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State Ownership, Governance and Financial Performance of Chinese State Owned Enterprises

Quan Cheng* and Alex Ng**

The strand of literature on Chinese firm performance shows that state ownership clearly has influence. This state-performance relationship is found to be linear, concave and convex shaped which remains to be resolved yet there are few studies. The authors study a large and recent sample of 27,896 Chinese publicly listed firm year observations during 2001-2011 using panel regressions. The authors show that state ownership is related to financial performance as measured by Tobin's Q and stock returns. Our results affirm a non-linear, concave relationship between state ownership and financial performance. The authors also show how firm governance plays a clear role in Chinese firm performance.

JEL Codes: G34; G15

1. Introduction

State-owned enterprises have made an important contribution to China's macroeconomic stability and in Chinese context; the state-owned enterprise sector must be sufficiently large so that public sector investment accounts for about 50% of the total capital formation (Li, 2008). Chinese state owned enterprises have important corporate objective for their market performance. The corporate objective must be controlled and managed well through the corporate sector in order for China to successfully advance its economy and preserve its political order. To invigorate its state-owned enterprises, the Chinese government has gradually privatized many of them. (Sun et al, 2002).

State governance and corporate performance are studied in the corporate finance literature on China and studies have sought to define the relationship between state ownership and Chinese firm performance (Qi et al.,2000; Sun et al., 2002; Wei and Varela, 2003 and Ng et al., 2009). These studies show that the state ownership-performance relationship is a non-linear one. However, it is shown to be convex or concave. There are recent studies also look at other factors other than state ownership perspective to explain Chinese firm performance. Jiang et al., (2013) find that firm-specific factors can predict external successions for SOEs, but not for non-SOEs. Chen (2015) finds that weaker helping hand from the government is associated with a higher number and proportion of outsiders on the board. Liu et al., (2015) find that independent directors have an overall positive effect on firm operating performance in China.

*Quan Cheng, School of Business, University of the Fraser Valley, Canada, Email: quan.cheng@ufv.ca
**Dr. Alex Ng, School of Business and Economics, Thompson Rivers University, Canada, Email: ang@tru.ca

Given the rich and complex social, political, economic and governance context of the Chinese corporate sector, there remains insufficient number of studies to define the state ownership and firm performance relationship. Indeed, Jensen and Meckling (1976) theorize that the allocation of share ownership among insiders and outsiders of the firm would influence the value of the firm. Chinese firms are characterized by having complex ownership structures which include: various kinds of state ownership, legal institutional ownership, and private ownership amongst others. Governance is essential to reconcile the demands and expectations of these multiple owners. Therefore, the role of firm level governance amidst multiple owners necessitates examination. Although Liu et al. (2012) is the recent study, they examine large shareholders influence on performance surrounding the global financial crisis in 2008. They find a U shaped relationship between large ownership concentration and crisis period performance, and not directly at the state ownership performance relationship. They further demonstrate that governance (managerial ownership) has a positive role on crisis performance. Therefore, our study differs because the authors examine the relationship between state, governance and performance for a large and recent sample of 27,896 Chinese public firms during 2001-2011.

The authors show a non-linear, concave relationship between state ownership and financial performance as measured by Tobin's Q and stock returns. This relationship suggests that private governed and highly state-governed firms have lower performance than mixed governed firms. Beyond these performance results on state ownership, as well as other forms of ownership, the authors also show how firm governance, such as the executive ownership, independence of board members and CEO duality play a clear role in Chinese firm performance. Hence, our study contributes to the literature as a current study on defining the state-performance relationship, and governance explanations to Chinese firm performance.

The next part of this paper provides a literature review and hypothesis development. The next sections deal with: 1) methodology, 2) sample description, 3) results and discussion and 4) robustness. The last section concludes.

2. Literature Review

Jensen and Meckling (1976) propose that the allocation of share ownership among insiders and outsiders of the firm would influence the value of the firm. Subsequently, McConnell and Servaes (1990) examine this relationship between ownership structure and firm value. They found a curvilinear relation between Tobin's Q and the extent of corporate insider ownership with a sample of US NYSE and AMEX listed firms.

There are recent studies also look at other factors other than state ownership perspective to explain Chinese firm performance. Jiang et al., (2013) find that firm-specific factors can predict external successions for SOEs, but not for non-SOEs, and for SOEs that chose outsiders as CEOs for firm-specific reasons, their subsequent firm performance improves. Chen (2015) find that weaker helping hand from the government is associated with a higher number and proportion of outsiders on the board, after controlling for the effects of

firm complexity, growth opportunities, CEO characteristics, ownership and potential endogeneity concern. Liu et al., (2015) find that independent directors have an overall positive effect on firm operating performance in China.

The government ownership related to Chinese SOE's naturally led researchers to examine such ownership structure effects on firm value in China. Qi et al., (2000) find that the ownership structure composition and relative dominance by either the state or legal-person shareholdings can affect the performance of public SOE firms. Sun et al., (2002) find the relationship between government ownership and firm performance follows a concave N-shape. This relationship implies poor performance in both highly state controlled firms and very low state owned or privatized firms. They explaine that too much state ownership in these firms interferes in their economic operations of SOEs while too little government holding of SOE shares means state ownership deprives SOEs of enough support to perform well or to survive economic difficulties.

On the other hand, Wei and Varela (2003) find that state ownership has a convex relationship (U shape) with Tobin's Q which now implies that both high and low state ownerships are related to higher firm value. Furthermore, they suggest that when a government privatizes firms that were previously state-owned (retaining significant ownership after privatization), then conflicts of interest among different block shareholders may actually decrease firm value. This conflict of interest problem has magnified by the agency problem in firms with high state ownership since top managers are likely to be appointed by the government without meaningful personal ownership in these firms. However, when the government shareholdings decrease further and other block shareholders become dominant, firm value increases. Again, Ng et al., (2009) report a convex relationship between state ownership and financial performance. They explain that clear dominance of state or private ownership is better for Chinese SOEs performance than mixed or partial state control of SOE's because of their ambiguity of control and cash flow rights and of corporate and social objectives. Indeed, Ivashina and Scharfstein (2010) also conclude that a convex relationship offers valuable guidance as to what extent state control should be given up in order to realize the potential economic benefits of privatization. Liu et al. (2012) examine Chinese firm performance within the context of the 2008 global financial crisis. They find that large shareholders have a U shaped (convex) relationship with crisis-period performance. Their results suggested that ownership concentration mitigates financial constraints and introduces expropriation problems.

3. Hypothesis Development

High state ownership implies low private ownership because state ownership is defined as a percentage of total shares outstanding. Ng et al. (2009) point out that if a negative relationship is found between state ownership and performance, then it implies that privatization is beneficial as it would be positively related to performance, because "high state ownership in the firm requires that the state hire agents to look after its own interest, and result in lower performance as government agents act in their own rather than that of the state's best interest" (Wei and Varela, 2003). However, the authors argue that when

privatization reaches a certain level of control, market performance can decrease since they lose the advantage of government relations which provide benefits, resources and better policies for SOEs. For example, support from the government to pull SOEs out from financial problems. Sun et al. (2002) find that there is an optimal level of government ownership in their finding of a convex relationship between state ownership and performance. They suggested too much state control in SOE's leads to costly bureaucracy and interference in profitable operations. In addition to the effects of state control on SOEs, the authors have to consider further agency costs or agency conflicts of interest between inside corporate decision makers and outside shareholders (Jensen and Meckling, 1976). That is, such agency conflicts would likely exist to a greater degree between the managers of an SOE firm and the state institutions as well as public shareholders who also have share ownership. This agency context is more complicated given that there is more conflict. Finding a relationship can answer the question as to whether privatization is beneficial to Chinese firm performance (Ng et al., 2009). Private control should benefit Chinese SOEs by reducing agency costs and allocating property rights to managers and owners (Wei and Varela, 2003), and privatization is necessary for improving state-owned firms (Boycko et al., 1996; Shleifer and Vishny, 1998). The authors propose this hypothesis:

H1: State share ownership is related to financial performance.

The various ownership types (state, legal institutions, executive, employee etc) in Chinese firms necessitate effective governance structures in order for firms and their agent managers to fulfill their financial objective for performance. Governance is essential to manage the different claims and objectives of various owner groups. Therefore, the authors propose that:

H2: Firm governance is related to financial performance.

4. Methodology

The authors use an unbalanced panel data set for 2001-2011 for a panel data regression analysis with both period random and fixed effects. The major advantage of using the panel least squares regression method is that it reduces the magnitude of a key econometric problem in empirical studies, namely, omitted variables that are correlated with explanatory variables (Hsiao, 1986). It is better able to control for the effects of missing or unobserved variables. Previous studies on Chinese firm performance use both panel least squares regression as well as yearly cross section and pooled regressions (Ng et al., 2009; Wei and Varela, 2003; Sun et al., 2002).

Corporate Performance. The authors specify the following regression to test this hypothesis with the expected signs above the coefficients of the independent variables:

$$\text{Tobin's Q and Stock Return} = B0 + B1^{+}\,\text{STATE} + B2^{-}\,\text{STATE2} + B3^{-}\,\text{ASHARE} + B4^{+}\,\text{LEGAL} + B5^{+}\,\text{EXECUT} + B6^{+}\,\text{INDDIR} + B7^{-}\,\text{LEVERAGE} + B8^{+}\,\text{ROS} + B9^{-}\,\text{SIZE} + B10^{+}\,\text{FREECASH} + B11^{+/-}\,\text{DUAL} + B12^{+/-}\text{-}B16\,\text{INDUSTRY} + \text{Error}$$

Table 1 summarizes the variables in this regression, gives their definition and their measurement.

4.1 Variable Specification

The authors define two measures of firm level market performance with the first being Tobin's Q consistent with previous studies (Ng et al., 2009; Wei and Varela, 2003; Loderer and Martin, 1997) as follows:

Tobin's Q = (market value of equity + Book value of total liabilities)/Book value of total assets

The second measure is yearly stock returns adjusted for dividends.

The STATE variable is the percentages of shares in firms held by central government, local government, or solely government owned enterprises. The coefficient for the variable of STATE2 in combination with the coefficient for STATE can be used to determine whether the relationship between performance and STATE is convex or concave, where convexity is a characteristic of U-shape or quadratic and concavity is a characteristic of an inverted U-shape. Wei and Varela (2003) also indicated that the inflection in the regression can be computed by equating the partial derivative $\partial Q/\partial STATE$ to zero. For instance, if $STATE^2$ (x-axis) is negatively related Tobin's Q (y-axis), then this creates a concave inverted U curve. This indicates that state ownership is positively related to market performance, but beyond an inflection point the relationship changes to become negative.

The authors employ three aspects of governance to examine its role with performance. These include: the percentage of executive share ownership, the number of independent directors, and the dual role of CEO as Chairman of the board. The authors provide explanation for these and firm characteristic control variables in Table 1. The authors also control for performance differences arising from different industries the firms belong to. This is based on the aggregated six category classification in GTA database.

Table 1. Specification of Regression Variables for Financial Performance

This table explains the variable used in this regression, their measurement and their expected signs. The key dependent variables of interest are: Tobin's Q and Stock Return

Variables	Description	Measure	Expected sign
Dependent Variables			
Q	Financial performance	Tobin's Q	
Stock Return	Market performance	Stock returns adjusted with dividends	
Ownership			
STATE	State ownership	Percentage of shares owned by government	Positive
STATE2	State ownership	Square of percentage of shares owned by government	Negative
ASHARE	Private ownership	Ordinary equity shares mostly held and traded by individuals	Negative
LEGAL	Legal ownership	Percentage of shares owned by legal institutions	Positive
Governance			
EXECUTIVE	Executive ownership	Percentage of shares owned by executives	Positive
INDDIR	Board Independence	Percentage of independent directors / all directors	Positive
DUAL	Dual role of CEO and Chairman of the Board of directors	Dummy variable of 1 if board chairman and general manager is different person, and 0 if board of chairman and general manager is the same person	Negative or positive
Firm Characteristics			
SIZE	Size of SOE	Logarithm of total assets	Negative
LEVERAGE	Leverage	Total debt / total equity	Negative
ROS	Return on sales	net income / total sales	Positive
FREECASH	Free cash flow	Total free cash flow with reinvested dividends / total assets	Positive
INDUSTRY CONTROL (1-6)	Industry	Dummy variable of 1 if it is in the finance industry, utilities, property, conglomerate, industrial and 0 if it is otherwise	Negative or positive

5. Sample and Data

Our sample population consists of publicly listed Chinese firms in both Shanghai Stock Exchange (SHSE) and Shenzhen Stock Exchange (SZSE) over a eleven year period 2001- 2011 (January 1, 2001 to December 31, 2011). The authors collected this data from GTA information technology company (Guo Tai An) which is a leading global provider of Chinese business data as used in Ng et al. (2009). The authors exclude from our sample the so-called "Special Treatment" stocks denoted as (ST, ST*, PT[2]) because these are firms which are not financially viable and should be delisted, yet they remain listed. Stocks with a return on investment (ROE) greater than or less than 500% were treated as outliners and deleted. Additionally, H-shares, which are another type of private shares from the Chinese market for firms that are listing and trading on Hong Kong Stock Exchange, are not included in this study. H-share studies are interpreted differently from studies on domestic share issues because H-share issuers have these differences: 1) they are a segmented capital market; 2) domestic Chinese investors cannot trade H-shares, but international investors can McGuinness and Ferguson (2005); 3) they are given special treatment, such as screening, financial repackaging and earnings management; 4) they gain positive listing effects in Hong Kong, and 4) they are empirically proven to perform better than domestic A share issuers (Huang and Song, 2005).

Table 2 shows summary statistics for our sample of 2,536 companies on average per year for 11 years with 27,896 firm-year observations.

Table 3 reports industry breakdowns of the sample. It shows that the majority of Chinese SOE's are industrial firms comprising of 62.2% of our sample. The second largest group of industries is conglomerate with 15.9 percent, and the smallest group is finance with 1.6 percent.

Table 4 provides detailed equity ownership structures of four categories of state ownership of SOE firms based on Ng et al., (2009). For category one, these firms (less than 10% state shares) have a mean state ownership of 1 percent. Category two of mixed ownership SOE firms (10-30% state ownership) has a mean state ownership of 22% and private ownership of 53%. Category three of mixed ownership SOE firms (30-50% state ownership) has a mean state ownership of 41% and private ownership of 43%. Together, these groups of mixed ownership firms are the second largest group comprising of 30.5% of our sample. The last category 4 is clearly state controlled firms (> 50%) in which mean state shares is 62%, and private ownership is 31%., and they are 21.2% of this sample, the smallest group.

2. Summary statistics for Listed Chinese firms 2001-2011.

This table presents yearly statistics for the sample of 27,896 companies privatized Chinese firms from 2001-2011 listed on the Shenzhen and Shanghai stock exchange. Tobin's Q, stock return, state shares, negotiable A shares, domestic legal shares, executive shares, independent director shares, debt to equity and size are measured as percentage fractions of total shares.

Statistics	Tobin's Q	Stock Return	State Shares	Negotiate A Shares	Domestic Legal Shares
N	19,513	18,099	19,852	19,852	19,852
Mean	0.49	0.23	0.21	0.52	0.12
Std Dev	0.27	0.84	0.25	0.28	0.20
Min	0.01	-0.91	0.00	0.00	0.00
Max	2.70	3.15	0.97	1.00	0.97

Statistics	Executive Shares	Independent Director Shares	Debt to Equity	Size	Free Cash
N	19,852	16,271	19,813	19,815	19,814
Mean	0.03	0.33	1.31	21.52	0.03
Std Dev	0.08	0.10	2.14	1.36	0.14
Min	0.00	0.00	-11.57	10.84	-1.00
Max	0.33	0.80	14.38	30.50	1.00

Table 3. Industries of the Chinese SOE firms 2001-2011 sample

This table consists of 27,896 companies listed in both SHSE and SZSE from 2001-2011. The companies are classified into 6 groups according to GTA database classification.

Industry code	Industry	N	%
1	Finance	451	1.62%
2	Utilities	2,156	7.73%
3	Properties	1,496	5.36%
4	Conglomerates	4,444	15.93%
5	Industry	17,358	62.22%
6	Commerce	1,991	7.14%
	Total	27,896	100.00%

Table 4. Equity ownership structure of Chinese privatized firms 2001-2011

Share type in %	Statistics	1. Private (<10%)	2. Mixed (10-30%)	3. Mixed (30-50%)	4. State owned (>50%)
State shares	Means	0.01	0.22	0.41	0.62
	Std Dev	0.02	0.06	0.06	0.08
Negotiate A share	Means	0.60	0.53	0.43	0.31
	Std Dev	0.30	0.21	0.16	0.12
Domestic Legal Shares	Means	0.21	0.11	0.05	0.01
	Std Dev	0.24	0.15	0.09	0.04
Independent Director Shares	Means	0.35	0.33	0.31	0.30
	Std Dev	0.08	0.09	0.10	0.12
Executive Shares	Means	0.04	0.01	0.00	0.00
	Std Dev	0.10	0.04	0.01	0.00
Sample size	*n*	8,368	2,201	3,073	3,676
Distribution of all SOEs	% total of 17,318	48.32%	12.71%	17.74%	21.23%

6. Results and Discussion

6.1 Hypothesis 1: Corporate Performance and State Ownership

The authors use Figure 1 to illustrate the nature of this relationship between state ownership and market performance. Figure 1 shows Tobin's Q increases from 0.3 to about 0.5 when state ownership changes from 10% to 20% from private controlled (category 1) to mixed control SOEs (Categories 2 and 3 with state ownership is 20% to 50%). When state control is above 50% (category 4), Tobin's Q remains close to 0.5 similar to the mixed control firms. However, when state ownership is above 70%., Tobin's Q decreases to around 0.4. The authors get a very similar pattern using medians. This preliminary examination shows that the state control relationship with performance is concave or n-shaped.

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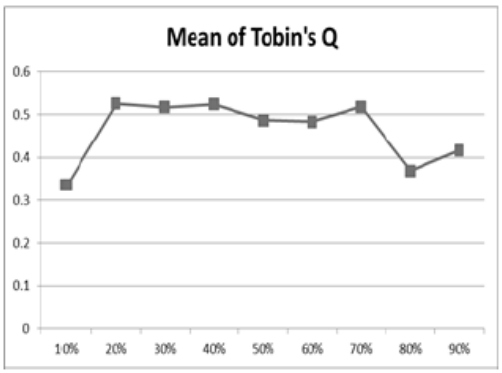
Figure 1. Mean of Tobin's Q with percentage of state ownership



Similarly, in Figure 2, using annual stock returns, the authors again see this concave n-shaped relationship between state ownership and market performance. Stock returns increase from about 5 percent to above 20 percent when state ownership changes from 10% to 20%, and it is maintained at above 20 percent when state ownership is in the range of 20% to 50% (mixed state controlled categories, 2 and 3). Above 60% state shares, state controlled firms show dramatically decreased stock performance from above 20 percent to less than 10 percent. This concave relationship as found by Sun et al., (2002) implies that highly privately and state controlled SOEs have the lowest performance compared to mixed controlled SOEs.

Figure 2. Mean of annual return with percentage of state ownership

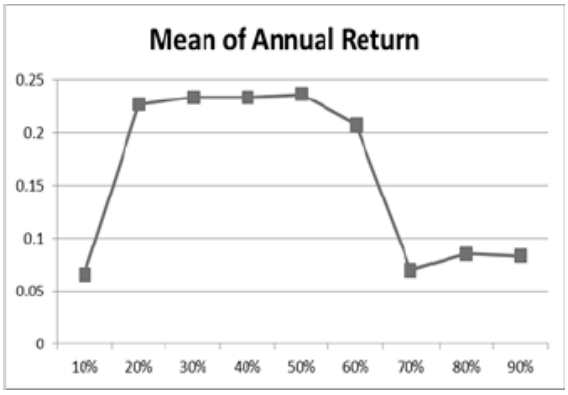


Table 5 presents panel regression results on the relationship between state ownership and financial performance using Tobin's Q and annual market returns. Both regressions are highly significant at an alpha level of one percent p<.000 with F statistics of 383.93 and 242.92. The adjusted R-squares are satisfactory at 27.7 and 28.3 percent respectively. Only the random effect is in consideration here since in the fixed effect, STATE is not significant.

The state ownership relationship with performance is examined in the variable, STATE and $STATE^2$. Together they represent the shape of the relationship between state ownership and market performance. STATE is positively significant related at an alpha

level of ten percent and the beta coefficient is 0.04. This result is consistent with hypothesis one that state share ownership is positively related to market performance using the dependent variable Tobin's Q. $STATE^2$ variable has highly significant ($p<.001$) negative effects (coefficient is -0.17) on Tobin's Q in both models 1 and 2. Consequently, this result of $STATE^2$ confers a concave or n-shaped relationship between state ownership and financial performance with Tobin's Q which is consistent with Figure 1. This implies that highly state controlled SOEs are related to lower market performance, as well as highly privately controlled SOEs. Thus, more private control does not benefit financial performance. The authors conclude support for our hypothesis that state ownership is related to financial performance as measured by Tobin's Q. Our conclusion about this concave relationship is in agreement with the study of Sun et al. (2002). It differs from studies (Wei et al., 2005; Ng et al., 2009; Liu et al., 2012) who find a convex relationship.

ASHARE variable has significant ($p<.10$) negative and smaller effects (coefficient = .02) on Tobin's Q. This confirms our preliminary findings of lower financial performance associated with privately controlled firms and the concave shaped relationship with Tobin's Q. LEGAL share ownership negative effects on Tobin's Q at an alpha level of one percent level in both fixed and random effects regressions. Beta coefficients are -0.05 and -0.06 which are lower than the state ownership effect ($STATE^2$) with betas of -.17 and -.10. This negative relationship is also found previously in the study of Wei et al. (2005) who also perform panel regressions. Such a negative effect is plausible. Institutional ownership may behave like state ownership because many of the legal entities that own shares are partially or fully owned by different levels of government (Wei and Varela, 2003). Government can have socio-political interests at the expense of a profit objective.

When looking at firm characteristics, the authors find that SIZE and LEVERAGE are positive (beta coefficients are 0.02 and 0.03) and highly significantly related to Tobin's Q at an alpha level of one percent. These results show that larger SOEs and more leveraged firms are related to better financial performance. To explain, leverage relation (total liabilities) is in the numerator for calculating Tobin's Q; therefore, it is directly positively proportional to Tobin's Q. This clearly explains why the authors obtain a positive effect. As for the positive effect, the authors think this is attributable to the Tobin's Q measure. Larger firms have a larger market equity value (numerator of Tobin's Q) which imputes into larger Tobin's Q values. Next, the authors find that profitability variables, including (Return on sales) and FREECASH flow are negative and highly significantly related to Tobin's Q at an alpha level of one percent with coefficients of -0.39 and -0.12. The authors expect positive effects a priori with Tobin's Q. However, the authors do find positive effects in the results using annual stock returns. It seems that some of our firm characteristics have different performance effects depending on their measure: Tobin's Q versus stock returns. Plausibly, this could be a symptom of market inefficiencies in Chinese SOE pricing as concluded by Xiao (2006). Lastly, the authors find no relationship between all of the industry control variables except for industrial firms (IND5). It is positively related to Tobin's Q at an alpha level of one percent with a coefficient of 0.05.

Table 5. State Ownership as a Determinant of Financial Performance

This table presents panel regression results for state ownership as a determinant of financial performance of Chinese public firms 2001 to 2011. The dependent variable is financial performance measured as Tobin's Q and annual stock returns with dividends reinvested. The main variable of interest is state ownership (STATE and $STATE^2$). Control firm variables include private and legal ownership, governance, firm characteristics, industry and time year controls. Industry controls are based on a five firm-sector classification: finance and banking; utilities, conglomerates, real estate and industry. Intercepts are not reported. T-statistics are reported in parenthesis below each coefficient, and significance levels are indicated by: *at the 10% level **at the 5% level *** at the 1% level based on two tailed distribution.

Independent	Tobin's Q		Annual Return	
Variables	(1) Random	(2) Fixed	(3) Random	(4) Fixed
STATE	0.04	-0.01	0.89***	-0.04
	(1.63)	(-0.33)	(7.97)	(-0.70)
STATE2	-0.17***	-0.10***	-1.12***	0.20**
	(-4.42)	(-2.53)	(-7.13)	(2.34)
ASHARE	-0.02*	-0.02	0.32***	0.07**
	(-1.86)	(-1.50)	(7.15)	(2.57)
LEGAL	-0.05***	-0.06***	0.33***	0.12***
	(-4.01)	(-4.73)	(5.89)	(3.78)
EXECUT	-0.65***	-0.60***	-0.72***	0.07
	(-20.89)	(-18.17)	(-4.81)	(0.83)
INDDIR	0.14***	0.07**	1.36***	-0.02
	(7.48)	(2.42)	(17.85)	(-0.33)
DUAL	0.00	0.00	0.00	0.00
	(0.82)	(0.66)	(0.13)	(-0.34)
SIZE	0.02***	0.02***	-0.01	-0.01
	(11.24)	(11.39)	(-1.64)	(-1.63)
LEVERAGE	0.03***	0.03***	0.00	0.00*
	(28.35)	(28.26)	(0.33)	(1.68)
ROS	-0.39***	-0.39***	0.29***	0.20***
	(-44.65)	(-44.49)	(8.75)	(10.81)
FREECASH	-0.12***	-0.13***	1.46***	0.53***
	(-8.74)	(-9.08)	(18.69)	(12.23)
INDUSTRY control	Yes	Yes	Yes	Yes
N	15,965	15,965	14,661	14,661
Adjusted R-Squared	0.277	0.283	0.067	0.724
F Statistic	383.93	242.92	66.84	1,480.71
p value	0.000	0.000	0.000	0.000

Table 5 (models 3 and 4) presents panel regression results on the relationship between state ownership and annual stock return. Both regressions are highly significant (p<t .000) with F statistics of 66.84 and 1,480.71, and adjusted R-squares are 0.067 and 0.724.

Our results show that STATE has significant (alpha level is less than one percent) and a positive effect (coefficients is 0.89) on stock return performance. As the authors hypothesized, state share ownership is positively related to financial performance. This result implies that high private control / privatization is not beneficial to SOE performance as the authors find with Tobin's Q. The $STATE^2$ variable is negative (coefficient is -1.12) and significantly related (alpha level is less than one percent) to annual return. Based on finding a positive STATE and negative $STATE^2$ relationship, this nonlinear relationship with stock performance appears to be concave or n-shaped. This is consistent with our graph in Figure 2 and with our results on Tobin's Q. Such a concave relationship implies that high state controlled and highly privatized SOEs are related to lower market performance.

Table 5 results show that ASHARE variable is positive and significant related (p<.01) to annual return with a coefficient of 0.32 in Model 3 (in model 4, p<.05 and coefficient is .07). The stock market appears to value the effect of private ownership and the benefits of private control over state control. This positive effect is not found with our Tobin's Q result. The LEGAL variable has significantly (p<.01) positive (coefficient of 0.33) effects on annual return. This suggests that institutional ownership confer their inherent benefits of greater economic orientation and profit seeking toward their governance role of privatized Chinese firms. (Ng, et al., 2009).

Overall, the authors conclude that state ownership is related to both measures of financial performance, Tobin's Q and stock returns. The conclusion about this concave relationship is in agreement with the study of Sun et al. (2002). As an explanation, the lower financial performance for highly private firms is attributed to a lack of access to state benefits such as customer, credit and political connection in previous studies (Sun et al., 2002). Second, mixed control firms seem to benefit financially with state control because of their access to state benefits.

6.2 Hypothesis 2: Corporate Governance and Performance

Looking at firm governance factors in Table 5, EXECUTIVE shares has the largest effect (beta coefficients are (-0.65, -.60), and it has highly significant (p<.001) negative effects on Tobin's Q (models 1 and 2). Similarly, EXECUTIVE ownership has highly significant (p<.01) and negative (coefficient is -0.72) effect on annual return in Model 3. This dominant negative effect suggest high agency costs and conflicts between SOE executives and multiple shareholders, state, private and institution owners germane to SOE ownership structures. That is, executives exert high agency costs in the pursuit of personal benefits such as costly decisions, perquisites and political gain. Indeed, some SOE managers achieve substantial personal political power to obtain influential positions in the Communist Party of China and in local and state government.

On the other hand, independent directors (INDDIR) has significant and positive effects ($p<.01$) on Tobin's Q. The effect is substantial with a Beta coefficient of 0.14. The authors also find that independence of directors (INDDIR) to have significant ($p<.01$) and positive effects (coefficient is 0.14) on annual return. Plausibly, the benefit of independent directors could be their stronger orientation for financial performance. These results suggests support for the prescription to make boards better by increasing board independence in the United States (Bebchuk and Weisbach, 2010; Gordon, 2007).

Lastly, DUAL roles of CEO and Chairman of the Board appear to have no significant effects on firm value performance with coefficients of 0.00 for all models. This result suggests that the real power that effects SOE performance comes from above that is, the state and institutional owners of the firm.

6.3 Robustness

The authors perform several robustness checks to affirm our conclusions to deal with these issues: 1) reliability, 2) multi-colinearity, 3) heteroschedasticity, and 4) endogeneity. For the reliability issue, the authors reran the panel regression results using the cross-section least squares method. Qualitatively the results are similar. For multi-colinearity effects of another variable affecting the state effects, the authors perform Spearman correlation tests. Table 6(available upon request) displays a correlation analysis of STATE and other explanatory variables. It appears multi-colinearity does not appear to be an issue influencing the regression results as none of the other variables shows significant correlations. The authors address the heteroschedasticity issue by performing our regressions using White's correction; our regression estimates still yield similar conclusions. The authors are not aware of another possible variable that can have potential endogenous issue with the state ownership variable to have effects on our dependent variables of financial and social performance. Indeed, Wei et al. (2005) did test for potential endogeneity of ownership and found that Tobin's Q and state ownership divided by foreign ownership are not jointly determined.

7. Conclusion

Given the rich and complex social, political, economic and governance context of the Chinese corporate sector, there remains insufficient number of studies to define the state ownership and firm performance relationship. Plus, the role of firm level governance amidst multiple owners necessitates examination. Therefore, the authors examine the relationship between state and performance for a large and recent sample of 27,896 Chinese public firms during 2001-2011.

Our results affirm a non-linear, concave relationship between state ownership and financial performance as measured by Tobin's Q and stock returns. This relationship suggests that private governed and highly state-governed firms have lower performance than mixed governed firms. Beyond these performance results on state ownership, as well as other forms of ownership, the authors also show how firm governance, such as

the executive ownership, independence of board members and CEO duality play a clear role in Chinese firm performance.

For future research, the authors consider the question of whether Chinese firms have social objectives of employment besides profitability. The authors would also examine the financial and employment performance of partially privatized Chinese SOEs along these two dimensions of institutional state ownership and property rights of state level control. The authors want to demonstrate that state ownership in SOEs has predictive causality for political stability, and employment and job stability performance predicts political stability, but not financial performance. For Chinese Government, employment performance matters more than financial performance when it comes to political stability. As a future research opportunity, a worthwhile question to examine is whether the same political and economic incentives work at the local government versus central government level.

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