

# **Ownership Structure and Performance of Chinese SOEs**

**Student: Bo Hong**

**ID: 0705376**

A dissertation submitted to

Auckland University of Technology

in partial fulfilment of the requirements for the degree of

Master of Business (MBUS)

2009

School of Business

Primary Supervisor: Dr. Hardjo Koerniadi

## **ACKNOWLEDGEMENTS**

I would like to express my deepest gratitude to my supervisor, Dr. Hardjo Koerniadi, for his excellent guidance, caring, patience, and providing me with an excellent atmosphere for doing research. Without his guidance I would never have been able to finish my dissertation.

Finally, I would also like to thank all the lecturers and staff from AUT who created such an excellent study environment and helped me to develop my background in finance and business.

## **ABSTRACT**

Previous empirical studies have shown that ownership structure is significantly linked to a company's performance. The main purpose of this paper is to evaluate the government ownership issue in China's State-owned Enterprises (SOEs). A database has been obtained from CSMAR (China Stock Market and Accounting Research) consisting of 1538 listed firms during a five year period from 2003 to 2007. Subsequently, Chung and Pruitt's (1994) modified version of Tobin's Q is used to measure the firm's performance to run an Ordinary Linear Regression (OLS) analysis against other eight independent variables. I find that direct or indirect government ownership through State and Legal person holdings as well as untradeable shares all have significant negative effects on firm performance. Meanwhile, central government controlled SOEs have outperformed local government controlled ones slightly. The results seem to suggest that further privatisation and removal of trading restrictions should be implemented to improve efficiency and profitability of publicly owned firms.

## TABLE OF CONTENTS

	Page
Chapter 1 INTRODUCTION	
Background	7
SOEs in China	9
Contribution	13
Chapter 2 LITERATURE REVIEW	
Ownership Concentration and firm Performance	14
Hypothesis Development	21
<i>a. Government, Legal person, and Untradeable shares Ownership</i>	21
<i>b. Central vs. Local Government Control</i>	22
Chapter 3 METHODOLOGY DESIGN	25
Chapter 4 DATA	28
Chapter 5 FINDINGS AND DISCUSSION	
Introduction	32
Government direct holdings	34
Legal person holdings	34
Untradeable or Unliquate shares	34
Industries	35
Central vs. Local Ownership	36
Endogeneity of Ownership—State Ownership versus Tobin'Q	36
Chapter 6 CONCLUSIONS	40
REFERENCE	43

## INDEXS OF TABLES

Table 1: Number of firms in each year	28
Table 2: Number of firms in each industry	28
Table 3: Descriptive statistics for all variables	29
Table 4: Changes of ownership over the sample period	30
Table 5: Ownership structure of central vs. local SOEs	30
Table 6: Correlation matrix	32
Table 7: Regression results from model 1	33
Table 8: Regression results from model 2	35
Table 9: Regression test of endogenous relationship	38

## **ATTESTATION OF AUTHORSHIP**

“I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been accepted for the qualification of any other degree or diploma of a University or other institution of higher learning.”

Signature.....Bo Hong.....Date...18/03/2010.....

## **Chapter 1 INTRODUCTION**

### **Background**

In any public listed company, managers are in control of the day to day business operation, while shareholders are the true owners. This leads to the separation of ownership and control and results in the conflict of interest between managers and shareholders, which is the so-called 'agency problem' (Jensen and Meckling, 1976; Fama and Jensen, 1983). Shleifer and Vishny (1997) suggest that the opportunities for managers to abscond with investors' funds and to conduct pet projects are two major threats to corporate profitability raised from the agency problem.

There have been numerous academic studies researched on the topic of corporate ownership structure using different methods. Shleifer and Vishny (1986), using a cross-section of 371 Fortune 500 firms samples from 1980, suggest a positive linear relation between ownership concentration and firm performance. On the other hand, companies with dispersion of ownership can create a free riding problem. A free riding problem occurs when small shareholders are either not willing or not able to monitor the management closely. Other studies such as Agrawal and Mandelker (1990) and Claessens et al. (1999) also confirm this conclusion. Pedersen and Thomsen (2003) look at the largest European firms' ownership structure, and find a positive effect on firm value when the largest shareholder is a financial institute or another corporate, no effect when it is a family, and a negative effect when it is a government organisation. Providing shares or stock options has become common practise to improve managers' incentives. However, Wruck (1989) finds a non-linear inverted U-shape relationship between management ownership and a firm's performance, that is to say a company's performance will initially improve with a larger management holding but later diminish after reaching a certain point. These studies suggest that ownership structure issues such as concentration and ownership mix affect companies' performance.

State-owned enterprises (SOEs) are owned by governments rather than by private entities. As a result of this, unlike other private firms, SOEs are sometimes instructed to pursue goals other than profit maximization (Sidak & Sappington, 2003) such as to

minimize unemployment, and they are less responsive to market competition (Megginson & Netter, 2001).

One way to look at the SOE ownership structure issue is to examine firm performance based on stock price movement. Garcia *et al.* (2007) show that Spanish SOEs' experienced positive stock returns from an initial public offering (IPO) during the period of 1990 to 2001, based on the Fama and French (1993) three-factor model. Another common practise is to test the accounting profitability, for example, Goldberg *et al.* (2008) design an ROA model with eight independent variables including ownership type, market share, Herfindahl index, firm size, age, public listing, location and industry, and has covered all registered SOE companies during the 1990s in Norway. They find that SOE-performance is markedly lower than that of private companies.

This paper studies ownership structure and how state share holdings affect SOEs performance in China. After nearly 30 years of economic reforms and rapid economic growth rates in recent years, China has become the world's third largest economy on the basis of Gross Domestic Product (GDP) after the USA and Japan, and is also the second largest FDI recipient country (World Investment Report, 2005). As a significant component of China's economy, SOEs aggregately account for 30% of the country's GDP and about 90% of all publicly listed firms, and play a central role in industries such as energy, steel, machinery and national defence (Li & Putterman, 2008). Therefore, the success of SOEs will determine China's future economic growth and its market economy development significantly.

## SOEs in China

Prior to the country's economic reforms in 1978, all Chinese firms were solely state-owned. Following an 'open-door' policy introduced by China's former leader *DengXiaoPing*. Aiming to promote a market based economy and gradually replacing its old central planning system, the Chinese government launched a program which decentralized management decision rights from the central government to the local stated owned enterprises level in 1980s.

Since 1979, SOEs have undergone four major strategic steps towards better governance by Central government: (1) greater autonomy for managers; (2) management contracting; (3) restructuring; and, (4) ownership diversification. The most important shift was the restructuring of SOEs as corporations (Shi, 2007). Since 1984, local governments also implemented a series of governance reforms that Groves *et al.* (1995) classify into three strands: (1) giving SOE managers more autonomy from the Communist Party; (2) allowing SOEs to retain a portion of any profits they produced; and (3) developing governance mechanisms to reward SOE managers for superior firm productivity.

Despite these efforts, SOEs were still under the leadership of the relevant government bodies in carrying out their business operations and production and the performance was not measured by economic figures but rather by their ability to carry out the plan set down by the policy makers. During the 80s, the initial reform period, cheap loans given to SOEs under government's warrant caused huge amounts of bad debt and non-functioning assets to state banks.

This stimulated the next round of reform in the early 1990s, when the Company Law 1993 was passed to restructure SOEs into three types of forms: wholly state-owned companies, limited liability companies, and joint stock limited companies. And according to *The working conference on piloting modern enterprise system nationwide* (1994), the goals of the reform were set down by the government as:

- Separate state-ownership from business management;

- Clearly delineate the ownership and control of SOEs;
- Align the interests of shareholders and management and other stakeholders;
- Protect the interests of creditors; and
- Establish a scientific and efficient management system to maximize the company's value.

In 1990 and 1991 the two stock exchanges: Shenzhen and Shanghai were established respectively and some SOEs which met certain listing requirements were then selected to be partially privatised. In order to regulate and supervise the trading activities, the China Security Regulatory Commission (CSRC) was setup in the early 1990s. By the year 2000, China had emerged as the most active privatizing country, and accounted for more than 20% of world's total privatization proceeds (Kikeri and Kolo, 2005). But the government still retained control and often majority of the positions in most of the SOEs. By 2008, there were 739 firms listed in Shenzhen stock exchange and 864 in Shanghai with total market capitalisation over 5 trillion RMB (600 billion US\$) and the markets together has now become the second largest Asian share market after Tokyo.

In 1997, realizing that the state is unable to look after so many SOEs after the efforts to improve the efficiency of SOEs achieved little effect, the Chinese government decided to adjust the strategy of the SOEs reforms and focus on the largest and most influential SOEs. This new strategy was referred to "*Zhua Da Fang Xiao*" or "grasp the big and let go small". The policy passed at the 15th Communist Party Congress in 1997, included efforts to corporatize state-owned enterprises (SOEs) and to downsize the state sector.

The "grasp the big" component meant that government should focus on maintaining state control over the largest state-owned enterprises that are considered vital to the government's control over the economy. On the other hand, "let go small" indicated that the central government should relinquish control over smaller SOEs through various channels including giving local governments authority to restructure the firms, privatizing firms, or closing down unprofitable ones (Naughton, 2007). Before the 1997 reform, nearly 40 percent of China's 16,000 large and medium sized SOEs reported

deficits. By the end of 2000, two-thirds of those firms had started to make a profit and 80 percent of them had built up a better corporate system (Shi, 2005).

Compared to their western peers, the corporate governance and ownership structure of China's public traded SOEs are very different and complex. Shares are classified as A-shares that are held by domestic residents only, B-shares and H-shares that are mainly traded among foreign investors. In 2003, the A share market was worth RMB4,470 billion (US\$541 billion) and the B share market RMB272 billion (US\$33 billion).

The A-shares are further divided into State shares, Legal-Person shares, Employee, Tradable A-shares and other shares. The state shares are those held directly by the central government, local governments, or solely government-owned enterprises. They are not tradable on exchanges but can be transferred to domestic institutes after approval from the CSRC. In many of the publicly-traded SOEs, the state is the largest or majority shareholder. Central and local governments have the right to appoint government officials as management to exercise their ownership rights. The legal person shares are shares owned by domestic institutions either controlled by government owned firms or private investors. Most of them are not allowed to be traded in the market with few exceptions including inshore legal person stock, social legal person stock, fixed raised legal person stock, foreign investment legal person stock, other initiator legal person stock and listing legal person stock. The employee shares are offered to workers and managers of a listed company, usually at a substantial discount as a benefit incentive for the employees. They normally account for a very small percentage of the total amount. According to Tian (2001), on average, managerial and employee ownership for listed Chinese firms during 1994-1998 was as small as 0.005% of the total outstanding shares. The tradable A-shares are held and traded mostly by individuals and some by domestic institutions, and they are the only type of shares that can be traded freely in the financial market. Usually, A-shares should account for at least 25% of the total outstanding shares for a firm when it is listed. In China, the market price of a listed company actually refers to the price of A-shares (Xu

& Wang, 1997).

Chinese firms were permitted to be listed on the Hong Kong stock exchange in 1993 as H-shares, which have stricter listing requirements than the domestic exchanges such as the mandatory introduction of at least two independent non-executive directors on the board. The N-shares are American Depository Receipts (ADRs) traded in the U.S, whereby the majority are over-the-counter traded only and are not subject to the U.S Stock Exchange Commission's disclosure requirements (Cheung *et al.*, 2009a).

Theoretically, only companies with strong historical performance can be listed on a stock exchange. In China however, the process for selecting which companies are to be listed remains highly political and sometimes lacking in independence and objectivity of the market (Tan & Wang, 2007). Many directors in Chinese listed SOEs are also current or former party members who are appointed by the state (Fan and Wong, 2004).

## **Contribution**

This research contributes to the literature in the following ways.

One important aspect of Chinese government SOE reform is the “grasp the big and let go small” policy established in 1997. This strategy allows the state to concentrate resources on the larger often centrally controlled SOEs, while relaxing state control over smaller SOEs. This indicates that those centrally controlled SOEs can receive more support from the government and hence gain a comparative advantage against other locally controlled ones. Besides that, Cheung *et al.* (2009b) find that investors are more likely subject to expropriation when local government controlled SOEs enter into related party transactions compared with central government controlled SOEs. This provides evidence that SOEs that are controlled by different levels of governments should display different performance. However, the relationship between the type of government ownership and firm performance has been scarcely discussed in previous academic research. This paper contributes to the literature by trying to answer two questions: Did the state’s “grasp the big and let go small” policy successfully lead to better efficiency of central enterprises in relation to other local SOEs? And should investors expect different performance from a firm based on its type of government ownership?

This research is significant, because if local government controlled SOEs do underperform comparatively to the central government controlled ones, investors should build up different levels of return expectations when investing in those stocks. And if the results show that state ownership along with untradeable shares are negatively associated with firm performance, to improve SOEs’ efficiency and performance, the Chinese policy makers should consider transferring more ownership to the market.

## **Chapter 2 LITERATURE REVIEW**

### **Ownership Concentration and firm Performance**

Do Chinese firms benefit when the government owns a majority stake? There are three different views of government intervention in business and the economy internationally: that the government can play a grabbing hand or helping hand role or has little overall effective influence or so called lazy hand (Shleifer and Vishny, 1998).

The helping hand theory is motivated by Shleifer and Vishny (1994). They find that shareholders in firms with close ties to governments gain from political connections. Fisman (2001) reports that political connections have significant influence over the largest Indonesian corporations, and firms with close political ties to the former president Suharto exhibited large stock price declines when news about his illness was reported. Johnson and Mitton (2003) find Malaysian firms with political connections out-performed non-connected firms after the imposition of capital controls, perhaps because the imposition of capital controls increased the opportunities for cronyism. Sapienza (2004) and Faccio, *et al.* (2006) further explain that the benefits can be in various forms such as allowing borrowing on preferential terms from state-controlled banks and governments sponsored bailouts. Chang and Wong (2004) also argue that the direct appointment of political executives is a direct way to tackle internal abuse and thus reduce agency costs. Walder (1995) summarizes and discusses some of the prior studies on Chinese economic reform's success. He suggests that the state government had played a very influential and positive role on SOEs reform processes in various way: Central and local governments promote market competition by closing down inefficient firms and support profitable ones; governments pursue industrial policies and ensure healthy long term growth; and are closely involved in promoting private economic activities. He also argue that the corruption among bureaucrats is relatively limited and under control by the central government.

The lazy hand or invisible-hand theory holds that the government interventions in business such as appointment of political executives has no effect and can only create a positive image (Agrawal and Knoeber, 2001). For example, Megginson and Netter's

(2001) survey on literature done on state-owned enterprises conclude that state governments do a poor job of monitoring SOE management, and performance improves after privatization. Essentially, this theory supports a view that government ownership or involvements have neutral or insignificant effect on business operations.

The final theory, the grabbing hand, argues that governments may have a “grabbing hand”, leading them to extract wealth from businesses. Shleifer and Vishny (1993) investigate the corruption within governments and summarize two broad reasons why corruption may be costly to economic and business development. First, various local government agencies and bureaucracies can impose independent bribes on businesses or investors. They provide an example that, in order to invest in Russia, a foreign investor must bribe every agency involved in foreign investment. Second, officials can easily be influenced by covert corruption opportunities from potentially useless projects such as defense and infrastructure, instead of investing in more valuable projects such as health and education. These can also cause policymakers in a country to maintain monopolies to prevent entry, and to discourage innovation by outsiders to avoid exposing existing corrupt practices. They suggest that corruption from government’s involvement in business activities can discourage useful investment and growth opportunities, which lead to a grabbing hand effect. Another good example to support their opinion is the Italian wholly state-owned company IRI sold its stake in a software development company to STET, another company that it partially owned along with private investors, at a substantial premium (Zingales, 1994).

To test the legal and political environment, Frye and Shleifer (1997) survey 105 shops: 55 in Moscow and 50 in Warsaw on two issues: the effectiveness of court systems in dispute resolution and the role of protection rackets. On their dealings with legal and regulatory institutions, the evidence shows that: the Polish government is reflective of the invisible-hand model; and the Russian government is ineffective (or grabbing hand) in providing basic business services, courts are ineffective in resolving disputes, and sometimes many agreements are enforced privately without proper business contract.

Shleifer and Vishny (1998) investigate and discuss various grabbing hand effects by the government based on prior academic studies. They first question the motives of politicians of providing social welfare and responding to market failure that are believed by the 'helping hand' model supporters. They also claim that bureaucrats are often interested in serving their own political agendas or seek other personal benefits rather than productive activities and impose heavy burdens on economic life. They then list the issues raised from government intervention: Publicly owned enterprises fail to accurately reflect social marginal costs, maximize social welfare, and reflect externalities costs; Publicly owned enterprises are highly inefficient due to the pressure to fulfill a variety of political goals; Government management is likely to lead to inefficient practices including featherbedding, inefficient location of facilities, credit allocations, inefficient allocation of subcontracts, and pricing below marginal costs to benefit political supporters. Examples have been given to backup their arguments: In the US, shifting local public services to private services can save contracting costs by more than 33%; Government agencies providing municipal services in the US normally hire 20% to 30% more employees and pay 10% to 20% in higher wages and other benefits, to provide the same output level than private contractors do. In the end, they suggest the solutions are to privatize public owned firms and minimize government involvement, and in transition economies, to replace government control with shareholder control especially under conditions of market pricing and budgetary and monetary stabilization.

In recent years, the rapid economic and social changes over the last two decades have encouraged many studies focusing on China and its continuous SOE reforms. Some research, for example Wei *et al.* (2005), investigate China's SOE selection process of SIP (Share issuing privatizations), and have argued that it is often not based on economic merit, attractiveness to investors, or capital needs, but is rather highly politicized and lacks transparency. Overall, most studies seem to agree that the reform programme introduced by the Chinese government, intended to improve their SOE's productivity and business efficiency through partially public listing, was still a success story. For example, Jiang *et al.* (2006) compare a sample of 149 SIP (share issue privatization)

firms in the manufacturing industries to SOEs that did not go through the SIP process between 1998 and 2003, and investigate profitability changes of SIP firms relative to SOEs. The result has shown that share issue privatization (SIP) substantially improve firms' profitability and performance relative to the non-SIP SOEs. Song and Tong (2003) examine the performance changes of 634 SOEs listed on China's two exchanges upon share issuing privatisation in the period 1994-98. They find positive improvement of earnings ability, sales and worker productivity.

However, many problems still remain. For instance, most SOEs remain inefficient in terms of revenue generation and also the amount of non-performing loans (Broadman, 1999; Harvie & Naughton, 2000). Xu *et al.* (2006) use a nation-wide survey conducted by the Chinese National Bureau of Statistics during the period of 1998 to 2002, to examine the performance of domestic Chinese firms in various ownership categories versus foreign-invested enterprises. They find both private firms and foreign-invested enterprises performed better and more efficiently than state-owned enterprises. They also conclude that the core problem of Chinese SOEs seems to lie in the concentration of state ownership of shares.

To understand the effect of substantial state ownership over SOEs in China, we have to examine the numerous issues that have been discovered by prior research. The first major issue is perhaps the series of "principal-agent problems" arising from the institutional setting in the state controlled corporations. Many researchers have shown that agent problems are especially significant in public enterprises. Bardburd (1995) studies the privatization processes of natural monopoly enterprises in the US and finds that management in a public enterprise have less incentive to generate higher revenue and lower costs. Borcharding *et al.* (1982), citing more than fifty studies from five countries, find that inefficiency of public firms exists and the likelihood that employees may partake in rent capture (for example to waste more expense) is much higher than private firms. They also report that out of more than fifty studies surveyed, in only nine cases do public enterprises tend to outperform private enterprises. In China's SOE's case, the representatives of the state are normally officials from the local Bureau State

Asset Management (BSAM) and their income is purely salaries paid by the government that has little to do with the performance of the stock companies they oversee. The absence of a performance matched reward system, can lead to severe conflict of interests between minority shareholders who are seeking for higher investment returns and representatives of the state that mainly care about their personal benefits or even bribery opportunities in the extreme cases.

One common way to control the agent problem in the developed world is perhaps to increase management holdings so that investors and managers' interests are more closely aligned (Nagar, 2002). Management holdings include shares owned by members of the corporate board, the CEO, and top management. Many prior studies have shown that management holdings are significantly linked with firm performance. Holderness *et al.* (1999) look at the relation between managerial ownership and performance in a cross-section of 371 Fortune 500 firms. They find a significant positive relation between firm performance and managerial ownership with the 0% to 5% range of managerial shareholdings. Hermalin and Weisbach (1991) measure the managerial ownership by the fraction of shares held by both the present CEO and all former CEOs still on the board, and estimate its effect on the firm performance on a five years lagged term. They find a positive relationship at 5% and 20%. However, in China, the managerial ownership of SOEs is usually very small. Prior studies like Gul and Zhao (2001) also find that the percentage of shares held by directors and managers are not significant in determining SOEs' performance. As a result, officials lack of sufficient incentives to monitor the SOEs' business operations carefully and to preserve and increase the value of state properties.

Second, public enterprise managers must often try to satisfy multiple objectives determined by politicians thus causing inefficiency. Bardburd (1995) said when there are too many objectives with no clear measurement standards of company performance, employees and managers are more likely to engage in internal rent capture. Internal rent capture refers to employees and managers capturing proportions of a company's economic profit and turning it into personal benefits such as higher

wages or other fringe benefits. This has been supported by previous empirical studies, for example, Shleifer and Vishny (1994) assess the public enterprise competition/ownership question by looking into the governments' different political motivations. They claim even under the same level of competition level, public enterprise will tend to be less efficient compared with private enterprise because the need to serve multiple political goals such as social welfare or maintain employment figures. Nellis (1994) shows similar findings that politicians may distort SOE functions to meet political goals, and they may wish to avoid bringing in more competition or other efficient enterprise conditions (such as profit-maximizing). Qian and Weingast (1997) find Chinese local government tend to prevent local enterprises from competitors entering the local market. Xu *et al.* (2005) find politicians often require an SOE to hire more workers than needed or to maintain excess employment at the expense of firm performance. They do so in order to win political support, or to avoid "social instability" that may arise as a result of high unemployment. At the same time, Fan and Wong (2004) report that 28% of the CEOs in their 625 sample firms are ex- or current government bureaucrats, and the firms with politically-connected CEOs underperformed those without politically-connected CEOs by almost 30%. They suggest politically-connected CEOs are more likely to appoint other bureaucrats to boards of directors, while they appoint fewer directors with relevant professional background or prior business experience in order to fulfill political goals rather than enhancing shareholder value.

Third, Opper and Brehm (2007) suggest that in China, government selects officers and managers based on their political connections or even personal relationships rather than business knowledge and experience. These BSAM (Bureau State Asset Management) bureaucrats are not industry experts, so they lack the relevant industry, accounting, or business knowledge and experience to serve on the board. Due to the complex nature of corporate workings and financial statements, they don't have ability to pick up potential fraud or other problems. Chen *et al.* (2005) investigate all listed firm's fraud cases that led to CSRC involvement from 1999 to 2003, using univariate analyses and bivariate analyses. They find that firms who commit fraud have more

board meetings, suggesting representatives of the state sitting on boards do a poor job in detecting potential misbehaviour or fraud. They also suggest that to increase the proportion of outside directors is an effective solution. Likewise, according to Liang (1992) those officials sometimes have to overlook hundreds of companies and enterprises in which the state has an interest. It is very difficult to imagine any ordinary person even with proper experience and training would have the time and resources to look after all the firms well.

Fourth, Tan and Wang (2007) conclude that other issues caused by the dominating government holdings are: inappropriate related party transactions, managers and employees theft of corporate assets through self-dealing or acquisition, cheating on corporate profits in order to meet IPO requirement, managerial 'buy-outs' at substantially undervalued prices and appointing key staff based on personal connections. Berkman *et al.* (2007) investigate Chinese SOE share price reactions around the announcement of block share transfers, and they find the market responses were better when ownership is transferred from state to private entities indicating that investors also see less government holdings as positive news.

Lastly, one important aspect of the Chinese market is its turnover ratios are extremely high. For instance according to CSRC, it was 200% in 1994 as compared to 67% in the US. In other words, the average period of shares holding in China is less than 2 months while it is 18 months in the US. It seems that Chinese individual investors are seeking short term trading profits rather than regular income or long term capital appreciation. Also while individual investors can attend company conferences and board meetings only at their own expense, the state and legal person owners always sent their representative with full expenses covered. As a result of the individual short term speculate trading strategy and cost related to the conference participation, individual investors are reluctant to attend board meetings, and the company board is often dominated by government and management representatives. This makes it harder for minority shareholders to monitor management performance or to challenge any unfavourable actions proposed by the state.

## Hypothesis Development

### *a. Government, Legal person, and Untradeable shares Ownership*

As I have discussed above, state representatives do a poor job in monitoring business management, and CEOs or directors are ex- or current state officials who are often chosen to fulfil goals assigned by the state government rather than acting in investors' best interests. These along with other issues raised from state control have negative impacts on business performance.

Unlike state shares, which are those directly held by government, legal person (or institutional) shares are most often state-owned but there are a substantive number of private owners as well. Legal person shares were created as part of the Chinese economic reform plans in the early 90s, when the government was trying to reduce government intervention in SOEs by encouraging firms to take responsibility of their own profits or losses and thus to enhance the efficiency and profitability of SOEs (Qian, 1999). On average, state-related legal person ownership was 27% of all ownership through 1991 to 2001, and non-state-related legal person owners accounted for 4.5% of all ownership in the same period (Cheung *et al.*, 2009a).

There are several reasons why legal person shares are potentially different to state shares. First of all, legal person shares are held by investment institutions that are judged mainly on their ability to generate returns on investments. Legal person shares also do not have pressure to fulfill the same political objectives that are faced by state shareholders (Claessens *et al.*, 1999). As a consequence, representatives of legal persons are more likely to focus on economic performance rather than other goals. Secondly, according to Chen (2001), directors that are appointed by legal persons are selected with greater care and are typically more capable and have incentive to monitor and control the firm managements. When legal person owners have substantial representatives in a firm's board of directors, they have the ability to change an underperforming or corrupt management team. Lastly, they have the voting power on decisions on key matters such as management selection and payout policy, or to call for emergency shareholders meetings. In practice, legal person owners help to

strengthen the alignment of interests between managers and shareholders via their direct control on the board (Xu & Wang, 1999). It can be suggested that legal person ownership displays a positive relationship to firm performance.

Untradeable shares represent the shares of firms that are not tradable in the market but are subject to retention by their owners. Gilson and Kraakman (1984) suggest that accurate pricing and good liquidity are two important features of an efficient market. The trading restrictions on untradeable shares on the other hand, reduce the liquidity and accurate pricing adjustment capability of the stock markets and affect the effectiveness of monitoring corporate control and management performance eventually. In the case of Chinese listed SOEs, these indicate that fewer investors from the private sector will have their representatives on the board and have less voting power on the firm's key decisions. In addition, Chen *et al.* (2005) study on Chinese fraud cases on listed firms suggests that a lack of outside or independent board members is an essential cause of management fraud or misconduct. The non-transferability of these shares make this issue even worse.

To identify the effect from legal person, state, and untradeable ownership on the SOEs' performance, the first hypothesis of this study is designed as:

*Hypothesis 1: The firm performance is negatively related to State ownership, Untradeable shares concentration, and positively related to legal person ownership.*

*b. Central vs. Local Government Control*

Studies have found that the likelihood of promotion of provincial leaders is positively linked with local economic performance in terms of bureaucratic ranking (Qian and Xu, 1993; Maskin *et al.*, 2000). Hence, local governments have incentives to promote firms' economic performance to improve the local economy, given their fiscal responsibilities and political desire. However, the incentive often leads to local protectionism that local governments attempt to protect their "backbones" enterprises from competition with other regions by erecting trade barriers. These type of actions often failed because it

reduced a firm's long term competitive strength and the efficiency costs significantly exceeded the net benefits from local protectionism or trade barriers (Oi, 1992; Qian and Weingast, 1997).

Cheung *et al.* (2009b) explore another issue for firms owned by local governments. They find local governments more often use related party transactions to expropriate wealth from publicly owned firms. Part of the off-budget sources of revenue are utilized for corruption purposes, paying officials' salary bonuses, building luxury headquarters office complexes with lavish facilities, and providing excessive entertainment or travel expenses for provincial government staff and families. By examining 801 corruption cases that have been prosecuted in China, they also find that local government bureaucrats are less likely to be prosecuted for misappropriation of state funds or assets, suggesting corruption is higher at local or provincial level.

Moreover, China is regarded as one of the most decentralized economies in which central and local governments operate quite differently. For example, fewer resources are normally available for local government and corruption problems may also be worse. In addition, some local governments are more interested in provision of public goods than management of SOEs (Deng, 2005). In contrast, SOEs that are controlled by the central government are regarded vital to national security and strategically important to warrant the maintenance of the state control (Wen, 2007), which indicates the strong focus and priorities to promote their success by the state government and the party. They are also normally in the monopolistic industries such as communication, banking, insurance, railway, aviation, news & publications and gain a number of benefits and resources from the Chinese central government (Shi, 2007). For example, according to CSRS, although the central enterprises under SASAC (State-owned Assets Supervision and Administration Commission of the State Council) management comprise only 159 major companies, their size and importance to the national economy in many respects surpasses that of all the other SOEs combined. Central enterprises account for roughly 70% of all SOE profits. The focus on larger or strategically more important central SOE firms, indicates central SOEs receive more

policies and resources benefits from the state government and gain a comparative advantage over the local government controlled ones (Shi, 2007). My second hypothesis is as follows:

*Hypothesis 2: The Central government controlled SOE firms can outperform Local government controlled SOE firms.*

### Chapter 3 METHODOLOGY DESIGN

Earlier studies on Chinese enterprise reforms used the total factor productivity (TFP) (Chow, 1985; Perkins, 1988) or data envelopment analysis (DEA) (See, Zheng *et al.*, 1998) as the performance measure. Alternatively, other recent studies have used the Return On Sales (ROS) or Return On Asset (ROA) approach (Sun and Tong, 2003; Wang *et al.*, 2004). Return On Equity (ROE) has not been commonly used when researching Chinese listed firms as the equity structure of China's listed SOEs is fairly complicated, which can cause distortions in definitions and measurements of equity. Tobin's Q developed by James Tobin (Tobin, 1969) is a ratio comparing the market value of a company's stock with the value of a company's equity book value. Unlike ROA and other profitability models, one major benefit of using Tobin's Q is it considers both accounting and market data, which can be used to identify the marginal efficiency of capital and financial capital (Tobin, 1969). Another advantage of Tobin's Q is it values intangible assets such as goodwill, monopoly power, or efficient management as well as physical assets (Lindenberg and Ross, 1981), which provides an opportunity to study the predictable effects of a SOE's ownership structure on its performance value. However, given the available data in China, the simpler Chung and Pruitt (1994) model of Tobin's Q ratio will be used, and they have proved that the results they generated are not significantly different from the original version of Tobin (1969). It is written as follows:

$$\text{Tobin's Q} = (\text{Market Value} + \text{BV Long-term Debt} + \text{Current Liability} - \text{Current Asset}) / \text{BV Total Asset}$$

Note that because preferred stocks are not allowed under the Chinese current regulations, the market value of common stocks equals the total market value.

The first three independent variables are State, Legal person and Untradeable shares of a listed firm. They are included in order to test my first hypothesis.

The fourth independent variable is a dummy variable (DUMcl) that helps to identify any

performance differences between local government controlled SOEs and central government controlled SOEs stated in hypothesis two.

The fifth independent variable is the leverage ratio (E/D) as measured by book value of equity divided by debt. As interest of debt is tax deductible, this variable can, in part, capture the value of corporate tax shield.

In addition, according to the pecking order theory developed by Myers and Majluf (1984), because increasing levels of debt will increase both business risk and return expectations, the leverage ratio reflecting a firm's capital structure will affect its performance. Lins (2003) also finds capital structure is significant to firm performance in emerging markets.

Furthermore, Fama and French (1995) have shown that company size is a important factor in determining stocks' value, the 'grasp big and let go small' policy adopted by the Chinese government make 'size' a vital variable in our equation. Although some researchers such as Xu and Wang (1997) have used sales volume as a proxy of size, in this study firm size (TA), as measured by log form of total firm assets, is selected as the sixth independent variable included.

The seventh independent variable is the net income growth rate (GROWTH). Gordon (1959) suggests the growth rate of a company's issued dividend affects its intrinsic or true value. Because growth reflects a firm's long term cash flow generation ability, its value should be taken into account and used to adjust for the time value of money. Thus, a positive relation between growth rate and performance is expected to be observed.

Finally, it can be expected that firms in different industries have different levels of profitability. Lindenberg and Ross (1981) demonstrated this by showing that the industry which a firm is in significantly affects performance because of its unique economic and business conditions and risks. In this research, five industries (IND);

manufacturing, business, utility, real estate, and others categories are included.

The regression model used to test Hypothesis 1 is:

$$CP\_Q_{it} = \alpha + \beta_1 State_{it} + \beta_2 Legal_{it} + \beta_3 Untrad_{it} + \beta_4 E/D_{it} + \beta_5 TA_{it} + \beta_6 Growth_{it} + \sum_{j=1}^4 \gamma_j IND_{it} + e_{it}$$

The regression model used to test Hypothesis 2 is:

$$CP\_Q_{it} = \alpha + \beta_1 Legal_{it} + \beta_2 Untrad_{it} + \beta_3 DUMcl_{it} + \beta_4 E/D_{it} + \beta_5 TA_{it} + \beta_6 Growth_{it} + \sum_{j=1}^4 \gamma_j IND_{it} + e_{it}$$

Where,

CP\_Q = Chung and Pruitt (1994)'s Tobin's Q value;

State = Shares held by government or government controlled enterprises directly divided by total outstanding shares;

Legal = Shares owned by legal persons divided by total outstanding shares;

Untrade = Untradeable shares divided by total outstanding shares;

DUMcl = dummy variable, 0 = local government SOE, 1= central government SOE.

E/D = book value of equity divided by book value of debt ratio;

TA = log form of the total asset

Growth = growth of net income;

IND = 5 different industrial sectors;

First of all the significance of each independent variable will be tested and displayed.

Then the adjusted R square will be used to assess the overall model prediction levels. If any coefficients of the first three variables are significant, it proves that the ownership concentration does affect a firm's performance. The DUMcl is to test hypothesis two.

## Chapter 4 DATA

The sample used in this study includes 1538 listed SOE firms from both the Shenzhen and Shanghai stock exchanges for the period 2003 to 2007, of which 210 are classified as central government controlled firms. All data is taken at the end of year, 31 December, each year. Firms from the five industries categories except financial institutions are used including manufacturing, utility, business, real estate, and others. The accounting variables, market data and ownership information used are obtained from the CSMAR (China Stock Market and Accounting Research) database. The CSMAR is viewed as the best data source for studying Chinese SOEs.

The dataset is made up of 6,783 observations. Table 1 lists the observations for each year separately. The number has increased steadily from 1243 in 2003 to 1481 in 2007. Table 2 lists the number of observations in each industry category. Manufacturing has the most observations of 4152 followed by 1219 from the 'Others' group, Real estate has the least of 370 and Utility has 553.

Table 1: Number of observations in each year

Year	Number of Observations
2003	1,243
2004	1,334
2005	1,335
2006	1,390
2007	1,481
Total observation	6,783

Table 2: Number of firms in each industry

Industry	Utility	Real estate	Others	Manufacturing	Business
Number	553	370	1219	4152	489

Table 3: Descriptive statistics for all variables

Ownership	Average	SD	Min	25th Percentile	Median	75th Percentile	Max
State	0.31	0.25	0	0.01	0.33	0.53	0.86
Legal	0.16	0.21	0	0.00	0.13	0.29	0.89
Untrade	0.55	0.15	0.01	0.46	0.57	0.66	0.93
Tobin Q	1.29	1.09	0.13	0.81	0.98	1.36	18.89
*TA	4077.59	21291.13	20.39	849.00	1561.54	3199.09	994000
Growth	(0.89)	17.13	(640.66)	(0.47)	0.08	0.54	524.50
E/D	1.60	3.39	(0.94)	0.56	0.94	1.69	121.81
*Measured by per million Yuan							

Note that as government control the SOEs through both direct (state) and indirect (legal person) channels, although either state or legal person shares can equal to zero sometimes, the combined value of state and legal person can not be. Hence it is justable to see zero minimum value for State and Legal person holdings.

As observed in Table 3, the mean value of the dependent variable Tobin Q is 1.2920 and its standard deviation is 1.0905. Of the three variables measuring the ownership: the mean value of State is 0.31 and its maximum is 0.86, which also has the largest standard deviation of 0.25 among the three. The large standard deviation number indicates it is the most volatile variable. Legal person holding has the smallest value of 25<sup>th</sup> percentile (0), 75<sup>th</sup> percentile (0.29), average (0.16), and median (0.13) values and its maximum is 0.89. It seems that in most firms, the proportion legal person shares are quite small compare with state and untradeable shares. Untradeable shares account for more than 50% of the total outstanding shares (0.55), showing that the majority of SOEs' shares are still not tradable in the market. It also has the largest median value (0.57), 25<sup>th</sup> percentile (0.46), and 75<sup>th</sup> percentile (0.70) values, except its volatility is the lowest of 0.15. Of other independent variables: average total asset is 4,077.59 million Yuan with a maximum value of 994,000 million and a minimum of 20.39 million;

surprisingly the average growth rate is around negative -0.89 percent over the 5 years period although both the median and 75<sup>th</sup> percentile are positive with 0.08 and 0.54 respectively. These indicate most firms have had positive growth but just a few firms with extreme poor results have lowered the overall mean value; E/D has lower standard deviation of 3.39 and its 25<sup>th</sup> percentile is 0.56.

Table 4: Changes of ownership over the sample period

	2003	2004	2005	2006	2007	% Decrease from 2003 to 2007
<b>State</b>	35.96%	34.55%	33.13%	28.46%	25.08%	30.26%
<b>Legal</b>	16.08%	15.70%	16.84%	15.79%	14.89%	7.40%
<b>Untrade</b>	60.28%	60.39%	58.37%	51.55%	46.01%	23.67%

Change of ownership has been included in Table 4, from which we can see that percentage holdings of both State and untradeable have decreased significantly. Untradeable shares have decreased the most by 30.26% to 46.01% of total outstanding shares, and State holdings decreased from 35.96% in 2003 to 25.08% in 2007. The Legal person shares however, remain steady at around 15%. These indicate that the Chinese government has managed to: 1. continuously reduce its direct holdings and transfer more ownership to the market; 2. allow more shares to be tradable in the market freely; 3. maintain the Legal person holding at a similar level.

Table 5: Ownership structure of central vs. local SOEs

	Central SOEs	Local SOEs
<b>Number of Firms</b>	163	1375
<b>Average State</b>	47.34%	29.20%
<b>Average Legal</b>	15.06%	15.93%
<b>Average Untrade</b>	57.26%	54.74%
<b>Average TA</b>	12,718.47	2,996.94

Table 5 lists the average different ownership structure and asset size of central against local SOEs. It is clear that central government controlled SOEs on average have much higher state holdings (47.34% vs. 29.20%) and much greater total assets (12,718.47 vs. 2,996.94) compared to local government controlled SOEs. That is consistent with the 'grasp the big and let go small policy' that government keeps greater control over the larger firms that are considered vital to the nation's economy.

## Chapter 5 FINDINGS AND DISCUSSION

### Introduction

Table 6: Correlation matrix

	CP_Q	TA	Growth	E/D ratio	State	Untrade	Legal
CP_Q	1.00	-0.28	0.01	-0.03	-0.21	-0.29	-0.04
TA	-0.28	1.00	0.08	-0.09	0.26	-0.08	0.02
Growth	0.01	0.08	1.00	0.03	0.04	0.03	0.02
E/D	-0.03	-0.09	0.03	1.00	0.04	0.06	0.00
State	-0.21	0.26	0.04	0.04	1.00	0.34	0.02
Untrade	-0.29	-0.08	0.03	0.06	0.34	1.00	0.02
Legal	-0.04	0.02	0.02	0.00	0.02	0.02	1.00

Table 6 lists the correlation matrix for the sample used here. Statistically speaking, the correlation measured in a range of -1 to 1, indicates the strength and direction of a linear relationship between two random variables. The correlation approaches to 1 in the case of an increasing positive relationship, -1 in the case of an increasing negative relationship, and 0 if the variables are independent to each other.

The dependent variable CP\_Q (Tobin'Q) is only positively correlated with the growth rate (0.01) while negatively correlated with E/D ratio, Size (Total asset), State holding, State and Legal Person. The correlation between state holding and total assets is 0.26, and this can be explained by the government following the 'grasp the big and let go small' policy and investing heavily in larger firms. State is also strongly correlated with Untrade at 0.34 level. In contrast, the Legal person holding has a small correlation number of 0.02 with State, this indicates legal person holdings and direct state holdings do not often move in the same direction. Legal person is the most independent variable, showing no strong correlations with any other variables. Growth is positively correlated with all other variables and the highest value is 0.08 with Size. Leverage measured by E/D ratio is negatively correlated with total assets, implying larger firms generally have more debt in their capital structure.

The low correlations results also show that there is no significant multicollinearity issue among the independent variables. Multicollinearity does not reduce the predictive power or reliability of the model as a whole but it affects calculations regarding individual variable predictors.<sup>1</sup>

First of all, the designed model was tested. The results of the regression that report the variable coefficients, adjusted R<sup>2</sup> and F statistics are represented in Table 7 below:

Table 7: Regression results from model 1

	<b>Estimate</b>		<b>t value</b>	<b>Pr(&gt; t )</b>
<b>(Intercept)</b>	9.1451	***	33.9920	<2.00E-16
<b>TA</b>	-0.2981	***	-25.2960	<2.00E-16
<b>Growth</b>	0.0025	***	3.6480	0.0003
<b>E/D ratio</b>	-0.0159	***	-4.4990	0.0000
<b>State</b>	-0.1343	*	-2.5220	0.0117
<b>Untrade</b>	-2.1762	***	-24.5360	<2.00E-16
<b>Legal</b>	-0.1448	**	-2.5810	0.0099
<b>Real estate</b>	-0.2300	***	-3.4230	0.0006
<b>Manufacturing</b>	-0.2265	***	-4.3540	0.0000
<b>Business</b>	-0.2757	***	-6.0470	0.0000
<b>Others</b>	-0.2456	***	-3.9330	0.0001
Residual standard error: 0.9733 on 6747 degrees of freedom				
Multiple R-squared: 0.1734, Adjusted R-squared: 0.1722				
F-statistic: 141.6 on 10 and 6747 DF, p-value: < 2.2e-16				

---

<sup>1</sup> Another finding is, managerial ownership on average only accounts for about 0.25% of total outstanding shares. The small amount of shares owned by management can result in a lack of incentive to perform well or even corruption issues.

Note: TA is the log form of total asset; Growth is the growth rate of net income; E/D ratio is equity divided by debt; State is the percentage of state ownership of total shares; Untrade is the percentage of shares that are not tradable in the market; Legal is the percentage of Legal person ownership of total shares; Utility is the industry set as the baseline.

### **Government direct holdings**

As we can observe from the regression result from the testing of the model, is that state holdings have demonstrated a negative correlation with firm performance measurement CP\_Q (-0.134266), with a P-value of 0.011703 significant at a 5% level. Along with the negative correlation value with CP\_Q of -0.209 these give evidence that state holdings or government direct ownership have negative effects on firm performance over the sample period. This can also be explained by the 'grabbing hand' theory I've discussed earlier in the literature review section. Direct government ownership in Chinese SOEs may cause a series of issues due to corruption, political goals derive firms from business purposes, government representatives lack of relevant experience and sufficient motivation, or other issues. However, the coefficient number is relatively small by absolute value, therefore the negative effects from direct state ownership may not be as severe as previously suspected

### **Legal person holdings**

Legal person holdings by name is comparable to institutional holdings in developed markets, however, they are controlled by institutes under the government's influence and some studies have regarded this as another form of government ownership. The coefficient of Leg from the regression model is -0.144781 with a P value of 0.009872 can not be rejected at both 5% and 10% levels. This is in contrast to the argument that legal person shareholders are mainly profit seeking institutions that can have a monitoring influence and can successfully lead the firm towards better performance. In fact, they have similar negative effects on performance as state shares do.

### **Untradeable or Unliquate shares**

The untradeable shares include both state and legal person shares and other stakes of

shares that are not open to trade among the public. In the regression against CP\_Q, it provides the largest negative coefficient value (-2.17618 vs. -0.134266 of state and -0.144781 of Leg). The P-values are significant at 0.000401 statistically. Unlike state and legal person holdings that are owned or controlled by the government, untradeable shares also include shares that are owned by other non-government entities such as top management and labor workers or shares under restriction to trade. The results seem to indicate that the ownership issue with Chinese SOEs are not just inside the government holdings, but also related to its liquidity issue.

### Industries

The Utility industry is set as the baseline. All significant p values show that the industry in which a firm operates is relevant to its performance. It is obvious that Others industry are the second best to Utility, while Manufacturing has been the worst.

Table 8: Regression results from model 2

	Estimate		t value	Pr(> t )
<b>(Intercept)</b>	9.4322	***	36.0780	< 2e-16
<b>TA</b>	-0.3117	***	-27.3590	< 2e-16
<b>Growth</b>	0.0025	***	3.6130	0.0003
<b>E/D</b>	-0.0166	***	-4.6810	0.0000
<b>DUMcl</b>	0.0966	*	2.4970	0.0125
<b>Untrade</b>	-2.2693	***	-27.4400	< 2e-16
<b>Legal</b>	-0.1436	*	-2.5590	0.0105
<b>Real estate</b>	-0.2310	***	2.5430	0.0006
<b>Manufacturing</b>	-0.2747	***	4.1180	0.0000
<b>Business</b>	-0.2457	***	-6.0480	0.0001
<b>Others</b>	-0.2245	***	-3.9430	0.0000
Residual standard error: 0.9734 on 6747 degrees of freedom				
Multiple R-squared: 0.1734, Adjusted R-squared: 0.1722				
F-statistic: 141.6 on 10 and 6747 DF, p-value: < 2.2e-16				

Note: TA is the log form of total asset; Growth is the growth rate of net income; E/D ratio is equity divided by debt; DUMcl is the dummy and is set to 1 when firm is a central government controlled SOE; Untrade is the percentage of shares that are not tradable in the market; Legal is the percentage of Legal person ownership of total shares; Utility is the industry set as the baseline.

We can observe that the results of all variables from regression model 2 presented in Table 8 are consistent with that of model 1. Dependent CP\_Q, measuring the firm performance, is only positively correlated with the growth rate while Legal and Untradeable shares have significant negative coefficient values. The only difference is the State is taken out and dummy DUMcl is used instead in model 2.

### **Central vs. Local Ownership**

The local government controlled SOEs are set to equal to 0 and are the baseline of central government controlled SOEs, therefore the coefficient value reflects the difference of correlation between dummy Central and Local with the performance variable CP\_Q. As can be observed the coefficient from the model is equal to 0.096649 which implies the Central dummy is more positively correlated with CP\_Q than local dummy, or in other words, central government controlled SOEs have shown stronger performance than the local government controlled SOEs. The p-values equal to 0.012534 is also statistically significant and usable. The findings are consistent with my hypothesis that central SOEs can outperform local SOEs against the Tobins'Q but not to a large degree. The implication that can be made here is central government controlled SOEs that have more monetary and non-monetary support from the government are perhaps better investments for investors.

### **Endogeneity of Ownership—State Ownership versus Tobin'Q**

Literatures such as Lo and MacKinlay (1990) have warned about the problem of data snooping in the empirical asset pricing analysis. They argue that it is important to conduct robustness checks in cross-sectional asset pricing tests because some useless factors might appear statistically significant in the cross-sectional regression. Robustness testing is a part of method validation that evaluates the influence of a

number of method parameters (factors) on the responses, and addresses the data-snooping issue.

The possible issue of this study is endogenously determined relationships exist in the OLS model. For instance, the dependent variable CP\_Q representing firm performance and the independent variables Unliq, State, and Sleg representing firm ownership are jointly determined. In other words, instead of ownership being a factor that influences firm performance, firm performance could also determine ownership in an opposite direction. For example, firms with good performance will encourage government to transfer more shares to the public or make more shares tradable in the market. As a result, the results from regression would be biased to make any credible conclusions.

However, I suspect this issue will not occur here. First of all, China has adopted a ‘grasp the big and let go small’ policy since the 1990s, whereby the main aim of this policy is for the government to retain state control over the largest SOEs and to relinquish control over smaller SOEs. Realizing the non-transferability of untradeable shares constrained the fair liquidity of the stock markets, the state decided to convert more of those shares into tradable form in 2006. Reducing the state holdings and increasing liquidity shares hence has become new reform policy which will be carried out step by step, and will not be affected by the firm’s performance or other factors. Therefore the endogenously determined relationships should not exist in the model.

*Hypothesis 3: There is no endogenous relationship between firm performance and government ownership.*

To test that, a simple regression where State is the dependent variable has been run.

$$\text{State}_t = \alpha + \beta_1 \text{CP\_Q}_{t-1} + \beta_2 \text{TA}_{t-1} + \beta_3 \text{Growth}_{t-1} + \beta_4 \text{E/D}_{t-1} + \sum_{j=1}^4 \gamma_j \text{IND} + e_{t-1}$$

Where,

State<sub>t</sub> = percentage of shares held by government or government controlled

enterprises directly;

CP\_Q<sub>t-1</sub> = One year lagged term of Tobin's Q value;

TA<sub>t-1</sub> = One year lagged term of log form of the total asset

Growth<sub>t-1</sub> = One year lagged term of net income growth rate;

E/D<sub>t-1</sub> = One year lagged term of book value of equity divided by book value of debt ratio;

IND = 5 different industrial sectors;

If there is an endogenous relationship between the two variables, the coefficient should have a positive sign so that good past performance would encourage higher government holdings.

Table 9: Regression test of endogenous relationship

	Estimate		t value	Pr(> t )
<b>(Intercept)</b>	9.4322	***	36.0780	< 2e-16
<b>CP_Q</b>	-0.0311	***	-10.6090	< 2e-16
<b>TA</b>	0.0078	**	2.6410	0.0083
<b>Growth</b>	0.0002	*	1.3330	0.1827
<b>E/D</b>	0.0029	***	3.2330	0.0012
<b>Real estate</b>	-0.0823	***	-4.9170	9.00E-07
<b>Manufacturing</b>	-0.0805	***	-6.2210	5.24E-10
<b>Business</b>	-0.0391	***	-3.4370	0.0006
<b>Others</b>	-0.0563	***	-3.6170	0.0003
Residual standard error: 0.2467 on 6747 degrees of freedom				
Multiple R-squared: 0.03334, Adjusted R-squared: 0.03205				
F-statistic: 25.86 on 9 and 6747 DF, p-value: < 2.2e-16				

We can observe that as an independent variable, lagged CP\_Q term has a significant negative coefficient value of -0.0311 against State holdings. This shows that good performance will not encourage more government holdings and supports the

hypothesis.

Another way to examine this issue is to use the two steps ordinary least squares technique, however, it is beyond this paper.

## **Chapter 6 CONCLUSIONS**

Arguably, China's economic reforms, which started in the late 1970s, have generated rapid and sustained economic growth, unprecedented rises in real income and living standards for its residents, and have transformed what was once one of the world's most isolated economies into a major trading nation. And unlike eastern European countries and the former Soviet Union, who were accused of selling off their national assets too cheaply (Walder, 1995), the Chinese government has maintained a majority control over its economy. One essential way, they have achieved this is through holding significant ownership over state owned enterprises which still account for more than half of its economy regardless of the recent effort to promote private sectors. It is hence important to study the effect of the ownership structure of SOEs and what policymakers can do next to further improve efficiency and performance.

In this research, a dataset has been obtained which includes all China's listed SOE firms during the period of 2003 to 2007. Chung and Pruitt (1994)'s modified version of Tobin's Q is used as the dependent variable that represents performance, four control independent variables include leverage ratio measured by E/D, total asset, growth as net income growth rate, 5 industries sectors (utility, business, real estate, manufacturing, and others) except financial institutions; three ownership independent variables: State, Legal person, untradeable shares; and a dummy variable that is 0 if it is local government owned firm or 1 if it is centrally owned are included in the model. An ordinary linear Regression (OLS) testing has been run to examine their correlated relationships for the sample data.

The primary findings of this study are twofold: First of all, the correlation and regression analysis prove that state and legal person shares both negatively affect firm performance. The result of state holdings representing the direct ownership of government is consistent with the hypothesis stated. This shows that the issues caused by sizable government ownership such as agency problem, corruption, internal rent capture, lack of relevant knowledge and experience of state representatives, fulfilling political objectives rather than business goals, and non-transparency have observable

detrimental effects on firm value. This is also consistent with prior literature findings such as Wei *et al.* (2005) that reducing state holdings possibly through further privatization is still a key to the success of China's SOEs reform. However, Legal person shares have shown a surprise negative coefficient and are in contrast to the initial hypothesis that legal person shares would display a different performance pattern compared to state holdings. This seems to point out that, government ownership even through some of the pure profit-seeking institutions have failed to make any positive influence such as better monitoring suggested by some literatures on SOE firms. Different to state shares, untradeable shares other than State or Legal person shares are composed of shares owned by private parties like employees and investment institutions but restricted to trade in the market. These parties are unlikely to cause any problems as the state does and this indicates that lack of liquidity of stock trading is another issue besides government ownership. Hence in addition to privatizing more state shares, the government should also consider removal of appropriate trading restrictions.

Second, this is one of the few studies to date that has examined the difference between local or provincial and central government controlled SOEs against performance variables directly, and central SOEs have shown slightly more favorite results. Reflecting the 'grasp the big and let go small' policy which aims to loosen control over small enterprises while maintain larger stakes in larger ones, our data exhibits centrally controlled firms are much bigger in asset size. Meanwhile, as firm size measured by total asset is negatively correlated with performance variable, this indicates central government controlled SOEs that are usually lot larger, do indeed outperform local SOEs significantly for the sample period. The reasons for this happening can be explained as corruption to a lesser extent, fewer misappropriation of state assets, less internal rent captured, and perhaps receiving more monetary resources (e.g. cheaper loans, bailouts) or non-monetary resources (e.g. more qualified officials, policies) from the government. However, the different behaviour between them such as how they respond to crisis, deal with firms in financial troubles, reward outstanding performers, is not included in this paper and can be explored further by

future studies.

This research has also discovered some other minor findings: management shares are insignificantly small as a portion of the total stake, utility is the best performing industry while manufacturing is the worst, the equity to debt ratio is negatively correlated with performance variable, and perhaps more importantly the government has decreased their holdings of all state, legal person and untradeable shares by more than 10% over the five year period. This can be interpreted as that policymakers have realized the associated problems of state ownership and untradeable shares and are persuaded to transfer more ownership to the public. However, another issue which needs to be considered is how to encourage minority shareholders to participate in firms' decision making and help to monitor management. This can be done by providing observable benefits in attending board meetings, educating the importance of their participation, and to give the same voting power to each share.

The main limitation of this study is it is unable to divide State and Legal person ownership further. That is to say, we are not sure the exact proportions of State or Legal person shares of a SOE firm are actually owned by the central government and that are actually belong to the local government. Instead, the firms are classified as central or local SOE by the database.

## REFERENCE

- Agrawal, A., & Knoeber, C. R. (2001). Do some outside directors play a political role? *Journal of Law and Economics*, 44, 179-198.
- Agrawal, A. & Mandelker, G. (1990). Large shareholders and the monitoring of managers: the case of anti takeover charter amendments. *Journal of Financial and Quantitative Analysis*, 25, 143-161.
- Bardburd, R.M. (1995). Privatization of Natural Monopoly Enterprises: The Regulation Issue. *Review of Industrial Organization*, June
- Bardhan, P. (2002). Decentralization of governance and development. *Journal of Economic Perspectives*, 16, 185-205.
- Berkman, H., Cole, R., & Fu, L. (2007): Improving corporate governance where the State is the controlling block holder: Evidence from China. University Library of Munich, Germany, MPRA Paper, No.8088
- Borcherding, T., Pommerehne, W. and Schneider, F. (1982). Comparing the efficiency of private and public production: the evidence from five countries. *Journal of Economics*, 127-156.
- Broadman, H, G. (1999). The Chinese state as corporate shareholder. *Finance and Development*, 36, 52- 55.
- Chang, E. C., & Wong, S. M. L. (2004). Political control and performance in China's listed firms. *Journal of Comparative Economics*, 36, 617-636.
- Chen, G. M., Firth, M., Gao, D. N., & Rui, O. M. (2005). Ownership structure, corporate governance, and fraud: Evidence from China. *Journal of Corporate Finance*, 12, 424-448.
- Chen, J. (2001). Ownership structure as corporate mechanism: evidence from Chinese listed companies. *Economics of Planning*, 34(1-2), 53 -72.
- Cheung, Y. L, Jing, L., Lu, T., Rau, P., & Stouraitis, A. (2009a). Tunneling and propping up: An analysis of related party transactions by Chinese listed companies. *Pacific-Basin Finance Journal*, 17(3), 372-393.
- Cheung, Y. L., Rau, P. R., & Stouraitis, A. (2009b). The Helping Hand, the Lazy Hand, or the Grabbing Hand? Central vs. Local Government Shareholders in Publicly Listed Firms in China. *Review of Finance*, forthcoming.
- Chow, G. (1985). *The Chinese economy*. Haper and Row, NY.
- Chung, K. H., & Pruitt, S. E. (1994). A simple approximation of Tobin's Q. *Financial*

- Management*, 23(3), 70-74.
- Claessens, S., Djankov, S., & Lang, L. H. (1999). Ownership, concentration and corporate performance in the Czech Republic. *Journal of comparative economics*, 27, 498-513.
- Demsetz, H., & Villalonga, B. (2001). Ownership structure and corporate performance. *Journal of Corporate Finance*, 7(3), 209-233.
- Deng, F. (2005). Public land leasing and the changing roles of local government in urban china. *The Annals of Regional Science*, 39(2), 353-373.
- Djankov, S., & Murrell, P. (2002). Enterprise restructuring in transition: a quantitative survey. *Journal of Economic Literature*, 40(1), 739-792.
- Faccio, M., Ronald, W. M., & John, J. M. (2006). Political connections and corporate bailouts. *Journal of Finance*, 61, 2597-2635.
- Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, 33(1), 3-57.
- Fama, E. F., & French, K. R. (1995). Size and Book-to-Market Factors in Earnings and Returns. *Journal of Finance*, 50(1), 131-55.
- Fama, E. F., & Jensen, M. C. (1983). Separation of Ownership and Control. *Journal of Law and Economics*, 26.
- Fan, J. P. H., Wong, T. J., & Zhang, T. (2007). Politically-connected CEOs, corporate governance and post-IPO performance of China's newly partially privatized firms. *Journal of Financial Economics*, 84, 330-357.
- Fisman, R. (2001). Estimating the value of political connections. *American Economic Review*, 91, 1095-1102.
- Friedman, E., Johnson, S., & Mitton, T. (2003). Propping and tunneling. *Journal of Comparative Economics*, 31, 732-750.
- Frye, T., & Shleifer, A. (1997). The invisible hand and the grabbing hand. *American Economic Review*, 87, 354-358.
- Garcia, C. J., Vinas, J. E. F., & Ibanez, A. M. (2007). Operating and stock market performance of state-owned enterprise privatizations: The Spanish experience. *International Review of Financial Analysis*, 16(4), 2007.
- Gilson, R. J. & Kraakman, R. H. (1984). The Mechanisms of Market Efficiency. *Virginia Law Review*, 70(4), 549-644.

- Goldberg, E., Grunfeld, L. A. & Benito, G. R. G. (2004). The inferior performance of state owned enterprises: is it due to ownership or market structure? Working paper no. 663. Retrieved from <http://ssrn.com/abstract=741787>.
- Gordon, M. J. (1959). Dividends, Earnings and Stock Prices. *Review of Economics and Statistics*, 41, 99–105.
- Groves, T., Hong, Y., McMillan, J., & Naughton, B. (1995). China's Evolving Managerial Labour Market. *Journal of Political Economy*, 103:4, 873-892.
- Gul, F. A., & Zhao, R. (2001). *Corporate governance and performance in Chinese listed companies*. AAA International Accounting Section, Phoenix, AZ.
- Harvie, C., & Naughton, T. (2000). *Corporate governance and state owned enterprises reform*. Macmillan/St. Martin's Press, London, Chapter 3.
- Hermalin, B., & Weisbach, M. (1991). The effects of board composition and direct incentives on firm performance. *Financial Management*, 20 (4), 101-12.
- Holderness, C., Kroszner, R., & Sheehan, D. (1999). Were the good old days that good? Evolution of managerial stock ownership and corporate governance since the Great Depression. *Journal of Finance*, 54, 435–469.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of financial economics*, 3, 305 - 360.
- Jiang, G. (2006). A re-examination of China's share issue privatisation: does it not improve SOE profitability?, Peking University Press.
- Johnson, S., & Mitton, T. (2003). Cronyism and capital controls: Evidence from malayisa. *Journal of Financial Economics*, 67, 351-382.
- Khwaja, A., & Mian, A. (2005). Do lenders favor political connected firms? Rent provision in an emerging financial market. *Quarterly Journal of Economics*, 120, 1371-1411.
- Kikeri, S., & Kolo, A. (2005). Privatization: Trends and recent developments. World Bank.
- Li, G., Zhao, X., & Li, H. (2001). Board structure and corporate performance in China, *Industrial Economy of China*, 5, 48-53.
- Li, W., & Putterman, L., (2008). Reforming China's SOEs: An Overview. *Comparative Economic Studies*, 50, 353–380.
- Liang, Z. (1992). Ownership Structure and Efficiency: An Incentive Mechanism

- Approach. *Journal of Comparative Economics*, 16 , 399-431.
- Lindenberg, E. B., & Ross. S. A. (1981). Tobin's q Ratio and Industrial Organization. *Journal of Business*, 54, 1-32.
- Lins, K. (2003) Equity ownership and firm values in emerging markets. *Journal of Financial and Quantitative Analysis*, 38, 159-184.
- Lo, A. W., & Mackinlay, A. C. (1990). Data-snooping biases in tests of financial asset pricing models. *Review of Financial Studies*, 3, 431-468.
- Maskin, E., Y. Qian., & Xu, C. (2000). Incentives, scale economies, and organization forms. *Review of Economic Studies*, 67,359-78.
- McConnell, J., & Henri, S. (1990). Additional evidence on equity ownership and corporate value. *Journal of Financial Economics*, 27, 595-612.
- Meggison, W., & Netter, J. (2001). From state to market: a survey of empirical studies on privatization. *Journal of Economic Literature*, 39, 321 -389.
- Morck, R., Shleifer, A., & Vishny, R. (1988). Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics*, 20, 293-315.
- Myers, S. C., & Majluf, N.S. (1984). Corporate financing and investment decisions When Firms have information that investors do not. *Journal of Financial Economics*, 13 (2), 187-221.
- Nagar, V. (2002). Delegation and Incentive Compensation. *The Accounting Review*, 77, 379-395.
- Naughton, B. (2007). *The Chinese Economy: Transitions and Growth*. Cambridge, MA: MIT Press, 301-302.
- Nelder, J. A., & Wedderburn, R. W. M. (1972). Generalized Linear Models. *Journal of the Royal Statistical Society*, 135(3), 370-384.
- Nellis, J. (1994). Is Privatization Necessary?. *World Bank Viewpoint* , 17, May.
- Nishii, R. (1993), Convergence of the Gram–Charlier expansion after the normalizing Box–Cox transformation. *Annals of the Institute of Statistical Mathematics*, 45(1), 173-186.
- Oi, J. (1992). Fiscal reform and the economic foundations of local state corporatism in China. *World Politics*, 45, 99-126.
- Opper, S., & Brehm, S. (2007). Networks versus performance: political leadership

- promotion in China. Lund University, Working paper.
- Pedersen, T., & Thomsen, S. (2003). Ownership structure and economic performance in the largest European companies. *Strategic Management Journal*, 21, 689-705.
- Perkins, D. (1988). Reforming China's economic system. *Journal of Economic Literature*, 26(2), 601-645.
- Qian, Y. (1999). The Institutional Foundations of China's Market Transition. Paper presented on the *World Bank's Annual Conference on Development Economics*. Washington DC.
- Qian, Y., & Weingast, B. (1997). Federalism as a Commitment to Preserving Market Incentives. *Journal of Economic Perspectives*, 11, 83-92.
- Qian, Y., & Xu, C. (1993). Why China's Economic Reforms Differ: The M-form Hierarchy and Entry/Expansion of the Non-State Sector. *Economics of Transition*, 1, 135-70
- Sapienza, P. (2004). The effects of government ownership on bank lending. *Journal of Financial Economics*, 72, 357-384.
- Shi, C. X. (2007). Recent Ownership Reform and Control of Central State-Owned Enterprises in China: Taking One Step at a Time. *University of New South Wales Law Journal*, 30(3).
- Shi, C. X. (2005). The International Corporate Governance Developments: The Path for China. *Australian Journal of Asian Law*, 71(1), 60-94.
- Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *Journal of Finance*, 52(2), 203-249.
- Shleifer, A., & Vishny, R. W. (1998). *The grabbing hand: Government pathologies and their cures*. Cambridge, Mass.: Harvard University Press.
- Shleifer, A., & Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 94, 461 -488.
- Short, H. (1994). Ownership, control, financial structure and the performances of the firms. *Journal of Economic Surveys*, 8, 203-249.
- Sidak, J. G., & Sappington, D. E. M. (2003). Competition Law for State-Owned Enterprises. *Antitrust Law Journal*, 71( 2), 479-523.
- Sun, Q., & Tong, W. H. S. (2003). China share issue privatization: the extent of its success. *Journal of Financial Economics*, 70(2), 183-222.

- Tan, L. H., & Wang, J. Y. (2007). Modelling an Effective Corporate Governance System for China's Listed State-Owned Enterprises: Issues and Challenges in a Transitional Economy. *Journal of Corporate Law Studies*, 7, 1.
- The 5th session of the Standing Committee of the 8th National People's Congress. (1993). *Company Law of the People's Republic of China*. Beijing: China (PRC).
- The working conference on piloting modern enterprise system nationwide. (1994). held by the State Council in November 1994 ushered in the initiation of the pilot program of establishing a modern enterprise system.
- Tian, G., Q. (2001). A Theory of Ownership Arrangements and Smooth Transition. *Journal of Institutional and Theoretical Economics*, 157(3), 380.
- Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of Money Credit and Banking*, 1(1), 15-29.
- Wei, Z., Xie, F., & Zhang, S. (2005). Ownership Structure and Firm Value in China's Privatized Firms: 1991-2001. *Journal of Financial and Quantitative Analysis*, 40(1), 87-108.
- Xu, X., & Wang, Y. (1999). Ownership structure and corporate governance in Chinese stock companies. *China Economic Review*, 10(1), 75 -98.
- Walder, A. G. (1995). China's Transitional Economy: Interpreting Its Significance. *The China Quarterly*, 144, Special Issue: China's Transitional Economy, 963-979.
- Wang X., Xu, C. L., & Zhu, T. (2004). State-owned enterprises going public: the case of China. *Economics of Transition*, 12, 467-487.
- Wei, Z., Xie, F., & Zhang, S. (2005). Ownership structure and firm value in China's privatized firms: 1991-2001. *Journal of Financial and Quantitative Analysis*, 40(1), 87-108.
- Wen, J. B. (2007). *Report on the work of government October 2007*. Retrieved from [http://english.gov.cn/official/2007-03/16/content\\_552995.htm](http://english.gov.cn/official/2007-03/16/content_552995.htm)
- World Bank. (1990). *China: Revenue Mobilization and Tax Policy*. Washington, D.C.: World Bank.
- World Investment Report (2005). United Nations Conferences on Trade and Development.
- Wruck, K. H. (1989). Equity ownership concentration and firm value. *Journal of Financial Economics*, 23, 3-28.

- Xu, D., Pan, Y., Wu, C., & Yim, B. (2006). Performance of domestic and foreign-invested enterprises in China. *Journal of World Business*, 41(3), 261-274.
- Xu, X., & Wang, Y. (1997). Ownership Structure, Corporate Governance, and Corporate Performance: The Case of Chinese Stock Companies. *World Bank Policy research paper No. 1794, (Washington DC)*.
- Zheng, J., Liu, X., & Bigsten, A. (1998). Ownership structure and determinates analysis to Chinese enterprises (1986-1990). *Journal of comparative economics*, 26(3), 465-485.
- Zingales, L. (1994). The value of the voting right: A study of the Milan stock exchange experience. *Review of Financial Studies* 7, 125-148.