

# **State Ownership, Institutional Ownership and Relationship with Firm Performance: Evidence from Chinese Public Listed Firms**

Lifei Mao

University of Twente

P.O. Box 217, 7500AE Enschede

The Netherlands

## **ABSTRACT**

State ownership and institutional ownership both play important roles in Chinese public listed firms. This study tests empirically the impacts of state ownership and institutional ownership on firm performance in China, using a large sample for the period of 2008 to 2014. It finds that there is a U-shape relationship between state ownership and firm performance. The results that reveal in most situations, state ownership has negative influences on firm performance because state owners pursue with political goals instead of profit maximization. This study also finds that institutional ownership is positively related to firm performance; the institutional investors have more incentives and financial competencies to monitor management therefore enhancing good firm performance.

## **Supervisors:**

Henry van Beusichem; Peter-Jan Engelen; Samy A.G. Essa; Xiaohong Huang; George Iatridis; Rezaul Kabir,

## **Keywords**

State ownership, Institutional ownership, Firm Performance, China, Split Share Structure Reform, Transition economy

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

*IBA Bachelor Thesis Conference*, July 2nd, 2015, Enschede, The Netherlands.

Copyright 2015. University of Twente. Faculty of Management and Governance.

## 1. INTRODUCTION

Ownership structure as an important corporate governance mechanism has been widely researched in western developed economy. Studies from relevant researches suggest that ownership structure can be an efficient way to decrease agency costs therefore solves the major corporate governance problem: the agency problem (Arosa et al., 2010; Thomsen & Conyon, 2012, Elyasiani & Jia, 2009). Researches on ownership structure mainly focused on two dimensions: ownership identity and ownership structure (Arosa et al., 2010). For instance, institutional owners have more incentives and experiences to monitor management; with close monitoring on management, managers will act on the interests of shareholder and hence can decrease the agency costs (Cornett et al., 2007). As ownership concentration increase, the incentives of large shareholders to monitor management increase too (Douma et al., 2006). This paper focuses on study two important ownership types: state ownership and institutional ownership; especially focus on their relationships with firm performance on Chinese Public Listed Companies (PLCs).

China, as a typical example of transitional economy has raised many attentions on literature since China's economy has been developing quickly and now it becomes the second largest economy in the world (Yu, 2013). Compare to other western developed countries, firms in China have a different ownership structure characterized by high level of state ownership and high degrees of ownership concentration (Yu, 2013). In China, the state/government is the largest shareholder in many Chinese public listed firms (PLCs). In 1990s, more than 75% shares of Chinese PLCs were held by the state; although the state ownership has decreased in a certain amount after the initiation of the Split Share Structure Reform (SSSR) during 2005-2006, but the state ownership still be considered as the most important ownership type in Chinese PLCs due to its significant influences on Chinese PLCs (Yu, 2013). Therefore, it is significant to learn the influences of state ownership on firm performance.

The significant influences of institutional ownership on management have been widely accepted by western literature and scholars. Institutional owners include pension fund, insurance companies, mutual funds and other investment companies; institutional ownership is said to be very significant in monitoring management because it can monitor management more effectively; institutional owners normally have more financial competencies and can monitor management with less costs. (Thomsen & Coynon, 2012). However, there are fewer studies and researches study the institutional ownership in China; while, the relationship between institutional ownership and firm performance is still a myth needed for further research. The importance influences of institutional ownership on western economy raise attentions to study whether there is the same relationship between institutional ownership and firm performance in Chinese context. Regarding to this, this paper also attempts to find out the relationship between institutional ownership on firm's performance of Chinese PLCs.

This paper contributes to both literature and real life practice. Firstly, it helps to understand the relationships between different types of ownership and firm performance in transitional economy because there may have some differences compare with a developed economy; this will enrich the literature about transition economy. Secondly, this paper provides with empirical evidence on the relationship between different types of ownership and firm performance; this may verify or overturn the prior researches' result. On the other hand, this paper also contributes to real life practice by providing suggestions for monitoring and controlling of management.

The reminder of this paper is organized as follow. Section 2 introduces the findings from literatures on this area, the relevant theoretical frameworks, empirical evidence and the hypothesis development. The methodology and model design describes in Section 3. The data analysis and results presents in Section 4. There will be a conclusion to present all the results in Section 5. Section 6 includes some limitations of this research and provides with future

research recommendations.

## **2. LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT**

The major corporate governance problem arises from the separation between ownership and management, that is, the agency problem (Thomsen & Conyon, 2012). Shareholders employ managers to take charge of company in the interests of shareholders' but sometimes managers would like to pursue their own interests, for instance, managers may use company's fund for private expenditure. When there is a conflict of interest arises between shareholders and managers, it is necessary to use corporate governance mechanisms in order to align the interests between shareholders and managers therefore solve the agency problem (Thomsen & Conyon, 2012). As an important internal corporate governance mechanism, there is no doubt that ownership structure is significant in determining firm's objectives, shareholder wealth and the level of discipline of managers (Arosa et al., 2010). However, different types of owners may have different incentives to monitor management therefore they have different influences on firm performance (Arosa et al., 2010). For example, state owners may pursue a political goal instead of profit maximization. While, institutional investors generally focus more on return of investment, therefore, they have more incentives to monitor manager to improve firm performance than state owners.

### **2.1. State Ownership & Firm Performance**

Agency theory demonstrates the relationship between principals and agent; the agency problem arises when there are conflicts between principal and agent (Thomsen & Conyon, 2012). The basic type of agency problem is the owner-management problem which begins with the separation of ownership and management (Thomsen & Conyon, 2012). State/government cannot directly involve into the management of companies, managers must be selected to perform management on the behalf of state interests. However, individuals always seek to maximize their own benefits therefore managers may take actions that benefit themselves but harm the interests of state. Therefore, it is important for state owners to perform

good monitoring on management. According to China's law, a listed Chinese firm has six types of shares: state shares, legal person shares, foreign shares, management shares, employee shares, and individual shares (Chen et al., 2009). State shares are the shares retained by the state/government after privatization managed by the State Assets Management Bureaus (SAMB) and other local financial bureaus on the behalf of people (Wei & Varela, 2003).

According to Douma et al. (2006), as the concentration of ownership increases, there will be more incentives and ability for large shareholders (blockholders) to monitor management at less cost. State owners usually are the largest shareholder in Chinese PLCs; act as blockholders, they have more influences on management and firm performance. Yu (2013) believes that unlike diversified investors such as foreign owners and managerial owners who own an insignificant fraction of outstanding equity, the large equity positions held by state owners (who are the blockholders) effectively give them more control over the firm and this is an essential element of good corporate governance. Furthermore, since China have a relatively poor investor protection and the law enforcement is quite weak; the state as the large shareholder can provide firms with financing and resources support and this can also help to improve firm performance (Wei & Varela, 2003).

On the contrast, the recent research describes that owners can be heterogeneous as they can differ in their incentives or objectives, this create a difference between state owners and non-state owners (Song et al., 2014). State owner in China is different from common shareholders since they pursue political goals such as low output price, employment concerns, and other non-profit-maximization goals (Song et al., 2014). In China, the top management of state owned/controlled firms normally is not elected by shareholders but appointed by government and their performance are also assessed by government instead of shareholders (Song et al., 2014). Due to this, managers may act align with the objective of state owners to pursue political goals instead of maximizing profit. Furthermore, in China, Bureaus of State Property Management (BSPM) and local finance bureaus are the one which actually

perform the rights as shareholders, but those bureaus may not to perform well since there are too many firms under supervised (Song et al., 2014).

There are many empirical findings from previous researches on state ownership and firm performance. Yu (2013) conducted a research with a sample of Chinese PLCs from 2003 to 2010 to examine the relationships between state ownership and firm performance. In this research, Yu (2013) states that there is a U-shaped relationship between state ownership and firm performance; moreover, they find that a high level of state ownership is superior to dispersed ownership because firm can generate benefits from government support and politics connections. With a sample of 4315 firm year observation of privatized Chinese firms during 1996 to 2003, Ng et al. (2009) found evidences show that the relationship between state ownership and performance is convex, concave and linear. Result from the research of Wei & Varela (2003) show that state ownership has a negative effect on firm value. The study of Kang & Kim (2012) finds that marketed state owned enterprises perform well than firms controlled by the government.

In the paper to identify which type of ownership control matter, Chen et al. (2009) divided state ownership into four different types: state asset management bureaus (SAMBs), state owned enterprises (SOEs), affiliated to the central government (SOECGs) and SOEs affiliated to the local government (SOELGs). According to their analysis, SOECG controlled firms perform best and SAMB controlled firms perform worst (Chen et al., 2009). To test the relationship between state ownership and market orientation in China's public firms, Song et al. (2014) did both qualitative analysis and quantitative analysis and they provided evidence to show that state controlled public firms have a lower market orientation than privately controlled public firms since state shareholders want to achieve politic goals instead of pursuing profit maximization. Moreover, in the research to examine the impact of government ownership on dividend policy in China, Wang et al. (2011) believes that the likelihood of a firm will pay a dividend are increasing in state ownership.

**Hypothesis 1.** There is a U-shape relationship between state ownership and firm performance in Chinese PLCs.

### **2.3. Institutional Ownership and Firm Performance**

There is no clearly classification of institutional ownership in Chinese public listed firms. While institutional ownership can be regarded as part of legal person ownership since legal person shares are identified as the shares owned by domestic institutions that enjoy legal status (Wei and Varela, 2003). Before the privatization, most of the shares are owned by state. In 2005-2006, Chinese government initiated the Split Share Structure Reform while a significant amount of state shares transferred to domestic institutions and public and it is believed that institutional investor becomes more and more important in Chinese PLCs (Kang & Kim, 2012).

According to Yuan et al. (2008), there are two arguments among the relationship between institutional ownership and firm performance: the performance-improvement arguments and the performance-reduction argument. The performance improvement argument describes that institutional ownership enhance good corporate governance therefore can help to improve firm performance. Firstly, institutional investors aim to have best return on their investments, therefore, the investors are very carefully in identifying the efficient firms for investment and they are much more care about good firm performance management. Moreover, this performance-improvement argument also support by active monitoring view which explains that institutions owners have more incentives and ability to monitoring management because they have superior ability to monitor managers at lower transaction costs (Elysiani & Jia, 2010).

The performance-reduction argument supports that institutional ownership has negative effects on firm performance (Yuan et al., 2008). Institutional investors who normally are short-termism which means they requires return on investment in a short period this may not good for the long-term development of firms (David

& Kochhar, 1996). Drueker (1986) also argue that institutional owners are passive investor since they are more likely to sell their holding when the firm experiences poor performance instead of providing more resources or monitoring the firm to improve their performance. Furthermore, the strategic alignment view tells that institutional investor may develop strategic relationship with manager therefore to extract self-benefits but harm other shareholders' interest (Cornett et al. 2007). For examples, firms may needs to develop strategic relationship with banks because they need to borrow from banks, however, the business ties may prevent banks from being active and effective corporate monitors (Yuan et al., 2008).

The two arguments provide with two different views toward the relationship between institutional ownership, but it is expected to predict that there is a positive relationship between institutional ownership and firm performance in Chinese PLCs. In China, it is not normal for institutions investors to have significant relationship with their portfolio companies (Yuan et al., 2008). Hence, it is more effectively for institutional owners to monitor management in China. Moreover, some institutional owners such mutual funds and pension funds are under pressure to deliver good return, therefore they also need to monitor firm performance carefully (Cornett et al., 2007).

Yuan et al. (2007) use a large sample for the period of 2001 to 2005 to examine the relationship between mutual funds' ownership and firm performance; they find that ownership of mutual funds has a positive effect on firm performance. This positive relationship between institutional ownership and firm performance also confirmed by Elyasiani & Jia (2010) who conducted an analysis with the sample of U.S. listed firms from 1992 to 2004. However, the relationship between institutional ownership and firm performance is more mixed when Bhattacharya and Graham (2009) conducted the research based on listed firms of Finland. Moreover, Wei & Varela (2003) also find domestic institutional ownership does not appear to improve firm performance. Chan et al (2014) who did a research to examine the role of mutual funds in

enhancing financial reporting quality based on Chinese PLCs from 2003 to 2008, they find that mutual funds are more effective at preventing executives from expropriating investor and manipulating earnings as cover-ups. Furthermore, Ding et al. (2013) study the relationship between fund ownership and stock price informativeness of Chinese PLCs and they provide evidence that mutual fund ownership is positively related to share price informativeness, but this effect is less pronounced among state controlled firms.

**Hypothesis 2.** There is a positive relationship between institutional ownership and firm performance.

#### **2.4. Background**

Compare to the previous literatures, this paper focus on the study of Chinese PLCs which already experienced the Split Share Structure Reform (SSSR); the initiated of this new reform in 2005-2006 significantly changed the ownership structure and Chinese PLCs. At the beginning of construction of capital market in 1990s, most of the shares owned by government are non-tradable in the market and only one third of the shares of listed companies are legally tradable (Yu, 2013). With development of market economy, privatization is a necessary process in transition economy; instead of take a rapid privatization action, China adopt more gradual privatization movements begins with reform of state-owned enterprise (SOEs) (Kang & Kim, 2012). After making SOEs become share-holding firms and public listed in the market, China developed six types of ownership: state, legal person, foreign, management, employee, and individual shares, while the state and legal person shares are non-tradable in the market at that time (Chen et al., 2009). However, the non-tradable of shares create some problems to firm's performance which needed to be fixed. According to Yu (2013), the non-tradable shares mostly owned by government, therefore, the standard agency-principal problem presents and the agency costs is high. Moreover, government owners have different objectives such as political goals instead of profit maximization and this may not good for firm's development (Song et al., 2014). The SSSR aims to eliminate the non-tradable shares; after the reform, most

of shares are tradable now in the market and the state ownership decreased significantly (Yu, 2013).

It is believed that change in ownership structure after SSSR do have some influences on firm performance. Therefore, the main purpose of this paper is to examine the effects of state ownership and institutional ownership on firm performance after the initiation of SSSR. This paper will use a recent sample of 6993 firm-year observation from 2007 to 2014 to test the hypotheses that formulated in the next section.

### 3. METHODOLOGY

#### 3.1 Model Design

This study performs the Ordinary Least Squares (OLS) regression to test the relationship between state ownership and firm performance as well as the relationship between institutional ownership and firm performance.

The econometric model is specified as follows:

$$\text{Perf}_{it} = a_0 + B_1 \text{STATE}_{it-1} + B_2 \text{STATE}_{it-1}^2 + B_3 \text{INSTI}_{it-1} + B_4 \text{LEVE}_{it-1} + B_5 \text{SIZE}_{it-1} + B_6 \text{TANG}_{it-1} + E_0$$

**Table 1**

Specification of regression variables.

Variables	Description	Measures
ROA	Return on assets	Net income/total assets
ROE	Return on equity	Net income/shareholder's' equity
Tobin's Q	Market performance	Total market value/total assets value
STATE	State ownership	Percentage of shares owned by government
INSTI	Institutional ownership	Percentage of shares owned by institutions
LEVE	Leverage	Total debt/total assets
SIZE	Size of Chinese PLCs	Logarithm of total assets
TANG	Tangibility of assets	Total value of tangible assets
DUM-Y	Year dummies	Six years dummies

#### 3.2 Measurement of Variables

##### 3.3.1 Dependent variables: firm performance

Yu (2013) states "financial performance refers to a company's ability to generate new resources from day-to-day operations over a given timeframe". Regarding to this, whether firm is profitable or not generally is the first standard to measure firm performance. In this paper, Return on Assets (ROA) and Return on Equity (ROE) are the measurement of

$\text{Perf}_{it}$  represents the dependent variables to measure firm performance from  $i$  at time  $t-1$ , which including Return on Assets (ROA), Return on Equity (ROE) and Tobin's Q. While  $B_{i-1}$  represent the regression coefficients to be estimated. STATE, INSTI, LEVE, SIZE, and TANG represent different variables that may have influences on the dependent variables; they are: state ownership, institutional ownership, leverage, firm size, and tangibility of assets. The hypotheses developed here shows that firm performance is a function of state ownership, institutional ownership and other control variables. However, this may raises a problem of endogeneity, for example, good performance of firms may attract more investment from institutional ownership. In order to overcome this problem, the measure of state ownership, institutional ownership and other control variables are the one-period lag values. This lag allows the effects of change in sample firm's ownership and governance structures to influence firm's future performance (Yuan, et al., 2008).

profitability in accounting level. ROA is calculated by net income divided by total assets of firm, whereas ROE measures the ability of a firm use its assets to generate profits and this be considered as a key factor when taking into account future firm investment (Arosa et al, 2010). Therefore, this is an indicator of firm's profitability. ROE is calculated by net income divided by shareholders' equity, which describes the return a firm generated by managing shareholders' equity, this is what investors are

interested in. Therefore, ROE is also an important indication of profitability. Apart from this, literatures widely adopt the Tobin's Q as a measure of firm performance and many researchers in China used it in examining the relationship between ownership structure and firm performance (Yuan et al., 2008; Yu, 2013; Wei & Vearela, 2003; Ng et al., 2009). Tobin's Q is defined as the ratio of total market value divided by total assets value, where the total market value is calculated by the sum of the market value of equity and the market value of net debt.

### 3.3.2. *Independent variables: state ownership & institutional ownership*

State ownership measure as the percentage of common shares held by state/government divided by total issued outstanding shares of firms. The institutional ownership measure as the percentage of common shares held by institutional investors including mutual funds, pension funds, banks, insurance companies and other investment trusts divided by total issued outstanding shares of firms.

### 3.3.3 *Control variables*

Based on the prior literature on ownership structure and firm performance, the following determinants of firm performance are developed as control variables (Yuan et al., 2008; Yu, 2013; Wei & Vearela, 2003; Ng et al., 2009; Arosa et al., 2010; Chen et al., 2009).

#### 3.3.3.1 *Leverage (LEVE)*

The effects of leverage on firm performance are uncertain since leverage may affect firms in different directions (Yuan et al., 2008). First of all, leverage providing with tax shield benefits which create reduction in taxable income and this makes leverage positively related to firm performance. However, leverage also brings with interest burden and business operating risks (Yuan et al., 2008). With high level of leverage, firm have to pay heavy interests and this may result in a danger of bankruptcy; due to this consideration, leverage may have negative effects on firm performance. Research conducted by Yuan et al. (2008) find a positive relationship between leverage and firm performance. Here, leverage measures by the debt-assets ratio that is the total debt divided by total

assets.

#### 3.3.3.2 *Firm size (SIZE)*

Firm size may have a negative effect on firm performance. Generally, large firms are more easier suffer from more agency problem and information asymmetry problem (Yuan et al., 2008). As the firm increases, the conflicts of interests between different parties increase too. Yuan et al. (2008) also refers that the large firm in China especially the large SOEs may have more bureaucratic interventions from government therefore they are less efficient than small firms. Firm size measures as the logarithm of a firm's annual sales.

#### 3.3.3.3 *Tangibility (TANG)*

Tangibility has influences on capital market and managerial decision-making which may affect the firm performance (Yuan et al., 2008). This explains by Wiwattanakantang (1999) that "assets tangibility is used to control variations in firm's input structures which may affect the factors such as capital market influences and managerial decisions." Here, tangibility is measured as the net value of all tangible assets.

Furthermore, the dummy variable Year also included controlling for changes in macroeconomic environment to all the firms over the sample period (Yuan et al., 2008).

## 3.3 Sample

This study generated all the equity ownership data and financial data from the China Stock Market and Accounting Research Database (CSMAR) which designed by the China Accounting and Finance Research Center of the Hong Kong Polytechnic University and developed by the ShenZhen GTA Information Technology Company Limited. A usable sample of 6993 observations, representing 1019 Chinese companies listed on ShangHai Stock Exchange and ShenZhen Stock Exchange from 2007 to 2014. The sample selection based on following criteria: firstly, a firm should not be a financial company such as banks, insurance companies, and investment trusts since financial firms have a different capital structure; secondly, firms which have missing data also avoid from selection. Moreover, a 90% Winsorization

used to avoid the effects of outlier, that is the bottom 5% of the values are set equal to the value corresponding to the 5th percentile while the upper 5% of the values are set equal to the value corresponding to the 95th percentile.

## **4. EMPIRICAL RESULTS**

### **4.1 Descriptive Statistics**

Table 2 represents descriptive statistics of the variables used. As Panel A shows, the average ROA and ROE are 3.1% and 6.9% from 2007 to 2014, while this is relatively low compared to the average ROA and ROE of 6.5% and 7.7% in a period from 2003 to 2010 in Yu's study (Yu, 2013). This is due to the slowdown of Chinese economy for the recent four years (Kong et al., 2014) As shows in Panel B, Chinese PLCs have a lower ROA and ROE in 2008 and 2009 since many Chinese PLCs suffered from the financial crisis in 2008. Well, Chinese PLCs recovered from the financial crisis and achieved improvements on firm performance in 2010 and 2011 result in an increase in ROA and ROE. However, in recent three years, Chinese PLCs firms seem perform worse than before. Overall, the trend of Chinese PLCs in this 7-years period matches the trend of Chinese GDP development (Kong et al., 2014). Over the last two decades, Chinese economy achieved rapid development. Recently, the development of Chinese economy becomes more stable therefore the development of Chinese PLCs also slows down. In this study, the average Tobin's Q is 1.9 which is greater than 1; this explains stock market hold a positive attitude towards the development of Chinese PLCs and it also indicates that the growth opportunity of Chinese PLCs is considerable.

According to Wei et al (2005), the average state ownership of Chinese PLCs from 1991 to 2001 varies from 20.6% to 33.4%. After the initiation of the Split Shares Structure Reform in 2005 and 2006, the state

ownership is much lower compared to the past. The average of state ownership in this study is found to be 12.7%; however, the state ownership can be as high as 86% in some firms. As states in Panel B, the average state ownership decreases over the seven years periods from 27% to 4.8%. This is also consistent with the study of Yu (2013), which found the state ownership decreases from 37.5% to 9.1% in 2003-2010. Panel A reveals that the average institutional ownership in Chinese PLCs is about 4.6% and there is no obvious change over this seven year periods; but institutional ownership can also be as high as 75% in some firms. Yuan et al. (2008) report that at the average shareholdings of mutual funds in U.S. firms in 1990s is about 5%. In comparison, it can be said that the development of institutional ownership in China is impressive given the short history of involving institutional investors as equity holders in China.

### **4.2 Correlation Analysis**

Table 3 reports the Pearson correlation coefficients between variables. Well, the correlations of each pairwise variable are low, except for ROA and ROE. Here, it is found that there is a positive correlation between state ownership and firm performance; and the relationship between institutional ownership and firm performance is also positive; well, this is expected as the hypothesis developed in this paper. Moreover, both correlations between Tobin's Q with leverage, firm size and tangibility are negative. This may indicate that firms with more debt are less valuable in the market and large firms may have less growth opportunities. The correlation coefficient of institutional ownership and leverage is -0.440, this number may explain that institutional investors are less interested in investing firms borrow too much. Also, there is a positive relationship between leverage and firm size, that is large firm use more debt.

**Table 2**

Summary Statistics (2007-2014, 6993 observations)

Variables	Mean	Median	Standards Deviation	Minimum	Maximum		
<i>Panel A: descriptive statistics on the pooled sample</i>							
ROA	0.031	0.029	0.065	-0.902	0.402		
ROE	0.061	0.068	0.161	-1.040	0.541		
Tobin's Q	1.906	1.500	1.434	0.000	24.190		
STATE	0.127	0.000	0.202	0.000	0.862		
INSTI	0.046	0.023	0.059	0.000	0.750		
LEV	0.534	0.547	0.184	0.046	1.274		
SIZE	21.983	21.890	1.227	18.150	27.390		
TANG	0.263	0.225	0.190	0.000	0.971		
<i>Panel B: mean value of performance measures, state ownership and institutional ownership by year</i>							
Variables	2008	2009	2010	2011	2012	2013	2014
ROA	0.024	0.031	0.042	0.040	0.031	0.029	0.023
ROE	0.043	0.062	0.091	0.077	0.062	0.063	0.030
Tobin's Q	1.350	2.385	2.441	1.704	1.718	1.756	2.044
STATE	0.270	0.239	0.124	0.097	0.079	0.062	0.048
INSTITO	0.050	0.045	0.0500	0.052	0.0470	0.042	0.041

This table provide with descriptive statistics of variables. The sample included year-ended dataset of Chinese Main Board Listed A-shares from 2007 to 2014. Panel A represent mean, median, S.D., minimum, and maximum values of all samples. Panel B shows the mean value of performance measure, state ownership and institutional ownership by years.

**Table 3.**

Correlation coefficients

	ROA	ROE	Tobin'sQ	STATE	INSTI	LEV	SIZE	TANG
ROA	1.000							
ROE	0.841**	1.000						
Tobin'sQ	0.065**	-0.017	1.000					
STATE	0.025*	0.015	0.100**	1.000				
INSTI	0.237**	0.180**	0.047**	0.025*	1.000			
LEV	-0.233**	-0.060**	-0.232**	0.005	-0.440**	1.000		
SIZE	0.080**	0.133**	-0.425**	0.088**	0.121**	0.306**	1.000	
TANG	0.086**	-0.108**	-0.066**	0.133**	-0.060**	-0.005	0.031	1.000

\*Significance at 10%

\*\*Significance at 5%

**4.3 Multivariate Results**

Table 4 display the results of six regression models used to test H1 and H2. These models including 3 measures of firm performance and 2 different set of ownerships. When presenting the result, Models 1, 3, and 5 include all

control variables; while in Model 2, 4 & 6, the control variable leverage is excluded to avoid collinearity because there is a high correlation between institutional ownership and leverage found in the correlation test.

As displays in Table 5, the coefficients for STATE under ROA, ROE and Tobin's Q are negative and significant; the coefficients for STATE<sup>2</sup> are positive and significant, this suggesting that there is a convex relationship between state ownership and firm performance. This finding is consistent with prior researches (Yu, 2013; Ng et al., 2009; Wei & Varela, 2003; Wei et al., 2005). According to the regression model, the turning point is founded to be 84%. As such, ROA, ROE, and Tobin's Q decreased when state ownership is less than 84%; while, when state ownership increased to 84%, ROA, ROE, and Tobin's Q begin increase as the state shares increases. However, there are only a small numbers of firms have more than 84% state ownership, therefore, it can be said in most situation, state ownership has a negative relationship with firm performance. In China, state owners usually pursue political goals such as low output price and employment concerns instead of pursuing profit maximization, and this may result in negative effects on firm performance. But when the state ownership level is high enough, bureaucrats may put more efforts to manage the firms in which they have large shareholdings and state ownership

may have privileged access to resource and this may have positive influences on state ownership (Yu, 2013).

H2 is supported by the positive and significant coefficients of INSTI in regressions using ROA, ROE and Tobin's Q. This result indicates that as the institutional ownership increase, the firm performance increase too. While, this is consistent with the study of Yuan et al. (2008), which believes that the institutional ownership have incentives and ability to monitor management through corporate governance process either. After excluded the effects of leverage, the regression result does not change, and it founded that there is still a positive relationship between institutional ownership and ROA as shows in Model 2, 4, and 6. Moreover, the coefficient of the regression model represents that as the institutional ownership increase 1 percent, the ROA, ROE, and Tobin's Q will increase 0.205, 0.152, and 0.102. Compare with state ownership, the increase of institutional ownership have larger influences on firm performance.

**Table 4**

Main result

	ROA	ROA	ROE	ROE	Tobin's Q	Tobin's Q
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>STATE</b>	-0.130*** (0.001)	-0.171*** (0.000)	-0.094** (0.019)	-0.019*** (0.006)	-0.132*** (0.000)	-0.144*** (0.000)
<b>STATE<sup>2</sup></b>	0.154*** (0.000)	0.208*** (0.000)	0.099** (0.011)	0.119*** (0.002)	0.119*** (0.000)	0.135*** (0.000)
<b>INSTI</b>	0.205*** (0.000)	0.229*** (0.000)	0.152*** (0.000)	0.161*** (0.000)	0.102*** (0.000)	0.109*** (0.000)
<b>LEV</b>	-0.271*** (0.000)	- -	-0.105*** (0.000)	- -	-0.080*** (0.000)	- -
<b>SIZE</b>	0.143*** (0.000)	0.047 (0.000)	0.162*** (0.000)	0.125*** (0.000)	-0.469*** (0.000)	-0.498*** (0.000)
<b>TANG</b>	-0.085*** (0.000)	-0.076*** (0.000)	-0.111*** (0.000)	-0.108*** (0.000)	-0.034*** (0.000)	-0.031*** (0.000)
<b>YED</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Constant</b>	-7.693	-2.361	-36.679	-30.229	14.714	14.675
<b>R<sup>2</sup></b>	0.145	0.080	0.079	0.069	0.308	0.302
<b>N</b>	6993	6993	6993	6993	6993	6993

\*\*Significance at 5%;

\*\*\*Significance at 1%

Now, it turns to control variables. The coefficient states that leverage is negatively and statistically significant in the regressions using ROA, ROE and Tobin's Q. This explains that as the leverage increases, the firm performance decreases. One of the reasons is that firms with higher debt may suffer from interest burden, high operating risks and high risk of bankruptcy. As displays in Table 4, the relationship between firm size and ROA, ROE is positive, this indicates that large firms perform better than small firms. In China, most large firms are SOEs and they have better access to resource than small firms. However, the coefficient  $\beta$  is negative and significant shows the relationship between firm size and Tobin's Q is negative. Well, this may because large firm have less growth opportunities. Furthermore, tangibility has a negative relationship with firm performance and this is consistent with the study of Yuan et al. (2008)

## 5. CONCLUSION

This study applies Ordinary Least Square Regression techniques to examine the relationship between state ownership, institutional ownership and firm performance for 6993 firm-year observations of non-financial Chinese public listed firms during 2008-2014. The results show that state ownership has a U-shape relationship with firm performance and there is a positive relationship between institutional ownership and firm performance.

Ownership structure as an important corporate governance mechanism is significantly to solve the agency problem and enhance a good firm performance. In the Chinese context, investor protection is poor and the law enforcement is weak (Wei & Varela, 2003). When the state ownership is high enough; state, act as a large controlling shareholder, can provide support in terms of financing and resource (Yu, 2013). However, this study provide evidences show that in most situations, the state ownership have a negative effects on firm performance. In China, state owners usually pursue political goals such as low output prices, employment concerns, and other non-profit maximization goals; the different incentives and objective may monitor management in different way and result in negative effects on firm performance.

Furthermore, this study also provides evidences show that institutional ownership is positively related to firm performance. This is consistent with the situation in western economy where it believes institutional investors have more incentives and more competencies to involve in monitoring management therefore enhancing firm performance. Although the institutional ownership is not the major type of ownership in Chinese PLCs, it has rapidly developed in China since 2000 (Yuan et al., 2008). The initiation of SSSR in 2008 aims to make non-tradable shares become tradable in the market and it also transfer part of state-owned shares to public institutions (Wei & Varela, 2003). Well, this action helps to improve the role of institutional investors in firm's governance as the results of this study show.

## 6. LIMITATION AND RESEARCH RECOMMENDATIONS

This study aims to test the relationship between state ownership, institutional ownership and firm performance; however, it suffered from several limitations. Firstly, the identification of state ownership may not accurate because situation is very complex in Chinese context; for example, corporate ownership may also be state ownership in some conditions when the corporate is state-owned enterprise (SOEs). When study state ownership, future research should have a more clear classification on ownership identity of Chinese PLCs. Secondly, this research find a positive relationship between institutional ownership and firm performance, however, there are few researches study on this field and this relationship between institutional ownership and firm performance needs further study. While, western literature widely believes that institutional ownership is significantly in firm performance; future researches can explore more on this field. Lastly, the methodology used in this research has certain limitation. This research performs only OLS regression, but OLS estimation may fail to control for time-invariant firm-specific heterogeneity and thus process biased and inconsistent result (Huyghebaert, 2006). Future research may use different methodology to test the relationship.

## 7. ACKNOWLEDGEMENT

I am very grateful for the constructive comments from my supervisors Rezaul Kabir, Henry van Beusichem and Xiaohong Huang. Especially, I would like to thank Xiaohong Huang who really gives me a lot of supports and valuable suggestions help me to finish this paper.

## 8. REFERENCES

- Arosa, B., Iturralde, T., & Maseda, A. (2010). Ownership Structure and Firm Performance in Non-Listed Firms: Evidence from Spain. *Journal of Family Business Strategy*. 1(2010). p.88-96.
- Bhattacharya, P.S., & Graham, M.A. (2009). On Institutional Ownership and Firm Performance: And Disaggregated View. *Journal of Multinational Financial Management*. 19. 370-394.
- Chan, A.L.C., Ding, R., & H, W. (2014). Does Mutual Fund Ownership Affect Financial Reporting Quality for Chinese Privately-Owned Enterprises? *International Review of Financial Analysis*. 36. 131-140.
- Chen, G., Firth, M., & Xu, L. (2009). Does Types of Ownership Control Matter? Evidence from China's Listed Firms. *Journal of Banking & Finance*. 33. 171-181.
- Chi, W., & Wng, Y. (2009). Ownership, Performance and Executive Turnover in China. *Journal of Asian Economics*. 20. 465-478.
- Cornett, M.M., Marcus, A.J. Saunders, A., & Tehranian, H. (2007). The Impact of Institutional Ownership on Corporate Operating Performance. *Journal of Banking & Finance*. 31. 1771-1794.
- David, P., & Kochhar, R. (1996). Barriers to Effective Corporate Governance by Institutional Investors: Implications for Theory and Practice. *European Management Journal*. 31. 457-466.
- Ding, R., Hou, W., Kuo, J.M., & Lee, E. (2013). Fund Ownership and Stock Price Informativeness of Chinese Listed Firms. *Journal of Multinational Financial Management*. 23. 166-185.
- Douma, S., George, R. & Kabir, R. (2006). Foreign and Domestic Ownership, Business Groups, and Firm Performance: Evidence from a Large Emerging Market. *Strategic Management Journal*. 27. 637-657.
- Elyasiani, E., & Jia, J. (2010). Distribution of Institutional Ownership and Corporate Firm Performance. *Journal of Banking & Finance*. 34. 606-620.
- Huyghebaert, N. (2006). On the determinants and dynamics of trade credit use: empirical evidence from business start-ups. *Journal of Business Finance & Accounting* 33, 305-328.
- Kang, Y.S., & Kim, B.Y. (2012). Ownership Structure and Firm Performance: Evidence from Chinese Corporate Reform. *China Economic Review*. 23(2012). p.471-481.
- Kong, S.Q., Morales, L., & Coughlan, J. (2014). The Effect of Global Financial Crisis on the Shanghai Stock Market. *The Global of Chinese Business*. 169-188.
- Li, D., Moshirian, F., Nguyen, P., & Tan, L.W. (2007). Managerial Ownership and Firm Performance: Evidence from China's Privatizations. *Research in International Business and Finance*. 21. 396-413.
- Ng, A., Yuce, A., & Chen, E. (2009). Determinants of State Equity Ownership, and Its Effects on Value/Performance: China's Privatized Firms. *Pacific-Basin Finance Journal*. 17. 413-443.
- Rebecca, N.A., Oluoch, O.J. & Frederick, K.M. (2014). Effects of Liquidity Management on the Security Market Performance of Companies Listed at the Nairobi Securities' Exchange. *Journal of Applied Physics*. 6(6). 58-61.
- Song, J., Wang, R., & Cavusgil, S.T. (2014). State Ownership and Market Orientation in China's Public Firms: An Agency Theory Perspective. *International Business Review*. doi.org/10.1016/j.ibusrev.2014.12.003.
- Thomsen, S., & Conyon, M. (2012). *Corporate governance: Mechanisms and systems*. London: McGraw-Hill.
- Wang, X., Manry, D., & Wandler, S. (2011). The Impacts of Government Ownership on Dividends Policy in China. *Advances in Accounting, Incorporating Advances in International Accounting*. 27. 366-372.
- Wei, Z., & Varela, O. (2003). State Ownership and Firm Market Performance: Evidence from China's Newly Privatized Firms. *Global Finance Journal*. 14. 65-82.
- Wei, Z.B., Xie, F.X., & Zhang, S.R. (2005). Ownership Structure and Firm Value in China's Privatized Firms:

1991-2001. *Journal of Financial and Quantitative Analysis*. 40(1). 75-87.

Wiwattanakantang, Y., (1999). An Empirical Study on Determinants of The Capital Structure of Thai Firms. *Pacific-Basin Finance Journal*. 63. p.99-131.

Woidtke, T. (2002). Agents Watching Agents? Evidence from Pension Fund Ownership and Firm Value. *Journal of Financial Economics*. 63. 99-131.

Yu, M. (2013). State Ownership and Firm Performance: Empirical Evidence From Chinese Listed Companies. *China Journal of Accounting Research*. 6(2013). p.75-97

Yuan, R., Xiao, J.Z. & Zou, H. (2008). Mutual Funds' Ownership and Firm Performance: Evidence from China. *Journal of Banking & Finance*. 32. 1552-1565.