherwise (Green 1997). For the sake of completeness, and similar to Rowe and Davidson (2002), I use both fixed effects and random effects models. For inferential purposes, random effects models are more appropriate (Hsiao 1986) and so I report them first and report the fixed effects model results as sensitivity or robustness tests. Table 2.3 presents the results from the multivariate random effects models. In models 1 to 4, I analyze each of the four ownership factors[13] after controlling for the governance and control variables. Models 5 and 6 include all the ownership variables while model 7 is the full model where sales divided by assets is the measure of agency costs. Note that the signs on the coefficients in

model 7 should be opposite to those in columns 1 to 6 if a variable is important.

The results show that FS is consistently significant and positive (negative) in all regression specifications for the OGA expenses to sales (sales to assets) proxy of agency costs. Thus, after controlling for other factors, firms with foreign shareholders have higher agency costs. This finding runs counter to the notion that foreigners will influence firms to be less wasteful and act in the best interests of shareholders. The other ownership variables[14] and the board composition are not significant. The result for board composition is similar to the findings of Singh and Davidson (2002).

Leverage is associated with higher agency costs and so the evidence from Chinese listed firms is different from that in the U.S. (Jensen 1986; Bathala et al. 1994; Berger et al. 1997). Although firms now operate in competitive markets, there may still be a tendency for firms and the banks that provide debt capital, to believe the government will bail out financially troubled companies. The four largest commercial banks in China are mainly agents of the state. Their lending practices are driven by government policy and so banks exert little influence on China's SOEs and their monitoring role is limited. The results indicate that firms with higher debt levels are likely to be less efficient and hence incur higher agency costs. Hart (1995) argues that for debt to be an effective source of discipline there must be a "penalty" in the event of default. Such a penalty is lacking in China.[15] While this might explain the lack of monitoring by debt holders, it does not explain the positive relation between debt and agency costs.

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[13] In additional analyses I use the percentage of shareholdings for each owners types, rather than dummy variables, the results are qualitatively similar. For brevity's sake I do not report the detailed results.

[14] There is weak evidence (at the 0.10 level) for models 5 and 6 that firms with concentrated ownership have lower OGA expenses to sales ratios.

[15] Although a number of firms with negative net asset values have technically been bankrupt in recent years, they have not been delisted from the market. This practice reduces the management's incentive to avoid default. Furthermore,

Table 2.3 indicates that larger firms have lower agency costs while older firms have higher agency costs. While the result for size is expected, and consistent with U.S. research (Singh and Davidson 2002), it is difficult to explain the positive sign on AGE. One possible explanation is that when SOEs are converted to listed companies, their management styles remain unchanged. If the bureaucratic behavior of SOEs continues and is associated with age, hence higher agency costs for more mature firms.

The pay variable is not significant when OGA expenses to sales is used as the proxy for agency costs. However, pay is positively related to sales divided by assets, and so there is a significantly negative association with this measure of agency cost (in the case of sales divided by assets, a low number implies high agency cost).

5.3. Robust Tests

In addition to using the random effects model, I also use the fixed effects model. The results for the fixed effects model are broadly consistent with those for the random effects model although statistical significances are somewhat lower.

I repeat the analyses for each year and the results are reported in Table 2.4. The results are consistent with those reported in Table 2.3. In particular, firms with foreign shareholders have higher agency costs; the coefficients on FS are significant in all years and have signs which indicate that foreign shareholders are associated with higher agency costs. There is limited evidence that concentrated ownership reduces agency costs. Board composition is not significant in the yearly analyses. The coefficients on the control variables are consistent with those in Table 2.3.

local governments and controlling bureaus influence the bankruptcy procedure for political motives such as

OLS regressions are also run with industry and area added as control variables. Board size is also added as an independent variable in the panel data and OLS regressions. The main findings relating to ownership and board composition remain after controlling for industry, location, and board size.

6. Conclusion

This study analyzes the relations between agency costs, ownership, and governance mechanisms in Chinese listed firms. The results show that a firm with a foreign shareholding incurs higher agency costs. Thus the foreign influence does not extend to closely monitoring management and thus reducing agency costs. In fact it may be that a foreign shareholding influences management to embrace the perks, privileges, and trappings of Western executives and thus increase non-necessary expenditures (agency costs). There is limited but weak evidence that concentrated ownership is associated with lower agency costs. I find no evidence that legal person shareholding is more effective in reducing agency costs. In the multivariate models, I find that government shareholding has no effect on agency costs. While it is usually assumed that government share ownership in China creates inefficiencies and agency problems, I find that there is no difference between government and non-government controlled firms. The composition of the board of directors, as reflected in the proportion of non-executive directors, has no association with agency costs. While this finding contrasts with the predictions from the governance literature, it is consistent with the results from Singh and Davidson (2002) who use U.S. data.

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employment. The near impossibility of bankruptcy undermines the effectiveness of control by debt.

The study is an important first step in analyzing agency costs, and the impact of ownership and board characteristics on those costs, in China. The research is important as China strives to maximize economic development while avoiding the pitfalls that have befallen many privatization programs in other transition economies. The problems of transition, as reflected in agency costs, are both real and large. Meantime, the potential remedies to agency costs, as reflected in best corporate governance practices, are at an embryonic stage. Hopefully the research sheds some light on what does, and what does not, work in mitigating agency costs in China's listed firms. Mere extrapolation of Western practices is likely to be insufficient because of China's unique style of capitalism and privatization, and its incredibly rapid transition from a centrally-planned economy.

Chapter 3

THE DETERMINANTS OF MANAGERIAL COMPENSATION

1. Introduction

China has achieved impressive economic growth since market reforms were first introduced some 25 years ago. Central to the reforms are the adoption of free market policies where the pricing and production of goods, services, and labor are set in competitive markets. As a consequence of the reforms, managers of enterprises now have more decision making responsibilities and the role of the state in commercial decisions has been reduced. One of the key ingredients in the economic modernization of China is the corporatization of State Owned Enterprises (SOEs) and the listing of some of them on the stock exchanges of Shanghai and Shenzhen. By corporatizing and privatizing[16] SOEs, managers are given more discretion in making business decisions and they are held accountable to shareholders rather than to the state and the political hierarchy. Naturally, however, the process of transforming the economic system has encountered difficulties, and political pressures and state intervention have somewhat dulled the full potential of the reforms.

While the partial privatization and listing of SOEs is a bold attempt to instill Western-style discipline and incentives to Chinese businesses, experience shows that the reforms are only a partial success. Paramount among the differences between Chinese listed firms and their Western counterparts is the significant role of the state. For

example, state and regional government, and their associated ministries and investment arms typically own more than 50 percent of the shares. The state also approves appointments to the board of directors. Although the state in many cases leaves day-to-day management in the hands of the CEO and the executive directors, there are instances where the state actively intervenes in decision making and the setting of policy objectives. Local and regional governments sometime protect the market share of privatized SOEs, but conditions are still much better than under the old centrally planned economy. In other cases the state and local and regional government may impose social objectives on the partially privatized firm.

There have been a significant number of privatizations in China[17], but there is little research on how these corporations operate. In this study I seek to shed some light on top management compensation schemes, and how corporate governance mechanisms affect CEO compensation in listed firms. In particular, I examine the effect of ownership structure on the setting of top level compensation.

Conducting research on China is important as the economy is very large and the economic potential is immense. The U.S. and other industrialized countries have had a long time to develop and evolve incentive systems and governance structures. In contrast, China is attempting to move from a centrally planned economy to a capitalist system, albeit with Chinese characteristics, in a very short period of time. If the aspirations of the economic reforms are to fully materialize, then it is vital that top managers are given appropriate incentives. This will ensure that top human talent will

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[16] By corporatizing I mean the enterprise is reorganized as a company with equity share capital. Privatization is where shares are sold to non-government linked investors. In virtually all cases the state keeps some shareholdings in the SOE (even after listing) and so in this sense the privatization is 'partial'.

be hired to be CEOs and they will be devoted to maximizing efficiency and profitability. China needs to adopt good governance practices that monitor the CEO's actions and impose costs on top management if their performance is poor. Good governance will reduce agency costs and the cost of capital. It is imperative that China moves rapidly on implementing changes in governance if the full fruits of economic restructuring are to be achieved. the research identifies the main determinants of CEO pay, critiques the apparent pay processes currently in place, and points the way to improvements in aligning the objectives of managers and the desires and wishes of shareholders.

To date, the empirical studies used to analyze the relationships between pay and performance and the impact of governance structures have principally used data from the U.S. and Great Britain.[18] In contrast, there is a dearth of research using data from non-industrialized nations and newly emerging or transitional economies. To help remedy this vacuum in the literature, I investigate the remuneration of CEOs of listed companies in China using recently available data.

This study has two principle aims. The first is to examine whether compensation to Chinese managers is related to performance and the second is to examine how corporate governance structure affects compensation in China. I make use of theoretical and empirical results from studies in Western economies to develop the research hypotheses. I examine whether pay determinants identified in the developed economies also apply in the Chinese environment and I examine pay performance and pay governance relations, in particular the role of ownership and corporate governance in a

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[17] By 2000, more than 800 firms had been listed on the two stock exchanges. The number of non-listed privatizations amount to more than 100,000.

[18] Studies have also been conducted on other industrialized nations including Australia, Belgium, Canada, Germany, Hong Kong, Italy, Japan, New Zealand, Norway, and Spain.

transitional economy. I find that, similar to the developed economies, there is a positive pay performance relation in China; I also find evidence to support the argument that concentrated ownership and government ownership act to both reduce compensation levels and induce performance related pay for CEOs. The presence of a foreign shareholder is associated with higher pay and I attribute this to foreign investors demanding better qualified management and the willingness to pay for them. Foreign shareholders are also associated with firms that relate CEO pay to profitability. In contrast to much U.S. research, I find that a large board size appears to dampen top management pay. In the case of China, a large board may actually provide a higher level of oversight and control of the CEO, especially when it comes to the CEO's compensation. The findings point the way to a better alignment of executive remuneration and corporate performance.

This study contributes to the pay literature by examining the factors affecting managerial pay in Chinese firms. It also enriches the understanding of Chinese corporate governance systems. The findings point the way to a better alignment of executive remuneration and corporate performance. The rest of chapter is organized as follows. Section 2 briefly introduces incentive schemes in China. Section 3 reviews theoretical foundations and prior research and develops hypotheses about the determinants of executive compensation in China. Section 4 describes the sample selection and presents summary characteristics of the data. Section 5 reports the empirical results. Section 6 shows the results of additional tests using lagged models and pay-sensitivity tests. Section 7 concludes the chapter and discusses the implications of this study for the formulation of public policy in China and transitional economies.

## 2.	Incentive Scheme in China

### 2.1.	Pay and Incentive Schemes in China

Before the economic reforms began in the 1978, there was a highly structured pay scale system for SOEs. All profits made by the corporations were repatriated to the state. There was no incentive scheme to motivate managers nor were managers allowed to share the profit generated by the enterprises. Managers were government agents and representatives and their appointments were completely controlled by the administrative and communist party bureaucrats.

With the advent of economic reforms in China, many SOEs are allowed to convert into shareholding companies. These firms then sell shares to the public. A number of the partially privatized SOEs are allowed to list on the Shanghai and Shenzhen exchanges. Directors of listed companies are usually given an initial term of service of three years and they may be re-elected after the term of service has expired. Managerial compensation is decided by the board of directors themselves and does not need the approval of the shareholders. However, the socialistic approach is still very much in place and there is a tendency for managers to cap their compensation package as a multiple of the wage of the average workers of the corporation. Huang and Zhang (1995) discuss the problems of the absence of incentive schemes in SOEs and they argue that the economic performance of a firm is not always the major factor in assessing the performance of managers. Qian (1995) states that satisfying the interests of the governing Communist Party and the state is sometimes the sole criterion for measuring a firm's performance and sometimes the sole criterion in promotion decisions.

In the U.S. and elsewhere, there is a growing concern about 'excessive' executive compensation. In sharp contrast, however, there is considerable concern about the 'under compensation' of top managerial staff in China. The managerial compensation debate in China mainly focuses on the design of an appropriate system for compensation (Huang and Zhang, 1995; Yang, 1998). Whilst executive stock options are widely used in the West, it is unusual to give such incentives in China where compensation consists mainly of the base wage. This base wage may embed performance-related pay from the past or present period. Wei (1999) posits that the government determines the compensation system. Political status rather than economic reward is the motivating or driving force for many managers. Since there is a strong sense of equal pay amongst co-workers, managerial compensation schemes are often a function of the relative earnings of the workers in the company and local living standards.

The managerial labor market is not well established in China. Managers are not hired and fired as in the West. Mergers and acquisitions of SOEs typically do not affect the job security of the managers and so the discipline imposed by an active market for corporate control is absent. Mergers and acquisitions are often done with the approval of central or regional government so as to achieve some socio-political objective or so as to prop up ailing businesses. Finally there is a problem of the chain of the principal-agent relationship as control moves through various layers of bureaucracy. The information asymmetry problem is serious in this series of relationships. It is very difficult for the state, as the ultimate owner, to design an effective incentive scheme to motivate the managers of partially privatized SOEs. Zheng (1998) argues that the lack of a compensation system based on financial performance is a result of the following factors:

(1) multiple agency layers in the agency chain; (2) the input of management is not recognized in socialism and therefore a system for rewarding managerial performance is not available; (3) the appointment of a manager is a bureaucratic process; and (4) there is serious information asymmetry and so it is difficult to measure the performance of managers.

Given the above characteristics, the design of management compensation packages is quite different from that in the U.S. and other Western countries. Differences include the strong government influence in setting policy and objectives and the dominance and influence of government officials in the management of firms. Because of the socialist characteristics of Chinese society, there is an attempt to moderate the wage differences between workers and executives and hence there is a 'cap' on compensation. On average, the salary of a manager in an SOE is only one-fifth of his or her counterpart in a foreign venture or a foreign joint venture corporation (Zheng, 1998). Huang and Zhang (1998) report that in SOEs, the salary of manager is about three times that of an unskilled worker. Objectives such as enhancing political status, is an integral part of the reward package for many managers. In addition, the CEO and top management team may enjoy significant non-cash benefits such as better housing, education allowances, and entertainment expenses.

The above description of pay systems paints a rather bleak picture of the role of incentives in Chinese enterprises. It should be noted, however, that most of the cited studies allude to the practices in the mid-1990s or earlier and to non-privatized SOEs. Crucially, these studies do not present comprehensive statistical evidence on top

management pay and this is something this research seeks to remedy by using recently available data.

2.2. Government and Non-government Firms

Prior to privatization, managerial decisions of the SOEs are guided by the objectives laid down by the government bureaucrats. SOEs' managers were government officials and there were standard and uniform reward mechanisms. After privatization, managers were guided by the principle of value maximization and managers face the consequences of any risk taking projects.

The conversion to a publicly traded company brings with it a different set of principal agent relationships. Managers' salaries will increase if their roles become more independent from the politicians as they will take up more responsibilities. Cragg and Dyck (2000) examine the UK managerial payment system before and after privatization for the period 1970 to 1994. They find that there exist two separate markets for top management in state owned and the comparable publicly traded firms from 1970 to 1981 before privatization. Prior to privatization the top management of the state owned firms receive only half of the pay of managers of publicly traded firms. After privatization there is a convergence in executive compensation and the two markets converge into a single market.

Privatization of SOEs also brings along changes in the shareholder base and this consequently changes the reward and penalty structure to motivate more effective management. Wolfram (1998) argues that changes in responsibilities, ownership, and the political and institutional environment bring changes in compensation following

privatization. She finds that proxies for political and institutional environments are strongly correlated with salary increases for a sample of privatized UK electricity distribution firms.

3. Theoretical Foundation and Hypotheses

There is considerable interest in the way companies are directed and controlled. This interest has been spawned by the rapid growth in the number of shareholders and the increased publicity given to fraudulent or unethical behavior of company directors and officers. Recent attention has been given to the remuneration of the CEOs and other top executives. Here the emphasis has been on designing compensation contracts that give appropriate incentives to managers to maximize firm performance. Because compensation contracts, *per se*, are not disclosed, researchers have developed cross-sectional models using publicly available data to estimate important parameters of the pay formulae. These models test plausible relationships between compensation and measures of organizational complexity, performance, operating characteristics, and corporate governance.

Agency theory argues that there should be a positive relationship between CEO pay and financial performance, and empirical studies have been undertaken to confirm this association. Past research results have provided mixed conclusions, however, with many studies reporting only weak or even non-existent relationships between pay and performance. Jensen and Murphy (1990) suggested that the pay performance relation is so weak to provide adequate incentive for managers to act in the shareholders' interest.

Much of the prior studies are however based on the U.S. data and developed economies. There are few studies on the developing countries.

In light of these somewhat inconclusive findings in the pay performance relation, agency theory focus on the pay performance is only a partial analysis of the compensation structure. Researchers have turned their attention to examining the role of corporate governance and ownership and institutional factors in the setting of top management pay. Research into incentive compensation is vast and spans a number of disciplines including economics, finance, sociology, and psychology. Previous studies have identified a broad array of factors that determine managerial compensation. Amongst these analyses corporate governance is another major focus. As already noted, the Chinese corporate governance system is different from the developed economies. Given that the government has a dominant influence in the economic structure, corporate governance structure therefore offer another important approach to explain the compensation structure of the newly privatized firms in China.

3.1. Performance

In order to induce CEOs to maximize shareholder wealth, their remuneration should be tied to firm performance. This pay-for-performance link is a basic tenet of principal-agent theory (Baker, 1992; Dechow and Sloan, 1991; and Kaplan, 1994). There are two primary measures of a firm's economic performance, namely, return on assets and stock return (Lambert and Larcker, 1987). The first measure is more dependent on and more under the control of managers, and maximizing profitability is the goal or target that the CEO strives for. Problems with the return on assets measure include the

encouragement of a short term or myopic outlook at the expense of longer-term profitability, and the manipulation of accounting numbers by managers. The second measure, stock return, represents the benefits to stockholders. One characteristic of stock returns is that they are harder to manipulate than earnings and they ostensibly measure longer-term profitability of the firm. One drawback to the use of stock returns is that share prices are subject to the vagaries of the stock market and to changes in the macro-environment including interest rates, inflation, and exchange rates; these factors are outside the control of managers. In implementing performance evaluation measures, it is becoming more common to benchmark return on assets and stock returns against industry averages or against comparable firms. However, finding suitable benchmarks is a difficult task.

Extensive empirical research in Britain, the U.S., and elsewhere, has resulted in mixed findings on the pay-for-performance relationship. Coughlan and Schmidt (1985), Mehran (1995), and Murphy (1985, 1998), among others, report a positive relationship. Jensen and Murphy (1990) also find a positive association between CEO pay and stock returns but they caution that the sensitivity of pay to performance is so small that it is unlikely to be much of an incentive for managers. Other studies have found very weak or no pay-for-performance link (e.g. Gregg et al., 1993; Conyon et al., 1995; Zhou, 1999). More recent studies that include the benefits from stock options in top management pay, find positive relationships between pay and stock returns (Conyon and Murphy, 2000; Main et al., 1996). This finding is not surprising given the link between stock option benefits and stock returns. It should be recognized, however, that these studies cover

periods when stock prices have been rising quite sharply and the relationships may be different in times of stock market malaise.

Whether performance related pay is used in China is an empirical question. The actual formulae or method used in setting CEO pay is not disclosed and so I use regression models to see if there is a statistical relationship between pay and performance. From the results, I make inferences about the formulae or method used in setting pay. Because profit making objectives and stock markets are fairly new concepts in China, it is possible that performance related pay might not be prevalent. Additionally, there are ambivalent attitudes toward profit as communist or socialist ideas still persist and they permeate various levels of society and decision-makers. Nevertheless, based on standard agency theory arguments, I hypothesize a positive relationship between pay and economic performance. The hypothesis is:

Hypothesis 1: There is a positive relationship between CEO remuneration and performance.

I use the highest paid executive as a proxy for CEO pay. I use two measures of firm performance: return on assets and stock return. Return on assets (ROA) and stock return (RETURN) are the two most common measures of firm performance and so I include them, one at a time, in the regression model to compare their predictive abilities.

3.2. Governance Structure

Corporate governance relates to the way a firm is directed and controlled. The form of the governance structure is important when ownership is separated from management. When managers are given considerable, if not unbridled, autonomy they

may engage in self-serving behaviour that detracts from shareholder wealth. In order to monitor and, where necessary, control the actions of professional managers, firms have developed governance and reporting mechanisms. In the case of top management pay, CEOs and executive directors have incentives to award themselves high levels of compensation. In response to possible excessive pay, Hampel (1998), Greenbury (1995), and others, urge firms to adopt a set of recommended practices and decision-making mechanisms. Good corporate governance includes active oversight by investors and the appointment of independent directors.

The major shareholder in many privatized SOEs is the Chinese government. The state is expected to exert downward pressure on CEO compensation so that the rewards are in line with equivalent pay in the government hierarchy. A powerful shareholder can closely monitor top management and so there is a lesser need to align the incentives of the CEO and the shareholders. Wary of social unrest, the state does not want the pay of CEOs of listed SOEs to become far detached from the lower level workers. This leads to the second hypothesis:

Hypothesis 2: There is a negative relationship between CEO pay and government control status.

I use GOV to capture the government control status. GOV is a dummy variable assuming a value of one (1) if the state is the largest shareholder in the company and zero (0) otherwise.

In addition to government moderating the pay level of CEOs, I also predict that the government will more likely insist on firms adopting performance related pay systems. To test this I formulate the following hypothesis:

Hypothesis 2A: There is a positive relationship between CEO pay and the interaction of government and firm performance.

Thus I argue that the link between pay and performance will be stronger in the presence of substantial share ownership by the government. The interaction terms ROA*GOV and RETURN*GOV are formed by multiplying ROA and GOV and RETURN and GOV.

In capitalist economies, investors monitor management actions and can take steps to discipline or remove poorly performing executives. The costs of this monitoring role are quite high, however, and so in practice it is only large investors who can afford to actively intervene in a company's affairs (Agrawal and Mandelker, 1987; Demsetz and Lehn, 1985; and Shleifer and Vishny, 1986). In contrast when ownership is dispersed there is greater managerial power and CEOs can award themselves higher pay (Santerre and Neun, 1986; Dyl, 1988; Firth et al., 1999). This leads to the third hypothesis:

Hypothesis 3: There is a negative relation between CEO compensation and the concentration of ownership.

I use the Herfindahl index (CONC) to capture the shareholding concentration and thus how closely the firm is held by the shareholders. CONC is defined as sum of squares of proportionate shareholdings of the three largest shareholders in the company. While concentrated ownership is expected to attenuate overall CEO pay levels, I predict these same share owners will pressure firms to adopt performance related pay schemes. This leads to the following hypothesis:

Hypothesis 3A: There is a positive relationship between CEO pay and the interaction of concentrated ownership and firm performance.

I therefore argue that the positive relationship between pay and performance will be stronger when the firm has concentrated share ownership. I introduce a dummy CONCM which is equal to 1 if CONC is greater than the medium value of the sample and I construct the interaction terms ROA*CONCM and RETURN*CONCM by multiplying ROA and CONCM, and RETURN and CONCM.

Some Chinese listed firms are allowed to issue shares to international investors and a growing number of them have listings on foreign markets (e.g. listings on the NYSE and NASDAQ). Foreign investors are very concerned about the management of firms they invest in and they demand high quality and better-qualified people be hired to the top executive positions. I argue this demand will lead to a positive relationship between CEO pay and the presence of foreign investors. A foreign investor variable has not been investigated in prior studies of executive pay. the third hypothesis is as follows:

Hypothesis 4: There is a positive relationship between CEO compensation and the presence of foreign ownership.

I use FSHARE to capture the foreign shareholding status. FSHARE is a dummy variable assuming a value of one (1) if the company has issued B shares and/or H shares to foreign shareholders and zero (0) otherwise.

In addition to foreign share ownership having a positive influence on CEO pay, I also predict they will pressure companies to relate pay to financial performance. This leads to the following hypothesis:

Hypothesis 4A: There is a positive relationship between CEO pay and the interaction of foreign ownership and firm performance.

The presence of foreign shareholder(s) will reinforce performance related pay schemes. The interaction terms ROA*FSHARE and RETURN*FSHARE are formed by multiplying ROA and FSHARE and RETURN and FSHARE.

Next I consider the board of director control effect on compensation. In particular, I examine the proportion of non-executive directors on the board and the board size.[19] The board of directors has the capacity to approve or veto major actions proposed by the CEO. Although the exact process of setting or negotiating CEO pay is not disclosed, the board of directors is likely to be able to restrain what might be deemed excessive senior management compensation. Given that the CEO and other senior executives usually have seats on the board; the effectiveness of the board depends on the independent non-executive directors (Fama and Jensen, 1983; Weisbach, 1988; John and Senbet, 1998; Core et al., 1999). Some of these non-executive directors are executives at other companies. Although the corporate governance literature makes the case that the proportion of non-executive directors will be negatively associated with top management 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). A rationale for the positive relationship is that non-executive directors may use the high pay for the CEO as a comparison benchmark when they re-negotiate their remuneration at the firms or organizations they work at. It is not possible to differentiate executive and non-executive directors in Chinese firms. I therefore assume that directors

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[19] Greenbury (1995) and others argue that companies should set up an appointments committee and a remuneration committee whose duties include the hiring of senior management and the setting of CEO and top executive compensation. Advocates of remuneration committees argue that instances of excessive pay will diminish and that executive compensation will be more likely linked to the firm's performance. Empirical evidence suggests these goals of the remuneration committee have not been met in practice (Conyon and Peck, 1998). As there are no disclosures

who receive no pay are non-executive. Based on the null hypothesis on the ideas and corporate governance recommendations enunciated by Cadbury (1992) and Greenbury (1995), the hypothesis is:

Hypothesis 5: There is negative relationship between CEO pay and the proportion of non-executive directors.

RNPBRD is a measure of the proportion of no pay directors to the total number of directors on the board and this is used as a proxy for the proportion of non-executive directors on the board.

Jensen (1993) and Lipton and Lorsch (1992) suggest that large boards are less effective than small boards. Support for this view is provided by Yermack (1996) who found that firm value and performance is a decreasing function of board size. A similar conclusion is derived by Core et al. (1999). Extrapolating from this research, I argue that smaller boards may also be more effective in restraining CEO compensation and the hypothesis is:

Hypothesis 6: There is a positive relationship between CEO pay and the size of the board of directors.

The size of the board (BOARD) is measured by the number of directors on the board.

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relating to remuneration committees in China, I do not incorporate this factor into the model. In fact, I believe remuneration committees simply do not exist in listed Chinese firms.

4. Sample Selection and Data

4.1. Methodology

To test the relation between pay, performance and corporate governance variables, I use regression analysis to investigate the relationship between the level of managerial compensation and the various variables. To test the hypotheses I estimate regressions using the following model:

$$PAY = \alpha + \beta_1 \ PERFORMANCE + \beta_2 \ GOVERNANCE \ STRUCTURE + \beta_3 \ OPERATING$$

$$CHARACTERISTICS + \beta_4 \ OTHER \ FACTORS + \varepsilon \qquad (1)$$

In this model, I introduce two categories of control variables. These control variables are related (a) operating characteristics, and (b) other factors.

Operating Characteristics

Some operating characteristics affect the compensation structure. In the model I introduce four operating characteristics as control variables. These are firm size, risk, growth opportunity and debt. One of the most consistent and enduring result from myriad studies of CEO pay is that firm size is positively and significantly associated with compensation levels (Conyon, 1997). This pay-size relationship is observed in all countries where research has been conducted (Firth et al., 1996, 1999) and in some cases size is the only significant variable. Complexity of the job, the skills required, the number of hierarchical structures, and the ability to pay, all point toward large firms paying their CEOs more. An additional factor relevant to China is that CEOs of large listed SOEs have a good deal of political patronage and this is used to justify higher pay. I take the natural log of the book asset value as the proxy for the firm size.

Using the principal-agent model, Aggarwal and Samwich (1999) argue that the variance of firm performance is an important determinant of management compensation. Lippert and Moore (1994) and Lippert and Porter (1997) find CEO compensation is higher at firms with greater stock return volatility. High business risk is passed down to the CEO (e.g. job tenure) and so higher compensation is demanded. I use RISK to capture firm risk. Risk is defined as the standard deviation of the monthly stock returns of the company.

Jensen and Smith (1985) argue that firms with large investment opportunities derive a greater percentage of their value from growth prospects than do firms with low investment opportunities (whose value comes mainly from assets in place). Firms with substantial growth opportunities may be characterized by greater information asymmetry than firms whose values derive principally from tangible assets. Since it is more difficult to monitor and assess managerial decisions in high growth opportunity firms, it is important that CEOs receive greater compensation; this reduces the risk of managerial shirking and self-serving behavior. In this study I follow previous researchers (e.g. Lippert and Moore, 1994) and use market value to book asset value (MVA) as a proxy for growth opportunities.

Corporate debt policy has also been viewed as an internal control mechanism that can reduce agency conflicts between management and shareholders, particularly the agency cost of free cash flow (Jensen, 1986). The cost of leverage plays a role in the control mechanism as it affects the manager's control and flexibility in making resource allocation decisions. In the presence of debt, some form of control of cash flow relocates from the debtor to the lender, and managerial discretion over resources is reduced

(Shleifer & Vishny, 1997). A firm with external debt is subject to monitoring by the debtholders, and CEOs face restrictions on their managerial discretion (John and John, 1993). I use DEBT to capture the leverage level. DEBT is defined as the book value of the long term debt to book value of the shareholders equity.

Other factors

Other control factors are introduced in the model to account for regional and industry differences. Living expenses and average wage costs in coastal cities and regions are much higher than in cities and regions in the interior. In particular, costs and wages are very high in Shanghai and Shenzhen. CEO salaries are therefore likely to depend on the location of the business. I group firms into four different regions according to the level of economic development. The regions are: 1. Shanghai and Shenzhen; 2. the more developed areas including the open cities and provinces along the coast; 3. inland provinces; and 4. the least developed area in the north western part of the country. To capture the differences in the economic development and the pay differences in different regions in China, I use four area (AREA) dummies for four different regions.

To capture the variation across industries, I use five industry dummy variables (IND) to capture the different industries of the corporations; these industries are industrial and manufacturing, commercial, public utility, property, and conglomerate (composites) sectors. These industrial codes are used by both of the stock exchanges (Shanghai and Shenzhen). Table 3.1 lists the variables and definitions used in the study. The table also shows the predicted effect of each variable on CEO compensation.

4.2. Sample

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 remuneration to the members of the board of directors, the supervisory board, and senior management. Compensation of the highest paid executive in the company is also disclosed and I use it as a proxy for the pay of the CEO. The reported pay is the total cash compensation and includes base salary, bonuses, and commissions (unfortunately pay is not broken down into these components). Bonus pay is likely a function of firm performance but the formulae used and the bonus paid are not disclosed (bonus pay is aggregated into total pay). Compensation in the form of stock options is not commonly used in China and the data on them, if they exist, are not available from annual reports. Other benefits such as retirement benefits are not disclosed. The sample includes all non-financial corporations which have been listed on the stock exchanges of Shanghai and Shenzhen since 1998. In line with the other studies, I exclude companies in the financial sector (there are, however, very few companies in this sector). The sample consists of 549 companies and 1647 firm-year observations.

I use company annual reports as the source of information for executive compensation, share holdings of the largest three shareholders, board size, board composition, and chairman characteristics. The analysis is based on information extracted from annual reports over a three-year period from 1998 to 2000. The rest of the

data including performance, operating risk, ownership structure, and the long-term debt ratios are obtained from the China Stock Market & Accounting Research Database [20].

4.3. Sample Characteristics

Table 3.2 presents descriptive statistics on compensation, firm size characteristics, and the six categories of variables proposed to explain managerial compensation. The mean (median) CEO compensations are RMB52,000/US$6,500 (RMB39,000/US$5,000), RMB69,000/US$8,600 (RMB50,000/US$6,300), and RMB85,000/US$10,600 (RMB60,000/US$7,500) in 1998, 1999, and 2000, respectively. The pay ranges from RMB 8,000 to 446,000 (US$1,000 to 55,800), RMB 9,000 to 660,000 (US$1,100 to 82,500), and RMB 9,000 to 1 million (US$1,100 to 125,000) in 1998, 1999, and 2000, respectively. The overall level of pay is much lower when compared with the pay levels in developed countries. For example, Core et al. (1999) report an average of cash compensation of USD 614,000 for a sample of 205 firms between 1982 and 1984; Conyon (1997) reports an average pay of GBP 291,000 (excluding options and other deferred compensation) in the U.K. in 1993; Zhou (1999) reports an average compensation of US$281,000 for Canadian executives; and Firth et al. (1999) report an average CEO pay of HK$4 million (US$0.5 million) for Hong Kong companies in 1995.

Performance statistics of the firms show that, the mean (median) ROAs are 3.49% (4.92%), 2.83% (4.07%) and 1.91% (3.90%) in 1998, 1999, and 2000, with ranges from -98% to 37%. The mean (median) RETURNs are 13% (7%), 22% (13%), and 74% (64%) for 1998, 1999, and 2000, respectively with ranges from -54% to 440%. The accounting

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[20] This database is compiled by the China Accounting and Finance Research Centre of the Hong Kong Polytechnic

performance measures are very poor and show a deteriorating trend. In contrast, however, stock returns vary from reasonable to very good and show an increasing trend. Clearly, ROA and RETURN give very different indicators of performance and they will have different pay-sensitivities if used in determining CEO compensation. Accounting returns and stock returns give different indicators of performance for a number of reasons. First and foremost, stock prices are forward looking and incorporate investors' expectations for the future; in contrast, ROA is a historical number. As an example, investors may anticipate that a parent SOE will inject valuable assets into the listed firm at a low price. This will increase stock returns but have no immediate impact on accounting profitability. Such is the great business potential of Chinese companies that stock prices often give a more optimistic picture of a firm's financial standing than does ROA.

For the governance structure factors, the mean state ownership (GOV) is 0.57, 0.55, and 0.56 in 1998, 1999, and 2000, respectively. The state therefore holds more shares than the next major shareholder for about 56% of the listed companies in the sample. The ownership concentration factor HSF ranges from 0.00 to 0.80 with yearly means of between 0.21 and 0.23. The share ownership structure is regulated by the state and, on average, about one third of total issued shares are in the hands of private individuals and are therefore tradable. Another one third are legal shares in hands of state corporations or quasi-state institutions, while the remaining one third are directly owned by the government. Trading of both legal and government shares is heavily restricted.

The proportion of the no pay directors is about 50% (52%, 50%, and 51% in 1998, 1999, and 2000, respectively). The 50% ratio of the no pay directors is comparable

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to the ratio of non-executive directors in the U.S. (Core et al., 1999), Britain (Ezzamel and Watson, 1997), and Hong Kong (Firth et al., 1999). The mean board size varies from 9.4 in 2000 to 9.7 in 1998 and ranges from 5 to 19. As a comparison, the average board size for US companies is 13 (Core et al. 1999) and 9 for UK companies (Ezzamel and Watson, 1997). Board size is therefore comparable to those observed in other studies.

The natural log of book asset value ranges from 4.7 to 10. The market to book ratio averages 2.62, 2.47 and 3.69 for 1998, 1999, and 2000, respectively. The standard deviation of the monthly stock returns ranges from 0.02 to 2.01, with means of 0.12, 0.15, and 0.12 for 1998, 1999, and 2000. The mean (median) debt to equity ratios are 0.11 (0.03), 0.07 (0.01), and 0.13 (0.04) for 2000, 1999, and 1998, respectively. These debt ratios are low compared to international norms. In part, the low debt ratios are due to the lack of a corporate bond market in China. Other reasons for the low debt ratios include the conversion of debt to equity when the SOEs list and the proceeds from new stock issues being used to repay bank borrowings.

5. Empirical Results

The following discussion outlines the key findings and sets them in perspective given the Chinese environment. The regression results from various specifications of equation (1) are shown in Table 3.3. I include interaction terms of ownership and performance in the regressions; these interaction terms are used to investigate whether specific ownership structures are associated with performance related pay for the CEO. In total, five regression results are reported. The final column shows the complete model including interaction terms. In panel A, I use return on assets (ROA) as the prime

performance measure while in panel B, I use stock return (RETURN). Both accounting and market returns are used in the literature. Using U.S. data, Ely (1991) shows that both accounting and market returns are associated with compensation, but accounting return explains more.

Correlations among the independent variables in equation (1) (and also equations (2) and (3) that follow) are low to moderate (for example, the highest absolute correlation is 0.55 between RNPBRD and PCHM; all other correlations are less than absolute 0.40). I also compute variance inflation factors for each variable and they are all below 3.5. These diagnostic statistics suggest that multicollinearity is not a major problem in the models.

5.1. Determinants of pay

Apart from panel A, column 5, of Table 3.3, I find that both ROA and RETURN are significantly and positively associated with CEO pay after controlling for other factors. The evidence therefore supports hypothesis 1.[21] Column 2 shows the results when governance factors (including ownership and board characteristic variables) are added to the model of CEO pay. In both panels A and B, GOV, CONC, and FSHARE have the predicted signs and are statistically significant. The results provide support for hypotheses 2, 3, and 4. The number of non-executive directors (RNPBRD) is statistically significant in both Panels A and B, columns 4 and 5; these evidences therefore provide support for hypothesis 5. The size of the board (BOARD) has negative and significant

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[21] As discussed later, however, I find that the pay-performance relationship depends upon the corporate governance features of a firm.

coefficients indicating bigger boards are associated with lower CEO pay. This finding is opposite to the conclusions of U.S. research and does not support hypothesis 6.

Column 3 shows the results when the ownership and performance interaction variables are added. Two of the interaction variables are statistically significant and all the other interaction factors are insignificant. In panel A, ROA*FSHARE is positive and in Panel B, RETURN*CONCM is negative and significant. Whilst the interaction ROA*FSHARE is in line with the expectation (hypothesis 4A), I cannot offer an explanation for the interaction between RETURN*CONCM, which is contrary to the expectation.

Column 4 and 5 show the regressions when the operating characteristics and other factors are introduced in the model. In panel A, ROA loses the significance. Ownership variables (GOV, CONC, FSHARE) have their predicted signs and board size is significant but with an unexpected negative sign. Two interaction variables (ROA*GOV, ROA*FSHARE) are statistically significant and have the predicted signs (therefore supporting hypotheses 2A and 4A). Government controlled and-or foreign ownership are therefore associated with performance (ROA) related pay. I interpret these results as evidence that government control and foreign ownership pressure firms to reward CEOs based on corporate profitability. Similar to the results in column 3, concentrated ownership is not associated with performance related pay; this is evidenced by the lack of significance on ROA*CONCM. The results from column 3 to 5 shows a fairly consistent pattern that GOV, FSHARE and CONC are significant factors in determining managerial compensation, the interaction factors are however less significant and inconclusive.

Table 3.3 Panel B shows the results when stock return (RETURN) is used as the performance measure. Most of the results in this table is similar to Panel A. - The ownership factors (GOV, CONC and FSHARE) show the expected sign and they are statistically significant. The major difference between panels A and B relates to the significance of the performance ownership interaction variables. In panel B, RETURN*CONCM is negative but I do not observe similar result in Panel A.

Amongst the operating and other control variables, as expected firm size is positive and highly significant. The growth (MVA) and debt (DEBT) variables are statistically significant with the predicted signs. The RISK factor however is insignificant. AREA and industries are also significant factors in the model.

5.2. Relative Explanatory Power of the Variables

The explanatory power of the full model (column 5) is 34 percent in panel A and 33 percent in panel B. The R-squares are less than those reported in Britain and the U.S., but they are comparable or better than the results from studies conducted in other countries (Izan et al., 1998; Kato, 1997). By examining the panels in Table 3.3, I observe that the performance variables explain 1 percent or less of the variability in CEO compensation. The addition of governance factors (ownership and board structure) increase R-squares by about 11 percent. The inclusion of the interaction terms (ownership and performance) marginally improves the adjusted R-squares and the effect is minimal This is logical for two reasons. First the regression explanatory power for performance is small (less than one percent). Second and of more importance, I argue that as government and concentrated ownership have significant control; the performance and ownership

interaction factor will not put further weight in the compensation model. Finally and most significant of all, the addition of operating characteristics and location and industry control factors increase the R-squares from 12 percent to about 33 percent and these factors therefore account for the bulk of the explanatory power of the model.

6. Sensitivity Analyses

In order to test the robustness of the model, I perform additional tests using lagged and change in pay models to provide further evidence on the relationship between pay, performance, and governance structure.[22]

6.1. Lagged Model

Table 3.3 reports the results from contemporaneous models of CEO pay. It is possible however, that compensation is based on factors measured in the prior year or on a combination of past and present measures. Jensen and Murphy (1990) show that a part of the reward for good performance is an increase in future salaries. Another reason for a lagged relationship is that base pay or contractual pay may be set at the beginning of the year when the firm has access to data at time $t-1$ but not at time t. I also examine whether the governance structure at time $t-1$ has influence on CEO pay. In order to see if lagged or a mixture of contemporaneous and lagged models better explain CEO compensation, I run additional regressions. The basic model is:

$$PAY_t = \alpha + \beta_1 \, PERFORMANCE_{t-1} + \beta_2 \, GOVERNANCE\,STRUCTURE_{t-1} + \beta_3 \, OPERATING$$

$$CHARACTERISTICS_t + \beta_4 \, OTHER\,FACTORS_t + \varepsilon \qquad (2)$$

Table 3.4 shows the regression results from equation (2). Lagged performance measure ROA_{t-1} is statistically significant in columns 1, 2, and 3 but $RETURN_{t-1}$ loses significance (compared to Table 3.3). The evidence is consistent with lagged accounting measure of profitability being used in setting CEO pay whereas lagged stock market returns are not. Ownership variables are significant with the expected directional signs. The interaction terms have the expected positive signs but only $ROA_{t-1}*GOV_{t-1}$ is significant at conventional levels. In panel B, the interaction terms are not significant. $SIZE_t$, MVA_t, AREA1, and AREA2 are significant.

The overall statistical fits of Tables 3.3 and 3.4 are very similar. This is perhaps not surprising as the major influence on CEO pay is firm size and this does not vary much from one year to the next for a given firm. While equation (1) is a contemporaneous model and equation (2) is a lagged model, it is also possible to construct other mixed models. Unfortunately there is no theory to guide the precise 'time' specification of a CEO pay model and anecdotal evidence suggests there is no consensus on which variables should be measured contemporaneously and which should be lagged. Because it is not apparent which independent variables are better proxied by lagged measures and by contemporaneous measures, I run a multitude of auxiliary regressions. The results are broadly similar across these models[23] and so I choose to report just two of them: pure contemporaneous (Table 3.3) and lagged (Table 3.4). The general robustness of results across contemporaneous and lagged model specifications is consistent with other studies (Firth et al., 1999).

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[22] Given the rapidly changing nature of the Chinese economy and the frequent changes in regulations, I also run regressions on yearly data (i.e. separate regressions for 1998, 1999, and 2000 data). The results show similar patterns as those presented in Tables 3.3 and 3.4. Thus intertemporal differences in the models are slight.

[23] A common feature, however, is that $RETURN_{t-1}$ is not significant in any of the model formulations.

6.2. Change in Pay Models

Compensation level models with pooled time-series cross-sectional data suffer from heteroskedasticity and autocorrelation of residuals. These problems are reduced when using a first-difference model. Another advantage of using a first-difference or change in pay model is that the coefficients have a more natural economic explanation as pay elasticities. In change models, I expect performance variables will have a stronger influence on compensation. As I have insufficient yearly observations to use fixed effect panel data models, I use OLS regressions with change in pay as the dependent variable. The model is:

$$\Delta PAY = \alpha + \beta_1 \, \Delta(PERFORMANCE) + \beta_2 \, \Delta(GOVERNANCE\ STRUCTURE) + \beta_3$$

$$\Delta(OPERATING\ CHARACTERISTICS) + \varepsilon \qquad\qquad (3)$$

ΔPAY is the difference between PAY from year t-1 to year t.

$\Delta(PERFORMANCE)$ is measured by the difference of ROA from year t-1 to year t.

$\Delta(GOVERNANCE\ STRUCTURE)$ include the following factors: ΔGOV_NGOV is set equal to 1 if there is a change from GOV status to non-GOV status from year t-1 to year t; $\Delta NGOV\_GOV$ is set equal to 1 if there is a change from non-GOV status to GOV status from year t-1 to year t; and ΔHSF is the difference in HSF from year t-1 to year t. Other governance variables, FSHARE, RNPBRD, and BOARD do not change very much from one year to the next and so they are not included in the model.

$\Delta(OPERATING\ CHARACTERISTICS)$ include the following factors: $\Delta SIZE$ is the difference in the natural log of assets from year t-1 to year t; $\Delta DEBT$ is the difference in

DEBT from year *t-1* to year *t*; and ΔMVA is the difference in MVA from year *t-1* to year *t*. RISK is not significant factor and it is not included in the analysis.

The regression results of equation (3) are shown in Table 3.5. ΔROA is positively associated with ΔPAY and is marginally significant at the 0.10 level in columns 1 and 2; ΔROA is not significant in columns 3 and 4. Size is highly significant. A change in ownership from government control to non-government control (ΔGOV_NGOV) is associated with an increase in CEO pay. The coefficient for a change from non-government to government control (ΔNGOV_GOV) is negative as expected but it is not statistically significant. The coefficients ΔHSF, ΔDEBT, and ΔMVA show the expected signs but are not statistically significant. The results are broadly consistent with the results shown in Tables 3.3 and 3.4, and they are also consistent with findings of Cragg and Dyck (2000).

7. Conclusion

The revitalization of SOEs is a vital plank in China's ongoing economic reforms. Corporatization and listing of SOEs and the adoption of profit objectives is meant to accelerate growth and encourage innovation and investment. This process requires giving CEOs more autonomy and so it is very important that they are properly rewarded and properly monitored. Since 1998, listed firms in China have had to disclose the compensation of CEOs. I use this compensation data to develop models of pay and to test hypotheses relating to the determinants of pay.

A central theme of the debate on top management pay is whether it is related to firm performance. This question is very important in China because merit based pay was

an alien concept under the old socialist system. I find a positive relationship between CEO compensation and two measures of performance; namely return on assets (ROA) and stock returns (RETURN). Ownership structure has a significant influence on pay. In particular, substantial government ownership and concentrated ownership appear to reduce pay levels. I argue that as government and concentrated shareholding have significant control; hence deter 'excessive pay'. At the same time, however, the government shareholder also pressures firms to relate CEO compensation to accounting profits. The presence of a foreign shareholder is associated with higher CEO pay and I attribute this to their desire to hire high quality managers and the willingness to pay them. Foreign shareholders are also associated with performance-related-pay.

One implication from the study is that as government and concentrated shareholding are effective in monitoring managerial activities, it is not necessary for them to insist on performance related pay; and therefore I do not observe any conclusive evidence on the significance on interaction of performance and shareholding interaction factors in the analysis.

Finally, China's government should encourage, or even mandate, better and improved financial disclosures. While managers should be given more autonomy, this needs to be balanced with more accountability. Good corporate governance mechanisms can do a lot to enhance the effectiveness of the CEO. Improved financial transparency will help investors in their monitoring and oversight roles. At present the disclosure of compensation is restricted to the cash payment, the improvements should therefore, be in line with the international practice, include more comprehensive disclosure of CEO and top management compensation.

Chapter 4

TOP MANAGEMENT TURNOVER

1. Introduction

Political and regulatory environments can have a significant effect on corporate governance systems. Indeed, Jensen (1993) opines that political and regulatory forces have contributed in large measure to the failure of internal control systems in modern firms. Corporate governance research has identified a variety of mechanisms that are intended to ensure that management teams act in the best interests of shareholders. These include internal mechanisms, such as the board of directors, ownership by managers, and executive compensation; and external mechanisms such as the market for corporate control, institutional ownership, and the level of debt financing (see Shleifer and Vishny (1997) for a review of this literature). La Porta et al. (1997, 1998 and 1999) emphasize the importance of the external legal environment. In countries with weak legal structures, there is a greater shareholder concentration to resolve the potential conflicts of interest and agency problems, and to reduce the risk of expropriation by managers. Volpin (2002) argues that in Italy, a country with low legal protection, there is poor governance as measured by the low sensitivity of top management turnover to performance. In contrast, I reach different conclusions using data from China, another country where legal protection for investors is low. Using the replacement of a board chairman as a measure of governance, I find that turnover is sensitive to economic performance.

There are a variety of mechanisms to monitor, evaluate, discipline, and reward top managers. The choice of which mechanisms to use depends on the political and economic environment in which the firm operates, and on who owns the shares. Some corporate governance mechanisms are substitutes and the optimum trade-off for a specific firm is difficult to identify (Coles et al., 2001). Using data from the U.S., research has shown that no one mechanism dominates others (Jensen et al., 1992; Bathala et al., 1994; Agrawal and Knoeber, 1996; Coles et al., 2001). Measuring the effectiveness of corporate governance systems is difficult. One approach, and the one I use in this study, is to examine whether top management is replaced if a firm does poorly (Kaplan, 1994; Coffee, 1999; Volpin, 2002). Management should be held accountable for a firm's operations and they should be replaced if performance is poor. If they are not replaced, then this implies weak governance. A second approach to evaluating the effectiveness of corporate governance is to model firms' performances as a function of governance variables (Volpin, 2002).

In this study I examine effectiveness of corporate governance by investigating the determinants of top management turnover. I use a data set of Chinese listed firms for the investigation. The reform of the state owned enterprises started with corporatization and privatization. The Chinese government brought in changes in the ownership structure. In doing so the Chinese government gives up part of the state shareholding and allows individuals, other state (legalized) corporations and foreign shareholders as owners. Coupled with the changes in the ownership structure, the Chinese government also introduced a corporate governance system to oversee the activities of these privatized firms. The corporate governance system is based on the western economies. By bringing

changes in the ownership structure and governance structure, it is hoped that the firms would be operated in a more effective manner.

I argue that privatization together with an introduction of corporate governance system would not change the essential features of the corporate economic behavior of the privatized corporations. The Chinese corporate ownership and governance system has a number of interesting characteristics. It has high ownership concentration with a strong government influence. Despite the changes in the ownership structure, the government and the political influence on the economic and business activities is paramount. The government can influence the operation either by acting as a major shareholder or otherwise politically. The other legal (corporatized) shareholders are subjected to government influences. The shareholding of foreign and individual shareholders are either too small to exert any influences or politically inferior to the government influences. Moreover there is a weak legal system, a negligible market control mechanism, and an inefficient managerial labor market. In the absence of adequate legal protection and the lack of an external market for corporate control, individual shareholders can hardly rely on the external mechanism to monitor firm activities.

I examine the mechanisms of the removal of the chairman of listed firms in China. The government influence is of primary importance in the removal process of the key managerial figure in the listed firms in China. First I ask the question whether turnover is closely related to performance. Agency theory (Jensen and Meckling 1976) examines the agency problem and one of the key elements is information asymmetry. This relates to the lack of transparency and the decisions of the managers in the privatized firms. Given the non transparent nature of the action, government can only

monitor the outcome of the action of the manager. In the absence of any other better performance indicators, financial performance is easiest and most conventional indicator to measure the performance of the management. The removal of the key management figure in response to performance deterioration is a natural response of a bureaucratic process and I argue this is the 'scapegoat' behavior. The reported financial outcome will be the major source of information in which government, acting as principal or as the most influential shareholder, will base to monitor the performance.

Second I also argue as government influence is paramount, the ownership structure would not impose any differences in removal mechanism. Whilst ownership structure and the nature of the ownership influence the removal of the senior management in the developed economies, however in China, if government is the paramount decision maker, the nature of the ownership structure would make no difference in such removal process. Thirdly the board composition will also influence the removal process and decision. Government as bureaucratic shareholder is detrimental in the removal decision. The board composition therefore reflects the view of government, who has the ultimate influence on the shareholders, will be more likely to participate in the removal process.

The empirical findings are consistent with such predictions. Chairmen of Chinese listed firms are appointed for three-year terms and can be reappointed at the expiry of the three years. Chairmen are removed more frequently in China and I interpret as scapgoating. I find that 45.5% (in 1999) and 33.2% (in 2000) of chairmen are not reappointed at the end of their three-year contracts although it is impossible to say whether poor performance, good performance (promotion to other companies or government bureaus), or normal rotation, is the reason for this. About 17.2% (in 1999)

and 21.8% (in 2000) of chairmen are removed before their three-year tenure expires; I interpret these situations as forced turnover. Overall, the results suggest that top management turnover in Chinese firms is based on performance and they are being removed more frequently at least as great as in the U.S. and other capitalist countries. Poor performance based on accounting numbers is a factor in chairman turnover though stock returns are not. Although turnover is quite high I find no evidence that this leads to an improvement in firm performance in the year after replacement; poorly performing firms continue to do poorly. These evidences provide additional support for scapegoat phenomenon.

Ownership of firms appears to have little or no bearing on replacement decisions. The fact that the findings differ from those of other countries is due to the unique characteristics of both the restructuring of SOEs and the corporate governance mechanisms therein and this is consistent with the argument that government influence is detrimental in the removal process. Univariate and regression results show that boards with a majority of no pay directors are associated with higher chairman turnover. This is consistent with the expectation as the no pay directors are non related executive and they are more likely to represent the governmental influence and to remove both underperformed and the better performed management.

This study contributes to the international literature on the factors that underlie top management turnover. It also contributes to the literature of transitional economics by investigating the role of government in the privatization process. In the next section I briefly review international evidence on top management turnover. A description of China's recent economic reforms and how SOEs have been reorganized into listed firms

follows in section 3. Section 4 briefly reviews how top management is appointed in China and in this section I develop the hypotheses. The research design, data, and summary statistics are presented in section 5. Empirical results are described and analyzed in section 6, along with a summary of the results from a battery of sensitivity tests. Section 7 concludes the chapter.

2. International Evidence on Top Management Turnover

Top management turnover has been the topic of much recent research in the U.S. and some other capitalist countries.[24] This research has examined changes of CEOs, boards of directors, company presidents, and chairmen. In addition, guidelines on corporate governance published in a number of countries have made recommendations on procedures for monitoring and replacing top management.[25]

Research in the U.S. has found that poor performance precedes forced turnover (Benston, 1985; Kesner and Sebora, 1994; Coughlan and Schmidt, 1985; Warner et al., 1988; Weisbach, 1988; Denis and Denis, 1995; Denis et al., 1997; Mikkelson and Partch, 1997; Huson et al., 2001). Similar evidence appears in Australia (Suchard et al., 2001), Belgium (Renneboog, 2000), Britain (Dahya et al., 1998; 2002), Germany (Kaplan, 1994b) and Japan (Abe, 1997; Kang and Shivdasani, 1995; Kaplan, 1994a). Between them, these studies use contemporaneous and lagged measures of accounting profitability, stock returns, and growth as performance measures. In China, Groves et al. (1995) conclude that management turnover in SOEs is negatively related to performance

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[24] One example of a study in a transitional economy is Claessens and Djankov (1999). They study enterprise reform and management turnover in the Czech Republic.

in the years 1980-1989 (these SOEs are not listed and the data are obtained from questionnaires).

Prior research in other countries has concluded that a large outside shareholder(s) is associated with higher turnover or with a more pronounced performance-turnover sensitivity (Dahya et al., 1998; Denis et al., 1997; Franks and Mayer, 2001; Kang and Shivdasani, 1995).[26] Top management shareholdings are negatively associated with turnover (Dahya et al., 1998, 2002; Dennis et al., 1997; Goyal and Park, 2002; Ofek, 1993). Here, top managers with significant share ownership become 'entrenched' and it is difficult to remove them even if the firm's performance is poor. The proportion of no pay directors has been found to be positively related to turnover (Huson et al., 2001; Suchard et al., 2001; Weisbach, 1988; Boeker, 1992; Zajac and Westphal, 1996).

Many studies also focus on the incumbent's power and personal characteristics. Age is a factor in determining the removal and succession for normal retirements but has no relationship with forced retirements (Huson et al., 2001; Kang and Shivdasani, 1995; Mikkelson and Partch, 1997). Recommended codes of best practice (e.g. Cadbury Committee, 1992; Hampel Committee, 1998), often call for a separation of the chairman and CEO positions as a joint appointment is seen as concentrating too much power in one person's hands. Some evidence in support of this is provided by Boeker (1992), Zajac and Westphal (1996), Dahya et al. (1998), and Goyal and Park (2002), who find that

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[25] For example, the Cadbury, Greenbury, and Hampel Committees in Britain, the Peeters report in the Netherlands, the Vienot report in France, and various national stock exchanges have all developed guidelines or recommendations on corporate governance. The OECD have also published guidelines on corporate governance (OECD, 1999).

[26] However, Parrino et al. (2002), Dahya et al. (2002), and Goyal and Park (2002) find that institutional investors and blockholders have no association with top management turnover. Renneboog (2000) reports mixed evidence for his study of Belgian firms.

turnover is lower if a person holds the joint appointment (thus top management becomes more entrenched).

3. China's Economic Reforms

China's economic reforms began in the late 1970s. At that time there was a growing recognition that the old Soviet-style socialist system was failing to generate sufficient growth and technical innovations to satisfy the needs and aspirations of the people. In contrast to Russia and many Soviet-bloc countries in Eastern Europe, China's leadership did not want to give up political control or to engender political reform. As a consequence of maintaining the status quo in terms of political control, the economic reforms were gradualist with the state retaining ultimate control in many corporatised SOEs.

Corporatisation involves transforming SOEs (or certain assets and activities[27] of the SOEs) into profit making firms with share capital. Initially, the shares were owned by the state, state ministries, and regional and local government. Managers were given decision making powers although they typically had no ownership stake in their firms. A significant number of corporatized SOEs were later allowed[28] to sell shares to the public. These shares are listed on the Shanghai or Shenzhen stock exchanges which opened in 1990 and 1991, respectively. Most shares sold to the public are new shares but occasionally the government sells some part of its existing ownership. By allowing public ownership of shares, it was hoped that the autonomy of managers would be

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[27] Non-revenue producing segments of an SOE are typically not injected into the corporate entity.
[28] The state sets a quota for listing. Ministries and regional and local government select which SOEs are allowed to sell shares to the public.

increased and they would be held more accountable for their firm's performance. Additionally, public ownership of shares is often accompanied by an issue of employee shares[29] where managers obtain ownership stakes. Although shares are sold to individual investors, the state and its various entities usually retain ownership of 50% or more of the voting rights. By this means, the state can influence the strategy of the company if it so wishes and can veto decisions made by top management. Continuing government ownership in China contrasts with privatizations of SOEs in Russia and Eastern Europe where the state typically has no ownership after corporatization and listing. On average, one-third of a listed SOE's shares are owned by the state, one-third by legal entities (for example, other SOEs[30]), and one-third are owned by individuals. The legal shares are often under the ultimate control or influence of central, regional, or local government, or government ministries. Only individual shares are freely tradable on the stock exchange.

Beginning in 1992, some firms were allowed to issue shares to foreigners (termed B-shares if traded on the Shanghai or Shenzhen stock exchanges, H-shares if traded in Hong Kong, N-shares if traded in New York, and so on). Until very recently the domestic shares (A-shares) and foreign shares were rigidly segmented and the price of B-shares were, on average, less than one-half of the associated A-shares (Poon et al., 1998) even though they carry identical rights.[31]

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[29] Employee shares often restrict sales for a period of time. At the expiry of the time period (often one year), the employee shares become regular shares similar to those sold to the public. The number of shares sold to an individual is quite small often amounting to less than 0.1% of the outstanding shares, even for the chairman and CEO.

[30] Many listed firms are spin-offs from a much larger SOE. In these cases the SOE often retains a significant shareholding in the listed firm. When the SOE retains a controlling stake in the listed firm, the SOE is regarded as the parent company.

[31] A- and B-shares issued by the same company carry equal rights and are comparable in all respects except for who can own them (domestic and foreigners, respectively) and the currency in which they are traded and pay dividends (US dollars for Shanghai listed B-shares and Hong Kong dollars for Shenzhen listed B-shares). In 2001 the restrictions were eased. Domestic investors who have access to foreign currencies (U.S. dollars, Hong Kong dollars) can now buy B-shares. As a consequence of this change in policy, A- and B-share prices are now much closer although the former still trade at a premium.

While the aims of the reforms are laudable, the actual outcomes indicate mixed success. At the macro-level, China's economy has experienced strong growth with burgeoning exports, high domestic demand, and improved technology (McMillan et al., 1989; McMillan and Naughton, 1992; Naughton, 1995). At the micro-level, evidence on SOEs in the period to 1990 indicates improved productivity and economic efficiency (Jefferson and Xu, 1991; Groves et al., 1994, 1995) while listed firms report moderate-to-poor profitability (Chen et al., 2002). Unlike privatizations in Eastern Europe (e.g. Claessens and Djankov, 1999; Pinto et al., 1993) and the developed nations, there is no evidence of improved profitability or improved productivity after the listing of SOEs (Chen et al., 2002). A-share returns have been very volatile although market prices comfortably exceed the IPO issue price in the vast majority of cases. The A-share returns and accounting profits give somewhat different indicators of the success of listed firms.

The central theme of reform is economic reform and to improve the efficiency of the economic system. On the other hand the leadership continues to maintain the so called four cardinal principals[32] in which it maintain the paramount leadership of the communist party. The socialistic market economy will continue to dominate, which means collective ownership and socialistic behavior should be the main theme. There is an ongoing struggle between the party network and the firm's management.

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[32] The four principles are initially set forth by Deng Xiaoping in 1979. The four principles are socialist path for the country, peoples' democratic dictatorship, communist party leadership and Marxism-Leninism-Mao Zedong thought. Any challenge to these principles will meet strong suppression from the government.

4. Appointment of Managers in China and Testable Hypotheses

4.1. History

Prior to the restructuring of SOEs under the economic reforms, managers in enterprises are regarded as 'cadres' whose appointment, promotion, and dismissal are controlled by the government. China has a highly centralized cadre management system. A cadre's political power, income, and welfare are all determined by her or his ranking in the hierarchy. SOE managers have dual responsibilities. The cadre is responsible for managing the enterprise (business function) and for implementing the government and party policy (political function). Under the planned economy, production units have no autonomy and managers are required to produce according to the plan assigned by the central government. The business function therefore reduces to carrying out orders within the quota system. The enterprise is not responsible for the financial consequences and, as a result, managers are more concerned with the political function in fulfilling government and party policy.

The appointment and promotion of cadres is based on the 'red and expert' principles. The 'red' principle refers to the political background of the cadre and the 'expert' principle refers to the professional background. During different periods of the history of Communist China, there have been different emphases on each of these principles. During the Cultural Revolution, the political principle was paramount, but during the economic reforms in the past twenty years there is more emphasis on professionalism. Despite the economic reforms, the omnipresent Communist Party still uses political reasons or criteria to determine who are eligible to be recommended, invited, examined, and selected to the political and administrative hierarchy. This

process extends to SOEs where the top management often owes their positions to political patronage. Senior cadres enjoy a lot of power, privilege and status.

In 1988, China promulgated the Enterprises Laws. The roles of most enterprises were transformed from a production unit within the government plan to a unit responsible for their own profit and loss. Managers are given more autonomy and made responsible for decision making. There are also changes to the process of appointing managers. Apart from direct appointment by the controlling bureau (the government department overseeing the enterprise), managers can also be chosen after representations from, or elections by, the workers and staff.

4.2. Listed Firms

Since the establishment of shareholding companies and shareholding structures in China, there are further changes in the appointment of managers. There is now a separation of the political role and business role of the managers. Communist Party committee and the management are separate in the enterprise. The 'red' principle, which was used as a criterion for promotion has been complemented by other criteria. The 'expert' principle is given more recognition in appointments and promotions exercises although the 'red' principle is still a criterion in the evaluation process.

With increasing privatization, that does not mean that the party and political influences have lessened. Good and capable managers will continue to progress in the corporate ladder, they can also promote in the political hierarchy. Governmental influence on the appointment and removal of corporate senior management are multi purposes. On one hand government has to response to the firm performance by removing

the incapable management, on the other hand it is possible that good and capable management are being recognized and promoted in the political hierarchy.

Chairmen, CEOs, and directors of listed firms typically have very low share ownership. This characteristic is in sharp contrast to firms in capitalist countries where high stock ownership is believed to align the interests of top management and the outside shareholders. Initially, the top managers of SOEs are often retained as top managers of the listed firms. Some of these managers may not be very capable in running the newly privatized SOEs that operate in competitive markets. The continuation of old management is due to entrenchment and the general lack of potential replacements who have the necessary skills and experience to run listed firms.

Formally, it is the party that dictates the appointment of the management including the board of directors. The board of directors is made up of executives who run the business on a day to day basis and non-executive directors who often represent large investors such as other SOEs and the state. The initial slate of directors is decided by the major shareholder of the firm in conjunction with the local government or the ministries responsible for the firms. Thereafter, shareholders' approval is needed for the appointment and reappointment of directors. Many directors are responsible to the major shareholders (usually the government or the major legal shareholder), and as influential member of the government organs, they are usually members of the Communist Party in which of their loyalties and power lie with it. As a consequence, business decisions may be tempered by a consideration of the economic priorities and political needs of the state.

Is the government really cares the profitability of the listed firms, and whether profitability is a measure of the performance in determining the removal of senior

management? It would be interesting to see the effect of the government in removing the underperforming management and how the board of director response in situation of poor performance.

4.3. Socialistic Market Economy

The socialistic nature has significant impact on the performance and efficiency of the SOE in China. First the objective of the economic reform is aiming to improve the performance of the economy. Most listed firms are state owned firms and government is still very much in control. In the circumstance, performance is the objective that can hardly be ignored.

While the economic system calls for improving performance and efficiency, one cannot ignore the socialistic feature. Government intervention and control is the norm. Communist Party influence and firm management coexist and political influence is avoidable. In light of these characteristics it would be difficult to apply the empirical finding (as discussed in section 4.2) to the Chinese situation.

4.4. Hypotheses

4.4.1. Performance

Agency theory argues that management should be held accountable for their firm's performance and they may be replaced if performance is poor. Thus, I expect to find a negative relationship between firm performance and the probability of top management replacement. Such evidence has been found in the U.S. (Benston, 1985; Datta and Guthrie, 1994; Denis and Denis, 1995; Coughlan and Schmidt, 1985; Warner et

al., 1988; and Weisbach, 1988). Similar evidence is reported in other industrialized nations (see section 4.2).

China has institutionalized a corporate governance system. Under the existing governance system, major shareholder would response to firms' performance and the removal of under performed management thus would form part of the system. There are significant influential powers of the government and government will influence as the major shareholder or exercise her influence through the major legal person shareholder, which is ultimately another government controlled entity.

Given the Chinese government's zeal in promoting capitalist practices in privatized (or partially privatized) firms, I believe firm performance is an important factor in deciding whether to retain the incumbent management and, in particular, the chairman. First given the significant information asymmetry situation, financial performance is the simplest and acceptable information to assess the performance of the management. Government, either as the major shareholder or the influencing party behind the legal person shareholder, would use such information to assess performance. Second I argue that in case of using performance as performance indicator, it is possible to have scapegoating. As performance is a simple indicator, by removing management responsible for the poor performance would be a simple way in a bureaucratic system. In particular in cases of poor performance, the removal of poor performing management would be seen as a gesture for taking action although under the existing ownership structure no one would be held responsible for the poor performance. There would be two consequence of scapegoating; there will be much greater turnover rates as compare

with the other system and the performance will not necessarily be improved after the removal of the senior management. Hence the first hypothesis is:

Performance Hypothesis: A change of the board chairman is triggered by poor firm performance.

4.4.2. Ownership Structure

Another important factor which affects the turnover is the ownership of the firm. Previous studies have documented that the effectiveness of ownership structure of a firm in the corporate governance structure (see section 4.2). For example, large shareholdings by outside investors (blockholders and institutions) are associated with more pronounced performance-turnover sensitivity. In contrast, large shareholdings held by management may lead to entrenchment where it is difficult remove them even if performance is poor (Volpin 2002). Hence ownership structures affect the senior management turnover. Control and entrenchment behavior produce two opposite different result in the removing of senior management.

If performance is related to the ownership structure, as a result of the privatization and changes in the ownership structure, I would expect that the structural change would give rise to difference in the removal pattern of the senior management. Shareholding structure influences firm performance in China. For example, Xu and Wang (1999) and Qi et al. (2000) report that different types of ownership have impacts on firm performance (for example, legal person shareowners are associated with better-performing firms). However as I have pointed out that in the Chinese context, governmental influence is significant that the ultimate shareholding control is with the

government. Following this, I argue that as government has either the overall dominance as the major shareholder or to exercise the ultimate influence of the legal person shareholder controlling the firm; the shareholding structure alone would not be a significant factor in the removal of any under performed management. This would be in contrary to the prior research in the U.S. as I test the hypothesis that ownership structure has no significant impact on the turnover of chairmen.

Ownership Hypothesis: The turnover of chairmen is not sensitive to ownership structure.

4.4.3. Board Control

The board of directors can be an important internal control mechanism. Directors evaluate the actions and performance of top managers and make reappointment and replacement decisions based on the firm's financial performance. However, many directors are also executives of the firm (including the CEO) and so they are less likely to discipline themselves. For this reason, many firms appoint non-executive directors who are supposed to bring independent advice and decision making to the board. The larger the percentage of independent non-executive directors, the greater influence they will have. Empirical evidence from industrialized countries finds a positive relationship between the proportion of non-executive directors and top management turnover.

With the opening up of the economy, a corporate governance structure based on developed economy has imposed onto the listed firms. There are mainly two types of directors in the board. The board of directors includes directors from the day to day operation and they receive remuneration (pay director), and those who represents the

interest of the shareholders including the government and the legal person SOEs and they do not receive any remuneration (no pay directors). The directors may have different objectives. The pay directors are executives and they are directly responsible for the performance. As agent and in light of their own interest, the turnover of the chainman will be less sensitive to performance if the board is controlled by the pay directors. However if the board is dominated by the no pay directors, the turnover will be more sensitive to performance. These no pay directors are be responsible to the owner irrespective whether they are government, legal person or foreign shareholding. I argue that if in the bureaucratic process, and performance being a simple bureaucratic measure, then turnover will be more responsive to such measure if the board is dominated by no pay directors.

Apart from removing the underperformed managers, I also argue that such bureaucratic procedure will be used to identify good manger. In line with the Chinese practice (as discussed in previous section), both good and poor performing mangers are being removed, such turnover sensitivity is with both good and poor performances. The hypothesis is:

Monitoring Hypothesis: Where boards have a higher proportion of no pay directors, there is a higher probability of removing the chairman for both good and poor performing firms.

In summary, many of the institution factors in China suggest that I cannot use the framework in the west to apply in China. Performance as indicator for the removing of senior management has a different meaning and I argue that there is a strong sense of scapegoating. Ownership structure will not change the political influence of the

government in turnover process. In a complicate bureaucratic mechanism the choice of simple performance indicator will also facilitate the process of removing underperformed management and I would expect the board of director will use the same in the turnover process and I also argue that the sensitivity is higher for both good and poor performing managers.

5. Research Design

5.1. Models

The objective in this study is to calculate turnover rates of the chairmen of listed firms in China and, further, to identify the determinants of turnover. I choose to examine the chairman of the board position as other posts, such as the CEO (or general manager), and the people occupying them are not publicly disclosed by many firms whereas the chairman is always named. Listed firms are used because they disclose the necessary information in public documents whereas non-listed SOEs and private firms do not. In China, a chairman is a full-time position and it ranks highest in the organization. Chairmen are involved in the day-to-day management of the business and they have overall responsibilities for operations. The chairman is often the highest paid employee of the firm.[33]

According to Chinese law, a board chairman is given a tenure of three years and they are often reappointed upon completion of the three-year term. I designate two types of turnover in the analysis. The chairman can be changed before the end of the tenure period (i.e. they serve an abbreviated term) and I classify this type of turnover as forced

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[33] Studies in other countries have investigated the turnover of chairmen and company presidents, as well as CEOs.

turnover. The other type of change occurs at the end of the three-year tenure period for the chairman (i.e. they serve a full-term) and I classify this type as normal turnover. There are limitations to this classification. Although I classify the former situation as forced turnover, it is not possible for me to identify and classify the actual motive for the 'early' change in chairman. At the end of the three-year tenure, many chairmen are re-appointed. If a chairman is not reappointed this may be due to disappointment with her or his performance or it may be a normal rotation. It is not possible to distinguish between these cases as the reasons for departure are not disclosed.

To determine the top management turnover, I trace the change of the board chairman and the tenure and the period of appointment from the annual reports. For each company, I examine the name of the board chairman, their tenure including the beginning and ending date, and note any board chairman turnover over the years and whether the change is within the tenure period.

I use a logit regression model to examine the determinants of turnover where the dependent variable, TURN, is coded one if there is a change in chairman, and coded zero otherwise. Separate regressions are used for forced turnovers and normal turnovers. Based on prior research in capitalist countries and based on the understanding of practices in China, I identify a number of factors that potentially affect or influence turnover. The basic model is:[34]

$$TURN = \beta_0 + \beta_1 PERF + \beta_2 NOPAY + \beta_3 NOPAY*PERF + \beta_4 GOV + \beta_5 LEGAL + \beta_6 FOR$$
$$+ \beta_7 AGE + \beta_8 DUAL + \beta_9 PCHM + \beta_{10} LOGSIZE$$

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[34] Additional variables are included in other versions of the model and the results are reported in the sensitivity analyses reported later.

TURN is a dummy variable coded one (1) if there is a change of chairman. The independent variables are defined in Table 4.1. The five performance variables (denoted PERF in the equation above) are ROA, ROS, GRO, RET, and LOSS. ROA is return on assets, ROS is return on sales, GRO is growth in sales, RET is the annual stock return, and LOSS is an indicator variable for firms making a net operating loss. To the extent these variables reflect the actions of top management, they provide relevant information on the chairman's performance. The first four variables are adjusted for industry medians, where industry sectors are based on the classification used by the Shanghai and Shenzhen stock exchanges. The industry adjustments provide relative performance measures and so the chairman is not penalized by or held accountable for factors outside her or his control. Industry adjustments also help mitigate econometric problems. For example, problems caused by mean reversion in performance measures when long-term mean values differ across industries, may be mitigated by use of industry-adjusted numbers (Huson et al., 2001). Because of potential endogeneity problems, the tabulated results are based on lagged performance.[35]

I predict that poor performance will increase forced turnover and so I expect negative signs on ROA, ROS, GRO and RET, and a positive sign on LOSS. Performance should not be a factor in the normal retirement cases although as discussed earlier, the measure of normal retirement (those chairmen who are replaced after three years) is far from perfect. The fact that chairmen are not reappointed for a further three-year term may indicate the shareholders are unhappy with the performance of the firm (in which

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[35] However, contemporaneously measured performance variables give similar results to the lagged models.

case the signs on ROA, ROS, GRO, RET, and LOSS should be the same as for forced turnover).

Three ownership variables are included in the model. First, GOV indicates whether the state (and its various ministries) is the major shareholder of the firm. Second, LEGAL differentiates those firms where legal entity share ownership is above the median for a specific year (LEGAL = 1) and those where legal entity ownership is below the median (LEGAL = 0). Third, FOR is a dummy variable that indicates whether the firm has foreign shareholders. The aims of the economic reforms are to reduce government interference in the running of companies and the inculcation of profit maximization in the minds of managers. The government introduces different ownership structure and the state is supposed to shy away from direct intervention in the management of the business. In the West, ownership structure may influence the turnover process. In China the reality is that the state has substantial influence in listed firms in China and has the power and influence to remove a company chairman. Based on this background, I do not believe the firms with majority legal shareholding or foreign shareholders may be more prone to remove chairmen as there is significant top management turnover in other countries.

In the absence of information regarding the non executive director, I examine the control effectiveness of the no pay director and I use the proportion of no-pay directors as a proxy for the proportion of non-executive directors (non-executive directors are not detailed in all annual reports). No-pay directors are often the representatives of major shareholders and they act to 'safeguard' the interests of these shareholders. If the proportion of no-pay directors exceeds 0.5 then I code the variable NOPAY one

(NOPAY = 1). I hypothesize that non-executive directors are more likely to monitor the chairman and seek her or his removal if this is deemed warranted. I therefore hypothesize a positive sign on NOPAY. The interaction NOPAY*PERF (performance and corporate governance interactions) are included in the regressions to examine how the board of control structure affects the performance-turnover relationship. I hypotheses that in the presence of a no pay director dominated board, they are more likely to remove a better performed manger and I expect a positive sign on this interaction term.

A number of chairman characteristics are included in the model. I hypothesize that the age of the chairman will be positively related to normal turnover whereas there will be no relationship for forced turnover. Some chairmen are also designated as the CEO and to represent this I construct the variable DUAL which equals one if the chairman also occupies the role of CEO. Note, however, that for many companies there is no mention of a CEO or managing director. DUAL is set equal to zero if the chairman is not also the CEO or if there is no information on who the CEO is. Executives who have the dual role of chairman and CEO have more power in the boardroom and this may entrench their tenure at the firm. This suggests a negative relationship between DUAL and turnover. Some chairmen are paid by their firms while others are not; in the latter case, the chairman is paid by the controlling shareholder or parent SOE. I code PCHM one (1) if the chairman is paid by the firm itself. PCHM and firm size (LOGSIZE) are added as control variables.

5.2. Sample Description

The analysis is based on the information from listed company annual reports over a three-year period from 1998 to 2000. Pay data is available from 1998 only and because I need pay data for PCHM I begin the analysis in that year. Company annual reports are used as the source for the change of the board chairman, shareholding structure, board size, board composition, share ownership, and age of the chairman. The rest of the data including performance measures, stock market risk, and state ownership are obtained from the China Stock Market & Accounting Research Database.[36] In line with other studies, I exclude those companies in the financial sector (in fact there are only a few listed financial companies). The sample consists of 549 companies listed on the stock exchanges in Shanghai and Shenzhen over the requisite period (1998 to 2000). Table 4.1 shows the summary statistics for the variables I use in subsequent analyses.

The mean (median) industry-adjusted return on assets (ROA) is -1.26% (0.00%), with a range of -61% to 32%. The mean (median) industry-adjusted return on sales is -4.62% (0.00%), industry-adjusted growth is -0.02% (0.00%), and industry-adjusted stock return is 0.10% (0.01%). About 25% of firm-year observations report net operating losses.

The Chinese government has the largest ownership stake in 55% of the sample firms. The mean and median values of percentage legal entity shareholdings are 31% and 26%, respectively. This indicates the government and legal entities have a lot of ownership control over listed firms. About 16% of the sample firms have issued shares to foreigners. The number of no-pay directors on the board exceeds the number of paid

directors in 54% of firms. No pay directors is taken as a proxy for non-executive directors and the summary statistics indicate that non-executive directors are often in the majority and therefore have the potential to exercise significant influence. The percentage of non-executive directors is greater than in Britain (Ezzamel and Watson, 1997) and Hong Kong (Firth et al., 1999) but is less than in the U.S. (Huson et al., 2001).

The mean age of the chairmen is 50 years with a range from 28 years to 73 years. The chairman is also disclosed to be the CEO in 27% of cases; in the other 73% of cases the chairman is not the CEO or there is no way to tell who the CEO is. The duality statistic is less than in the U.S. (Ryan and Wiggins, 2001; Goyal and Park, 2002) but similar to Britain (Conyon, 1997). About 55% of chairmen receive remuneration directly from the firm and the remaining 45% receive pay from the holding (parent) company or the government administrative bureau that exercises ultimate control over the listed firm.

6. Results

6.1. Normal and Forced Turnover Statistics

Table 4.2 shows the turnover statistics for 1999 and for 2000. I identify a change in chairman for 1999 by comparing the names in the 1998 and 1999 annual reports and identify changes in 2000 by comparing the names in the 1999 and 2000 annual reports. I identify whether a chairman is at the end of a three-year contract or is part way through. As discussed earlier, a change at the end of a three-year contract is termed normal turnover while a change part way through a contract is termed forced turnover.

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[36] This database is compiled by the China Accounting and Finance Research Centre of the Hong Kong Polytechnic University and Shenzhen GTA Information Technology Ltd.

In 1999 (2000), the chairmen of 200 (187) firms are at the end of their three-year contract and 109 (125) are reappointed and 91 (62) are not. The normal turnover rates are therefore 45.5% for 1999 and 33.2% for 2000. Thus more than half the chairmen are reappointed. In 1999 (2000), the chairmen of 349 (362) firms are part way through their contracts and 60 (79) of them are replaced early. The forced turnover rates are 17.2% in 1999 and 21.8% in 2000. Note normal turnover is higher than forced turnover. This is because at the end of the three-year term a decision has to be made on retirement or reappointment whereas the forced turnover sample examines years one and two of the employment cycle (when no turnover is expected except for special circumstances such as poor performance).

The total turnover for 1999 is 27.5% ((91 + 60)/549) and for 2000 it is 25.7% ((62 + 79)/549). These turnover rates are higher than those reported in the U.S. and other countries (although these studies principally examine turnover of CEOs). The high turnover of chairmen in listed Chinese firms suggests that there is an active monitoring and evaluation of top management. The evidence is consistent with the scapegoating argument. Whenever there is a poor performance there is a removal. Managers are removed with poor performance and the turnover rates are therefore much higher than in similar studies using data from the developed countries. The evidence is also consistent with the argument that the bureaucratic nature of the shareholders, whether they are government or legal, use performance indicator to determine the removal of the managers.

6.2. Turnover and Performance

I now turn the attention to the relationship between turnover and performance. The results are shown in Table 4.3. Here, the turnover rates for firms with the lowest performance (in the bottom quartile of performance), middle performance (second and third quartiles), and highest performance (in the top quartile) are compared. t-tests and Z-statistics test for equality between the lowest and highest quartiles. An F-test is used to test for equality across the partitions.

Turnover is significantly higher for firms with poor ROA, ROS, GRO, and LOSS in the normal turnover sample. Stock return (RET) is not significant. Although normal turnover should not be related to performance, the results clearly indicate otherwise. In the forced turnover sample, poor ROA, ROS, and LOSS are associated with increased turnover. Low growth (GRO) is also weakly associated with high turnover. RET is not significant. The non-significance of RET implies that stock returns are not considered to be a good reflection of top management's abilities. In contrast, stock returns are significantly and negatively related to management turnover in the U.S. (Warner et al., 1988; Weisbach, 1988; Kaplan, 1994a; Huson et al., 2001; Goyal and Park, 2002). Share prices are very volatile in China and the board of directors may believe stock returns are a poor measure of the chairman's performance. The chairman and top management have the responsibility for and control over operations, and accounting numbers may be felt to better reflect the success of these operations than stock returns. Poor accounting performance and increased turnover has also been documented in the U.S. (Denis and Denis, 1995; Mikkelson and Partch, 1997; Huson et al., 2001). The evidence from Table 4.3 supports the performance hypothesis.

While the *t*-test and *Z*-statistic indicate there are significant differences between the bottom and top quartiles of ROA, ROS, GRO, and LOSS, the differences between the middle and top quartiles of performance are small. The turnover rates for chairmen of firms with good performance is still quite high (but only 70% to 50% of the turnover of the bottom quartile). I conjecture that the chairmen of firms that have very good performance are selected for 'promotion' for other jobs.[37]

6.3. Univariate Tests of Turnover and Corporate Governance Factors

Table 4.4 presents some univariate analyses of normal and forced turnover disaggregated by ownership and board characteristics. The four governance variables are whether the government has the largest shareholding in the firm (GOV), whether legal entity shareholdings are high (above the median for the year), whether there are foreign shareholders (FOR), and whether there is a majority of no-pay directors on the board (NOPAY); the results are shown in panels A, B, C, and D, respectively. In panel A(1), firms where the government is the largest shareholder have significantly lower chairman turnover when performance is poor (see ROA, ROS, and LOSS).[38] There is no significant difference in the other performance quartiles. Overall, firms with a large government shareholding have significantly lower turnover (35.11%) than firms where the government is not the largest share owner (45.68%). In panel A(2), the forced turnover sample, firms with large government ownership have lower turnover and especially in the

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[37] Unfortunately it is not possible to trace the career paths of individuals. In part, this is because some individuals go to work at non-listed entities or China-based subsidiaries of foreign firms, and these organizations do not publish information on their executives. Some chairmen may move to or return to government or ministry jobs. Because it is not possible to trace the career paths of chairmen, I am unable to test the belief that good performers are promoted to or head hunted for other jobs.

[38] I do not report the turnover based on RET as stock return is not a significant discriminator (see Table 4.3).

middle and good performance categories. Overall, the turnovers are 15.71% for firms where the government is the dominant owner and 24.01% where the government is not dominant. The results show that turnover of chairmen is lower when the government is the major shareholder.[39]

The results from panels B(1) and B(2) show that firms with foreign shareholders have lower turnover although the differences are generally not significant (except for middle performance in panel B(1) and poor performance in panel B(2)).[40] The results from panel C show that firms with legal entity ownership above the median (i.e. relatively high ownership by legal entities) have higher normal turnover (significant at the 0.10 level) and higher forced turnover (but not significant at conventional levels). Although the patterns of turnover are consistent across performance quartiles and across normal and forced partitions, they are not, in general, statistically significant. Legal entity share ownership does not appear to explain differences in turnover rates.

Firms where no-pay directors constitute a majority of the board have higher turnovers of their chairmen (see panel D). This finding applies to both normal and forced turnovers and is observed for poor and good performance (panel D(1)) and middle and good performance (panel D(2)). Evidence from other countries also shows that turnover is higher when boards have many non-executive directors (Huson et al., 2001; Suchard et al., 2001; Weisbach, 1988). Non-executive directors often represent major shareholders and I conjecture that the high rates of turnover for the top quartile performers (shown in

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[39] This finding may be due to the government being more passive in monitoring and changing management (at whatever level of performance). Alternatively, the government may view the stability of the chairman as essential to the pursuit of government objectives by the firm. The chairmen of government-controlled firms may have a lot of political patronage and may be more difficult to remove. Unfortunately I cannot distinguish among the reasons why turnover is lower for firms with dominant government shareholdings.

panel D) is due to chairmen being 'promoted' or head hunted to other entities owned by the shareholders. I argue that the non-executive directors are instrumental in good performers being promoted to other entities. Because I can not trace the career paths of chairmen, it is not possible to test the conjecture.

6.4. Logit Regression Results

The logit regression results are reported in Tables 4.5 and 4.6. In Table 4.5, ROA is used as the performance measure while LOSS is used in Table 4.6. The regressions using ROS and GRO as performance measures give similar but less significant results than ROA. RET is not significant (consistent with the results in Table 4.3). For these reasons I do not show the results for regressions using ROS, GRO, and RET as the performance variable.

Table 4.5 shows quite clearly that ROA is significantly and negatively related to turnover and this supports the performance hypothesis. Firms where the majority of the board of directors are unpaid experience higher chairman turnover ($p < .10$). This finding is consistent with Table 4.4 and suggests that non-executive directors are more willing to replace the chairman; this result supports the monitoring hypothesis. I argue that in the absence of a market for corporate control, internal control mechanisms will take proactive roles in evaluating and disciplining top management. On the other hand, the evidence also shows that there is higher turnover for good managers in firms with non-executive director dominated boards (see the coefficient on NOPAY*ROA). Although I

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[40] Because the foreign shareholders are always in the minority, they appear to have little influence on decisions to replace or reappoint chairmen. I conjecture that because foreign investment in listed firms is very recent, these investors may want to gain more experience before they start to exert influence on the appointments of top managers.

do not have any direct information on where the replaced managers go, I conjecture that the good managers are 'promoted' in the political hierarchy or head hunted by other firms (that may be associated with the non-executive directors). The internal control mechanism therefore identifies and removes both good and underperformed managers.

None of the ownership variables are significant and these mirrors the general findings of Table 4.4, these multivariate results support the ownership hypothesis. Although non-China studies have not examined the roles of GOV, LEGAL, and FOR, they have investigated the role of large shareholders. The international evidence varies from a positive relationship between turnover and large share ownership to no relationship. The large shareholders in the study (GOV and LEGAL) do not explain variability in turnover.

As expected, AGE is positively related to normal turnover; the older the chairman the more likely he or she will be replaced at the end of the contract period. In contrast, AGE is not significant in the forced turnover sample. These results for AGE are similar to those in other countries. Individuals holding the joint posts of chairman and CEO are much less likely to be replaced when their contracts come up for renewal. The joint appointment presumably gives more power to the individual and they can better engineer a re-appointment for themselves. Alternatively, a joint appointee may be more difficult to replace. Duality of positions has no influence, however, in the forced turnover sample and this result contrasts with American (Goyal and Park, 2002) and British (Dahya et al., 1998) research. PCHM is not significant in the normal[41] and forced turnover samples. Whether a chairman is paid by the firm or paid by the parent company appears to be

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[41] The p-value for PCHM is significant at the 0.10 level.

largely irrelevant to the replacement decision. SIZE is negatively and significantly related to the turnover of company chairmen; large firms are less likely to replace the chairman of the board.

When LOSS is used as the performance variable (see Table 4.6), I find that it has no bearing on normal turnover while it is significantly related to forced turnover. The finding of no relationship in the normal sample is very different from the result in Table 4.5. It is difficult to reconcile the differences in performance variables (ROA versus LOSS) in the normal turnover situation. Apart from the LOSS variable (and NOPAY*LOSS), other results from Table 4.6 are qualitatively similar to those from Table 4.5.

I examine the change in probabilities of chairman turnover when a statistically significant (p < .10) independent variable changes from the 25th to the 75th percentile value (or from 1 to 0 in the case of a significant dummy variable), using the mean value for all other independent variables. In Table 4.5, panel A, the implied changes in probability are -11.7% for ROA, 11.7% for NOPAY, 5.2% for NOPAY*PERF, 9.8% for AGE, -19.5% for DUAL, 10.7% for PCHM, and -9.1% for SIZE. In Table 5, panel B, the implied changes in probability are -4.7% for ROA, 6.9% for NOPAY, 2.1% for NOPAY*PERF, -7.9% for GOV, and -5.1% for LOGSIZE.

In Table 4.6, panel A, the implied changes in probabilities are 7.8% for AGE, -13.7% for DUAL, and -5.91% for LOGSIZE. In panel B, the implied changes in probabilities are 33.1% for LOSS, 13.7% for NOPAY, and -6.0% for LOGSIZE. The highest change in probability is for the LOSS variable in panel B. Thus, a firm is 33.1%

more likely to change chairman if it has negative operating income in the previous year. In general, the above sensitivities are quite high.

6.5. Post-turnover Performance

Tables 4.3, 4.4, 4.5, and 4.6 show that turnover is related to poor performance (ROA, GRO, ROS, and LOSS) and so the shareholders may hope that a new chairman will help improve profitability and growth. To investigate this issue I examine performance changes surrounding replacements of chairmen using five measures of profitability and growth (ROA, RET, GRO, ROS, and LOSS).

Table 7, shows the mean industry-adjusted performance measures in 1997 and in 2000, for both normal and forced turnover firms. For the normal turnover sample, there are significant reductions in mean and median ROA and LOSS over the period 1997 to 2000, but significant increases in mean and median GRO and mean RET. Mean and median return on sales (ROS) decline, but they are not statistically significant. Profitability based on accounting measures therefore falls over the period but more forward looking indicators, GRO and RET, show increases. The picture changes when I examine forced turnovers. Here all performance measures decline over the period 1997 to 2000 although only ROA and LOSS are significant (the median change in ROS is also significant at the 0.1 level).

To obtain a better picture of performance changes following chairman turnover, the sample is divided into four. Firstly, I split the sample into those firms where a three-year chairman cycle ends in 1999 and those where the three-year cycle ends in some other year. Secondly, the two samples are then broken down into whether there is a

normal or forced turnover and whether there is no change. The change in performance is measured from 1997 to 2000, a period of three years, and the replacement of the chairman occurs in 1999. Table 4.8 shows the results.

Table 4.8, panel A shows that industry-adjusted ROA declines 3.55% over the period 1997 to 2000 for firms that have a normal turnover of chairman in 1999. I compare this decline in ROA with the decline in ROA in panel B (this sample is of firms that reappoint their chairman in 1999).[42] ROA also declines in panel B. t- and Z-statistics indicate there are no significant differences in changes in ROA across the sample that reappoint their chairmen and the sample that does not. Table 4.8 also shows results for the other performance variables (ROS, GRO, RET, and LOSS). Comparing panels A and B, changes in performance based on accounting measures (ROA, ROS, LOSS) are worse for firms that change their chairman although only LOSS is statistically significant. A change in chairman yields higher growth and higher stock returns (significant at the 0.01 and 0.10 levels for the t-test).

Panels C and D give performance measures for firms that do not end a three-year cycle in 1999. Any turnovers in this sample are classified as forced. Both samples show deterioration in performances although the forced turnover companies fare worse. The reduction in ROA and ROS are statistically more severe for the forced turnover sample than for the no change sample. In the case of forced chairman turnover, there is no evidence of an improvement in performance. In fact, performance appears to deteriorate.

The evidence from Table 4.8 gives no support for a forced change in chairman bringing about an improvement in performance. There is conflicting evidence on

whether a normal change in chairman brings about an improvement; accounting profits say no while growth say yes. Nevertheless the results also suggest scapegoating behavior. Changing the management would be a response to poor performance and change in management however does not lead to better performance. The results differ from the U.S. and Japan where Davidson et al. (1993), Denis and Denis (1995), and Kang and Shivdasani (1995) find strong evidence that performance improves after top management turnover. One limitation in the analyses is that I have a limited time period available over which I measure performance changes. Some initiatives taken by new chairmen may take a few years to become profitable but I do not have enough data to analyze this.

Other limitations relate to measuring stock returns and profitability. Share prices often anticipate significant corporate events such as changes in top management, and so calendar year stock returns may be inappropriate. However, it is difficult to precisely identify when the stock market first anticipates changes in the chairman position and so I use calendar year returns. The chairman and top management have the power to manage reported profits by the use of discretionary accruals (Teoh et al., 1998) and other adjustments.[43] Further, a new chairman (or an incumbent who is facing a high probability of dismissal) has incentives to either decrease (in the case of a new chairman) or increase profits (in the case of incumbents). For example, a new chairman may depress profits and blame this performance on the previous incumbent. Expectations are thus lowered and future profits will rise as discretionary accruals or deferred gains materialise. An

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[42] Ideally I should compare the panel A sample with a size- and industry-matched sample (where the chairman's contract is renewed in 1999) but the small number of listed firms precludes me from doing this.
[43] Discretionary accruals often reverse in future periods and so the impact of earning management on profits is short-term and illusionary. Unfortunately, I do not have data to investigate a longer post-change period.

incumbent chairman who is under strong pressure to improve performance may use discretionary accruals to increase profits. It is very difficult, if not impossible, to unravel earnings management.

6.6. Sensitivity Analyses

I conduct an array of sensitivity tests that examine alternative measures of variables and I also investigate additional factors that have been suggested in the literature. These analyses allow me to check the robustness of the findings. When contemporaneous measures of performance are used in place of lagged measures, the results are directionally similar to those reported in Tables 4.3, 4.4, 4.5, and 4.6 but are less significant. In order to assess the impact of a majority owner, I construct a dummy variable which is coded one if there is a shareholder who owns more than 50%. I find, however, that there is no difference in turnover rates across the samples based on the existence of a majority shareholder. The majority ownership dummy variable is not significant in the logit regressions. Board size is added as a variable to the regression model but it is not significant. Stock market risk is also added to the model but it is not significant. Although some research studies in the U.S. conclude that small boards are more effective than large ones (Core et al., 1999; Yermack, 1996), board size has no relationship with chairman turnover in China. Instead of treating age as a continuous variable I replace it with a dummy variable (DAGE), which is coded one (1) if the chairman is aged 60 or over (60 is the normal retirement age in China). The results using DAGE are qualitatively the same as those shown for AGE in Tables 4.5 and 4.6. That is, DAGE is a significant factor in explaining normal turnover but has no impact on forced

turnover. The logistic model results reported in Tables 4.5 and 4.6 use one interaction term. In other regressions I use interactions between each governance variable and each performance measure. None of the additional interactions are significant.

Overall the evidence is consistent with the hypothesis that under the socialistic economy and government dominance, the removal of senior management is based on some performance indicators. Ownership structure will not affect the process as government has the ultimate influence. The board of control therefore follows, with performance as the primary indicator and in light of this, the board will look at both the underperforming and better performed managers.

7. Conclusion

Do ownership and corporate governance reforms induce any changes in the corporate control of the Chinese? This study analyzes the relationships among ownership structure, and governance mechanisms in Chinese listed firms. Owing to the strong government influence, I argue that merely by introducing changes in ownership structure and the imposition of corporate governance system will not reduce change the overall corporate behavior, in which the ownership would impose significant influence in particular the removal of the key management staff. Instead, alternative mechanisms for corporate governance arise.

The objective in this study is to investigate the turnover of chairmen in listed Chinese firms. This study has a setting where the legal protection and market for corporate control are weak and the managerial labor market is almost non existent. Using data from Chinese listed firms from 1998 to 2000, I investigate the factors involved in

replacing company chairman. Compared to other countries, turnover is high with more than one-third of chairmen being replaced at the end of their three-year contracts. Approximately 20% of chairmen are replaced before the expiry of their three-year contracts and these cases are termed forced turnovers. I argue that this is due to the scapegoating.

I find that low ROA is associated with both normal and forced turnover which suggests that poor profitability is a significant factor in deciding whether to replace the chairman (this supports the performance hypothesis). In contrast, another measure of profitability, the existence of an operating loss, is not associated with normal turnover but is significantly related to forced turnover. While the influence of performance on normal turnover is unclear, the evidence is unequivocal that poor performance (based on accounting measures) leads to early or forced dismissals. The evidence is consistent with Groves et al. (1995) who also examined manager turnover inside SOEs over the period 1980-1989.

Financial performance is a significant and identifiable feature and this will be used for replacement decision. Alternative theory has suggested that ownership structure may have significant influence to the replacement of senior management and this is not the case in China and I find there is no difference between firms with different ownership structure. I argue that this is again due to the significant government influence. Not only will the government practices scapegoating by removing the underperformed managers, there is also a greater tendency to remove the better performed managers. I examine the role of the board of control. The board of director represents the interest of the shareholder and if the government has the ultimate influence the board with more no pay

director will be more likely to replace the underperformed management. The evidence is consistent with non-executive directors monitoring the chairman and insisting on changes (consistent with the monitoring hypothesis). Moreover there are also evidences for the removal of better performed managers.

Chinese firms have quite different share ownership patterns than companies in other countries and the state is a major shareholder. At the univariate level, chairman turnover for poorly performing firms is lower if the government is the major shareholder. One interpretation of this result is that these firms have poor financial performance because they are pursuing social objectives set by the government. In this scenario, the chairmen are retained as they are successful in achieving the social objectives set by the state shareholders even though profitability may be very low. This result disappears in the multivariate setting. Institutional shareholdings in the form of legal entity ownership, and foreign share ownership, do not help explain chairman turnover and I argue that as the government as the overall dominance, shareholding structure does not matter.

As expected, older chairmen are more likely to be replaced at the end of their three-year contracts while age is irrelevant in explaining forced turnovers. Chairmen who reinforce their power by concurrently holding the CEO position are less likely to be replaced at the end of their three-year contract. However, duality of positions does not appear to deter the forced removal of the chairman.

It is imperative that top executives should be held accountable for their firms' performances and that replacement decisions be made in the worst cases. The evidence indicates that chairmen of poorly performing firms are replaced. However, the limited evidence I have indicates that replacements do not lead to improvements in profitability

in the short term and this is consistent with the scapegoating phenomenon. This study presents preliminary results on top management turnover in Chinese firms but more research is needed as and when additional data become available in particular the whereabout of the outgoing chairman would give me more insight into the removal mechanism of senior management in China.

Chapter 5

OWNERSHIP, CORPORATE GOVERNANCE, AND FIRM VALUE

1. Introduction

Agency theory is the basic theoretical reference in corporate governance. Agency problems arise because of the separation of ownership and control (Jensen and Meckling, 1976). Agency theory posits that there is a potential conflict of interest between the shareholder (principal) and the management (agent). Managers will pursue their own interests and these may not be congruent with the shareholders' interests. Shleifer and Vishny (1997) suggest that expropriation of shareholders by managers can occur in many ways including empire building, perks, stealing and transferring money from the firms, insider trading, inappropriate investment due to management incompetence, and management entrenchment.

Agency theory and the corporate governance literature identify and propose an array of devices which can be used by investors to protect their investments from the self-interested motivations of managers. Examples include carefully designed executive compensation contracts, board of directors' control, and the market for corporate control. The key mechanisms of an effective corporate governance framework identified by Keasey et al. (1997) are ownership (including institutional and managerial ownership), directors and the board (including board structure), CEO and directors' remuneration, auditing and information, and the market for corporate control. The Cadbury Report

(1992) recommends that firms should adopt model codes of governance (best practices) and stress the importance of these control mechanisms.

Corporate governance is a much discussed topic and many researchers have investigated the relationship between corporate governance and firm performance. Earlier studies focused on the direct relationship between governance and performance but the findings are mixed. Cubbin and Leech (1983) find a positive relationship between ownership concentration and profitability, while Demsetz and Lehn (1985) examine the endogenous relationships between ownership and performance and find an insignificant relationship between them. Jensen and Murphy (1990) find that the explanatory power of the CEO's pay for performance relationship is very low and this casts doubts on the descriptive validity of agency theory. They suggest that it is important to test the explanatory value of alternative paradigms to the agency based models. In a similar vein, Barkema and Gomez-Mejia (1998) suggest that in order to understand fully the CEO compensation issue it is necessary to examine the organization factors. On the effectiveness of the board of directors, agency theory argues in support of outsider representation on the board and the separation of the CEO/chairman positions. Dalton, Daily et al. (1998) in a meta-analysis of studies relating to board effectiveness (CEO duality and the insider/outsider proportion of the board) conclude that these two aspects of governance have no direct relationship to firm performance. Heracleous (2001b) concludes that studies have failed to find any convincing connection between the 'best practices' in corporate governance and organization performance. Although agency theory provides a theoretical basis for corporate governance mechanisms and possibly explains the one-to-one relationships between corporate governance constructs and firm

performance, its descriptive validity is weak. This is due to firms operating under the influence of many governance mechanisms, and agency theory alone has little relevance in predicting the relationships among corporate governance mechanisms and performance.

There are research studies which use different approaches and alternative views to explain the relationships among corporate governance mechanisms and a firm's financial performance. For example, stewardship theory takes the view that a manager works to serve the good of the organization although agency theory has a different perspective on the manager's behavior. When there is no conflict between managers and shareholders, the need for corporate governance is to find an appropriate structure for efficiency (Donaldson and Davis, 1989). Dennis et al. (1999) and Amihud and Lev (1999) use agency theory to explain the relationship between ownership structure and diversification; Lane et al. (1999) on the other hand, use a strategic management perspective to explain the same relationship and they reach a different conclusion. In sum, agency theory, stewardship theory, strategic management, and other management theories may give contrasting predictions on the relationships among corporate governance and firms' financial performances.

A number of recent studies take a contingent view of the firm. Researchers have investigated the mutual relationships among corporate governance mechanisms and the relationships between these mechanisms and firm performances. This research argues that examining governance mechanisms in an isolated context is not effective. For example, Rediker and Seth (1995) examine the inter-linkages between governance mechanisms, and argue that the mechanisms operate as substitutes and work

simultaneously in the firm. Barkema and Gomez-Mejia (1998) argue that I must not ignore the influence of a firm's governance structure and various contingencies in the study of CEO pay and performance relationship. Coles, McWilliams and Sen (2001) argue that firms have the ability to choose among different governance mechanisms and firms are able to create an appropriate structure given the environment in which they operate. This study adopts this view.

The underlying assumption in this study is that corporate performance, ownership structure, and corporate governance are interrelated. There is a trade off between ownership patterns and governance control factors to achieve an optimal structure that reduces agency costs and increases firm value. The assumption that governance mechanisms are substitutes for one another and the selection of the optimal mechanisms to be used depends on the individual firm, has been examined (Rediker and Seth, 1995; Barkema and Gomez-Meija, 1998; Coles et al., 2001). Coles et al. (2001: 23) state "Our view is that the most critical issue still to examine, is the ability of firms to choose among a number of different governance mechanisms in order to create the appropriate structure for that firm, given the environment in which it operates".

I also assume that under the perspective that ownership and corporate governance structure of a particular firm reflect the trade-off between costs and benefits for that firm, corporate governance mechanisms vary systematically across firms. There is likely to be no empirical cross-sectional relationship between ownership or board structure and firm value once interdependencies are taken account of. This assumption is backed by meta-analytic reviews of governance and firm performance. For example, in reviewing empirical studies using U.S. data, Dalton et al. (1998: 282) conclude "The results for the

board composition/financial performance meta-analyses suggest no relationship of a meaningful level. Subgroup moderating analyses based on firm size, the nature of the performance indicators, and operationalization of board composition provide no evidence of moderating influences for these variables as well. The evidence derived from the meta-analysis and moderating analyses for board leadership structure and financial performance has the same character, i.e., no evidence of a substantive relationship. These results lead to the very strong conclusion that the true population relationship across the studies included in these meta-analyses is near zero".

I use the simultaneous equation method to investigate the interrelationships among ownership structures, governance control structures, and firm performances by using a sample of privatized firms listed on China's stock market. Prior literature examines the effectiveness of the corporate governance mechanisms using data from the developed economies such as the U.S. and the U.K. China is an interesting country to study because of its enormous business potential and because of its transformation from a centrally planned system to a socialist-market economy. China has an embryonic corporate governance system that is borrowing concepts from industrialized nations including, notably, the U.S. Whether these governance mechanisms are appropriate for China at this stage is an open question. The share ownership structure and legal system are far different in China than in other countries and this presents unique challenges for corporate governance. A major distinguishing feature of China's economic landscape is that despite moves towards a market economy, the government sector still has strong influence over the corporate sector and this is likely to be the case in the foreseeable future.

I investigate the following issues: (1) the interrelationships amongst the governance devices and their trade-offs; (2) the relationships between firm value and the governance devices; and (3) the ability of privatized firms in China to choose an appropriate structure from among a number of different governance mechanisms.

2. Institutional Factors

China embarked on major economic restructuring in the late 1970s and the process of reform continues to this day. The aim of these reforms were, and still are, to improve economic efficiency, stimulate growth and innovation, increase competitiveness, and, ultimately, to improve people's welfare. In general, the reforms are aimed at moving China away from a centrally-planned economy to a more market-based approach similar to, but not identical to, the capitalist-style economies of Western Europe and North America. The institutional environment in China is substantially different from those of developed economies.

2.1. Reform and Ownership Structure

The reforms, which began in 1979, brought about major changes in China's business climate. The privatization of state owned enterprises (SOEs) is a major component of the economic reform process in China. Although the privatization of SOEs is a worldwide phenomenon, there are some characteristics unique to China. For example, a majority of the shareholdings of privatized firms remain under the control of the government and its various agencies.

Research shows mixed results about the economic gains associated with privatization in different parts of the world. On the one hand, Megginson et al. (1994) and Shleifer (1999), among other researchers, advocate the privatization of SOEs as this helps to clarify property rights and hence reduce agency costs. On the other hand, McDonald (1993) and Wright et al. (1998) conclude that privatizations in Poland and Russia have not achieved the gains that were expected. Chen et al.(2002) also show that privatization does not improve efficiency in China.

A listed company in China is typically owned by five groups of shareholders. They are the state, legal persons (or institutions), employees, individuals (for A-shares), and foreign investors (for B-shares). State shares are shares owned by the government. Legal person shares are owned by domestic institutions such as corporations, financial institutions, and mutual funds. A- and B-shares are tradable shares that are mostly held by individuals. A-shares are owned by locals and B-shares are owned by foreigners[44]. Employee shares are offered to employees and are usually priced at a great discount. Typically there are restrictions on trading employee shares in the year after issue; thereafter the shares are freely tradable in the same manner as A-shares.

Although economic reform began in 1979, it has been a cautious and regulated process. The government still maintains a strong influence over the economy. The central government and the local governments own the state shares, and the ultimate control of these shares is in the hands of the State Council. In many cases the government is the major shareholder of listed firms. The government also retains control over the appointment of senior management. Domestic corporations and financial institutions own

the legal person shares although in theory the ultimate owner of the domestic corporations and financial institutions is the state. On average, the government, legal person, and tradable shares, each constitute one-third of the total outstanding shares, although there is a great deal of variability across firms.

2.2. External Corporate Governance Mechanisms

Mergers and takeovers (or threats of mergers and takeovers) can be effective disciplinary devices used against poor management. However, most mergers of large state-owned enterprises in China are engineered by the state, and government approval is necessary for all such activity. Thus, mergers and acquisitions are often done at the behest of central or regional government in order to achieve socio-political objectives or to prop up ailing businesses. Any mergers and acquisitions of state owned enterprises typically do not affect the job security of managers and so the discipline imposed by an active market for corporate control is absent. An ineffective managerial labor market is another characteristic in China. Managers are not hired and fired as in the West. For example, although individual competence and performance are becoming more important, political standing still ranks as the most important criterion in promoting senior ranking staff; it is nearly impossible to be promoted to a senior business position unless the individual is a Communist Party member (Gan and Lu, 1997).

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[44] There are also foreign shares that are listed on overseas exchanges. These include H-shares, S-shares, and N-shares, which are listed on the Hong Kong, Singapore, and New York exchanges, respectively.

3. Literature

This section provides a brief review of the role of ownership and other corporate governance mechanisms in controlling agency conflicts of the firm. I examine the significance of ownership and corporate governance mechanisms as monitors of firm performance. The section concludes with a discussion of the interrelationships among ownership, governance mechanisms, and firm performance.

3.1. Ownership

Ownership structure is a central and distinguishing theme in the corporate governance literature. Typically, three issues of shareholding are addressed in research. First, the extent of managerial shareholding affects the congruence between managers and shareholders (Gedajlovic and Shapiro, 1998; Tosi et al. 1997; Zejac and Westphal, 1994). When managerial shareholding increases and managers become significant residual claimants, they are more likely to make decisions in line with the desires of other shareholders (Jensen and Meckling, 1976). The higher the managerial shareholding, the harder the manager will work. Hence, managerial shareholding mitigates the agency cost. Empirically, Morck et al. (1988) and Denis et al. (1997), among others, find that there is a complex relationship between agency costs and managerial shareholdings.

Second, studies have examined the importance of block or large shareholdings in controlling managers, and hence reducing agency costs. Shleifer and Vishny (1986) show that large shareholders have the incentive to monitor firm management, and that the presence of large shareholders enhances firm performance. Specifically, they relate the behavior of large shareholders to takeover-related monitoring, and contend that the

presence of a large stockholder is necessary for value-increasing takeovers to occur. Bethel et al. (1998) find that the long term operating performance of firms improves subsequent to the acquisition of blocks of stock by activist shareholders. However, there is also contrasting evidence that block shareholders do not engage in monitoring roles (Demsetz and Lehn, 1985). Holderness and Sheehan (1988) and Denis and Denis (1994) analyze samples of U.S. firms in which single shareholders own more than 50% of the outstanding shares and find that there is no significant difference in the firm value between them and sample firms without high ownership. There are other similar international studies (e.g. Bergstrom and Rydqvist (1990) for Sweden; Craswell et al. (1997) for Australia, and Prowse (1992) for Japan) which report insignificant relationships between concentrated ownership and performance.

The third issue is institutional shareholdings. Some researchers contend that institutional investors are long term investors with significant incentives to actively oversee managers. Coffee (1991) argues that institutional investors are becoming more active in monitoring, as the cost of selling their holdings is getting higher. There are increasing numbers of cases where institutional investors apply pressure on the corporation and seek a seat on the board of directors. According to the Wall Street Journal (1993), the California Public Employee Retirement System pressures firms in which it invests to establish good governance practices. Other findings also support a positive relationship between institutional investors and performance (McConnell and Servaes, 1990; Nickel, Nicolitsas, and Dryden, 1997). However, there are contrasting evidences; for example, Karpoff et al. (1996) find small or insignificant abnormal returns around proxy proposals that are sponsored by institutional owners. Chaganti and

Damanpur (1991) are unable to document strong associations between institutional ownership and corporate performance. David et al. (1998) argue that some institutional investors are pressure-resistant and some are pressure-sensitive. They argue that pressure-resistant institutions actively monitor top management, while pressure-sensitive institutions will accede to management's decisions. Other researchers argue that institutional owners have incentives to sell their holdings unless the firms maintain or increase short-term profits. Graves (1988) suggests that institutional investors cannot afford to take the long view in their investment decisions because they are reviewed and rewarded on the basis of quarterly, or at most annual, performance measures.

3.2. Boards of Directors

Boards of directors are involved in solving the agency problems inherent in managing any organization (Finkelstein and Hambrick, 1996; Rechner and Dalton, 1991) and there is a growing literature that considers the effect of board control on firm activities (Coles and Hesterly, 2000; Westphal, 1999). One focus of these studies is the evaluation of the degree of alignment between board composition and shareholder objectives. Non-executive directors possess two characteristics that enable them to fulfill their monitoring function. These are their independence and their expertise. They exert effort on behalf of shareholders because they want to maintain their reputations in the external labor market (Fama and Jensen, 1983). In general, the evidence shows that outsider-dominated boards provide some form of control on firm activities. For example, outsider dominated boards act in the interests of shareholders, and are more likely to remove CEOs following poor performances (Hermalin and Weisbach, 1988). Jensen

(1986) argues that where external control is weak, internal control in the form of an outsider board is an alternative monitoring mechanism. However, some studies find that the presence of independent directors may actually harm performance. Yermack (1996) and Agrawal and Knoeber (1996) find a negative relationship between the proportion of independent directors and performance. Johnson et al. (1996) argue that in many ways there does not appear to be any relationship between boards of directors and performance and even if there is, it will be of little practical importance. Dalton et al. (1998) conclude that board characteristics have no significant relationships with performance.

3.3. Managerial Compensation

Managerial compensation can be used to reduce the agency conflict between managers and shareholders. Agency theory argues that there should be a positive relationship between CEO pay and financial performance, and empirical studies have sought to confirm this association. However, the research results have provided mixed conclusions (Conyon et al. 1995; Jensen and Murphy, 1990). Boyd (1994) and Core et al. (1999) study the relations among board composition, ownership structure, and CEO pay. Their results suggest that firms with weaker governance structures tend to pay their CEOs more. Hallock (1997) finds that CEO pay increases when a board contains interlocking directors. Yermack (1996) finds that the pay-performance relation for CEOs decreases with board size, which suggests that small boards give CEOs larger incentives and force them to bear greater risk than do larger boards. The pay performance can be complex and Barkema and Gomez-Mejia (1998) suggest that in order to understand fully the CEO compensation issue it is necessary to examine organizational factors.

3.4. Debt

Corporate debt policy has also been viewed as an internal control mechanism that can reduce agency conflicts between management and shareholders, particularly the agency cost of free cash flow, as suggested by Jensen (1986). The cost of leverage plays a role in the control mechanism as it affects the manager's control and flexibility in making resource allocation decisions. Specifically, in debt contracts, lenders can request borrowers to make payments as specified by a contract. In such cases, some form of control of cash flow relocates from the debtor to the lender, and managerial discretion over resources is reduced (Shleifer and Vishny, 1997). Grossman and Hart (1980) similarly argue that the existence of debt forces managers to consume fewer perquisites and become more efficient as this lessens the probability of bankruptcy and the loss of control and reputation. Empirical evidence on the effectiveness of debt as a controlling device has provided significant results. For example, Berger et al. (1996) find that leverage is negatively related to CEO. tenure and board size, which suggests that as managerial entrenchment increases, or as effectiveness decreases due to a bigger board size, there is a greater tendency to increase leverage. Bathala et al. (1994) examine the effects of institutional ownership on managerial ownership and debt policy and their models indicate a joint determination of the debt ratio and managerial ownership. The trade-off between the external debt and equity leads to an optimal amount of debt and managerial equity in the firm, and this enhances firm value.

3.5. Market for Corporate Control

External market control mechanisms include takeovers, buyouts, and the legal protection of minority shareholders. When a firm is undervalued or poorly managed, external control mechanisms cause it to be vulnerable to market interventions and takeovers. Mikkleson and Partch (1997) provide evidence that takeover activities affect the intensity of managerial discipline. In particular, a decrease in takeover activity is accompanied by reduced disciplinary pressure on top management. The executive labor market also serves as a control mechanism. The threat of dismissal and replacement can serve as an effective control on self-interested behavior among top managers. For example, Cannella et al. (1995) suggest that when executives are dismissed from one position for poor performance, they are unable to find equivalent employment elsewhere.

3.6. Interrelationships Among Ownership Structure, Control Mechanisms, and Firm Value

Ownership and corporate governance mechanisms and firm performance are interrelated. However, empirical evidence yields conflicting views on the relative importance of their relationships. The mixed results are due, in part, to the substitutability of one corporate governance mechanism for another. Moreover, these mechanisms are not without costs. For example, very high managerial ownership of common stock may lead to entrenchment problems, the significant use of debt financing may result in a substantial increase in the firm's bankruptcy risk, and very high institutional ownership may have significant costs. Some argue that institutional owners are more concerned with the liquidity of their investment and this increases stock price volatility (Coffee, 1991),

while others suggest that it induces short-term myopia in management (Hansen and Hill, 1991).

Given the costs and benefits of the different control mechanisms, a number of studies focus on the interrelationships among these variables and firm performance. There are alternative views on the relationships among ownership structure, control mechanisms, and firm value. One approach assumes that there is an optimal condition of ownership structure and control mechanisms that maximizes firm value. The literature treats performance or firm value as a dependent factor of ownership structure and control mechanisms.

Another approach treats ownership, control mechanisms, and firm performance as endogenously determined, and thus affecting each other. This means that firms choose an appropriate ownership structure and control mechanism to maximize market value. Ownership structure is an endogenous outcome of the competitive selection of cost advantages and disadvantages balanced to arrive at an equilibrium organization of the firm. Demsetz and Lehn (1985) provide evidence that the dispersion of shareholder ownership depends on exogenous characteristics of the firms. Demsetz and Villalonga (2001) show that the market succeeds in bringing forth ownership structure, whether these be diffuse or concentrated, that are appropriate for the firms they serve; any systematic relationship between ownership structure and performance would disappear. Agrawal and Knoeber (1996) examine the use of seven ownership and control mechanisms. They show that the effect of a single mechanism alone disappears when all seven mechanisms are considered together. In their model it is assumed that alternative ownership and control mechanisms exist, and that the extent of their use is determined

within the firm. The greater use of one form will induce the lesser use of the other, resulting in equally good performance. Rediker and Seth (1995) examine alternative control mechanisms and their results are consistent with the substitution hypothesis. In particular, they find that large shareholders, inside and outside directors, and the incentive effect of managerial shareholdings are substitute corporate governance mechanisms. Coles, McWilliams, and Sen (2001:24) remark that "examining governance mechanisms in an isolated context is not a particularly effective way to study these issues".

The basic argument of this study is that there is no unique governance structure that is applicable to all firms (Heracleous, 2001b). A firm will seek a corporate governance structure to cope with the environment, and choose among substitute or alternative governance mechanisms. Empirically it has been shown that the choice of the level of a particular mechanism influences the level of the other mechanisms (Rediker and Seth, 1995; Coles et al., 2001). The appropriate mechanisms for a specific firm therefore reflect the tradeoffs between benefits and costs. While regression models may yield significant causal relationships between the performance and individual governance mechanism in isolation, the causal relationships may disappear when the endogeneity problem is controlled. My hypotheses are:

Hypothesis 1: There is interdependence among various governance mechanisms and the choice of one mechanism will depend on the choice of another.

Hypothesis 2: There will be trade off among the mechanisms; hence an individual firm will choose a combination of corporate governance structures that are appropriate for itself. Such a structure will be unique to each individual firm because of the unique

circumstances facing the firm. As a result of such choice, any systematic relationship between ownership, governance structure, and firm value will disappear.

4. Research Design and Data

4.1. Model

Given the interdependencies among the ownership and corporate governance mechanisms discussed above, a simultaneous equation approach is an appropriate methodology with which to examine their relationships with company performance.

A number of empirical papers use simultaneous equation methods to model the relations among corporate governance mechanisms, governance structure, and firm valuation. Jensen et al. (1992) examine the simultaneous relationship between insider ownership, debt, and dividend policies; Bathala et al. (1994) examine the interrelationships among institutional ownership, managerial ownership, and debt; and Agrawal and Knoeber (1996) examine the interrelationships among seven control mechanisms.

From the literature, I identify key mechanisms that are relevant to corporate governance control. These are block shareholdings, shareholding concentration, board of directors' control, managerial remuneration, managerial ownership, external market control, and the managerial labor market[45]. Because government influence is so pervasive in China, I include a government factor in the model (Mak and Li, 2001). The model therefore includes institutional ownership, ownership concentration, capital structure,

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[45] I do not include external market control in the model because it does not exist in China. For the same reason I do not use a managerial labor market factor in the model. I do not include managerial ownership, as the proportion of managerial ownership is very small in China. Executive ownership is, on average, only a few thousand shares.

board of directors' control, managerial compensation, and government. Figure 5.1 offers a simplified representation of these various causal relations by referencing selected theories or empirical findings. It is clear from this figure that causality can proceed in either of two directions between each pair of variables, which justifies use of the simultaneous equation methodology to model the relationships.

I develop a simultaneous equation model defined by Equations 1-6 to capture the interrelationships among the six control mechanisms; the model is expressed as follows:

$$LSHARE = f\{HSF, DERATIO, NONEX, PAY, GOV, SIZE, RISK, FS\} \quad (1)$$

$$HSF = f\{LSHARE, DERATIO, NONEX, PAY, PCHM, GOV, SIZE\} \quad (2)$$

$$NONEX = f\{LSHARE, HSF, DERATIO, PAY, GOV, BOARD, DUAL\} \quad (3)$$

$$PAY = f\{LSHARE, HSF, DERATIO, NONEX, GOV, SIZE, AREA\} \quad (4)$$

$$DERATIO = f\{LSHARE, HSF, NONEX, PAY, GOV, SIZE, AGE, AVROA\} \quad (5)$$

$$GOV = f\{LSHARE, HSF, DERATIO, NONEX, PAY, SIZE\} \quad (6)$$

$$ROA = f\{LSHARE, HSF, DERATIO, NONEX, PAY, PCHM, GOV, SIZE, FS\} \quad (7)$$

Equation 7 captures the relationship between the control mechanisms and firm performance. To estimate the above system of equations using two-stage least squares (2SLS) procedures, I include the instrumental variables FS, SIZE, RISK, AGE, AVROA, AREA, BOARD, DUAL, and PCHM in the model. These variables are defined in Table 5.1.

The first two equations capture the ownership effect. Equation (1) captures the effect of institutional ownership. As a result of the limited number of tradable shares in the market, there are few independent institutional shareholders and their shareholdings are limited. After state shareholdings, the most influential shareholders are the legal person shareholders (institutions, other SOEs) and I use them to proxy for institutional shareholders. Previous studies have found that firms with substantial legal person

shareholdings are associated with better performance (Xu and Wang, 1999; Qi, et al. 2000). Following Agrawal and Knoeber (1996), I include the other five governance control variables (HSF, DERATIO, NONEX, PAY, and GOV) in the equation as the choice of LSHARE depends on the other five variables. In addition, I also include RISK, FS, and SIZE in the equation. I expect that these exogenous variables are positively related to LSHARE.

The second equation relates to large shareholdings. To capture the effect of large ownership I use an ownership concentration factor. I include SIZE as an independent variable in the equation and expect that it will be positively related to concentrated shareholding. There is a greater incentive to control larger corporations in planned economies and this results in a more concentrated shareholding structure for ease of control.

To capture the board of directors control mechanism, I use board composition in the third equation of the model. Prior studies use the proportion of outside directors on the board as a proxy for board control (Dalton et al., 1998). However, there is no statutory requirement for external or independent directors in listed firms in China. I use the proportion of unpaid directors as a proxy for outside directors, as unpaid directors are usually nominated by the holding or controlling corporation or government bureau. As the proportion of unpaid directors is directly related to board size (BOARD) and the presence of a chairman with a dual role as the CEO (DUAL), I include these factors in the equation (Mak and Li, 2001)

Equation 4 deals with the managerial incentive variable. Managerial pay is a key factor in the principal-agent relationship (Gomez-Mejia et al. 1987; Tosi et al., 1997).

The exogenous variables are SIZE and AREA. The most consistent and enduring result from a myriad of CEO pay studies is that firm size is positively and significantly associated with compensation levels (Conyon, 1997). This pay-size relationship is observed in all countries in which research has been conducted (e.g., Firth et al. 1996), and in some cases size is the only significant variable. The complexity of the job, the skills required, the number of hierarchical structures, and the ability to pay all point toward large firms paying their CEOs more. An additional factor relevant to China is its socialistic economic nature. Here the compensation of CEOs of government controlled firms is aligned with the pay of the average worker so as to enhance social harmony and a feeling of fairness. Hence I expect CEO pay in GOV firms to be less than in the non-GOV firms. Moreover, living expenses and average wage costs in the coastal regions are much higher than in the interior. In particular, costs and wages are very high in Shanghai and Shenzhen. CEO salaries are therefore likely to depend on the location of the business (AREA).

Equation 5 deals with the capital structure. I use the debt-equity ratio as a proxy for capital structure. I expect the debt level depends on the SIZE, AGE, and the profitability of the firm (AVROA). Strong government influence is pervasive in China, and to proxy the effect on the firm control and performance I include GOV in the system of equations. In equation 6, I include SIZE, as there is an incentive to control large firms in a planned economy.

In addition to the interrelationships among the control mechanisms within the system of six simultaneous equations, I also examine the relations between these mechanisms and performance. Equation 7 gives the performance and control mechanism

relationship. I model the performance with two additional variables, SIZE and FS. Larger firms often enjoy preferential treatment and protection from the government, and I capture this effect with SIZE. I include FS to capture the differences due to the presence of a foreign shareholder. The presence of foreign shareholders has been shown to enhance firm performance in the Czech Republic (Makhija and Spiro, 2000).

4.2. Sample Description

The analysis is based on information from company annual reports over a three-year period from 1998 to 2000. Annual reports are used as the source for the shareholding structure, board size, and board composition. The rest of the data including performance, operating risk, and state ownership are obtained from the China Stock Market & Accounting Research Database. In line with other studies, I exclude companies in the financial sector; note, however, that there are only a few listed financial companies. The sample consists of 549 companies listed on the Shanghai and Shenzhen Stock Exchanges. There are 1647 firm-year observations for my analysis. Table 5.1 provides summary statistics for the variables.

Performance statistics of the firm show that the mean (median) adjusted ROAs are -1.4% (0.00%), and range from -97% to 32%. The average proportion of legal person shareholding is 31% with a maximum of 91%. The HSF factor ranges from 0.001 to 0.785 with average (median) values of 0.22 (0.18). The proportion of unpaid directors is about 51% in the sample companies and this is comparable to the ratio of non-executive directors on Western boards. For example, Core et al. (1999) report 67% of outside

directors in U.S. companies and Ezzamel and Watson (1997) report 43% of non-executive directors in their U.K. sample.

CEO compensation payments for the listed firms in China range from RMB 8,000 (USD1,000) to 1 million (USD125,000) over the period 1998 to 2000. In natural log terms, PAY ranges from 2.08 to 6.91. The average long-term debt to equity ratio is 11%. This ratio is low as compared to those of developed economies. For example, Bathala et al. (1994) report an average debt ratio of 20% for a sample of firms listed on the New York Stock Exchange and Jensen et al. (1992) report a debt ratio of about 20% in their sample of more than 500 U.S. firms across many industries. The mean value of GOV is 0.56. The state is therefore the major shareholder in approximately 56% of the sample companies.

Approximately 16% of the sample companies issue shares to foreign shareholders. The firm size ranges from RMB114 million to RMB22209 million and as proxy for size, the natural log of book assets, the value ranges from 4.7 to 10. RISK ranges from 2% to 67% and AVROA ranges from -45% to 27% for the sample. Although there are large differences in economic development between the developed and the less developed areas in China, I do not observe an overwhelming dominance of listed firms from the developed areas. The listing of firms is controlled by a quota system and 62% of the firms originate from the developed areas.

The average board size is 9.6. On average, about 23% of the board chairpersons also hold positions as general managers (or chief executive officers). As a comparison, Conyon (1997) reports 23% of firms have dual CEO and chairman roles in his U.K.

sample and Ryan and Wiggins (2001) report a value of 57% for their sample using 1997 company data in the U.S. About 55% of firms have a paid chairman.

5. Results

This section presents the empirical results. I first examine the relationships among the control mechanisms and then examine the relations between firm performance and control mechanisms. Finally I compare the results of OLS with those of 2SLS.

5.1. Relations amongst the Control Mechanisms

I estimate equations 1 to 6 as a system of linear simultaneous equations using the 2SLS method and the results are shown in Table 5.2. The first equation shows that LSHARE is significantly related to GOV, but is not significantly related to the other control mechanism variables. The coefficients on the exogenous variables FS, SIZE, and RISK are also insignificant although they have the predicted signs. LSHARE is negatively related to GOV. This relationship shows that government influence reduces with an increase in legal person shareholdings. The second equation shows that the large shareholding factor HSF has significant negative relations with NONEX and PAY. HSF is also positively and statistically significantly related to the exogenous variable SIZE, as predicted.

In equation 3, where the ratio of unpaid directors to paid directors on the board (NONEX) is used as the dependent variable, I find that HSF and PAY are significant endogenous factors and DUAL is a significant exogenous factor. These results show that a board with more unpaid directors is positively related to PAY and negatively related to HSF with interactions amongst the control mechanisms. The proportion of unpaid

directors is negatively related to DUAL. Thus having the same person occupying the CEO and chairman positions is less likely where there are many non-executive directors on the board.

In the managerial compensation equation, PAY is negatively related to LSHARE. One possible explanation for this observation is that legal shareholders monitor the firm, and inhibit the awarding of excessive management compensation (Xu and Wang, 1999). PAY is also significantly related to GOV, SIZE, and AREA, as predicted. Government controlled firms have a lower level of compensation as compared with the non-government controlled firms.

The capital structure equation shows that all of the endogenous and exogenous factors are insignificant. The role of debt as a controlling mechanism is different in China as compared with the developed economies. The four largest commercial banks are mainly agents of the state, and their lending policy is driven by government policy. Banks as outside monitors do not exercise strong discipline on China's state-owned enterprises. Corporate debt levels are comparatively lower in China than in developed economies.

The last equation is the influence of GOV on the control mechanisms. GOV is negatively related to LSHARE and PAY. The above equations show that governance mechanisms are interrelated and the choice of one mechanism depends on the choice of others. These evidences support hypothesis 1.

To control for possible non-linear relations between ownership variables and other corporate governance variables, I also run the 2SLS regressions by including squared terms for the ownership variables in equations 1 to 6. The introduction of squared ownership variables does not significantly affect the results.

5.2. Firm Performance and Control Mechanisms

In this section I investigate the relationship between the control mechanisms and firm performance. Before I recognize the endogeneity of corporate governance mechanisms, I estimate the regression of firm performance on individual control mechanisms. Table 5.3 shows the OLS regression estimates with ROA as the performance indicator.

The results show that HSF, DERATIO, PAY, and GOV are significant factors in the performance relationship. Large shareholdings (HSF), higher compensation (PAY), lower debt (DERATIO), and lower government ownership (GOV) are significantly associated with good performance. The interpretation of the linear regression results is that each control mechanism may have an effect on firm performance without considering the interdependence of the other control mechanisms.

Following Agrawal and Knoeber (1996), I enter all ownership and governance control factors into the model as shown in equation (7) and I present the OLS and 2SLS estimation results of the model in Table 5.4. The results for the pooled sample include firm year data from 1998 to 2000. Table 5.4 shows that performance is related to LSHARE, HSF, DERATIO, PAY, and GOV as well as to the control factors SIZE and FS in the OLS regression. These results are similar to the results in Table 5.3. However, the significance of these factors disappears in the 2SLS estimation. The results support the argument that control mechanisms interact with each other and there is an optimal choice amongst them. For example, GOV is significant and negatively related to performance in the OLS estimation and this result is similar to the findings of Qi et al.

(2000) and Xu and Wang (1999). However, the government effect disappears in the 2SLS estimation. One interpretation of the findings is that in the choice of the governance mechanism, the control factors are all taken into consideration and hence the effect disappears in the 2SLS estimation. Similarly HSF and PAY are positively related to performance in OLS estimations as shown in Table 5.3 and Table 5.4, but the significance of these variables disappear in the 2SLS estimation. The factor NONEX is not significant in any of the estimations in Tables 5.3 and 5.4. In summary, these results imply that ownership and other corporate governance mechanisms are endogenously determined. Each has its own costs and benefits and they differ systematically across firms. Hence, they are likely to be unrelated to firm performance and this is in line with the previous studies using data from different countries (Agrawal and Knoeber, 1996; Mak and Li, 2001). The results support hypothesis 2.

5.3. Robustness Tests

One of the major limitations of the simultaneous equation model is the problem of mis-specification. In this section, I examine alternative specifications of the model. First, I repeat the regression analysis that is reported in Table 5.4 using the yearly data of 1998, 1999, and 2000. Apart from the DERATIO of the 1999 data, the results are similar to the pooled data.

In Table 5.5 I re-estimate the model using alternative endogenous and exogenous variables. I follow the model of Mak and Li (2001) that includes ownership and board structure characteristics in the system of simultaneous equations. Model 1 uses ownership (LSHARE and HSF), board size (BOARD), proportion of outside directors

(NONEX), and board leadership (DUAL) together with GOV, as endogenous variables. I replace GOV by PAY in Model 2 and replace GOV by DERATIO in Model 3; in each of these three models I keep all the board and chairman characteristics in the simultaneous system model. One of the key results of the robustness analysis is that I observe a consistent pattern. While individual control mechanisms may be significant in the OLS estimation, their significance disappears in the 2SLS estimation. These robustness tests indicate that there are interactions between the mechanisms with the simultaneous choice of control mechanisms.

6. Discussion and Conclusions

In this chapter, I draw together the many different aspects of corporate governance mechanisms that have been examined and reported in the extensive literature and I investigate the interrelationship amongst these mechanisms.

First, I hypotheses that there is interdependence amongst the various governance and control mechanisms and there is trade offs amongst the control mechanisms. I have strong evidence to show that substitution and complimentary effect of the different governance mechanism exist to support the hypothesis. These results are in line with previous research. For example Barkema and Gomez-Mejia (1998) report that compensation setting process depends on the firms' ownership structure, board of control and other factors. The results show that ownership and compensation structures are inter-linked; pay is lower for government controlled and higher shareholding concentration firms.

Second there is trade off amongst the control mechanisms; firms have the ability to choose an appropriate control mechanism. I hypothesis that as corporate control mechanisms vary systemically across firms, any significant relationships between performance and control mechanism will disappear. The empirical results support my hypothesis. For example I find that government and large shareholding, compensation and debt level are significant factors associating with firm performance. These results are also well documented in the literature. If I take the simultaneous relationship amongst these factors, the significant relationships disappear.

Third I find that many of the control and governance mechanisms that influence performance in the developed economies also apply in China. China has a setting in which the market for corporate control is dominated by government intervention. Investors have a limited role in the market as government has an overarching influence. Despite these restrictions, there are alternative mechanisms for corporate control and firms in China can choose an appropriate structure to cope with their environment. These results also contribute to the understanding of the Chinese corporate governance system for the privatized firm.

What are the policy implications of these findings in the Chinese corporate control context? There are two possible interpretations. First, whilst previous research which finds that firm performance and government ownership are negatively correlated (Xu and Wang 1999, Qi et al. 2000), I argue that in the simultaneous choice of governance control mechanisms, the presence of government ownership will be taken into consideration. The relationship between government ownership and performance will disappear and the result supports this argument. As ownership and other corporate

control mechanisms are interdependent, models that only consider the influence of a single governance variable (say government ownership) on firm performance may be mis-specified. Heracleous (2001a) also argues that private ownership is neither a necessary nor a sufficient condition for superior performance. There are much debates going on in China as to reduce the government shareholding in the listed firms; if the argument for the reduction in government shareholding is to improve performance of these firms, such argument is debatable.

Second I provide additional evidence to support the opening statement that there is no convincing between the practice of corporate governance and firm performance. The Chinese government is working hard to incorporate a corporate governance structure comparable to the developed economies. Together with the previous researches using data from the developed economies, I have demonstrated that governance structure has no direct relationship with firm performance. The focus of any effective governance structure is in the protection of investors instead of the relevance in the firm performance.

Finally I must stress that the empirical results in this chapter are strongly dependent on the specification of the model and the choice of the instrumental variables. Unfortunately, existing theory does not provide me with the correct model specification. This means that although the simultaneous equation method allows me to interpret the interaction of the control mechanisms in the system, the results should be interpreted cautiously, and alternative models are always possible. Moreover, the results from this study and the substitution and complimentary effects of the different governance mechanisms suggest that the theoretical considerations of the corporate governance issues are complex.

Chapter 6

CONCLUSION

The purpose of this study is to draw together the many different facets of corporate governance that have been examined and reported in the extensive literature for the developed economies and I investigate the effect of such in the Chinese environment. In Chapter 2, I study the relationship between ownership, governance structure and agency costs. I am interested in whether ownership structure and governance mechanisms have any effect on agency costs. The study analyzes the relations between agency costs, ownership, and governance mechanisms in Chinese listed firms. The results show that a firm with a foreign shareholding incurs higher agency costs. Thus the foreign influence does not extend to closely monitoring management and thus reducing agency costs. In fact it may be that a foreign shareholding influences management to embrace the perks, privileges, and trappings of Western executives and thus increase non-necessary expenditures (agency costs). There is limited but weak evidence that concentrated ownership is associated with lower agency costs. I find no evidence that legal person shareholding is more effective in reducing agency costs. In the multivariate models, I find that government shareholding has no effect on agency costs. While it is usually assumed that government share ownership in China creates inefficiencies and agency problems, I find that there is no difference between government and non-government controlled firms. The composition of the board of directors, as reflected in the proportion of non-executive directors, has no association with agency costs.

Chapter 3 examines the factors affecting managerial pay in Chinese firms. Variables of performances, governance structure, firms' operating characteristics, and chairman characteristics are included in the model. The principal determinants are firm size, ownership structure and control variables in term of locations and industrial differences. I find that performance in terms of accounting ratio is positively related to compensation. Similar to the empirical studies using data from developed economies, I also find a weak pay-for-performance relationship in China. In general the results support the theory that there is an alignment between managerial pay and corporate performance.

In Chapter 4, I report evidence on changes in the chairman of the board of directors. I find that there is a significant relationship between turnover and performance and this relationship is more significant for forced turnover. I find that board control by non-executive directors is an important factor in replacement decisions whereas ownership structure has little or no impact. Based on the limited data available, I find that performance does not improve in the short term after replacement of the chairman. These results show that in the absence of an external market for corporate control, internal control mechanisms identify and remove the under performing managers.

In Chapter 5, I study the interrelationships of ownership and governance mechanisms using the simultaneous equation method. This line of research argues that ownership and other corporate governance variables are alternative mechanisms and act as substitutes for each other. I find evidence of a strong linkages and interdependence in the use of different control mechanisms. While there are significant relationships between the governance control mechanisms and firm performance, these disappear when using simultaneous equation estimation. The result shows that in the absence of the

external component of governance systems, Chinese firms will still select an optimal structure. Different components of the governance system will interact with each other and firms will select an optimal array of corporate governance mechanisms.

There are continuous debates about the effectiveness of the corporate governance system in China. Such debates also exist in the developed economies and the debates focus on the search for the best corporate governance practices. The recommendations of Cadbury, Greenbury and similar committees such as OECD attempt to establish such standards and guidelines. Nevertheless, there is no consensus as to a 'code of best practices' nor will such 'code of best practices' guarantee performance. In the literature there are evidences that corporate governance mechanisms are not necessarily related to firm performance. Firm performance is not associated with corporate governance nor have such practices stop any fault, mismanagement or any act in harming the minority shareholders' benefits in the past. There is still much to be done to understand the dynamic of corporate control and to the building up of the ideal governance system.

China adopts many of the facets of corporate governance systems from the developed economies. My findings in this study also suggest that relationships between corporate governance and compensation, turnover, and agency costs in the developed economies are often applicable in China. The failure of corporate governance in China is therefore not in the system itself. No matter how effective a system is, if we do not follow and enforce the system, the ultimate result is a system that earns no respect and it will fail. We must address the ethnical issues. We have to respect the rule of laws in the governance system; and the authority must enforce it. Otherwise whatever corporate governance system China adopts, will be in vain.

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Table 1.1
Major Events in the Reform Process

Year	Major Events
1978-1983	From centralization to de-centralization.
1979	Joint Venture Laws
1980	Special Economic Zones
1983-1992	Cashflow Rights to Profit Retention; Autonomy of Production Decision; Contractual Responsibility System.
1985	Accounting Laws
1990	Shanghai Exchange Established
1991	Shenzhen Exchange Established
1992	Deng Xiaoping Southern Tour - Policy on Continuous Reform
1993	Fourteenth Congress Of The Chinese Communist Party - Decision on 'Socialist Market Economy System' and 'Modern Enterprise System'; Establishment of Modern Enterprise System. Separating Business and Politics and Administration.
1993	Accounting Laws - Amendment; Establish Accounting Standards; CPA Laws; Company Laws
1994	Auditing Laws
1995	Central Banking Laws
1996	Commercial Banking Laws
1998	Securities Laws; Abolish Economic Ministries.
1999	Fifteenth CCP Congress: Continuous Enterprise Reform With a Modern Enterprises System.
2000	Accounting Laws Amendment

Table 2.1 Variable Definitions and Summary Statistics

Variables		Definition	Mean	Median	Minimum	Maximum	Standard Deviation
Agency Costs							
Expenses ratio		Operating, general, and administration (OGA) expenses to annual sales ratio	0.246	0.130	0.008	13.960	0.595
Asset utilization		Annual sales to assets ratio	0.484	0.395	0.001	4.066	0.363
Ownership Structure							
Ownership concentration	CONC	Sum of the squares of the proportionate shareholdings of the three largest shareholders in the company	0.22	0.18	0.001	0.785	0.144
Legal person shareholding	LSH	Equal to 1 if legal person shareholding > 50%	0.29	0	0	1	0.45
Foreign shareholding	FS	Equal to 1 if the company also issues B shares and/or H shares	0.16	0	0	1	0.25
Government controlled firm	GOV	Equal to 1 if the state holding is greater than or equal to the next major shareholding	0.56	1	0	1	0.49
Governance Mechanism							
Board composition	NONEX	Percentage of unpaid directors on the board	0.51	0.56	0	1	0.27
Control Variables							
Compensation	PAY	PAY is the highest cash compensation to the board member (in RMB000s)	69.1	50.0	8.0	1000.0	73.11
Long term debt ratio	LEVERAGE	Book value of long term debt /book value of shareholders' equity	0.11	0.03	0.00	6.32	0.26
Size of firm	SIZE	Book asset value of the company (in RMB million)	1553	952	114	22209	2085
Firm age	AGE	Age of the firm since listing	4.43	4	0	10	1.84

Table 2.2
Univariate Analysis - Agency Costs, Ownership Structure and Governance Mechanisms

	Firm type (1)		Firm type (0)		Difference t statistics (z statistics)	Firm type (1)		Firm type (0)		Difference t statistics (z statistics)
Pooled sample	Number of firms	OGA expenses	Number of firms	OGA expenses		Number of firms	Sales /Asset	Number of firms	Sales /Asset	
Ownership Structure										
LSH	445	0.262 (0.124)	1124	0.239 (0.132)	0.691 (1.218)	467	0.476 (0.374)	1124	0.478 (0.405)	0.563 (1.808**)
GOV	891	0.234 (0.131)	678	0.261 (0.128)	0.883 (0.356)	928	0.502 (0.417)	709	0.460 (0.361)	2.329** (3.318***)
FS	247	0.3549 (0.177)	1322	0.2254 (0.127)	2.411** (5.800***)	267	0.432 (0.379)	1370	0.494 (0.400)	2.557** (1.801*)
CONCM	780	0.201 (0.124)	788	0.288 (0.135)	2.918*** (3.180***)	815	0.484 (0.411)	821	0.485 (0.382)	0.061 (1.460)
Board composition										
NONEX	844	0.257 (0.127)	725	0.233 (0.135)	0.814 (1.631)	891	0.475 (0.374)	746	0.494 (0.412)	1.003 (3.083***)
Year = 2000										
Ownership Structure										
LSH	139	0.221 (0.125)	387	0.281 (0.0140)	0.815 (0.969)	145	0.503 (0.348)	400	0.489 (0.407)	0.336 (0.928)
GOV	298	0.276 (0.140)	228	0.251 (0.131)	0.378 (0.416)	309	0.514 (0.425)	236	0.465 (0.343)	1.403 (2.563**)
FS	86	0.319 (0.173)	440	0.254 (0.132)	0.743 (3.081***)	90	0.471 (0.421)	455	0.498 (0.388)	0.575 (0.042)
CONCM	244	0.178 (0.130)	281	0.336 (0.142)	2.645*** (1.816*)	257	0.490 (0.416)	287	0.497 (0.386)	0.206 (0.430)
Board composition										
NONEX	287	0314 (0.136)	239	0.206 (0.139)	1.675* (0.041)	302	0.482 (0.365)	243	0.506 (0.422)	0.659 (2.266**)

Table 2.2 (contd)

Year = 1999

Ownership Structure	N	Type 1	Type 0	test-stat	N	Type 1	N	Type 0	test-stat
LSH	151	0.266 (0.128)	0.231 (0.133)	0.753 (0.528)	161	0.467 (0.386)	384	0.492 (0.408)	0.756 (1.167)
GOV	294	0.228 (0.133)	0.258 (0.131)	0.706 (0.592)	303	0.498 (0.408)	242	0.468 (0.391)	0.983 (1.137)
FS	81	0.374 (0.168)	0.217 (0.131)	2.740*** (3.027***)	88	0.418 (0.386)	457	0.497 (0.408)	2.390** (1.368)
CONC	263	0.228 (0130)	0.253 (0.137)	0.584 (1.181)	275	0.482 (0.408)	270	0.488 (0.403)	0.213 (0.323)
Board composition NONEX	272	0.227 (0.128)	0.256 (0.141)	0.679 (2.363**)	288	0.481 (0.401)	257	0.490 (0.405)	0.337 (0.747)

Year = 1998

Ownership Structure	N	Type 1	Type 0	test-stat	N	Type 1	N	Type 0	test-stat
LSH	155	0.295 (0.116)	0.204 (0.121)	1.310 (0.501)	161	0.461 (0.372)	386	0.479 (0.391)	0.614 (0.971)
GOV	299	0.200 (0118)	0.273 (0.120)	1.405 (0.373)	316	0.494 (0.408)	231	0.446 (0.360)	1.691* (2.021**)
FS	80	0.374 (0.193)	0.205 (0.113)	2.579** (3.911***)	89	0.406 (0.356)	458	0.487 (0.398)	2.108** (1.879*)
CONCM	273	0.195 (0.111)	0.271 (0.128)	1.593 (2.399**)	288	0.479 (0.411)	259	0.467 (0.362)	0.440 (1.472)
Board composition NONEX	285	0.229 (0.118)	0.234 (0.121)	0.120 (0.501)	301	0.464 (0.360)	246	0.485 (0.408)	0.749 (1.745*)

I compare agency costs for firms with different ownership and governance mechanisms. Agency cost is measured by OGA expenses to sales. Firms are divided into two groups. For LSH, GOV and FS, firm type (1) represents the mean (median) firms that have dummy variables that are equal to 1. For CONCM, type (1) firms are firms that have CONC measures greater than the median of the sample. For NONEX, firm type (1) represents firms that have NONEX greater than 0.5. The last columns show the test statistics for the mean (median) agency costs ratios of the different firm types, and the results of the hypotheses testing. The sample sizes differ because of missing data. The variables that are used here are defined in Table 2.1. *, **, and ***, indicate significance at the 0.1, 0.05, and 0.01 levels, respectively.

Table 2.3 Multivariate Regression Analysis Relating Ownership and Governance Structure

Proxy for Agency Costs Measure	Model 1 OGA Expenses/Sales	Model 2 OGA Expenses/Sales	Model 3 OGA Expenses/Sales	Model 4 OGA Expenses/Sales	Model 5 OGA Expenses/Sales	Model 6 OGA Expenses/Sales	Model 7 Sales/Assets
Ownership Structure							
LSH		0.022 (0.644)			0.022 (0.540)	0.022 (0.528)	0.019 (0.608)
GOV			-0.016 (-0.562)			-0.013 (-0.352)	0.014 (0.589)
FS				0.230*** (5.128)	0.240*** (5.642)	0.239*** (5.272)	-0.085** (-2.159)
CONCM	-0.040 (-1.397)				-0.047* (-1.719)	-0.052* (-1.787)	0.001 (0.036)
Board composition							
NONEX	-0.020 (-0.382)	-0.023 (-0.432)	-0.022 (0.408)	-0.023 (-0.440)		-0.045 (-0.363)	0.042 (1.183)
Control Variables							
LNPAY	-0.011 (-0.548)	-0.010 (-0.471)	-0.009 (-0.466)	-0.013 (-0.658)	-0.022 (-1.118)	-0.022 (-1.054)	0.068*** (4.739)
LEVERAGE	0.279*** (4.813)	0.284*** (4.909)	0.283*** (4.887)	0.290** (5.052)	0.276*** (4.848)	0.289*** (5.031)	-0.092*** (-3.347)
LNSIZE	-0.092*** (-4.796)	-0.097*** (-5.093)	-0.097*** (-5.057)	-0.125*** (-6.448)	-0.113*** (-6.137)	-0.117*** (-5.987)	-0.004 (-0.269)
AGE	0.017** (2.124)	0.020** (2.417)	0.019** (2.361)	0.014* (1.715)	0.011 (1.351)	0.013 (1.609)	-0.004 (0.806)
Adjusted R^2	0.525	0.524	0.524	0.521	0.465	0.346	0.823

Table 2.3 shows the coefficients from a regression that used the following model:

$$\text{Agency Costs}_{it} = \alpha_i + \beta_1 \text{LSH}_{it} + \beta_2 \text{GOV}_{it} + \beta_3 \text{FS}_{it} + \beta_4 \text{CONCM}_{it} + \beta_5 \text{NONEX}_{it} + \beta_6 \text{LNPAY}_{it} + \beta_7 \text{LEVERAGE}_{it} + \beta_8 \text{LNSIZE}_{it} + \beta_9 \text{AGE}_{it} + \varepsilon_{it}$$

t-statistics are provided in parentheses. *, **, and *** indicate significance at the 0.1, 0.05, and 0.01, levels respectively.

Table 2.4 Multivariate Regression Analysis of the Determinants of Agency Costs Using Yearly Data

YEAR	2000	1999	1998	2000	1999	1998
Proxy for Agency Costs Measure	OGA Expenses/Sales	OGA Expenses/Sales	OGA Expenses/Sales	Sales/Assets	Sales/Assets	Sales/Assets
Ownership Structure						
LSH	-0.025	0.063	0.083	0.088	-0.012	0.036
	(-0.467)	(1.015)	(1.056)	(1.516)	(-0.230)	(0.733)
GOV	0.014	0.003	0.004	0.132**	0.043	0.103**
	(0.290)	(0.045)	(0.046)	(2.520)	(0.946)	(2.329)
FS	0.122***	0.287***	0.299***	-0.092*	-0.153**	-0.129***
	(2.455)	(4.918)	(4.134)	(-1.724)	(-3.370)	(-2.891)
CONCM	-0.072**	-0.010	-0.032	-0.041	-0.010	-0.020
	(-1.986)	(-0.245)	(-0.651)	(-1.053)	(-0.317)	(-0.652)
Board composition						
NONEX	0.048	-0.078	-0.066	-0.025	-0.010	-0.046
	(0.719)	(-1.007)	(-0.692)	(0.344)	(-0.317)	(0.778)
Control Variables						
LNPAY	-0.022	-0.010	-0.019	0.097***	0.092***	0.076***
	(-0.877)	(-0.349)	(-0.513)	(3.601)	(3.977)	(3.299)
LEVERAGE	0.012	1.038***	0.232**	-0.266***	-0.077	-0.196***
	(0.149)	(6.359)	(2.537)	(-3.176)	(-1.496)	(-3.431)
LNSIZE	-0.114***	-0.134***	-0.113***	0.050**	0.027	0.039*
	(-5.001)	(-5.214)	(-3.472)	(2.057)	(1.389)	(1.962)
AGE	-0.001	-0.001	0.026*	-0.011	-0.010	-0.026**
	(-0.105)	(-0.074)	(1.672)	(-0.956)	(-1.007)	(-2.674)
Adjusted R²	0.068	0.122	0.049	0.059	0.042	0.070

Table 2.4 shows the coefficients from a regression that used the following model:

AGENCY COSTS = f(OWNERSHIP STRUCTURE, GOVERNANCE MECHANISMS, CONTROL VARIABLES).

t-statistics are provided in parentheses. *, **, and *** indicate significance at the 0.1, 0.05, and 0.01 levels respectively.

Table 3.1 Variables Definitions, Proxies and Their Predicted Relationships

Variables		Definition	Predicted Relationship
Compensation			
Executive compensation	PAY	Natural log of the cash payment	
Performance			
Return on assets	ROA	Profit /average assets	Positive
Stock return	RETURN	Annual stock return	Positive
Governance Structure			
State ownership	GOV	Equal to 1 if the state holding is the largest shareholder in the company	Negative
Ownership concentration	CONC	Sum of the squares of the shareholdings of the three largest shareholders in the company	Negative
Foreign share	FSHARE	Equal to 1 if the company also issues B shares and /or H share	Positive
Board composition	RNPBRD	Percentage of no pay directors on the board	Negative
Board size	BOARD	The number of directors on the board	Positive
Operating Characteristics			
Size of operation	SIZE	Natural log of the book asset value of the company	Positive
Equity risk	RISK	Standard deviation of monthly stock returns	Positive
Growth opportunity	MVA	Market value/ book value of assets	Positive
Long term debt ratio	DEBT	Book value of long term debt/ book value of shareholders' equity	Negative
Other Variables			
Area 1	AREA1	Equal to 1 for companies registered in Shanghai or Shenzhen	Positive
Area 2	AREA2	Equal to 1 for companies registered in the coastal provinces including Beijing and Tianjin	Positive
Area 3	AREA3	Equal to 1 for companies registered in the inland provinces (i.e. except those in Areas 1, 2 and 4)	No relation
Area 4	AREA4	Equal to 1 for companies registered in the less developed regions (including the provinces of Inner Mongolia, Ningxia, Gansu, Qinghai, Xinjiang, Tibet, Yunnan and Guizhou)	No relation
Industry 2	IND2	Equal to 1 for the utilities sector	No relation
Industry 3	IND3	Equal to 1 for the properties sector	No relation
Industry 4	IND4	Equal to 1 for the conglomerates (composites) sector	No relation
Industry 5	IND5	Equal to 1 for the industrial and manufacturing sector	No relation
Industry 6	IND6	Equal to 1 for the commercial sector	No relation

Table 3.2 Descriptive Statistic

Variables	Year	Mean	Median	Min	Max	Standard Deviation
Compensation (000s)	2000	85	60	9	1000	86.83
	1999	69	50	9	660	73.97
	1998	52	39	8	446	47.68
Firm Characteristics						
Profit (million)	2000	45	32	-934	1523	157
	1999	43	31	-956	835	124
	1998	36	32	-1044	2004	155
Sales (million)	2000	918	442	0	20467	1679
	1999	780	368	-30	14386	1363
	1998	697	327	-52	11602	1205
Assets (million)	2000	1706	1083	114	22099	2152
	1999	1534	914	123	21908	2075
	1998	1422	853	119	22209	2017
Shareholders' Funds (million)	2000	811	507	-1334	13817	1245
	1999	728	441	-1299	12958	1170
	1998	693	429	-320	12581	1072
Performance						
ROA (%)	2000	1.91	3.90	-98.23	30.13	10.77
	1999	2.83	4.07	-55.39	37.39	9.03
	1998	3.49	4.92	-40.48	37.05	8.80
Stock Return % (RETURN)	2000	74.31	63.93	-28.80	440.16	56.26
	1999	22.23	13.09	-45.07	391.29	42.96
	1998	13.49	7.35	-53.66	413.78	45.26
Governance Structure						
State Ownership (GOV)	2000	0.56	1	0	1	0.50
	1999	0.55	1	0	1	0.50
	1998	0.57	1	0	1	0.50
Ownership Concentration (CONC)	2000	0.21	0.22	0.01	0.80	0.14
	1999	0.22	0.22	0.01	0.79	0.14
	1998	0.23	0.23	0.00	0.78	0.15
Foreign Share Ownership (FSHARE)	2000	0.16	0	0	1	0.37
	1999	0.16	0	0	1	0.37
	1998	0.16	0	0	1	0.37
Board Composition (RNPBRD)	2000	0.51	0.56	0	1	0.26
	1999	0.50	0.56	0	1	0.26
	1998	0.52	0.56	0	1	0.29
Board Size (BOARD)	2000	9.46	9	5	18	2.62
	1999	9.66	9	5	19	2.73
	1998	9.73	9	5	19	2.86
Operating Characteristics						
SIZE (log of total assets)	2000	7.01	6.98	4.74	10.00	0.88
	1999	6.89	6.81	4.81	9.99	0.87
	1998	6.83	6.75	4.78	10.01	0.85
Equity Risk (RISK)	2000	0.12	0.11	0.03	0.67	0.07
	1999	0.15	0.13	0.02	0.45	0.07
	1998	0.12	0.12	0.04	2.01	0.28
MVA	2000	3.69	3.14	0	18.27	2.39
	1999	2.47	2.12	0	13.19	1.53
	1998	2.62	1.95	0	24.21	4.87
Long term debt/equity ratio (DEBT)	2000	0.11	0.03	-2.59	2.01	0.29
	1999	0.07	0.01	-2.81	6.32	0.39
	1998	0.13	0.04	-0.25	3.78	0.27

Table 3.3

Regression of Compensation on Performance, Governance Structure, Operating Characteristics and Control Variables

Panel A: Performance is measured by ROA						
Variables	**Predicted Sign**	**1**	**2**	**3**	**4**	**5**
Performance						
ROA	+	0.009***	0.011***	0.006*	0.009***	0.003
		(4.555)	(5.810)	(1.926)	(5.056)	(0.947)
Governance Structure						
GOV	-		-0.176***	-0.196***	-0.172***	-0.199***
			(-4.602)	(-4.888)	(-5.100)	(-5.641)
CONC	-		-0.734***	-0.679***	-0.827***	-0.767***
			(-5.658)	(-5.009)	(-7.100)	(-6.190)
FSHARE	+		0.573***	0.560***	0.167***	0.150***
			(11.376)	(10.951)	(3.354)	(2.999)
RNPBRD	-		0.057	0.053	-0.135**	-0.139**
			(0.786)	(0.722)	(-2.001)	(2.067)
BOARD	+		-0.024***	-0.024***	-0.030***	-0.031***
			(3.456)	(-3.508)	(-4.950)	(-5.020)
ROA*GOV	+			0.006		0.008**
				(1.522)		(2.411)
ROA*CONCM	+			-0.002		-0.003
				(-0.435)		(-0.912)
ROA*FSHARE	+			0.016***		0.016***
				(2.872)		(3.175)
Operating Characteristics						
SIZE	+				0.263***	0.264***
					(11.467)	(11.522)
RISK	+				-0.057	-0.015
					(-0.198)	(-0.052)
MVA	+				0.012**	0.013**
					(2.335)	(2.552)
DEBT	-				-0.131**	-0.146***
					(-2.382)	(-2.636)
Other Variables						
AREA1	+				0.579***	0.578***
					(8.950)	(8.953)
AREA2	+				0.250***	0.249***
					(4.219)	(4.217)
AREA3	?				-0.072	-0.082
					(-1.201)	(1.370)
IND	?				√	√
Adjusted R^2		0.013	0.118	0.122	0.334	0.339

Table 3.3 (contd)

Panel B: Performance is measured by RETURN

Performance						
RETURN	+	0.090***	0.078**	0.113**	0.122***	0.155***
		(2.578)	(2.277)	(2.141)	(3.810)	(3.287)
Governance Structure						
GOV	-		-0.188**	-0.197***	-0.183***	-0.193***
			(-4.860)	(-4.255)	(-5.412)	(-4.790)
CONC	-		-0.662***	-0.540***	-0.799***	-0.678***
			(-5.061)	(-3.745)	(-6.699)	(-5.177)
FSHARE	+		0.546***	0.538***	0.136**	0.131**
			(10.790)	(9.007)	(2.762)	(2.322)
RNPBRD	-		0.041	0.047	-0.144**	-0.139**
			(0.558)	(0.639)	(-2.130)	(-2.054)
BOARD	+		-0.078**	-0.024***	-0.032***	-0.032***
			(-2.277)	(-3.563)	(-5.188)	(5.208)
RETURN*GOV	+			0.032		0.036
				(0.460)		(0.600)
RETURN*CONCM	+			-0.130**		-0.126**
				(-2.007)		(-2.243)
RETURN*FSHARE	+			0.038		0.032
				(0.369)		(0.366)
Operating Characteristics						
SIZE	+				0.282***	0.280***
					(12.464)	(12.372)
RISK	+				-0.393	-0.403
					(-1.279)	(-1.312)
MVA	+				0.010*	0.001*
					(1.899)	(1.868)
DEBT	-				-0.148***	-0.147***
					(-2.671)	(-2.650)
Other Variables						
AREA1	+				0.563***	0.567***
					(8.679)	(8.741)
AREA2	+				0.238***	0.244
					(4.003)	(4.091)
AREA3	?				-0.079	-0.076
					(-1.312)	(1.265)
IND	?				√	√
Adjusted R^2		0.004	0.101	0.102	0.329	0.330

Table 3.3 shows the coefficients from a regression using the following model:

$PAY = \alpha + \beta_1 PERFORMANCE + \beta_2 GOVERNANCE\ STRUCTURE + \beta_3 OPERATING\ CHARACTERISTICS + \beta_4 OTHER\ FACTORS + \varepsilon.$

PAY = the natural log of cash payment; ROA = return on assets; RETURN = annual stock return; GOV = a dummy variable if the state is the largest shareholder in the company; CONC = the sum of squares of proportionate shareholdings of the three largest shareholders; FSH = a dummy variable if the company issues B shares and/or H shares to foreign shareholders; RNPBRD = the proportion of no pay directors to total number of director on the board; BOARD = the number of directors on the board; SIZE = the natural log of book asset value; RISK = the standard deviation of the monthly stock return; MVA = the ratio of market value to book value of assets; DEBT = book value of the long term debt to book value of the shareholders' equity; AREA1 = a dummy variable if companies registered in Shanghai or Shenzhen; AREA2 = a dummy if companies registered in the coastal provinces including Beijing and Tianjin; AREA3 = a dummy variable if companies registered in the inland provinces (i.e. except those in Areas 1, 2 and 4); AREA4 = a dummy variable if companies registered in the less developed regions (including the provinces of Inner Mongolia, Ningxia, Gansu, Qinghai, Xinjiang, Tibet, Yunnan and Guizhou).

I do not show the intercept in the Table. √ indicates industry controls (IND) have been included.

t-statistics are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 levels, respectively.

TABLE 3.4
Regression of Compensation on Lagged Explanatory Variables

Panel A: Performance is measured by ROA t-1						
Variables	Predicted Sign	1	2	3	4	5
Performance						
ROA_{t-1}	+	0.007***	0.014***	0.015***	0.009***	0.003
		(3.328)	(5.943)	(5.805)	(3.947)	(0.907)
Governance Structure						
GOV_{t-1}	-		-0.145***	-0.148	-0.108**	-0.136***
			(-3.119)	(-3.019)	(-2.593)	(-3.062)
$CONC_{t-1}$	-		0.682***	0.683***	-0.817***	-0.753***
			(4.391)	(4.258)	(-5.632)	(-4.934)
$FSHARE_{t-1}$	+		0.582***	0.613***	0.152**	0.141**
			(9.545)	(9.657)	(2.457)	(2.263)
$RNPBRD_{t-1}$	-		0.179**	0.184**	0.032	0.026
			(2.104)	(2.519)	(0.422)	(0.332)
$BOARD_{t-1}$	+		-0.028***	-0.028***	-0.037***	-0.038***
			(-3.544)	(-3.539)	(-5.127)	(5.207)
$ROA_{t-1}*GOV_{t-1}$	+			0.028		0.008*
				(0.333)		(1.823)
$ROA_{t-1}*CONCM_{t-1}$	+			0.028		-0.001
				(0.243)		(-0.255)
$ROA_{t-1}*FSHARE_{t-1}$	+			0.346*		0.015**
				(1.767)		(2.295)
Operating Characteristics						
SIZE	+				0.317***	0.322***
					(10.034)	(10.193)
RISK	+				-0.322	-0.237
					(-0.987)	(-0.726)
MVA	+				0.045***	0.047***
					(3.911)	(4.098)
DEBT	-				-0.116*	-0.106
					(-1.755)	(-1.604)
Other variables						
AREA1	+				0.532***	0.527***
					(6.741)	(6.681)
AREA2	+				0.267***	0.262***
					(3.679)	(3.622)
AREA3	?				-0.022	-0.035
					(-0.303)	(-0.473)
IND	?				√	√
Adjusted R^2		0.006	0.129	0.129	0.328	0.332

Panel B: Performance is measured by RETURN_{t-1}

	Sign	(1)	(2)	(3)	(4)	(5)
Performance						
RETURN_{t-1}	+	0.007 (0.133)	0.015 (0.301)	0.036 (0.463)	0.000 (0.001)	0.049 (0.690)
Governance Structure						
GOV_{t-1}	-		-0.162*** (-3.417)	-0.178*** (-3.570)	-0.118*** (-2.826)	-0.142*** (-3.168)
CONC_{t-1}	-		-0.615*** (-3.904)	-0.632*** (-3.850)	-0.809*** (-5.607)	-0.798*** (-5.256)
FSHARE_{t-1}	+		0.532*** (8.634)	0.566*** (8.803)	0.098 (1.609)	0.129** (2.036)
RNPBRD_{t-1}	-		0.166* (1.917)	0.173* (1.999)	0.039 (0.501)	0.048 (0.609)
BOARD_{t-1}	+		-0.031*** (-3.770)	-0.031*** (-3.781)	-0.041*** (-5.607)	-0.041*** (-5.604)
RETURN_{t-1}*GOV_{t-1}	+			0.108 (1.069)		0.144 (1.625)
RETURN_{t-1}*CONCM_{t-1}	+			-0.058 (-0.596)		0.005 (0.053)
RETURN_{t-1}*FSHARE_{t-1}	+			0.376* (1.886)		0.330* (1.897)
Operating Characteristics						
SIZE	+				0.357*** (11.824)	0.357*** (11.816)
RISK	+				-0.342 (-1.040)	-0.344 (-1.043)
MVA	+				0.052*** (4.396)	0.053*** (4.436)
DEBT	-				-0.120* (-1.789)	-0.122* (-1.830)
Other variables						
AREA1	+				0.500*** (6.301)	0.500*** (6.309)
AREA2	+				0.247*** (3.387)	0.248*** (3.400)
AREA3	?				-0.035 (-0.478)	-0.036 (-0.490)
IND	?				√	√
Adjusted R^2		0.000	0.099	0.101	0.317	0.319

Table 3.4 shows the coefficients from a regression using the following model:

$$PAY_t = \alpha + \beta_1 PERFORMANCE_{t-1} + \beta_2 GOVERNANCE\ STRUCTURE_{t-1} + \beta_3 OPERATING$$
$$CHARACTERISTICS_t + \beta_4 OTHER\ FACTORS_t + \varepsilon$$

PAY = the natural log of cash payment; ROA = return on assets; RETURN = annual stock return; GOV = a dummy variable if the state is the largest shareholder in the company; CONC = the sum of squares of proportionate shareholdings of the three largest shareholders; FSH = a dummy variable if the company issues B shares and/or H shares to foreign shareholders; RNPBRD = the proportion of no pay directors to total number of director on the board; BOARD = the number of directors on the board; SIZE = the natural log of book asset value; RISK = the standard deviation of the monthly stock return; MVA = the ratio of market value to book value of assets; DEBT = book value of the long term debt to book value of the shareholders' equity; AREA1 = a dummy variable if companies registered in Shanghai or Shenzhen; AREA2 = a dummy if companies registered in the coastal provinces including Beijing and Tianjin; AREA3 = a dummy variable if companies registered in the inland provinces (i.e. except those in Areas 1, 2 and 4); AREA4 = a dummy variable if companies registered in the less developed regions (including the provinces of Inner Mongolia, Ningxia, Gansu, Qinghai, Xinjiang, Tibet, Yunnan and Guizhou).

I do not show the intercept in the Table. √ indicates industry controls (IND) have been included.
t-statistics are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 3.5
Sensitivity of Pay for Performance, Governance Structure and Operating Characteristics

Variables	Sign	1	2	3	4
Performance					
ΔROA	+	0.003*	0.003*	0.002	0.002
		(1.768)	(1.646)	(1.181)	(1.062)
Governance Structure					
ΔHSF	-		-0.335		-0.186
			(-1.035)		(-0.578)
ΔGOV_NGOV	+		0.220***		0.213***
			(3.407)		(3.324)
ΔNGOV_GOV	-		-0.026		-0.059
			(-0.372)		(-0.852)
Operating Characteristics					
ΔSIZE	+			0.240***	0.240***
				(5.018)	(4.981)
ΔMVA	+			0.002	0.002
				(0.535)	(0.519)
ΔDEBT	-			-0.047	-0.050
				(-1.287)	(-1.387)
Adjusted R^2		0.002	0.012	0.024	0.033

Table 3.5 shows the coefficients from a regression using the following model:

ΔPAY = α + β₁ Δ(PERFORMANCE) + β₂ Δ(GOVERNANCE STRUCTURE) + β₃ Δ(OPERATING CHARACTERISITCS) + ε.

ΔPAY the difference between PAY from year t-1 to year t;

ΔROA the difference in ROA from year t-1 to year t;

ΔHSF the difference in HSF from year t-1 to year t;

ΔGOV_NGOV equals to 1 if there is a change from GOV to non GOV status from year t-1 to year t, zero otherwise; ΔNGOV_GOV equals to 1 if there is a change from non GOV to GOV status from year t-1 to year t, zero otherwise;

ΔSIZE the difference of the natural log of assets from year t-1 to year t;

ΔMVA the difference in the MVA from year t-1 to year t; and

ΔDEBT the difference in the DEBT from year t-1 to year t.

t-statistics are provided in parentheses. *, **, and *** denote significance at 0.10, 0.05, and 0.01 levels, respectively.

Table 4.1 Variable Definitions and Descriptive Statistics

Variables		Definition	Mean	Median	Maximum	Minimum	Standard deviation
Performance Variables							
Return on Assets	ROA	Percentage return on assets adjusted by the median return of the industrial sector.	-1.26	0.00	31.69	-61.09	8.74
Stock Return	RET	Annual return on stock adjusted by the median return of the industrial sector	0.10	0.01	4.13	-0.60	0.44
Return on Sales	ROS	Percentage annual return on sales adjusted by the median return of the industrial sector	-4.62	0.00	866.88	-688.67	74.47
Sales Growth	GRO	Sales growth adjusted by the median growth of the industrial sector. Sales growth = $Ln (SALE_{t-1}) - Ln (SALE_{t-2})$	-0.02	0.00	5.24	-6.06	0.58
Negative Income	LOSS	Equal to 1 if the operating profit is negative	0.25	0.00	1.00	0.00	0.43
Ownership Structure							
State ownership	GOV	Equal to 1 if the state holding is greater than or equal to any other shareholding	0.55	1.00	1.00	0.00	0.50
Legal Entity Shareholding	LEGAL	Equal to 1 if the legal person shareholding is greater the median legal person shareholding of the specific year	0.50	1.00	1.00	0.00	0.50
Foreign Shareholding	FOR	Equal to 1 if the company has also issued B shares and /or H shares	0.16	0.00	1.00	0.00	0.37
Board Control							
Board composition	NOPAY	Equal to 1 if the percentage of no pay directors on the board is more than 50%	0.54	1.00	1.00	0.00	0.50
Control Factors							
Chairman Characteristics							
Chairman age	AGE	Age of the chairman	50.37	51.00	73.00	28.00	7.44
Duality	DUAL	Equal to 1 if the chairman also serves as the CEO (or the general manager)	0.27	0.00	1.00	0.00	0.44
Paid chairman	PCHM	Equal to 1 if the chairman receives pay from the company	0.55	1.00	1.00	0.00	0.50
Firm Characteristics							
Total assets	SIZE	book asset value of the company (in RMB million)	1553	952	22209	114	2085

Table 4.2

Summary Statistics of Changes in Chairman

The sample consists of 549 firms, which are listed on the Shanghai and Shenzhen Exchanges in April 1998. I trace the tenure and the change of the board chairman from the annual reports for the years 1998, 1999, and 2000. Under the normal situation, the chairman will serve to the end of her/his tenure. The chairman will either be re-elected or replaced (i.e. a change in the chairmanship). I classify these changes as NORMAL. I classify a change in the chairmanship before the end of the chairman's tenure as FORCED. I have a total of 387 observations for normal turnover. In the forced sample, there are 139 forced changes and a control sample of 572 firms where there is no change in the chairmanship within the tenure period.

Year	1999	Percentage of full sample	2000	Percentage of full sample
Panel A: Normal				
No change in chairman, chairman re-elected at the expiry of tenure.	109 (54.5%)	19.5%	125 (66.8%)	22.8%
Change in chairman, a new chairman being elected at the expiry of tenure.	91 (45.5%)	16.6%	62 (33.2%)	11.3%
Total Observations	200 (100%)	36.4%	187 (100%)	34.1%
Panel B: Forced				
Change in chairman before the expiry of tenure.	60 (17.2%)	10.9%	79 (21.8%)	14.4%
No change in the chairmanship during the year.	289 (82.8%)	52.6%	283 (78.2%)	51.5%
Total Observations	349 (100%)	63.6%	362 (100%)	65.9%
Sample size	549		549	

Table 4.3

Turnover Rates at Different Levels of Performance

This table compares the chairman turnover rates. Under the normal situation, the chairman will serve to the end of her/his tenure. The chairman will either be re-elected or replaced (i.e. a change in the chairmanship). I classify these changes as NORMAL. I classify a change in the chairmanship before the end of the chairman's tenure as FORCED. Panel A analyses the normal cases and Panel B the forced cases. I divide the sample firms into 3 categories using the various performance indicators: top quartile being the good performers, bottom quartile the poor performing group and two middle quartiles the average performers.

	Performance Variables				
	ROA	RET	GRO	ROS	LOSS (a)
Panel A: Normal					
Bottom quartile	0.4835	0.3846	0.5300	0.4947	0.5294
Middle (second and third quartiles)	0.4021	0.4067	0.3367	0.3560	
Top quartile	0.3039	0.3793	0.3750	0.3762	0.3576
Sample size	387	387	387	387	387
t-statistic (*z*-statistic)	2.586**	0.072	2.143**	1.676*	
	(2.549**)	(0.073)	(2.123**)	(1.669*)	
F value	3.312**	0124	5.408***	2.674*	8.323***
Panel B: Forced					
Bottom quartile	0.3039	0.1768	0.2384	0.3107	0.2984
Middle (second and third quartiles)	0.1639	0.2174	0.1915	0.1570	
Top quartile	0.1471	0.1730	0.1630	0.1579	0.1577
Sample size	711	711	711	711	711
t-statistic (*z*-statistic)	3.552***	0.096	1.780*	3.405***	
	(3.495***)	(0.096)	(1.775*)	(3.354***)	
F value	9.372***	1.024	1.639	10.192***	17.987***

t-statistic (*z*-statistic) for equality between the top and bottom quartile; *F* value - ANOVA test for equality between groups.

*, **, and *** denote significance at 0.10, 0.05, and 0.01 levels respectively.

Note (a): this column compares the turnover rates for firms with positive and negative operating income.

Table 4.4 Relationship between Turnover Rates, Ownership and Corporate Governance Structure at Different Levels of Performance

This table compares the turnover rates of the chairman. Panels A(1), B(1), C(1), and D(1) analyze the normal cases and Panels A(2), B(2), C(2), and D(2) the forced cases. Sample sizes differ because of missing variables.

	GOV (1)	GOV (0)	t-statistics (z-statistics)	FOR (1)	FOR (0)	t-statistics (z-statistics)
Ownership Variable						
Normal	*Panel A(1)*			*Panel B(1)*		
Bottom quartile						
ROA	0.3860	0.6471	2.464** (2.396**)	0.5000	0.4769	0.197 (0.198)
GRO	0.5000	0.5682	0.673 (0.675)	0.5294	0.5301	0.005 (0.005)
ROS	0.4068	0.6039	2.229** (2.184**)	0.5545	0.4795	0.538 (0.540)
LOSS	0.4490	0.6389	1.744* (1.723*)	0.4762	0.5469	0.557 (0.560)
Middle (second and third) quartiles						
ROA	0.3793	0.4359	0.782 (0.786)	0.2308	0.4286	2.137** (1.909*)
GRO	0.3040	0.3919	1.267 (1.265)	0.2500	0.3533	1.131 (1.130)
ROS	0.3274	0.3974	0.990 (0.991)	0.1724	0.3889	2.260** (2.236**)
Top quartile						
ROA	0.2500	0.3600	1.204 (1.202)	0.3333	0.3021	0.160 (0.872)
GRO	0.2955	0.4545	1.545 (1.533)	0.4444	0.3671	0.450 (0.452)
ROS	0.3396	0.4167	0.793 (0.794)	0.5714	0.3617	1.101 (1.100)
LOSS	0.3239	0.4048	1.447 (1.444)	0.2973	0.3660	0.815 (0.816)
Total	0.3511	0.4568	2.104** (2.095**)	0.3621	0.4012	0.561 (0.561)
Sample size	225	162		58	329	
Forced	*Panel A(2)*			*Panel B(2)*		
Bottom quartile						
ROA	0.2981	0.3117	0.196 (0.196)	0.2037	0.3465	2.048** (1.905*)
GRO	0.2022	0.2771	1.149 (1.148)	0.1471	0.2609	1.577 (1.391)
ROS	0.2959	0.3291	0.472 (0.473)	0.2075	0.3548	1.949* (1.934*)
LOSS	0.2647	0.3371	1.088 (1.088)	0.2292	0.3217	1.210 (1.209)
Middle (second and third) quartiles						
ROA	0.0837	0.2675	4.806*** (4.655***)	0.1053	0.1749	1.499 (1.302)
GRO	0.1566	0.2357	1.885* (1.878*)	0.1667	0.1979	0.600 (0.600)
ROS	0.1090	0.2237	2.856*** (2.959***)	0.1091	0.1656	1.191 (1.059)
Top quartile						
ROA	0.1600	0.1368	0.421 (0.422)	0.1429	0.1472	0.032 (0.032)
GRO	0.1158	0.2135	1.799* (1.788*)	0.0833	0.1686	0.770 (0.771)
ROS	0.1096	0.1939	1.548 (1.491)	0.0100	0.1615	0.515 (0.516)
LOSS	0.1179	0.2042	2.706*** (2.690***)	0.1000	0.1667	1.660 (1.422)
Total	0.1571	0.2401	2.799*** (2.782***)	0.1525	0.2040	1.288 (1.287)
Sample size	382	329		118	593	

Table 4.4 cont'd

	LEGAL (1)	LEGAL (0)	*t*-statistics (*z*-statistics)	NONEX (1)	NONEX (0)	*t*-statistics (*z*-statistics)
			Governance Variable			
Normal	**Panel C (1)**			**Panel D (1)**		
Bottom quartile						
ROA	0.5682	0.4043	1.568 (1.555)	0.5962	0.3333	2.543** (2.469**)
GRO	0.5294	0.5306	0.012 (0.012)	0.5781	0.4444	1.283 (1.279)
ROS	0.5625	0.4255	1.333 (1.328)	0.5536	0.4103	1.374 (1.367)
LOSS	0.6087	0.4474	1.477 (1.467)	0.6415	0.3838	2.751*** (2.649***)
Middle (second and third) quartiles						
ROA	0.4362	0.3737	0.881 (0.881)	0.4273	0.3690	0.819 (0.817)
GRO	0.3895	0.2913	1.460 (1.455)	0.3830	0.2952	1.307 (1.304)
ROS	0.4000	0.3200	1.146 (1.146)	0.3824	0.3258	0.811 (0.812)
Top quartile						
ROA	0.3585	0.2449	1.243 (1.240)	0.4130	0.2143	2.202** (2.161**)
GRO	0.4667	0.2791	1.831* (1.807*)	0.4800	0.2368	2.382*** (2.321**)
ROS	0.4151	0.3333	0.842 (0.843)	0.5400	0.2157	3.524*** (3.324***)
LOSS	0.3931	0.3248	1.236 (1.234)	0.4065	0.3051	1.822** (1.815*)
Total	0.4450	0.3487	1.938* (1.932*)	0.4463	0.3128	3.110*** (3.075***)
Sample size	191	195		208	179	
Forced	**Panel C (2)**			**Panel D (2)**		
Bottom quartile						
ROA	0.2857	0.3222	0.531 (0.532)	0.3118	0.2955	0.238 (0.239)
GRO	0.2500	0.2250	0.382 (0.383)	0.2315	0.2500	0.274 (0.275)
ROS	0.3111	0.3103	0.011 (0.011)	0.3043	0.3176	0.190 (0.190)
LOSS	0.2941	0.3068	0.190 (0.190)	0.3178	0.2738	0.656 (0.659)
Middle (second and third) quartiles						
ROA	0.2281	0.1064	3.141*** (3.103***)	0.1961	0.1218	1.940* (1.884*)
GRO	0.4170	0.3712	1.391 (1.389)	0.2370	0.1484	2.129** (2.118**)
ROS	0.1813	0.1361	1.177 (1.176)	0.2030	0.1024	2.643*** (2.622**)
Top quartile						
ROA	0.1354	0.1622	0.486 (0.487)	0.2174	0.0641	2.863*** (2.804***)
GRO	0.1789	0.1461	0.601 (0.602)	0.2130	0.0921	2.202** (2.179**)
ROS	0.1959	0.1081	1.561 (1.555)	0.2100	0.0845	2.237** (2.211**)
LOSS	0.1875	0.1288	1.839* (1.835*)	0.1950	0.1134	2.554** (2.541**)
Total	0.2179	0.1733	1.497 (1.496)	0.2288	0.1553	2.467** (2.459**)
Sample size	358	352		389	322	

*, **, and *** denote significance at 0.10, 0.05, and 0.01 levels respectively.

Table 4.5

Estimate of LOGIT Models Relating the Probability of Turnover to Performance, Board Control, Ownership Structure, Chairman Characteristics, and Firm Characteristics

This table shows the LOGIT analysis using the equation: *Probability (board chairman turnover)* = *f* *{PERFORMANCE, BOARD CONTROL, OWNERSHIP STRUCTURE, CHAIRMAN CHARACTERISTICS, and FIRM CHARACTERISTICS}*. Under the normal situation, the chairman will serve to the end of her/his tenure. The chairman will either be re-elected or replaced (i.e. a change in the chairmanship). I classify these changes as NORMAL. I classify a change in the chairmanship before the end of the chairman's tenure as FORCED. Panel A analyses the normal cases and Panel B the forced cases. Sample sizes differ because of missing variables.

Panel A: Normal	1	2	3	4
PERFORMANCE = ROA				
Intercept	-0.159 (0.894)	-0.022 (0.986)	-0.201 (0.986)	-0.356 (0.800)
ROA	-0.033 (0.066)	-0.085 (0.010)	-0.037 (0.050)	-0.089 (0.008)
Board Control				
NOPAY		0.566 (0.037)		0.514 (0.064)
NOPAY*ROA		0.081 (0.042)		0.082 (0.042)
Ownership Structure				
GOV			-0.307 (0.382)	-0.237 (0.505)
LEGAL			0.128 (0.718)	0.136 (0.706)
FOR			-0.061 (0.876)	-0.113 (0.777)
Control Variables				
Chairman Characteristics				
AGE	0.039 (0.029)	0.038 (0.035)	0.041 (0.024)	0.039 (0.031)
DUAL	-0.957 (0.003)	-0.970 (0.003)	-0.873 (0.007)	-0.919 (0.006)
PCHM	0.241 (0.354)	0.448 (0.109)	0.273 (0.298)	0.469 (0.095)
Firm Characteristics				
LOGSIZE	-0.365 (0.016)	-0.397 (0.010)	-0.319 (0.051)	-0.346 (0.039)
Nagelkerle R^2	0.103	0.136	0.114	0.143

Panel B: Forced				
Intercept	0.623 (0.551)	0.303 (0.778)	0.792 (0.490)	0.494 (0.673)
ROA	-0.021 (0.051)	-0.051 (0.003)	-0.024 (0.032)	-0.056 (0.002)
Board Control				
NOPAY		0.468 (0.064)		0.500 (0.053)
NOPAY* ROA		0.050 (0.026)		0.053 (0.018)
Ownership Structure				
GOV			-0.472 (0.156)	-0.556 (0.097)
LEGAL			-0.309 (0.678)	-0.401 (0.236)
FOR			-0.141 (0.355)	-0.192 (0.577)
Control Variables				
Chairman Characteristics				
AGE	0.008 (0.547)	0.009 (0.518)	0.009 (0.532)	0.009 (0.514)
DUAL	-0.296 (0.293)	-0.311 (0.278)	-0.302 (0.284)	-0.319 (0.267)
PCHM	-0.234 (0.323)	-0.044 (0.867)	-0.187 (0.440)	0.018 (0.946)
Firm Characteristics				
LOGSIZE	-0.341 (0.010)	-0.355 (0.007)	-0.311 (0.027)	-0.316 (0.026)
Nagelkerle R^2	0.049	0.065	0.052	0.073

p-values are reported in parentheses.

Table 4.6

Estimates Of LOGIT Models Relating the Probability of Board Chairman Turnover to Performance (LOSS), Board Control, Ownership Structure, Chairman Characteristics, and Firm Characteristics

This table shows the LOGIT analysis using the equation: *Probability (board chairman turnover) = f {PERFORMANCE, BOARD CONTROL, OWNERSHIP STRUCTURE, CHAIRMAN CHARACTERISTICS, and FIRM CHARACTERISTICS}*. Under the normal situation, the chairman will serve to the end of her/his tenure. The chairman will either be re-elected or replaced (i.e. a change in the chairmanship). I classify these changes as NORMAL. I classify a change in the chairmanship before the end of the chairman's tenure as FORCED. Panel A analyses the normal cases and Panel B the forced cases. Sample sizes differ because of missing variables.

Panel A: Normal	1	2	3	4
PERFORMANCE = LOSS				
Intercept	-0.036 (0.976)	-0.580 0.637)	-0.199 (0.881)	0.676 (0.621)
LOSS	0.519 (0.079)	0.466 (0.135)	0.582 (0.057)	0.254 (0.596)
Board Control				
NOPAY		0.494 (0.089)		0.387 (0.204)
NOPAY*LOSS		0.149 (0.698)		0.558 (0.361)
Ownership Structure				
GOV			-0.300 (0.390)	-0.310 (0.379)
LEGAL			0.105 (0.766)	0.009 (0.979)
FOR			-0.061 (0.874)	-0.148 (0.704)
Control Variables				
Chairman Characteristics				
AGE	0.040 (0.026)	0.041 (0.022)	0.040 (0.025)	0.043 (0.018)
DUAL	-0.992 (0.002)	-0.969 (0.003)	-0.953 (0.003)	-0.945 (0.004)
PCHM	0.218 (0.398)	0.390 (0.162)	0.243 (0.351)	0.402 (0.147)
Firm Characteristics				
LOGSIZE	-0.355 (0.019)	-0.340 (0.028)	-0.324 (0.046)	-0.311 (0.058)
Nagelkerle R^2	0.103	0.120	0.116	0.133
Panel B: Forced				
Intercept	-0.181 (0.867)	-0.535 (0.629)	-0.244 (0.839)	-0.600 (0.623)
LOSS	0.912 (0.000)	0.907 (0.000)	1.013 (0.000)	1.405 (0.000)
Board Control				
NOPAY		0.324 (0.219)		0.619 (0.046)
NOPAY* LOSS		0.034 (0.919)		-0.665 (0.156)
Ownership Structure				
GOV			-0.464 (0.158)	-0.487 (0.137)
LEGAL			-0.293 (0.375)	-0.348 (0.296)
FOR			-0.359 (0.303)	-0.387 (0.269)
Control Variables				
Chairman Characteristics				
AGE	0.013 (0.365)	0.013 (0.373)	0.015 (0.315)	0.013 (0.363)
DUAL	-0.321 (0.258)	-0.333 (0.245)	-0.339 (0.235)	-0.342 (0.235)
PCHM	-0.248 (0.298)	-0.109 (0.675)	-0.212 (0.385)	-0.029 (0.915)
Firm Characteristics				
LOGSIZE	-0.290 (0.028)	-0.276 (0.037)	0.233 (0.099)	-0.233 (0.100)
Nagelkerle R^2	0.075	0.080	0.085	0.096

p-values are reported in parentheses.

Table 4.7

Performances Surrounding Firms with Change in Chairman

This table relates to firms that changed their chairman in 1999. I divide the firms into two samples. 91 firms replaced their chairman in the normal sample and 60 firms in the forced sample. This table shows the performance variables for the years preceding (1997) and following the change (2000) of the board chairman.

Performance Variables	Normal			Forced		
	Performance 1997 Mean (median)	Performance 2000 Mean (median)	t- statistics (z statistics)	Performance 1997 Mean (median)	Performance 2000 Mean (median)	t-statistics (z statistics)
ROA	0.9213 (0.1404)	-2.6332 (-0.1112)	2.397** (1.656*)	-1.1675 (-0.8163)	-7.658 (-2.9484)	2.811*** (2.496**)
RET	0.0111 (-0.0735)	0.1523 (-0.0117)	1.717* (1.426)	0.1587 (0.0025)	0.0751 (-0.0327)	0.805 (0.449)
GRO	-0.028 (-0.0582)	0.1144 (0.0602)	2.139** (1.841*)	-0.1786 (-0.0887)	-0.2100 (-0.1226)	0.250 (0.633)
ROS	7.0169 (2.116)	-4.2748 (0.4790)	1.452 (0.907)	-31.02 (-2.3969)	-36.60 (-4.3502)	0.302 (1.701*)
LOSS	0.12 (0.00)	0.31 (0.00)	3.464*** (3.272***)	0.23 (0.00)	0.47 (0.00)	3.049*** (2.858***)
Sample size	91			60		

Table 4.8

Comparison of Changes in Performances Surrounding Chairman Changes

I use a sample of firms for which I observe a change in the chairman in 1999. I divide the firms into two samples. In the normal turnover sample, there are 200 companies and 349 firms in the forced sample. There are 91 firms that replace the chairman in the normal sample and 60 firms in the forced sample. This table describes changes in performance variables in the years preceding and following the change of the board chairman by comparing the mean (median) changes in performance over the period 1997 to 2000.

Normal	Changes in chairman	No changes in chairman	t statistics (z statistics)
	Changes in performance 1997-2000 Mean (median)	Changes in performance 1997-2000 Mean (median)	
	Panel A	*Panel B*	
ROA	-3.5545 (-0.7113)	-2.2859 (-1.4291)	0.756 (0.478)
RET	0.1411 (0.0614)	-0.0633 (0.0102)	1.867* (1.183)
GRO	0.1421 (0.0897)	-0.1346 (-0.0345)	2.543*** (2.374***)
ROS	-11.2916 (-0.1031)	-8.4553 (0.7797)	0.283 (0.262)
LOSS	0.1868 (0.00)	0.0551 (0.00)	1.980** (2.021**)
Sample size	91	109	

Forced	*Panel C*	*Panel D*	
ROA	-6.4907 (-2.1859)	-0.4929 (-0.5499)	3.454*** (2.038**)
RET	-0.0833 (0.0098)	-0.0114 (-0.0218)	0.610 (0.162)
GRO	-0.0315 (-0.0310)	-0.0100 (-0.0204)	0.174 (0.427)
ROS	-5.5756 (-2.7262)	-0.3580 (0.4706)	0.460 (2.502**)
LOSS	0.2333 (0.00)	0.0449 (0.00)	2.509*** (2.546**)
Sample size	60	289	

*, **, and *** denote significance at 0.10, 0.05, and 0.01 levels respectively.

Table 5.1 Variable Definitions and Summary Statistics

Variables		Definition	Mean	Median	Minimum	Maximum	Standard Deviation
Performance Variables							
Return on Assets	ROA	Return on assets adjusted by the median return of the industrial sector.	-0.014	0.000	-0.967	0.317	0.091
Institutional Ownership							
Legal person shareholdings	LSHARE	Proportion of legal person shares	0.31	0.26	0.00	0.91	0.25
Ownership Concentration	HSF	Sum of the squares of the proportionate shareholdings of the three largest shareholders in the company	0.22	0.18	0.001	0.785	0.144
Board Control							
Board composition	NONEX	Percentage of unpaid directors on the board	0.51	0.56	0	1	0.27
Incentive Structure							
Compensation	PAY	The highest pay to a board member as the compensation and PAY is the natural log of the cash compensation.	3.92	3.91	2.08	6.91	0.76
Capital Structure							
Long term debt ratio	DERATIO	Book value of long term debt/ book value of shareholders' equity	0.11	0.03	0.00	6.32	0.26
Market Control							
Government controlled firm	GOV	1 when the state holding is greater or equal to the next major shareholding, zero otherwise.	0.56	1	0	1	0.49
Instrumental variables							
Foreign shareholding	FS	1 when the company also issues B shares and/or H shares, zero otherwise.	0.16	0	0	1	0.25
Firm size	SIZE	Natural log of the book asset value (in RMB million) of the company	6.91	6.86	4.74	10.01	0.87
Firm risk	RISK	Standard deviation of monthly returns on the firm's stock estimated from the monthly returns for the year	0.13	0.12	0.02	0.67	0.05
Firm age	AGE	Number of years since listing	4.43	4	0	10	1.84
Average ROA	AVROA	Average ROA for 1998, 1999, and 2000	-0.014	-0.001	-0.458	0.268	0.074
Location	AREA	Places of registration. 1 for firms registered in developed areas, open cities, and coastal provinces, zero otherwise.	0.62	1	0	1	0.48
Board size	BOARD	The number of directors on the board	9.61	9.00	5.00	19.00	2.72
Duality	DUAL	1 when the chairman also serves as the CEO (or the general manager), zero otherwise.	0.23	0	0	1	0.42
Paid chairman	PCHM	1 when the chairman receives pay from the firm, zero otherwise.	0.55	1	0	1	0.49

Table 5.2
Results of Two-Stage Least Square Regressions of Control Mechanisms

Variables	LSHARE (Legal person share)	HSF (Ownership concentration)	NONEX (Board composition)	PAY (Compensation)	DERATIO (Long term debt ratio)	GOV (Government controlled)
Endogenous Variables						
LSHARE (Legal person share)		0.193 (0.708)	2.154 (1.468)	-6.545*** (-3.539)	10.757 (0.094)	-1.344*** (-7.242)
HSF (Ownership concentration)	-0.386 (-0.793)		-1.553** (-2.194)	0.443 (0.434)	1.684 (0.100)	0.007 (0.031)
NONEX (Board composition)	-0.446 (-0.993)	-0.135* (-1.781)		0.190 (0.280)	-0.753 (-0.119)	-0.054 (-0.317)
PAY (Compensation)	-0.125 (-1.532)	-0.055* (-1.890)	0.125* (1.677)		0.341 (0.067)	-0.098* (-1.941)
DERATIO (Long term debt ratio)	0.456 (1.085)	-0.102 (-0.818)	-0.654 (-1.276)	-0.167 (-0.151)		0.285 (1.166)
GOV (Government controlled)	-1.209** (-2.516)	0.022 (0.116)	1.477 (1.313)	-3.492*** (-2.605)	6.272 (0.091)	
Instrument Variables						
FS (Foreign shareholding)	0.121 (1.209)					
SIZE (Firm size)	0.034 (0.840)	0.045*** (3.895)		0.160* (1.961)	-0.103 (-0.053)	0.020 (0.791)
RISK (Firm risk)	0.064 (0.276)					
AGE (Firm age)					0.151 (0.100)	
AVROA (Average ROA)					1.382 (0.066)	
AREA (Location)				0.462*** (3.697)		
BOARD (Board size)			-0.005 (-0.589)			
DUAL (Duality)			-0.215*** (-3.059)			
Adjusted R²	0.020	0.033	0.018	0.087	0.007	0.114

Simultaneous equation analysis of ownership variables and other control mechanisms, using the two-stage least squares method to estimate the following equations:

$$LSHARE = f\,\{HSF,\ NONEX,\ PAY,\ DERATIO,\ GOV,\ SIZE,\ RISK,\ FS\}$$
$$HSF = f\,\{LSHARE,\ NONEX,\ PAY,\ DERATIO,\ GOV,\ SIZE\}$$
$$NONEX = f\,\{LSHARE,\ HSF,\ DERATIO,\ PAY,\ GOV,\ BOARD,\ DUAL\}$$
$$PAY = f\,\{LSHARE,\ HSF,\ NONEX,\ DERATIO,\ GOV,\ SIZE,\ AREA\}$$
$$DERATIO = f\,\{LSHARE,\ HSF,\ NONEX,\ PAY,\ GOV,\ AVROA\}$$
$$GOV = f\,\{LSHARE,\ HSF,\ NONEX,\ PAY,\ DERATIO,\ SIZE\}$$

Endogenous Variables = LSHARE, HSF, NONEX, PAY, DERATIO, GOV
Instrumental Variables = FS, SIZE, RISK, AGE, AVROA, AREA, BOARD, DUAL
These variables are defined in Table 5.1.
t-statistics in parentheses.
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table 5.3
The Effect of Individual Control Mechanisms on Firm Performance

Dependent Variable = ROA						
LSHARE (Legal person share)	0.007 (0.832)					
HSF (Ownership concentration)		0.025* (1.660)				
NONEX (Board composition)			-0.003 (0.324)			
PAY (Compensation)				0.015*** (4.627)		
DERATIO (Long term debt ratio)					-0.048*** (-6.340)	
GOV (Government controlled firm)						-0.010** (-2.276)
SIZE (Firm size)	0.016*** (6.028)	0.016*** (5.753)	0.017*** (5.962)	0.012*** (4.251)	0.016*** (6.535)	0.017*** (6.257)
FS (Foreign shareholding)	-0.044*** (-6.825)	-0.045*** (-7.099)	-0.045*** (-6.783)	-0.048*** (-7.184)	-0.044*** (-7.570)	-0.045*** (6.908)
Adjusted R^2	0.035	0.037	0.035	0.046	0.059	0.039

To test the effect of individual control mechanisms on firm value, the OLS method is used to estimate the following equation:

$ROA = f\{(LSHARE, HSF, NONEX, PAY, DERATIO, GOV), SIZE, FS\}$

These variables are defined in Table 5.1.

t-statistics in parentheses.

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table 5.4
Coefficient Estimates From OLS and 2SLS of Firm Performance on Control Mechanisms

Variables	Pool 2SLS	Pool OLS	1998 2SLS	1998 OLS	1999 2SLS	1999 OLS	2000 2SLS	2000 OLS
Dependent Variable = ROA								
CONSTANT	-3.091	-0.011***	-1.994	-0.047	-0.542	-0.093***	-1.109	-0.176***
	(-0.247)	(-5.214)	(1.357)	(-1.173)	(0.521)	(-2.720)	(0.281)	(-4.785)
LSHARE	1.678	-0.033**	-1.575	-0.043*	0.306	-0.023	-1.635	-0.045*
(Legal person share)	(0.213)	(-2.436)	(1.282)	(-1.684)	(0.468)	(-1.061)	(0.383)	(-1.905)
HSF	1.355	0.027*	0.573	0.050*	-0.801	0.008	3.640	0.017
(Ownership concentration)	(0.309)	(1.775)	(0.706)	(1.907)	(0.866)	(0.334)	(0.447)	(0.634)
NONEX	1.102	0.005	-0.309	-0.015	-0.362	0.015	1.774	0.018
(Board composition)	(0.277)	(0.634)	(0.554)	(-0.949)	(0.513)	(1.067)	(0.377)	(1.216)
PAY	0.137	0.011***	-0.339	0.009	-0.150	0.006	-0.648	0.018***
(Compensation)	(0.125)	(3.434)	(1.255)	(1.519)	(1.036)	(1.255)	(0.427)	(3.389)
DERATIO	-2.482	-0.049***	-0.717	-0.028*	-0.838***	-0.087***	-6.833	-0.003
(Long term debt ratio)	(-0.672)	(-6.198)	(0.811)	(-1.920)	(3.595)	(-7.782)	(0.525)	(-0.165)
GOV	2.422	-0.021***	-1.705	-0.003***	-0.402	-0.019*	0.978	-0.018
(Government controlled)	(0.244)	(-3.099)	(1.509)	(-2.610)	(0.530)	(-1.756)	(0.299)	(-1.534)
SIZE	0.018	0.012***	0.121	0.006	0.083	0.012***	0.423	0.015**
(Firm size)	(0.058)	(4.428)	(1.190)	(1.177)	(1.328)	(2.730)	(0.474)	(3.119)
FS	-0.365	-0.046***	0.047	-0.056***	0.127	-0.042***	-0.562	-0.039***
(Foreign shareholding)	(-0.318)	(-7.466)	(0.285)	(-4.817)	(0.664)	(-4.153)	(0.490)	(-3.728)
Adjusted R^2	0.002	0.071	0.001	0.060	0.017	0.133	0.001	0.062

Simultaneous equation analysis of the ownership variable, other control mechanisms, and firm performance, using the two-stage least squares method to estimate the following equation:

$ROA = f\{f\{LSHARE, HSF, NONEX, DERATIO, PAY, GOV\}, SIZE, FS\}$

Endogenous Variables = ROA, LSHARE, HSF, NONEX, PAY, DERATIO, GOV
Instrument Variables = FS, SIZE, RISK, AGE, AVROA, AREA, BOARD, DUAL

t-statistics in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table 5.5
Alternative Model Specifications

Dependent variable = ROA	Model 1		Model 2		Model 3	
Variables	2SLS	OLS	2SLS	OLS	2SLS	OLS
LSHARE	-2.264	-0.002	-0.057	-0.011	-12.595	-0.006
(Legal person share)	(1.473)	(-0.160)	0.414	(-0.699)	(-0.084)	(0.421)
HSF	0.910	0.024	-2.192	0.037**	-12.450	0.015
(Ownership concentration)	(0.774)	(1.363)	0.699	(2.078)	(-0.078)	(0.911)
NONEX	1.049	0.001	1.764	0.004	17.311	-0.002
(Board composition)	(0.810)	(0.128)	0.869	(0.426)	(0.086)	(-0.272)
PAY			-0.352	0.009***		
(Compensation)			0.851	(2.688)		
DERATIO					21.812	-0.049***
(Long term debt ratio)					(0.079)	(-6.135)
BOARD	-0.070	-0.002***	-0.368	-0.002**	-3.188	-0.002**
(Board size)	(0.710)	(2.604)	1.499	(-2.055)	(-0.083)	(-2.371)
DUAL	1.490	0.008	1.751	0.009	18.981	0.006
(Duality)	(1.409)	(1.371)	1.041	(1.489)	(0.085)	(1.130)
GOV	-1.706	-0.016**	-0.177	-0.019**	-4.555	-0.014**
(Government controlled)	(1.434)	(-2.083)	0.296	(-2.406)	(-0.084)	(-1.969)
SIZE	0.079	0.010***	0.417	0.007**	1.696	0.010***
(Firm size)	(0.871)	(3.703)	1.260	(2.163)	(0.085)	(3.878)
Adjusted R^2	0.002	0.016	0.002	0.022	0.002	0.038

Model 1

ROA $= f\{\{$LSHARE, HSF, NONEX, BOARD, DUAL, GOV$\}$, SIZE$\}$
Endogenous Variables = ROA, LSHARE, HSF, NONEX, BOARD, DUAL, GOV
Instrument Variables = FS, SIZE, RISK, AGE, AVROA, AREA, PCHM

Model 2

ROA $= f\{\{$LSHARE, HSF, NONEX, PAY, BOARD, DUAL$\}$, GOV, SIZE$\}$
Endogenous Variables = ROA, LSHARE, HSF, NONEX, PAY, BOARD, DUAL
Instrument Variables = FS, SIZE, RISK, AGE, AVROA, AREA, GOV, PCHM

Model 3

ROA $= f\{\{$LSHARE, HSF, NONEX, DERATIO, BOARD, DUAL$\}$, GOV, SIZE$\}$
Endogenous Variables = ROA, LSHARE, HSF, NONEX, DERATIO, BOARD, DUAL
Instrument Variables = FS, SIZE, RISK, AGE, AVROA, AREA, GOV, PCHM

These variables are defined in Table 5.1.
t-statistics in parentheses.
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Figure 5.1

Summary of Relationships
Building on the corporate governance literature, (see for example John and Senbet 1998; Short, Keasey, Wright, and Hull, 1999; Short, Keasey, Hull and Wright, 1998; Shleifer and Vishny 1997), I identify the key mechanisms of corporate governance control. These are block shareholdings, shareholding concentration, board of directors' control, managerial remuneration, managerial ownership, external market control, and the managerial labor market. Agrawal and Knoeber (1996) include the market control factor as a control variable for all firms and do not seek to explain it for individual firms. I follow a similar argument. Due to the absence of a market for corporate control mechanism in China, I do not use it as a factor in the model. By the same token, I do not consider the managerial labor market factor in the model. Instead as government influence is so pervasive in China, I consider a government factor in the model. I also exclude managerial ownership, as the proportion of managerial ownership is very small. Consequently, I only consider institutional ownership, ownership concentration, capital structure, board of directors' control, managerial compensation, and government in the model.