



**University of the Western Cape**  
**Department of Economics**

**The Impact of Split Share Structure Reform on Corporate  
Governance in China: an Empirical Analysis of Ownership  
Structure and Firm Performance of Listed Companies**



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for the Master Degree of Economics in the Department of  
Economics, University of the Western Cape.**

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## **DECLARATION**

I declare that “*The Impact of Split Share Structure Reform on Corporate Governance in China: An Empirical Analysis of Ownership Structure and Firm Performance of Listed Companies*” is my own work, that is has not been submitted for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by complete references.

Full name...Xianxian Zhou..... Date...12/12/2011.....

Signed.....



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## **ABSTRACT**

China has embarked on a wide range of economic reforms in the past thirty years. One of the major reforms was to restructure state-owned enterprises (SOEs) into public listed companies (PLCs) to improve the performance and quality of corporate governance of SOEs. However, the unique phenomenon of China's equity market is that the state continues to hold a controlling stake in PLCs with less than 40% of shares tradable in the stock market. This seriously affects the performance and quality of corporate governance of China's PLCs.

This mini-thesis investigates the effects of split-share structure reform on SOEs in China, with particular focus on an analysis of the relationship between ownership structure and firm performance of listed companies. By using a sample of the top 50 companies based on the ranking of the 2004 Fortune top 100 PLCs, a negative correlation was found between the state ownership structure and firm performance of China PLCs before the announcement of split-share structure reform. However, by using the same samples and techniques, the analysis shows that the improvement in the diversified ownership structure had a positive impact on firm performance in China PLCs after the reform.

### **KEYWORDS**

Corporate governance, Split-share structure, Principal-agency problem, Firm performance, Ownership structure, State-owned enterprises, Minority shareholders' interest, Non-tradable shares, China Public Listed Companies, Return on Equity

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# CHAPTER 1: INTRODUCTION

## 1.1 Problem Statement

China has moved gradually from a centralized planned economy to a market-orientated economy since it embarked on an open-door policy in 1978. There were many economic reforms adopted during the transition period. The formation of two exchange stock markets in Shanghai (1990) and in Shenzhen (1991) was one of the major economic reforms. The aims of establishing these two stock markets were firstly to capture a large part of capital by issuing corporate shares to the public and secondly to improve the overall performance of SOEs through shareholding reform (Chi and Young, 2007:361).

In contrast to other markets, the shareholding structure of Chinese public listed companies (PLCs) is unique. Two classes of shares can be issued by PLCs. Tradable shares are the one listed on the stock market and can be freely bought and sold by normal investors. Non-tradable shares, on the other hand, are dominated by state and legal institutions, which are not allowed to trade freely on the stock market. According to Inoue (2007:4), government controls approximately 60% of total shares issued in 2004 with state shares (32%) and legal person shares (30%) respectively. The large portion of non-tradable shares implies government has direct control in corporations, which might lead to some associated phenomenon, for example, insider control, ineffectiveness of management and principal-agency problems, etc. (Li and Zhang, 2007:7-9).

With the continuous corporatization of SOEs and the rapid expansion of the security markets (Zhou, 2008), corporate governance has attracted attention because good corporate governance assists shareholders to ensure managers run the company on behalf of shareholders and make decisions in terms of profit maximization. However, the large amount of non-tradable shares indicates that there is low market liquidity for minority investors. Such a shareholder structure illustrates that state ownership in PLCs conflicts with other shareholders' interest,



which could cause principal-agency problems. The convergence of interest theory developed by Jensen and Meckling (1976:311-312) indicate that firm performance decreases as the degree of divergence of interest increases. When ownership and control are separated, the interest of principals and agents diverge, therefore, principals want to increase the firm value while agents plan to maximize their own benefits. Thus, the agents may not operate in the best interest of the principals which may be detrimental to the company.

The current financial studies on ownership-performance relations in China concentrated on two main questions: (1) Does ownership has an impact on corporate performance; and (2) Does direct or indirect government control has an impact on firm performance (Qi, Wu, and Zhang, 2000; Gunasekarage et al., 2007; Chen and Zhu, 2005; Qiang, 2003; Sun and Tong, 2003; Xu and Wang, 1999; Zhu and Ma, 2009). Most of their studies show that concentrated state ownership has impacted on firm performance negatively and suggested that to diversify the ownership structure is the key step to improve corporate performance of PLCs.

In April, 2005, China's Securities Regulatory Commission (CSRC) made an announcement of the split-share structure reform, which is to convert large portions of non-tradable shares held by the government and legal persons to tradable A-shares. The purpose of the split-share structure reform is to promote efficiency and limit the power of the substantial shareholders and management of listed companies, to promote return on financial investment, to strengthen the ability of direct-financing and to allocate resource efficiently, etc (CSRCa, 2005).

Therefore, the purpose of this study is to find out how the state ownership structure affects the performance of PLCs in China; it would also investigates the effects of split-share structure reform in China, with particular focus on an analysis of the relationship between ownership structure and firm performance of Chinese PLCs.

## **1.2 Research Question**

As it has been discussed in the problem statement, the quality of corporate performance in China is challenged with principal-agency problems as the state and its representatives have less resource to monitor and discipline the behavior of management. In addition, the principal-agency problem arising when the state acts as a major shareholder, profit maximization may not be its primary goal as it is expected from other shareholders.

However, due to the unique features of the Chinese governance structure, the centralized ownership structure together with a weak legal regulatory framework and weak debt and equity markets, the real practice of corporate governance performance faces many problems (Zhou, 2008). This study therefore, attempts to address the following main questions: (1) what is the relationship between ownership structure and firm performance? (2) Is split-share structure reform improving corporate performance of Chinese PLCs successfully?

## **1.3 Research Methodology**

The empirical study will be a quantitative analysis based on a sample of the top 50 companies listed on the ranking of the 2004 Fortune top 100 PLCs. A regression model will be set up to estimate the correlation between ownership structure and firm performance. In addition, the study is also going to test the effectiveness of split-share structure reform by comparing the firm performance (measured by return on equity) for the same sample between 2004 and 2008.

## **1.4 The Significance and Limitations of Study**

The significance of this study is to contribute to the ongoing debate by presenting and analyzing ownership-performance relations of PLCs in China. However, this empirical study also has some limitations. First of all, the study estimates a short-term effect of split-share structure reform as the reform only started from middle

of 2005. Meanwhile, it would be a more powerful analysis if all PLCs listed on the stock markets were able to be included in the final sample.

### **1.5 The Structure of the Paper**

The rest of the paper is structured as follows: the second chapter is the theoretical framework, in which the theoretical arguments on ownership structure and firm performance will be reviewed through various perspectives. Recent empirical studies on ownership-performance relationships are also discussed in the chapter. The third chapter gives a descriptive overview on ownership structure and firms' performances in China. It briefly explains the major problems of corporate governance in China and critically discusses the influences of concentrated state ownership structure on corporate performance of Chinese public listed firms. It therefore introduced split-share structure reform as the solution to the problem within the last section of the chapter. The fourth chapter is the research methodology, which discusses the sample selection and data collection process; explains variable measurement and shows how a regression model would demonstrate the hypothesis. The discussion of research result will be followed in the next chapter. The final chapter will be the general conclusion.

## CHAPTER 2: THEORETICAL FRAMEWORK

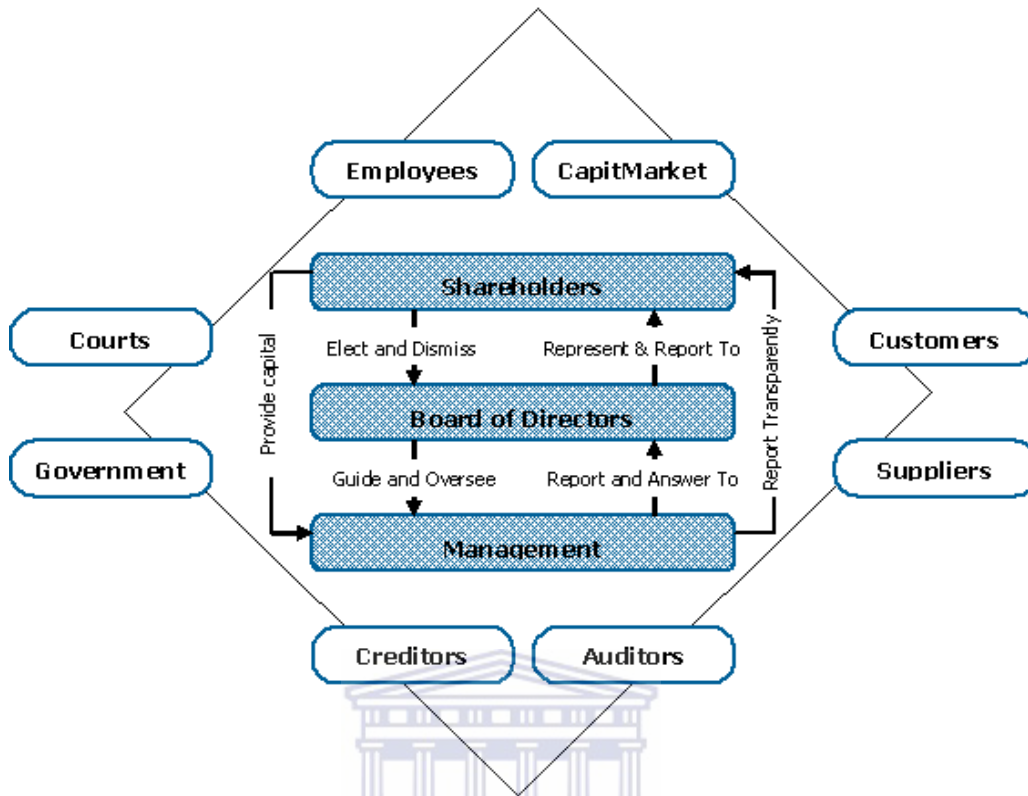
### 2.1 Introduction

Firms, as described by Shah et al. (2011:515), are “*a network of relationships representing contractual arrangements for financing, capital structure, managerial ownership and compensation.*” Therefore, the determination of firm performance could be influenced by many factors, such as growth, concentration, capital intensity, an organization’s structures, etc (Hansen and Wernerfelt, 1989:399-401). For the past couple of years, economists and policy makers have become interested in finding the link between ownership structure and firm performance. Whether and how ownership structure ultimately affects firm performance in the framework of corporate governance, has attracted much attention in financial circles and literature.

Compared with other economic concepts, the concept of “corporate governance” is relatively new, even in more developed market economies (Zhou, 2008). According to Cadbury (1999), as quoted in the King Report (2002:6) “*Corporate governance is concerned with holding the balance between economic and social goals and between individual and communal goals...the aim is to align as nearly as possible the interests of individuals, corporations and society.*” Figure 2.1 clearly presents a corporate governance system among all parties. The Organization for Economic Cooperation & Developments (OECD) was the first one who published the principles of corporate governance (Zhou, 2008). It has been widely used for all OECD member countries to assist corporations to evaluate and improve their performance (Maier, 2005:5).

Four main principles of good corporate governance are identified by the OECD: (1) Designing and ensuring an effective corporate governance framework; (2) Requiring well defined shareholder rights and equitable treatment of shareholders; (3) Keeping a high level of independence and responsibilities of the board; and (4) Maintaining a high level of disclosure and transparency (OECD, 2004:17-24).

Figure 2.1: Corporate governance system



Source: IFC, 2008.

The implication of principles of good corporate governance is to help corporations use their capital efficiently and also allow the shareholders to feel confident about their investment decisions (OECD 2004:7). However, Shleifer and Vishny (1997:738) pointed out that corporate governance is nonexistent in some developing countries. Corporate governance also has become a popular discussion topic among all study fields since the middle of 1990s and it attracted lots of attention in the Asian financial crisis debate. (Claessens and Fan, 2002:71).

The purpose of this chapter is to provide theoretical background to support this research. The next section reviews recent research on ownership structure and firm performance through ownership concentration, managerial ownership and asymmetric information respectively. The following section presents some empirical findings regards to the governance-performance relations. The last section draws the conclusion.

## **2.2 A Descriptive Overview on Ownership-performance Relationship**

At present, many modern corporations are owned by one group of people (i.e. shareholders or owners), but are operated by another group of people, such as managers and a board of directors. One important issue here is how to guarantee the management runs the business in the interest of owners but not their own. Cheng and Tzeng (2011:61) thought that ownership structure is an important instrument for corporate governance by influencing management behavior and thus resulting in different firm performance. This section reviews financial literature on the ownership-performance relationship through three main perspectives: ownership concentration, managerial ownership (inside ownership) and asymmetric information.

### 2.2.1 Ownership concentration and firm performance

The earliest work on the study of ownership-performance relationship was done by Berle and Means (1932). They argued that when there is a relatively dispersed shareholding ownership structure in big corporations; each small shareholder can not afford to spend much time and money on monitoring management's activities. Therefore, those who are participated in the daily affairs (i.e., the managers and directors), can use the resources of companies to their own advantage of the shareholders' (Berle and Means, 1932:255). They concluded that separating ownership from control is the main cause of managers-shareholders conflict, where managers are controlling modern corporations and shareholders are relatively powerless.

The concerns of Berle and Means (1932) led to the agency theory developed by Jensen and Meckling (1976:308-310). This theory states that managers and directors have a responsibility to run the business in the interest of shareholders (maximize profits) rather than on their own (e.g. maximize salary or growth of market share). Principal-agent problems arise when managers (agent) undertake their own goals but not the one of investors (principal). Jensen and Meckling (1976:312-316) also argued due to the

separation of ownership and the control of a corporation, owners of these corporations lose their supervision and control over the managers, which may enable powerful managers to pursue their own interests. Thus, separation of control may affect corporate performance negatively under diffusion of ownership structure.

Since the mid-1980s, the agency conflict between major shareholders and minority shareholders in corporations had been in the financial spotlight. On the one hand, people who have the traditional perspective on corporate governance, such as Berle and Means (1932) and Jensen and Meckling (1976) argued that concentrated ownership improves firm performance through providing better incentives and abilities to monitor managers. Larger shareholders tend to address the agency problem since they are interested in maximizing profit and also maintaining the firm' assets (Shleifer and Vishny, 1997:754). On the other hand, the modern approach to corporate governance shows concentrated ownership may also have a detrimental effect on corporate performance when controlling blockholders extract rent from minority shareholders (Jong, A. et al. 2002:4; Maher and Andersson, 1999:31). The principal-agent problem occurs easily when there is an unequal treatment and divergence of interest among shareholders (Shleifer and Vishny, 1997:740-742). Therefore, the main focus of the principal-agent problem that stems from the interest conflicts between strong managers and weak outsider shareholders now changes to the interest conflicts between larger controlling shareholders and minority shareholders (Claessens and Fan, 2002:75).

Barclay and Holderness (1989:372) explained how blockholders enjoy their corporate benefits by using their voting power through the “private benefits of control” theory. They argued that if corporate benefits are related to the proportion of shareholders' fractional ownership, blockholders shall trade at the exchange price if there is no private benefit from block ownership. However, if it does, blockholders will try to secure their benefits by trading

at a premium price instead of the exchange price on the stock market. The price difference between block price and exchange price is a private benefit received from block controlling. The “private benefits of control” theory also highlights another important issue: large shareholders can influence corporate decisions by using their voting right in order to maximize their own value. This is harmful to minority shareholders. Good corporate governance should ensure good financial returns for all investors (Shleifer and Vishny, 1997:740).

### 2.2.2 Managerial ownership and firm performance

Berle and Means (1932) stated that if ownership is separated from control, it can cause shareholder-manager conflict. Jensen and Meckling (1976) argued that as the interest of principals and agents differ, agents pursue their own benefits and not act on behalf of principals. Therefore, one solution to this problem is to align the interest between principals and agents by establishing an incentive reward system or to make them shareholders (Jensen and Meckling, 1976:309). By doing so, they found that a high level of managerial ownership helps to match the interest between shareholders and managers. This will ultimately lead to better performances. Consequently, managerial ownership is correlated with the corporate performance positively, based on their convergence-of-interest hypothesis.

However, Fama and Jensen (1983:305-307) pointed out larger concentrated managerial ownership has offset costs, which leads to the entrenchment effect. They argued that if a manager holds a small portion of shares, it actually helps to solve the agency problem by aligning the interest between manager and shareholder; however, if a manager holds a large portion of shares, then he/she will influence the decision-making by using his/her voting right.

A new argument about ownership-performance relations has recently come to light, claiming ownership structure may have no influence on firm



performance if considering it as an endogenous factor. Demsetz (1983:375-390) argued that ownership structure, whether concentrated or diffused, reflects decisions made by all shareholders. All types of ownership structure are equal, which should represent the profit maximizing interests of shareholders. Some other factors, such as firm size, industry, investor protection etc could also have an impact on firm performance. Therefore, no relationship is linked between ownership structure and firm performance as firm performance is restricted by internal/external environmental factors and not only by ownership structure.

### 2.2.3 The influence of asymmetric information on firm performance

It is notable that agency problems arise easily under asymmetric information circumstance. The classic principal-agent problem is the shareholder-manager conflict, where managers focus on their own goals instead of the interest of the shareholders. That is to say, the agency problem arises when principals and agents are not pursuing the same goal or principals may not know whether agents have a good behavior due to incomplete and asymmetric information between them (Eisenhardt, 1987:58).

Separation of control and ownership is also link directly to asymmetric information. This is because agents will act by considering their own self-benefit whenever possible if there is no appropriate monitoring and controlling from principals (Jensen and Meckling, 1976:308-309). According to Jensen and Meckling (1976:308), the total agency costs can be divided into three components: monitoring cost, bonding cost and residual loss. However, it is impossible to monitor an agent perfectly, especially with such high agency costs. Therefore, when these procedures fail to monitor an agent, moral hazard problem will happen. No matter how carefully monitored, agents always have chances to behave unobserved. When the agent's interests are differing to the principal's interest, a moral dilemma occurs. In other words, moral hazard exists if the agent takes unobservable, hidden or undesirable actions.

Adverse selection problem is another potential risk when it comes to information asymmetry. Eisenhardt (1989:61) stated that adverse selection exists due to unobservable or hidden information of agents. That is to say principals may be unable to verify the skills or abilities of agents, either at the time of hiring or while the agent is working. Therefore, principals may not select the best agent to work for them due to the lack of proper information.

In the case of the agency problem of majority/minority shareholders' conflict of interests, Voß and Xia, (2005:15) found that majority shareholders can easily apply asymmetric information to acquire an advantage by undermining the interest of minority shareholders. Therefore, providing adequate information to all investors, so as to ensure them to be well noticed of the financial status of companies, is an approach that will reduce the existence of asymmetric information and avoid the negative consequences of the principal-agent problem (Chung, et al., 2005:37-38).

### **2.3 Empirical Evidence on Ownership-performance Relationship**

The theoretical arguments for ownership-performance relationship suggest that the relationship between ownership structure and firm performance could be positive, negative or neutral. The international empirical evidence on studies of ownership-performance relations also show mixed results (Hu and Izumida, 2008:72).

First of all, some show there is a positive relationship between ownership concentration and firm performance. Kapopoulos and Lazaretou's (2007:144-158) studied the impact of ownership structure on firm performance by observing 175 listed Greek firms in 2000. Three performance measurements are used in the analysis: Tobin's Q, labor productivity and profitability. The fraction of management shares and important investors shares were considered as ownership measurement. The result shows both measures of ownership are positively

correlated to Tobin's Q, which suggests that a firm's performance is improved through better monitored and disciplined management behavior when shares are concentrated.

Hu and Izumida (2008:77) found the centralized ownership structure, such as individual, family holding or financial institution block holding etc., is dominant in most of continental Europe and East Asian economies. They also found block ownership often has a positive relationship with corporate performance. Claessens et al (2002:77) conducted a survey on corporate governance in. The survey proved that concentrated ownership is positively correlated with firm performance. However, once the state acts as the controlling owner (take China<sup>1</sup>, for instance), a negative effect is shown on corporate performance.

Other studies found the opposite however. Kuznetsov and Muravyev (2001:3-4) observed a U-shaped pattern relationship between profitability and ownership concentration based on data analysis from 1995 to 1997 in Russia. They found profitability reaches the minimum point when ownership concentration approaches 56%. It indicates that high ownership concentration affects market value of companies negatively as there is a conflict between major and minority shareholders regards to profit distribution.

Shah et al (2011:518-522) examined the link between managerial ownership and corporate performance by using the KSE 100 index firms in 2005 in Pakistan. The main focus of the paper was to find out how managerial shareholders who are directly involved in decision making influence firm performance. The performance is measured by Marris ratio, Tobin's Q, return on equity and return on investment respectively, the proportion of shares controlled by the board of directors has been chosen as ownership variable. The result indicates the ownership concentration has a negative influence on corporate performance.

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<sup>1</sup> The empirical evidence on ownership structure and firm performance in China is described in detail in chapter 3.

Finally, some other empirical studies investigate the relationship of endogeneity of ownership structure and firm performance. Here, no link was found between ownership structure and a firm's performance. Demsetz and Lehn (1985:1155) argued that ownership structure is an outcome of shareholders' decisions; that a concentrated ownership structure is the best way to maximize a firm's performance. In their study, ownership concentration is determined by firm size, control potential, regulation and amenity potential, and then estimate linear regressions of accounting profit rate on concentration — the fractions of shares owned by the five, the twenty largest shareholders, and a Herfindahl measure for 511 U.S. firms. The result demonstrates that there is no significant relation between concentrated ownership structure and profitability, so ownership structure is an endogenous result of the balance of the costs and benefits of ownership.

In summary, the international empirical evidence shows ownership concentration could be positive, negative and even may not correlate with firm performance. The reason why there are different results among previous studies, as summarized by Hu and Izumida (2008:72) could be the limitation of ownership-performance measurement, the differences in estimating technique used, and date selection bias etc. Moreover, the different corporate governance environments of these firms could be another reason why the results are so different. Shleifer and Vishny (1997:769-773) indicated that countries adopt different corporate governance systems according to the regulatory and legal environment of their own. Therefore, there is no exact answer for ownership-performance relation studies, the results vary across countries and over time.

## **2.4 Conclusion**

Corporate governance is the set of regulations, laws and institutions, which is used as to administer the corporations. It is designed to foster the best competitive performance required to achieve the corporation's primary objective by influencing firm's attitude, accountability and responsibility towards all

stakeholders, such as employees, shareholders, and customers etc. The importance of good corporate governance has been proven essential to ensure good behavior of corporations and to protect the shareholders' welfare (Zhou, 2008).

Corporate governance has become a hotly debated topic worldwide at the moment. Both theoretical and empirical studies on the ownership-performance relations reach the following conclusions: First of all, ownership concentration is positively related with firm performance because a concentrated ownership structure has a better monitor and control effect on managers. Some continental Europe and East Asian empirical studies show that a block holding ownership structure would improve corporate performance as the result of better monitoring of the business. However, if the ownership involves the state, the firm's performance is negatively related to the concentrated ownership structure.

Secondly, the convergence-of-interest hypothesis suggests introducing managerial share-ownership may reduce the principal-agent problem by aligning the interest between principal and agent. However, entrenchment effect hypothesis refuted the argument, saying that managerial share-ownership may have an adverse effect on firm performance, because it may increase in managerial opportunism and then decrease the firm's value. However, some other researchers think the managerial ownership structure is not related to firm performance because ownership structure is an endogenous variable.

Finally, empirical studies show various different results made by ownership-performance studies are due to the differences of the corporate governance system, sample selection and equation estimation etc. Therefore, it suggested that ownership-performance relations vary across countries and over time.

# CHAPTER 3: A DESCRIPTIVE OVERVIEW ON OWNERSHIP STRUCTURE AND FIRM PERFORMANCE IN CHINA

## 3.1 Introduction

China's transition from a state-planned economy towards a market-oriented economy started almost three decades ago (Zhou, 2008). However, the term “corporate governance” is still a relatively new concept in China. “Corporate governance” in China is defined as “*a system to regulate and monitor relationships among all parties with interests in a business organization.*” (Clarke, 2003:494). China has made substantial progress on corporate governance, since it began its market reform in 1978 (Lin, 2001:2). Not only its corporations, but also government bodies and regulators in China have improved greatly. Government regulators and professional institutions have issued a set of laws, codes, regulations, and standards with a view to lay a good foundation for corporate governance in the future (Zhou, 2008). With the reform of the economic system and the development of the capital market in China, accelerating the process of corporate governance has become the main way to improve the performance of state-owned enterprises (SOEs) during the economic transition (Wang, 2004:1).

Although China has achieved substantial progress in corporate governance over recent times, China’s practice of corporate governance is not going smoothly. It is seriously affected by many existing problems due to the unique features of the Chinese governance structure. According to Lin (2004:7) and Zhou (2008), there are some major problems during the practicing corporate governance in China: (1) Ambiguities of principal-agent relationship; (2) Highly concentrated ownership structure; (3) Weak protection of outsiders; (4) Inadequate transparency and disclosures of financial data; (5) Weak independent board of directors and supervisory board.

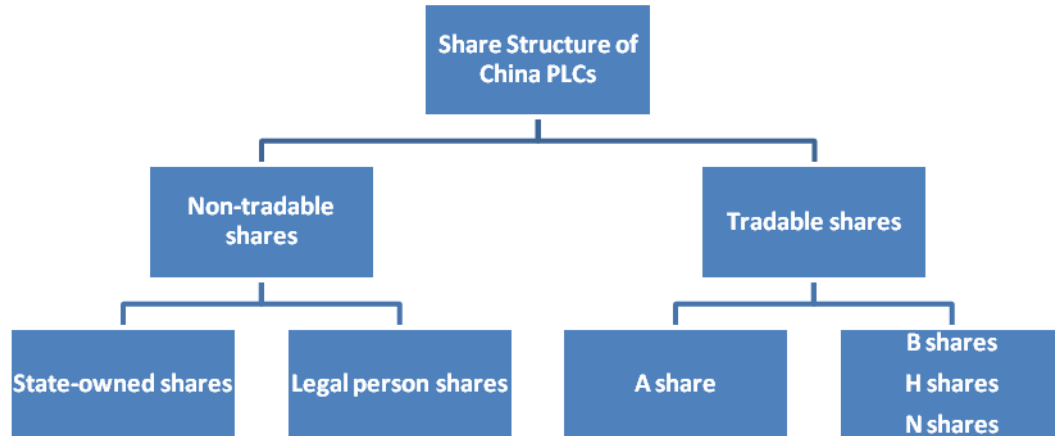
This chapter presents a descriptive overview of ownership structure and firm performance in China. It first starts to describe the features of ownership structure of PLCs. Then it is followed by a discussion of the influences of state behavior on firm performance with a particular focus on the principal-agent problems and interest conflict in PLCs in China. The next section describes the solution of the problems that occurred in practicing corporate governance in China - Chinese split-share structure reform in detail and the last section is a short conclusion.

### **3.2 The Features of Ownership Structure of Chinese Public Listed Companies**

From its founding in 1949 until the late 1970s, The People Republic of China was operated under a strictly planned economic system, which means everything was highly centralized by the government (Zhou, 2008). During this period, state owned enterprises (SOEs) was the main form of ownership structure of Chinese corporations, characterized by low productivity and work inefficiency, with high input of factors of production but low output (Lau, et al., 2007:427).

Until the late 1980s stock markets and stock companies were established as a means to restructure the industrial sector and improve its performance (Xu and Wang, 1997:7). Consequently, the ownership structure of PLCs shows some unique features, compared with that in other stock markets around the world. Figure 3.1 shows the structure of Chinese PLCs. Shares in Chinese PLCs can be grouped into tradable and non-tradable shares. The tradable shares can be traded in Chinese exchanges, while the non-tradable shares are not allowed to trade in the stock markets.

Figure 3.1: The share structure of China PLCs



The non-tradable shares are dominated by the state shares and the legal person shares. The state-owned shares refer to that held by different levels of governments or by state-owned enterprises. The second type refers to the shares owned by the domestic institutions, such as stock companies, non-bank financial institutions or SOEs (Zhou, 2008). Table 3.2 lists the percentage of different types of shares; it obviously shows that non-tradable shares account about 60% of shares issued by Chinese PLCs during year period 1994 to 2004.

Table 3.1 Share structure of PLCs in China (1994-2004)

Classes	1994	1996	1998	2000	2004
<b>State shares</b>	43%	35%	34%	39%	32%
<b>Legal person shares</b>	22%	27%	28%	24%	30%
<b>Tradable A-shares</b>	33%	35%	34%	36%	28%
<b>Other types of shares</b>	2%	3%	4%	1%	10%

Source: Qiang, 2003:774 (data: 1994-2000); Inoue, 2007:4 (data: 2004)



The tradable shares are separated into A-shares, B-shares, H-shares and N-shares. The tradable A-shares refer to that offered to and freely traded by the general public. It is issued with nominal values in Ren Min Bi (RMB<sup>2</sup>), and it can be subscribed and traded only in RMB (Zhou, 2008). It is restricted to be purchased, owned and traded only by Chinese nationals and residents (Inoue, 2005:4).

B-shares, H-shares and N-shares belong to foreign shares. B-shares are designed for foreign investors, but traded in the domestic capital market in China. It is issued with nominal values in RMB, but can be subscribed and traded in foreign currencies (Zhou, 2008). H-shares are issued by the companies listed on the Hong Kong stock market and traded in Hong Kong dollars. N-shares are shares that listed, subscribed, and traded on the New York stock market in US dollars (Li, 2005-73).

### **3.3 The Influence of State Behavior on Firm Performance**

A typical feature of Chinese PLCs is its mixed ownership structure with dominated state and legal person shareholders, therefore, the issue of ownership and firm performance becomes more complicated (Claessens and Fan, 2002:78). Lin (2001:7) thinks the major problems of practicing corporate governance in China originate from unclearly defined property rights and the ambiguity of principal-agent relationship. Property rights are difficult to define under the state ownership system because the property rights belong to everyone and no one in particular (Zhou, 2008). In China SOEs are owned by the whole people, consequently, the state represents the whole people to act as the first order agent on behalf of the people to appoint and delegate operational power of SOE. This is thought to be the fundamental reason why corporate governance is a problem in China (Qiang, 2003:776).

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<sup>2</sup> RMB is a name of Chinese currency.

The reluctance of Chinese authorities to fundamentally clarify property rights may originate from their political considerations (Zhou, 2008). Li et al. (2008:18) pointed out that the poor corporate governance performance of listed companies is the result of majority state ownership of shares. Their research also shows that minority shareholders' overly weak supervision of the listed companies in China would result in the continuous falling of share prices in the market over several years.

Sleifer and Vishny (1997:767-768) state that privatizing state firms by introducing outside non-state investors and replacing political control with private control would establish a more efficient ownership structure and make a significant improvement in the performance of state firms.

Due to a highly concentrated ownership structure in China, the state acts as a majority shareholder in many listed corporations, this creates several problems (Zhou, 2008). Cheung et al. (2008:464) points out that different level of governments may have different incentives for the ownership of the firm. It is possible for different levels of governments to have comprehensive goals: social welfare or other policy ones, for example, regulate and enforce laws to achieve social macro-economic goals rather than profit maximization of the state-owned corporations. Therefore, state shareholder status may trigger conflict of interest, for the government may be concerned about whether the state is sufficiently protected as a holding shareholder of the enterprise (Zhou, 2008) and also worry about losing state assets and government control on the market (Claessens and Fan, 2002:78). It may give rise to monitoring difficulties because most of these goals are not easy to reach and need to balance one against the other. Clarke (2003:501) points out the monitor agent may not even know how to measure and trade off among those different state objectives, so it is difficult for an agent to act effectively to achieve those multiple objectives.

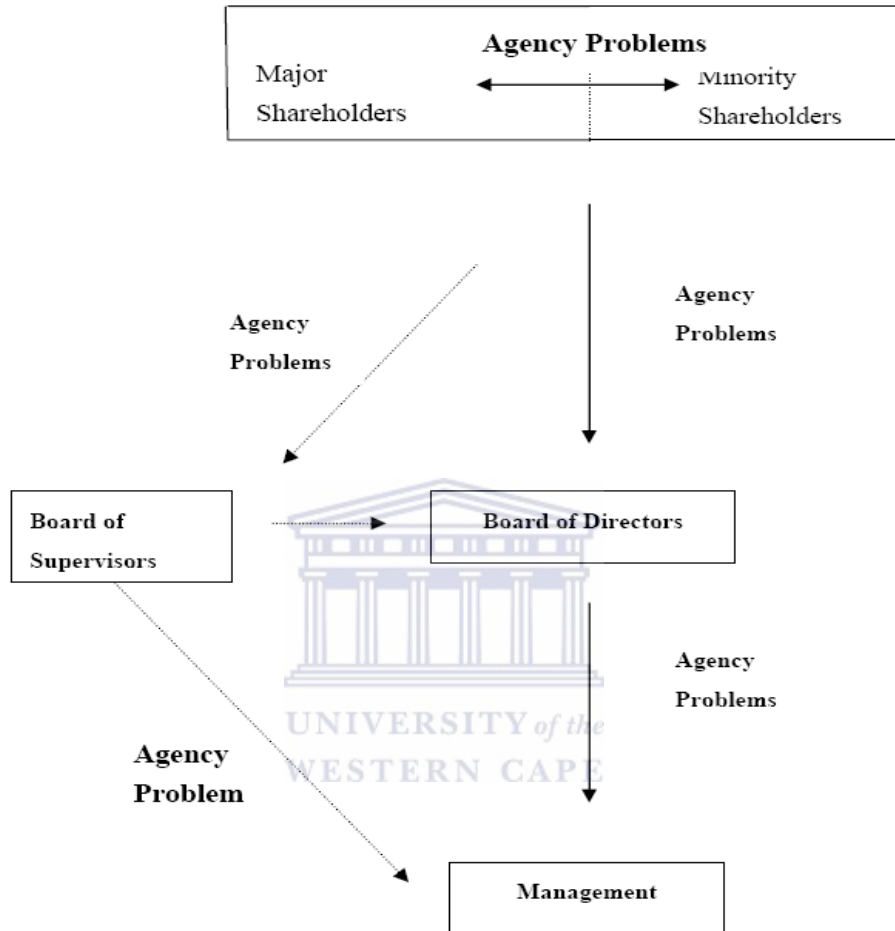
Moreover, it is not surprising that the state controls most board seats when the state is the controlling owner (Li et al, 2008:9; Ho, 2003:24). There are few board

vacancies available for minority and outside shareholders (Zhou, 2008). If the insider-managers have been controlled by state, agents thus do not perform properly in the interest of the minority shareholders because the influence of the larger shareholders is much stronger. Lin (2004:8-9) then indicated that it will be more difficult and problematic to establish a high quality level of corporate governance if links the conflicts of interest between large and small shareholders together with inadequate separation between ownership and management.

In addition, state shareholders and their operators care more about maximizing the assets that could bring to them rights, resources and power than concerning the companies' managerial achievements and the price of their stock in the security market. This behavior, together with a weak legal system made the stock index low and shrunk the whole market value (Liu, 2006:417-418).

Ho (2003:5) concludes the main principal-agent problem in China involves multi-parties: controlling state shareholders, directors/supervisors, managers and outside minority shareholders; it forms a triple principal-agent relationship among them as shown in Diagram 3.2. The first agency problem is between minority shareholders and the board of directors. That is because the cost is very high for minority shareholders to monitor the board of directors' behavior. In contrast, the cost is relatively low for majority shareholders to monitor and assess the board of directors. Therefore, minority shareholders may play as free riders, that is, to entrust majority shareholders to examine the board of directors for them. However, the board of directors would be trapped in a difficult situation when the dual principals have conflicting objectives. So, the second agency problem is between major shareholders and the board of directors. The third one is the conflict of interest between majority shareholders and minority shareholders as the majority shareholders control the information source.

Figure 3.2: Principal-agent problems and interests conflict in PLCs in China



Source: Ho, 2003:5

### 3.4 Empirical Evidence on Ownership Structure and Firm Performance

There are many studies that focus on the relationship between ownership structure and firm performance over the past few decades. Their empirical studies showed conflicts of interest between the government as a major shareholder and small shareholders affect the firms' performance. Xu and Wang (1999:85-90) were probably the first to work on this topic. They investigated whether ownership structure significantly affects the performance of PLCs by using pooled firm-level data from 1993 to 1995. A firm's performance is measured by market-to-book

ratio (MBR), return on equity (ROE) and return on asset (ROA). The analysis shows that corporate performance is significantly positively related to ownership concentration. However, when it turns to study the effects on firm performance by examining a mixed ownership structure (state ownership, legal person ownership and private ownership), the results present that the legal person ownership structure is positively impacted on firm performance but there is a negative correlation between state ownership, private ownership and firm profitability. It suggested that large legal persons (institutional investor) are motivated to monitor and control the behaviour of managers, thus, leads to better performance.

Qi et al. (2000:599-603) were investigating to find out how the performance of PLCs is influenced by ownership structure with a focus on studying whether corporate performance can be determined by the percentages of share controlled by the government and legal persons. Based on the data of 774 firms listed on Shanghai stock market between 1991 and 1996, measuring firm performance by ROE, their findings support Xu and Wang's study (1999) and illustrated that the percentage of legal person shares is positively correlated with performance but the percentage of state shares is negatively related to corporate performance. In addition, they also found that corporate performance would rise with the ratio of relative legal person shares to state shares. Sun and Tong (2003:210) evaluated the performance changes of 634 SOEs listed on exchange markets since share issuing privatisation (SIP) from 1994 to 1998. By using three measures of performance, MBR, net income to sales and operating income to sales, they found that SIP successfully improved SOEs' earning ability, real sales and labour productivity, however, SIP failed to increase capital returns and leverage effectively. Moreover, their study also found a negative correlation between state ownership and firm performance, but positive impact on firm performance with legal person shares. This finding is in accordance with that of Qi et al. (2000) and Xu and Wang (1999).

Gunasekarage et al. (2007:385-389) did an empirical study on “The influence of the degree of state ownership and the ownership concentration on the performance of listed Chinese firms”. The study investigated the relationship between the level of different ownership structure and firm performance from different perspectives. They used Tobin’s Q value or MBR to measure the firm performance based on the sample size of 1034 listed companies during 2000 to 2004. The combination of three levels of state ownership and legal person ownership were tested: (1) ownership is less than 5%, (2) ownership is in between of 5% and 36% and (3) ownership is more than 36%. The result shows that firm performance is negatively affected by the level of state ownership, especially for those companies held more than 36% state ownership.

To sum up, by using different samples and methodology, the empirical studies disclose the negative overall impact of state shareholding on firm performance, but researchers found a positive impact for legal person shareholding on firm performance in China. The findings show that it can improve firm performance through entitling legal person shareholders to control and monitor the behavior of managers and board of directors more effectively because they are less politically oriented and focus more on business objectives.

### **3.5 Chinese Split-Share Structure Reform**

The split share structure of the Chinese capital market is inherently demanded at the result of the existence of a large amount of non-tradable shares with centralized ownership structure. In fact, Chinese government recognized the non-tradable share problem on the equity market and tried to solve the problem in 1999 and 2001. The first attempt was in 1999, the China Securities Regulatory Commission (CSRC) selected two corporations to sell their state shares to private investors, but it failed because of low market confidence (Beltratti and Bortolotti, 2006:3). The second attempt was in June 2001, the state council of China announced a major reform by reselling state shares gradually to public, but it failed within four months due to dramatic market turbulences (Qiang, 2003:781).

In April, 2005, CSRC made an announcement on a new pilot programme<sup>3</sup> to invite four corporations to transform non-tradable shares to tradable shares by compensating current shareholders via alternative methods, such as bonus shares, cash and other ways. The market reaction was good and it was marked as the new milestone on the way of quality improvement of PLCs (Inoue, 2005:2; Jingu, 2006:36).

As discussed by Jingu, (2006:47-48) and Lu, et al., (2008:5), the split share structure reform achieves great economic significance on the performance of Chinese PLCs. The policy promotes non-tradable state-owned shares and legal personal shares to be tradable gradually on stock market. As the non-tradable shares become tradable, shareholders will be able to sell their shareholdings on the market freely and this should quickly adjust their indifference to the market price. Once share prices begin to reflect the true firm values, conditions should become more conducive to merge and acquisition activity (Jingu, 2006:48). Consequently, Liu (2005:419) concluded the reform greatly improved the liquidity in the domestic stock market in China, which provided firms with greater scope and more decentralised ownership structure.

### **3.6 Conclusion**

The intrinsic and fundamental problem of corporate governance in China is the highly concentrated state ownership structure. The major problems of practicing corporate governance in China come from unclearly defined property rights and ambiguities of the principal and agent relationship (Zhou, 2008). Under such a centralized state ownership structure, the principal and agent problem becomes more complicated because the state is a representative of everyone in the country and delegates as the principal on behalf of public. Therefore, the state monitors the managers and board of directors to achieve its economic, social and political

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<sup>3</sup> For more information on the programme, read the article “Circular on issues relating to the pilot reform of listed companies' split share structure” (CSRC: 2005a).

objectives. Although the Chinese government attempted to solve this problem through promoting the development of the non-state-owned sector as a mean of improving corporate governance (Zhou, 2008), the state control still remains substantial in listed companies, which affects corporate performance negatively.

The unique characteristics of ownership structure of Chinese PLCs is the existence of large amount of non-tradable shares, which combined with state shares and legal person shares. Therefore, the large percentage of non-tradable shares and the trading of different types of shares in the market distort the market pricing mechanism and lower the efficiency of resource allocation.

Most empirical researches on ownership structure and firm performance in China show that the centralized state ownership structure has a negative impact on corporate performance. Studies indicate that one of key steps to improve corporate performance is to reduce the state control in PLCs by decreasing state shareholdings. The split-share structure reform in 2005 is a new policy to diversify the ownership structure by reducing the non-tradable shares in the market. Therefore, it is interesting to see the effects of this reform on firm performance of the listed companies, which will be presented in the next chapter.



## **CHAPTER 4: RESEARCH METHODOLOGY**

### **4.1 Introduction**

This study seeks to find out the effectiveness of split-share structure reform by comparing the changes of firm performance (from 2004 to 2008) through cross section data analysis. The technique of analysis is to use the Ordinary Least Square (OLS) model to analyze the correlation between ownership structure and firm performance. In addition, the model will be interpreted by Eviews software.

### **4.2 Sample Selection and Description**

The sample of this study is based on the ranking of 2004 Fortune top 100 PLCs<sup>4</sup> and the ranking list is measured by the total revenue of all Chinese companies listed both domestically and internationally. (Cheung et al., 2008:467). Many researchers choose the top 100 Chinese listed companies as their study sample. According to Lu, et al., (2007), the top 100 PLCs contribute 80% of the total value of the domestic A-share market in China and therefore it is meaningful to study their performance due to their significant position in the economy. Dong and Xue, (2009); Andrews and Tomasic (2006) also indicate that most of top 100 PLCs consist of SOEs and are characterised by concentrated state ownership structures. By studying these companies, it could indicate the problems of the current corporate governance system, such as the independence of board of directors and minority shareholder protection, etc.

Due to time constraints and data availability, only the top 50 companies listed in Shanghai and Shenzhen markets were considered in this study (i.e. the final sample excluding the companies which listed outside of China because the data is

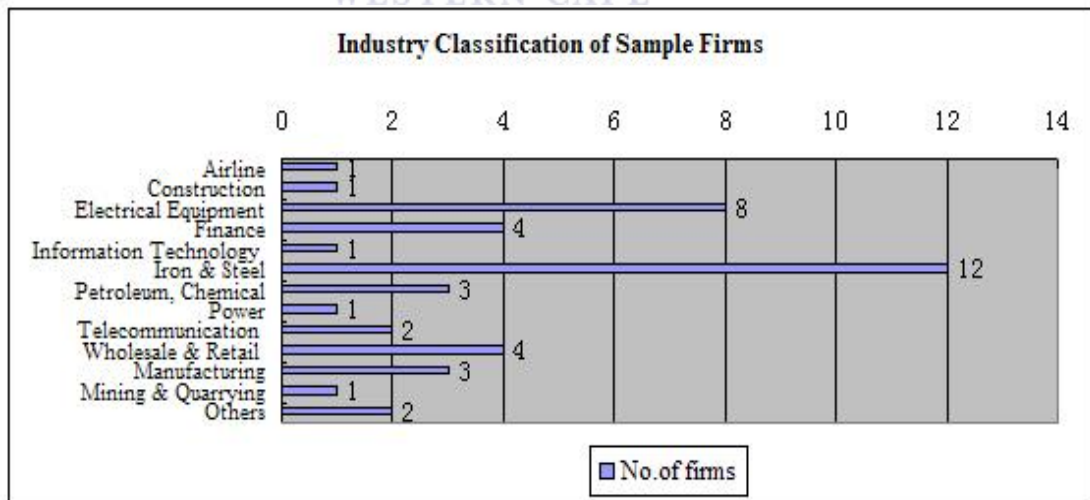
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<sup>4</sup> The list is available in Chinese online at <http://www.techcn.com.cn/index.php?doc-view-132464.html> (accessed 18/11/2011).

not available. See the list of sample firms in appendix 1). However, as this paper intends to investigate the effectiveness of split-share structure reform on firm performance by comparing the data between 2004 and 2008, the sample was reduced to 45 companies as 5 companies were de-listed between 2004 and 2008. In addition, two more companies were taken out due to incomplete information. Consequently, the final sample size is only 43 companies.

The figure 4.1 below shows the distribution of sample firms across various industries. The largest sector is iron and steel industry, which contributed 12 companies (27.9%) to the total sample. The manufactures of electrical equipment is the second largest sector, which consists of 8 companies (18.6%) in total. The other dominant sectors are finance and wholesale and retail trade industry with 4 companies each (9.3%). This industry classification of sample firms illustrated that most of the largest companies are representatives of SOEs in China as the state traditionally monopolised resources to maintain its social welfare goals (Shleifer and Vishny, 1997:767).

Figure 4.1: Industry classifications of sample firms



### 4.3 Data Source and Collection

Data on required variables in this study were collected at the end of the financial year. The data comes from the RESSET Financial Research Database<sup>5</sup>, which is created by Shanghai Gildata Service Co. Ltd. This database is a powerful source as it provides a wide range of information across the areas of economics, finance and accounting. It consists of corporate governance information of all PLCs, for example, basic company information, shareholder structures, fraction of different types of shares and ownership concentration index, etc. It is also very useful data in terms of collecting accounting data and financial ratios, such as book values of total assets, debt and equity. The data is regarded as complete, consistent and accurate as it has direct contact with all listed companies and updates the information monthly. Some researchers, for instance, Gunasekarage et al., (2007) used the database to collect shareholder information for their study on ownership-performance relations of PLCs in China.

### 4.4 Hypothesis Development

As it has been discussed in the previous chapter, the ownership structure of PLCs in China has two main features: Firstly, the share structure is complex and mainly concentrated in the hands of the government. Secondly, state shares and legal person shares are not tradable on the stock market. Therefore, the split-share structure reform was announced in 2005 which aims to improve corporate performance by transferring non-tradable state and legal person shares to tradable shares. It implies that the diversified ownership structure has a positive effect on improving the performance of public listed companies in China, because split-share structure reform could arrange the interest between tradable shareholders and non-tradable shareholders; thus improve the market liquidity and efficiency. Based on information above, the research hypothesis can be developed as follows:

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<sup>5</sup> RESSET Finance Research Database is available online at <http://www.resset.cn> (accessed 12/10/2010); see <http://www.resset.cn/en/product/db.jsp> for more detailed information.

*Null Hypothesis: The extent of state ownership structure has no impact on firm performance.*

*Hypothesis 1: The extent of state ownership structure has a negative impact on a firm's performance, because the state has multiple objectives other than profit maximization. Conflict of interest between the state and other shareholders might affect performance negatively.*

## **4.5 Variable Consideration**

### 4.5.1 Performance variable

As the hypothesis postulates a firm's performance as the dependent variable, the question arises what data can be used to measure performance. Some of the more popular indicators of performance used in empirical studies (Chen and Zhu, 2005:56; Qi et al., 2000:599; Kuznetsov and Muravyev, 2001:14; Hu and Izumida, 2008:76) are Tobin's Q, market-to-book ratio (MBR), return on asset (ROA) and return on equity (ROE). However, this study will only use ROE as a performance variable because the data for other variables is either not available or incomplete.

### 4.5.2 Ownership structure variables

The empirical studies suggest that there are different ways to choose ownership structure variables based on different assumptions and hypothesis that need to be tested. For example, most of the studies using Herfindahl index to measure ownership concentration (Dinga et al., 2009; Xu and Wang, 1999). Gunasekarage et al (2007), classify the percentage of state ownership into three groups to test the degree of state ownership on firm performance.

Chinese PLCs have a mixed ownership structure; therefore this study includes the following variables: (1) ownership by state, (2) ownership by private investors. However, this study intends to see the effect of state ownership as a blockholder on a firm's performance, therefore, a dummy

state ownership (i.e. only looking at the effect of controlling state shares equal and over 50 percentage of shares of the total shares issued) is the one will be used in the model. Meanwhile, the estimation of the impact of the legal person ownership structure on a firm's performance is excluded due to its high correlation to state shares. Ownership by private investors is included in the model in order to see the influence of tradable shares on a firm's performance.

#### 4.5.3 Control variables

Three control variables are used to avoid misspecification problem in the empirical analysis. The size of a firm is considered as an important control variable by many studies (Lau et al., 2007; Gunasekarage et al., 2007; Qi et al., 2000; Zhu and Ma, 2009). Cheung et al (2008:471) pointed out that firm size has an influence on market valuation and corporate governance performances. This is because larger firms have more resources to deal with corporate governance compared to small firms. Larger firms also care more about financial disclosure as they are under public scrutiny. Chhibber and Majumdar (1998:568) also indicated that larger firms have the ability to operate business more effectively by using their market power. However, they also argued that larger firms are inefficient, due to size or diversification. Kapopoulos and Lazaretou (2007:15) described firm size as the effect of the "value-maximizing size of the firm". That is to say, the larger the firm, *ceteris paribus*, the more capital resource it will get from shareholders. This then implies a more decentralized ownership structure exist in larger firms. All studies mentioned above used natural logarithm of the book value of total assets to represent firm size and the reason for logarithm is to avoid skewness of the variable.

Another popular control variable included in the analysis is financial leverage, which proxy as the debt-to-equity ratio (DER). Gunasekarage et al., (2007:385) emphasized that debt contracts can prevent managers to choose some risky projects; therefore, it's considered as a good tool to solve agency

problems. Sun and Tong (2003:200) thought leverage has a correlation with a firm's performance as most of Chinese PLCs are SOEs, and SOEs has lower borrowing costs.

The last control variable that will be used in the model is profitability, which is represented by net profit growth rate (NPGR).

#### 4.6 Model Specification

This study is interested in examining the relationship between state ownership structure and firm performance, with particular focus on comparing the results between 2004 and 2008. All the variables have been explained in the previous section, however, in order to clearly show the correlation between state ownership structure and firm performance, a dummy variable has been created. This is to set all those companies with state holds more than 50 percentages of total shares issued as one, otherwise is zero. It should also be noted the analysis of state ownership and legal person ownership on firm performance must be run separately as there is much correlation between them (Xu and Wang, 1998, Sun and Tong, 2003; Qi et al., 2000).

By fitting the variables into the model, the regression model is presented as follows:

$$ROE = \beta_0 + \beta_1 DUMFST + \beta_2 FTS + \beta_3 SIZE + \beta_4 DER + e \quad (1)$$

Where

**$\beta_0$ :** Intercept;

**Bs:** Coefficient;

**ROE:** Return on equity, measured as net profit/average total shareholders' equity;

**DUMST:** Dummy variable, "1" states if the state does have a controlling share ( $\Rightarrow$  50%) and the state does not have controlling share ( $< 50\%$ ) stands for "0"

**FT:** Fraction of tradable shares, measured as the percentage of total shares issued, is the sum of FTA, FTB and FTH;

**SIZE:** Measured as logarithm of book value of total assets;

**DER:** Debt-to-equity ratio, measured as total liabilities/total shareholders' equity.

**NPGR:** Net profit growth rate, measured as net profit/net profit (-1)

*e* : Error term

By running the model for 2004 and 2008 individually, it can tell whether the split-share structure reform has any effects on improving firm performance by comparing the firm performance result for 2004 and 2008.

#### **4.7 Conclusion**

This chapter provides a general framework of research methodology used in the analysis. Following the example of other authors, the sample for testing the hypothesis consisted of the top 100 largest listed companies as the shareholding and performance data for these firms were most readily available. The data of sample firms was collected from Gildata Data Company as it provides complete information of all variables needed in the analysis. A regression model will be set up to analyze the data and variables used in regression model are explained in detail. The result of research will be presented in the next chapter.

## **CHAPTER 5: EMPIRICAL RESULTS**

### **5.1 Introduction**

This chapter presents empirical results by using OLS model explained in the previous chapter. As it has been discussed in chapter 2, a firm's performance would be affected by centralized state ownership structure because of the conflict of interest between the state as a major shareholder and minority shareholders. In order to test the effectiveness of split-share structure reform policy and find out whether the diversified ownership structure of PLCs in China has a positive effect on improving a firm's performance, the empirical analysis is divided into two steps. The first step starts with an analysis of the impact of state ownership on firm performance in 2004, which provides information on how ownership-performance was like before the reform. It then followed by the second step: an analysis of the impact of state ownership on firm performance in 2008 (holding all variables the same) in the next section. By comparing the results obtained from these two cross section data analysis, it can tell whether spilt-share structure has an effect on improving corporate performance or not. The last section of this chapter draws a short conclusion.

### **5.2 The Impact of State Ownership on Firm Performance of PLCs in 2004**

As the hypothesis is going to test whether the extent of concentrated state ownership has any impact on firm performance, a dummy variable is created here to show the influence of state acts as bolckholder (i.e when state have a controlling share equal or more than 50% of total share issued) on firm performance. The fraction of Legal personal share is excluded from the model to avoid multi-collinearity. The null hypothesis states that if the state ownership is irrelevant to firm performance, it should show no correlation between DUMST and ROE.



The table 5.1 reports the results from the regression model, which examines the relationship between the state ownership and firm performance, based on 43 observations in 2004. The regression results illustrate a negative correlation between firm performance measured by ROE and block state ownership structure measured by DUMST in 2004, which rejected null hypothesis immediately. The negative coefficient on DUMST indicates that the firm performance is lower for those firms who have greater than 50% state ownership. The result is supported by other empirical studies, such as Xu and Wang, 1999; Song and Tong, 2003; Qi et al., 2000, etc. Due to the small sample size of this study, the DUMST variable is statistically insignificant ( $t = -1.11$ ), however, it still recognizes that the large proportion of state shares hurts corporate performance and needs to be reduced.

It is noticeable that the coefficient for fraction of tradable shares (FT) is significantly ( $t = -2.26$ ) negatively related to firm performance at conventional level. It implies that both domestic investors and foreigner investors have little influences on improving firm performance under concentrated state ownership structure.

The control variable NPGR is positive correlated ( $t=7.36$ ) to ROE at a significant level ( $P<5\%$ ), it indicates that the higher the growth rate is, the better the performance will be. Meanwhile, the negative coefficient of DER indicated that higher interest rate decreasing the firm profit and negative coefficient of SIZE implies the larger firm is less efficient due to a lack of proper control from senior management, especially under the centralized state ownership structure. However, the t-statistics for these two variables are very low, which do not have much explanatory power.

In general, the model has an adjusted  $R^2$  score of 57.2%, which indicates that all the independent variables in the model explained 57.2% of the dependent variable. High F-statistics at 12% also implies the significance of the model.

Table 5.1 State ownership and firm performance analysis of 2004

Dependent Variable: ROE

Method: Least Squares

Date: 12/08/11 Time: 15:49

Sample: 1 43

Included observations: 43

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.289593	0.300648	0.963232	0.3417
DUMST	-0.029281	0.026266	-1.114769	0.2721
FT	-0.002192	0.000968	-2.264122	0.0295
SIZE	-0.006049	0.029274	-0.206621	0.8374
DER	-0.000927	0.001975	-0.469421	0.6415
NPGR	0.025029	0.003400	7.361833	0.0000
R-squared	0.622968	Mean dependent var		0.125302
Adjusted R-squared	0.572018	S.D. dependent var		0.105038
S.E. of regression	0.068717	Akaike info criterion		-2.388866
Sum squared resid	0.174713	Schwarz criterion		-2.143117
Log likelihood	57.36062	F-statistic		12.22698
Durbin-Watson stat	2.074272	Prob(F-statistic)		0.000000

### 5.3 The Impact of State Ownership on Firm Performance of PLCs in 2008

The purpose of the split-share structure reform is to improve the firm performance by converting non-tradable share to tradable share. In order to investigate whether the split-share structure reform has improved the situation of corporate performance of PLCs in China, it requires a comparison on ownership structure and firm performance between 2004 and 2008. By using the same variables and observations, the model presents an analysis of the changes of ownership structure on firms' performance after the reform. The table 5.2 reports the results from the

model, which examines the effect of state ownership structure on firm performance in 2008 measured by the ROE.

It is obvious that the changes of non-tradable state shares have improved firms' performance in 2008 compared with that in 2004. This can be seen from the correlation between the fraction of tradable shares and ROE. Compared to the negative correlation between fraction of tradable share and firm performance in 2004, the FT is now positively correlated ( $t=2.23$ ) to the ROE – it shows a 95% confidence level ( $P<0.05$ ). This implies that both domestic investors and foreigner investors are confident to spilt-share structure reform.

However, the fraction of state shares is still negatively ( $t = -1.57$ ) related to firm performance. This is because government learned from past experience and intends to release the shares gradually to the market. It then suggests that a further reducing of state shareholding is required for better improvement on firm performance. It then rejected the null hypothesis as state ownership structure does matter to firm performance, and it accepted the alternative hypothesis that the extent of concentrated state ownership structure has a negative impact on corporate performance.

It also noticeable that NPGR is negatively ( $t = -0.28$ ) related to ROE, compared to significant positive relation to ROE in 2004, this indicates that corporate performance in 2008 was seriously affected by financial crisis. The coefficient for DER is still negative here but not at conventional level. On the other hand, the control variable SIZE is negatively impacted on ROE in 2004, but it became positively ( $t = 1.92$ ) correlated with performance at a significant level of 10%. It implies larger firms would perform better for that it requires more investment from one shareholder especially under diffused ownership structure (Kapopoulos and Lazaretou, 2007:15).

The overall model has an adjusted  $R^2$  score of 23.8%, which indicates that all the independent variables in the model explained 23.8% of the dependent variable. Most of the t-statistics of independent variables are relatively small; it is partly due to a short-term effect of the reform. In addition, firm performance was seriously affected by financial crisis in 2008; it may also contribute to small t-statistics.

Table 5.2 State ownership and firm performance analysis of 2008

Dependent Variable: ROE

Method: Least Squares

Date: 12/09/11 Time: 03:47

Sample: 1 43

Included observations: 43

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.712890	0.626711	-2.733142	0.0096
DUMST	-0.094766	0.060233	-1.573315	0.1242
FT	0.006837	0.003068	2.228284	0.0320
DER	-0.004939	0.005606	-0.881084	0.3840
SIZE	0.107642	0.055919	1.924971	0.0619
NPGR	-0.000761	0.002704	-0.281452	0.7799
R-squared	0.328751	Mean dependent var		0.047707
Adjusted R-squared	0.238042	S.D. dependent var		0.185032
S.E. of regression	0.161515	Akaike info criterion		-0.679653
Sum squared resid	0.965220	Schwarz criterion		-0.433904
Log likelihood	20.61254	F-statistic		3.624227
Durbin-Watson stat	2.064703	Prob(F-statistic)		0.009087

## 5.4 Conclusion

This chapter presents an overall discussion on state ownership structure and firm performance. The empirical results are reported from two cross section data analysis based on 43 sample firms in 2004 and 2008 respectively. Both reports indicate that a centralized state ownership structure is negatively correlated with corporate performance, which rejected null hypothesis as it states there is no impact between ownership structure and firm performance. Another main finding is that the split-share structure reform increased the proportions of shares for private investors, which improved the firm performance through a diffused ownership structure.



## CHAPTER 6: GENERAL CONCLUSION

Corporate governance is recognized as critical to economic development in many emerging markets (Zhou, 2008), but it is still a new and challenging field to the Chinese. This paper reviews ownership-performance relations through various perspectives with an analysis of relationship between state ownership and corporate performance of Chinese PLCs. Through a full analysis of the influence of state behavior on firm performance, it concludes that a substantial diversified ownership structure; especially on the state ownership structure of PLCs is required. The split-share structure reform therefore is the start of solving the root problem of corporate governance in China.

This empirical study investigated the correlation between ownership structure and firm performance before split-share structure reform and afterwards. The firm performance is measured by ROE and dummy variable of state ownership and private ownership are ownership variable.

The research results indicated that state-owned share structure has a negative impact on the corporate performance and the private investors have very limited power to monitor the firm performance before the reform.

In contrast to the result in 2004, more privately held shares had a positive impact on company performance. This indicates that the improvement in the diversified ownership structure had a positive impact on firm performance in China PLCs after the reform through limiting the power of the substantial shareholders and management of listed companies

This empirical result is supported by the findings of Qi et al. (2003:600-602), Xu and Wang (1999:86-88) and Gunasekarage et al. (2007:386-388). Their studies all indicated that centralized state ownership structure affected the firm performance negatively measured by different techniques and various samples.

To sum up, by comparing the correlation result of ownership structure and firm performance between 2004 and 2008, the split-share structure reform has positively promoted the diversification of ownership structure and improved the firm performance in general. However, due to the time limitation and data availability, the empirical analysis only tested the effectiveness of reform in the short-term. A further research on the same topic but based on a longer period is needed.



## Appendix 1: The List of Sample Firms

No.	Company Name	Code
1	China Petroleum & Chemical Corporation	(600028)
2	China Unicorn Limited	(600050)
3	Minmetals Development Co., Ltd.	(600058)
4	Baoshan Iron & Steel Co., LTD.	(600019)
5	Sinopec Shanghai Petrochemical Company Limited	(600688)
6	TCL Corporation	(000100)
7	Huaneng Power International, Inc.	(600011)
8 *	Sinopec Yangzi Petrochemical Co., Ltd.	(000866)
9 *	Jilin Chemical Industrial Co., Ltd.	(000618)
10	China Southern Airlines Company Limited	(600029)
11	Shanxi Taigang Stainless Steel Co., Ltd.	(000825)
12	Zhongxing Telecom Co., Ltd.	(000063)
13	Maanshan Iron & Steel Company Limited	(600808)
14	Beijing Shougang Co., Ltd.	(000959)
15	Angang New Steel Co., Ltd.	(000898)
16	Chongqing Changan Automobile Co., Ltd.	(000625)
17	Tangshan Iron & Steel Co., Ltd.	(000709)
18	Sichuan Changhong Electric Co., Ltd.	(600839)
19 #	China Eastern Airlines Corporation Limited	(600115)
20	Beiqi Futian Automobile Co., Ltd.	(600166)
21	China International Marine Containers (Group) Limited.	(000039)
22	GD Midea Holding Co., Ltd.	(000527)
23	China Merchants Bank Co., Limited	(600036)
24	Konka Group Co., Ltd.	(000016)
25	Hunan Valin Steel Tube and Wire Co., Ltd	(000932)
26	Handan Iron & Steel Co., Ltd.	(600001)
27	China Minsheng Banking Corp. Ltd.	(600016)
28	Shanghai Pudong Development Bank Co., Ltd.	(600000)



29	QingdaoHaier Co., Ltd.	(600690)
30	Shanghai Friendship Group Incorporated Co.	(600827)
31	Bengang Steel Plates Co., Ltd.	(000761)
32	BOE Technology Group Co., Ltd.	(000725)
33 *	Jinzhou Petrochemical Co., Ltd.	(000763)
34	Sinochem International Co., Ltd.	(600500)
35	Shanghai Construction Co., Ltd.	(600170)
36	Laiwu Steel Co., Ltd.	(600102)
37	Ningbo Bird Co., Ltd.	(600130)
38	Inner Mongolian Baotou Steel Union Co., Ltd	(600010)
39	Sinopec Yizheng Chemical Fibre Company Limited	(600871)
40 *	Torch Investment Co., Ltd.	(000549)
41	Gree Electrical Appliances, Inc. of Zhuhai	(000651)
42 #	Shanghai Pharmaceutical Co., Ltd.	(600849)
43	FAW Car Co., Ltd.	(000800)
44 *	Sinopec Qilu Co., Ltd.	(600002)
45	Anyang Iron & Steel Inc.	(600569)
46	Panzhuhua New Steel & Vanadium Co., Ltd.	(000629)
47	XiamenC&DInc.	(600153)
48	Yanzhou Coal Mining Company Limited	(600188)
49	Huaxia Bank Co., Ltd.	(600015)
50	Shenzhen Kaifa Technology Co., Ltd.	(000021)

Notice: The numbers with star (\*) on are the de-listed companies that have been either purchased or merged by other companies during the period 2004 to 2008. The numbers with # on are the deleted companies due to incomplete data.

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