

# STATE OWNERSHIP AND FIRM PERFORMANCE: EVIDENCE FROM THE CHINESE LISTED FIRMS

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**Abstract.** *Based on a sample of Chinese listed firms, this paper seeks to understand the role of state ownership on firm performance (accounting-based returns) and firm value (market-based indicators). Results show that state ownership is positively associated with firm performance. In addition, state ownership has a moderating effect on the association between firm performance and firm value. At low levels of state ownership, firm performance is negatively associated with firm value. However, at high levels of state ownership, the association becomes positive. Drawing on signaling theory, the study helps to understand the role of state ownership in the association between firm performance and firm value, an area that has received minimum attention in research. Specifically, state ownership may be a strategic asset for Chinese listed firms boosting accounting returns but perceived differently by the market. Given the current levels of state ownership in many transitional economies, this study sheds light for policy makers on the effects of high or low levels of state ownership on firm performance and value. Moreover, the study may assist would-be investors who may contemplate investing in privatized SOEs, in China or other countries with similar institutional arrangements.*

**Key words:** *state ownership, firm value, firm performance, signaling, China*

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## Introduction

Transitional nations around the world have transformed their economies towards market-based systems (Djankov & Murrell, 2002; Megginson & Netter, 2001; Estrin, Hanousek, Kočenda, & Svejnar, 2007), including the privatization of public sector firms (Brada, 1996; Megginson & Netter, 2001). As a consequence, a variety of

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ownership structures have emerged in privatized firms (Djankov & Murrell, 2002). To understand the impact of privatization, scholars have often used agency theory to study the relationship between ownership structure and firm performance as well as firm value<sup>1</sup> (Djankov & Murrell, 2002; Dharwadkar, George & Brandes, 2000). However, findings from this strand of studies have been somewhat mixed and at times, inconclusive (Hanousek, Kočenda & Svejnar, 2004; Megginson & Netter, 2001). Some scholars suggest that other issues such as competition (e.g. Shirley & Walsh, 2000) or the legal environment (e.g. Frydman, Gray, Hessel, & Rapaczynski, 1999) should be part of the equation in studying the association between ownership and performance/value in particular, and privatization in general.

Consequently, we assume that the inconclusive findings of previous research are attributable to the different institutional contexts of the studies. For example, China's development path is different from that of Eastern European nations in that she has transformed her economy without reforming the political system (e.g. Zhang, 2006; Estrin et al., 2007), a situation that possibly explains why the Chinese government still retains dominant ownership in the majority of privatized firms (Buck, Liu, & Skovoroda, 2008; Green & Liu, 2005).

This paper examines the relationship between state ownership and firm performance in Chinese listed firms. The paper distinguishes itself from previous studies in two important aspects. First, it is not mainly grounded in agency theory, such an 'undersocialised' approach (Aguilera & Jackson, 2003), which commonly assumes a positive association between state ownership and agency cost, and thus a negative association between state ownership and firm performance/value. By contrast, we hypothesize that state ownership has a positive impact on firm performance (accounting returns) given a relatively unique institutional context of Chinese privatization in which the state may subjectively affect firm performance (Lin, 2004). Second, we initially explain the association between firm performance (accounting returns) and firm value (market-based returns) by proposing a moderating effect of state ownership on the relationship. We, therefore, argue that although state ownership has a positive impact on firm performance (which we consider as internal impact), state ownership and its property (i.e. impact of state ownership on firm performance) have a negative signaling effect to the establishment of the firm's market value (external impact). In other words, firm value is established divergently from reported firm performance by the impact of state ownership.

The rest of this paper is organized as follows. The next section presents the institutional context of Chinese state ownership and firm performance. It is followed by the development of hypotheses. The last three sections consider research methodology, results and conclusions of this study.

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<sup>1</sup> Firm performance refers to firm accounting-based performance or accounting returns, and firm value to market-based performance.

## Institutional Background

Privatization has been extensively employed in transitional economies, and both theoretical and descriptive studies have generally proved that private firms and privatized firms are more efficient than state owned enterprises (hereafter, SOEs) (Shirley & Walsh, 2000; Djankov & Murrell, 2002). Privatization leads to cost efficiency and innovation (Shleifer, 1998), and improved corporate governance and competition (Shirley & Walsh, 2000). However, privatization has its own opponents because it has not always produced satisfactory outcomes for all stakeholders in all contexts (Birdsall & Nellis, 2005). Most noticeably, the resulting loss of employment from privatization is critical to the survival of politicians, and consequently, of the government (Boycko, Shleifer, & Vishny, 1996).

China started reforming her economy in general and her SOEs in particular, in the late 1970s. Reform of these firms had become imperative since the central planning economy had, previously, been burdened with a huge number of loss-making SOEs which are technologically inefficient (Harvie & Naughton, 2000), characterized by cradle-to-grave social welfares (Broadman, 1999). Due to the reforms, the total factor productivity of SOEs has increased (Li, 1997), the managerial incentives have been improved (Groves, Hong, McMillan, & Naughton, 1997), and the economic decision making has relatively been decentralized (Cao, Qian, & Weingast, 1999; Lau, Qian, & Roland, 2000).

The establishment of two stock exchanges, the Shanghai Stock Exchange in 1990, and the Shenzhen Stock Exchange in 1991 was a milestone in the Chinese economic reform process. Although listing on the two stock exchanges is strictly controlled by the government and subjective through a quota system and the selection of the enterprises respectively (Aharony, Lee & Wong, 2000), the two financial institutions have fostered a significant increase in the number of listed companies: from 10 in the beginning to 1,430 by the end of February 2007 (Jingu, 2007). Moreover, recent accelerated reforms have led to changes in the ownership structure, favoring a less concentrated ownership of listed firms. Indeed, the proportion of firms that have the largest shareholder owning less than 35% has increased from 42% to 52%, and the percentage of firms that have the largest shareholder owning more than 50% has declined from 33% (in 2005) to 19% (in 2007) (Jingu, 2007).

However, the Chinese government is still considered as being reluctant to commit itself to privatization (Hassard, Morris, & Sheehan, 2002; Wei, Xie & Zhang, 2005). Privatization of large SOEs is referred to as corporatization-or *gufenhua* (a formation of shareholding or joint stock firms) in Chinese lexicon (McNally & Lee, 1998), implying that the government remains a shareholder in privatized firms. Green & Liu (2005) characterize the Chinese privatization as the “retreat and retain” strategy, where the government privatizes small and medium SOEs while maintaining high levels of ownership in large and strategic ones. With such an approach, however, the Chinese government is evaluated as being successful both in solving the problem of

SOE efficiency, at the same time minimizing the unfavorable impact of privatization on employment (Hassard et al., 2002; Wei et al., 2003). Indeed, state ownership still prevails in many firms and industries of post-reform China (Hovey, Li, & Naughton, 2003; Green & Liu, 2005). Therefore, the relative endurance of Chinese state ownership implies that it should be examined as an institutional strategic issue rather than as a financial constituent of firm ownership structure in its association with firm performance.

## **Theory and Hypotheses**

### *Chinese State Ownership and Firm Performance*

In this state-dominated economic environment, most studies on Chinese ownership and firm performance and firm value have utilized agency theory and have generally produced inconclusive results. We assume that applying agency theory in the analysis of state ownership in an economy that is not sufficiently market-oriented, as is the case in developed economies such as the USA or UK, without considering the dynamic institutional context, is the main reason for the inconclusiveness. Indeed, scholars have increasingly spoken of the ‘undersocialized’ nature of agency theory (e.g., Aguilera & Jackson, 2003), and its failure to embrace the institutional context (Chizema, 2010).

Chinese listed firms are often studied in this context (i.e., grounded in agency theory) as if they are more market-oriented and freer from state interference than typical SOEs (Green & Liu, 2005). For example, Sun and Tong (2003) study 634 listed firms on the two Chinese stock exchanges from 1994-1998 and find that state ownership has no statistical significant relationship with firm performance. With Chinese firms cross-listed on the Hong Kong stock exchange, Jia, Sun and Tong (2005) show that state ownership is negatively associated with firm performance. In addition, Xu and Wang (1999) and Qi, Wu and Zhang (2000) find that the return on equity of Chinese listed firms is positively related to institutional ownership but negatively related to state ownership. Xu and Wang (1999) also find that there is a positive and significant correlation between ownership concentration and profitability.

In general, these studies on ownership draw their reasoning, for a negative association between state ownership and firm performance, from Jensen and Meckling’s (1976) agency perspective by assuming that state ownership is separated from the management of government-appointed managers. Consequently, the managers have incentive to shirk, or to exert less than full effort in creating value for shareholders. However, we assume that agency theory, developed in the context of developed North American capital markets, may not be sufficient or suitable to explain the relationship between state ownership and firm performance/value in the Chinese context. Studies on this issue often start with basing on agency theory then have to borrow other perspectives to explain the “unexpected” results in the findings (e.g., Wei et al, 2005). Therefore, in addition to the negative association between state ownership and firm performance

documented by previous studies, there has been evidence of the positive impact of state ownership on firm performance. Specifically, Sun, Tong and Tong (2002) find that state ownership is positively associated with firm performance and the relationship has an inverted U-shape. Also with Chinese listed firms, Tian and Estrin (2005) find that state ownership has a positive association with return on assets and Chen, Firth and Rui, (2006) find it to be positively related to return on sales. This paper explains the relationship between state ownership and firm performance in Chinese privatized firms based on the Chinese unique institutional context in which state ownership is considered a strategic factor in its relationship with firm performance.

We argue that, as a dominant shareholder in Chinese privatized firms, the state is very likely to provide firms with financial and political resources through a “helping hand” (Shleifer & Vishny, 1998), thus possibly improving reported firm performance. In addition, the Chinese government may apply administrative instruments such as preferential market entry regulations, favorable taxation and loans decisions to support firms with high levels of state ownership. Indeed, it has been documented that the Chinese government still provides important networks for obtaining bank loans (Gordon & Li, 2003), and privatized firms with high levels of state ownership may have easier access to favorable lending from the Chinese state banks (Lu, Thangavelu, & Hu, 2005; Cull & Xu, 2003). This support, certainly, facilitates revenue increase, costs reduction and performance improvement of the firms (Lu, 2000).

Thus, the advantage of the ‘state factor’, manifested in state ownership, has also been examined in strategic management literature and empirically realized at firm level. For example, the state can provide firms with competitive advantages improving firm performance in partner selection for joint ventures in China (Luo, 1997; Hitt et al., 2000; Hoskisson et al., 2000). In business group studies, state is also proved to be a strategic asset employed by firms to advance their competitive advantage for better firm performance (Guthrie, 1997; Nolan, 2001; Peng, 2002).

Through the positive impact of the governmental support, firm performance may be attributable to the state’s administrative “push”. Particularly, profitable privatized firms may be used as a demonstration of the efficiency of economic reforms in order to help the state sell firms’ shares at higher prices (Green & Liu, 2005), and higher state ownership has been found to relate to the manipulation of reported accounting information (Lin, 2004).

Moreover, recent studies have provided interesting results on the positive impact of stock exchange listing on firm performance, and SOEs tend to perform better when they are listed (Chen, Li & Lin, 2007). Studies also show that the threat of further privatization (reducing state ownership) has been an impetus behind government performance (Price, 2007). In addition, Le and O’Brien (2011) find that state ownership has a positive impact on firm performance in a context of high debt and equity ratio. Therefore, we suggest that these positive factors may have encouraged managers of Chinese privatized SOEs with high level of state ownership to improve firm performance. We propose our first hypothesis as follows:

**Hypothesis 1:** *State ownership has a positive association with firm performance in transition economies.*

However, a high level of state ownership may not necessarily be highly valued by the market even in a situation where a high level of firm performance (as measured by accounting returns) is reported. One way to look at this argument is through a consideration of the signaling effect of state ownership, the possible resulting perception by market actors. Such is the discussion of the next sub-section.

### *The Signaling Effect of State Ownership on the Performance-value Relationship*

As mentioned earlier, the relationship between state ownership and firm performance/value has been extensively studied in business and management literature. However, the relationship between firm performance (accounting-based performance) and firm value (market-based performance) seems to be overlooked. The paper raises a question on the inconclusiveness of previous studies on the association between state ownership and firm performance versus firm value in the Chinese context. We assume that, together with firm performance (reported accounting returns), state ownership has a signaling effect on the establishment of firm value. More specifically, state ownership and its own impact on firm performance gives signals to investors to determine firm value. Before examining the possible signaling effect of state ownership on the association between firm performance and firm value, we examine the association itself.

Jia et al. (2005) find that state ownership has a negative relationship with both firm performance (ROA, ROS, ROE) and firm value (Market/Book value) while Tian and Estrin (2005) show that state ownership is positively related to both firm performance (ROA) and firm value (Tobin's Q). However, more importantly, there are many studies demonstrating the difference between the impact of state ownership on firm performance with that on firm value in Chinese listed firms. For example, Sun and Tong (2003) find that state ownership has a non-significant relationship with firm performance (ROS, EBIT/Sales) but a negative association with firm value (Market/Book value). Xu and Wang (1999) find that state ownership has a negative relationship with firm performance (ROE, ROA) but a non-significant association with firm value (Market/Book value). With regard to the studies focusing on the relationship between state ownership and firm performance, the findings are mixed. Some show that state ownership is negatively related to firm performance (e.g., Qi et al., 2000). Others show a positive association between state ownership and firm performance (e.g., Chen et al., 2006) and a third stream of research reports a non-significant association between the two variables (Wang, 2005; Sun & Tong, 2003). These studies might not pay sufficient attention to how the investors in the market perceive firms taking levels of state ownership into their consideration.

In contrast to the above studies on the relationship between state ownership and firm performance/value, Wei et al. (2005) and Wei and Valera (2003) find a negative association between state ownership and firm value (Tobin Q).

In general, except for Tian and Estrin (2005) who find a positive association between state ownership and firm value, most studies show that state ownership has a negative association with firm value. More importantly, as noted, studies provide evidence for the disparity between the state ownership/firm performance association and state ownership/firm value association even though the studies might have ignored the difference between the reported accounting returns such as ROA, ROS and firm value measured by Tobin's Q.

We assume that the accounting versus market measurements should be treated differently if they are studied in the same context. Indeed, the difference as well as the relationship between the accounting returns of ROA and ROS and Tobin's Q has long been discussed (Smirlock, Gilligan & Marshall, 1984; Steven, 1990) in economics and accounting. Accounting literature suggests that firm book value is the outcome of the application of accounting principles. For example, conservative accounting produces low firm performance (accounting returns). As a consequence, firm market value is larger than the firm book value. We assume that the institutional context of China dominated by state control implies a biased accounting system in favor of reporting high accounting returns (Lin, 2004). Therefore, being consistent with our argument in H1, and with common empirical findings from previous studies, which reflect the variation between the impact of state ownership on firm performance and that on firm value (i.e., in a descriptive standpoint), we propose a negative association between firm performance and firm value.

However, the main objective of this paper is not to descriptively confirm the relationship between firm performance and firm value, rather, it is to explain it. More specifically, we propose and test the interaction effect of state ownership on the relationship between firm performance and firm value, using signaling theory as our lens.

Signaling theory has long been used in finance and economics to explain the positive association between dividend announcements and firm value (e.g. Allen and Michaely, 2003) Brickley, 1983; DaDalt et al., 2002; Grinblatt, Masulis & Titman, 1984). Interestingly, Su (2005) shows that while shareholders in developed countries respond positively to stock dividend announcement, Chinese shareholders react negatively to stock dividend distribution. Indeed, Su (2005) also finds that Chinese firms with high levels of state ownership tend to distribute stock dividends. However, this strategic selection signals a poor performance of firms in the long run (Su, 2005). Therefore, Su (2005) strongly implies that Chinese privatized SOEs with high levels of state ownership, which attain highly reported firm performance, are likely (to distribute stock dividends and consequently) to experience a reduction in firm value.

Signaling theory has also been applied to explain the effect of ownership structure on firm value (Certo et al., 2001; Leland & Pyle, 1977) and the association between financial decisions and firm value (Chemmanur & Fulghieru, 1997; Connelly et al., 2011; Welch, 1996). In general, previous studies applying signaling theory to examine the association between the above factors and firm value, often employ firm leverage as a medium for the (signaling) channel (Gajewski, Ginglinger & Lasfer, 2007). More

specifically, debt can be considered a signal: it has shown a positive relationship with firm value - increase in stock price in developed economies - due to the monitoring abilities of lenders (James, 1987; Lummer & McConnell, 1989).

However, in transition economies where state ownership is prevalent, debt is unfavorably perceived by investors because the external monitoring system is underdeveloped and the internal corporate governance is generally weak (Baer & Gray, 1995; Dharwadkar et al, 2000). In China, state ownership is generally found to be associated with high levels of debt (Lu, 2000; Lu et al. 2005) especially in bad debt (Allen, Qian, & Qian, 2005; Gordon & Li, 2003). Specifically, the state is considered as a big debtor in a weak internal - external governance context. Moreover, a high level of state ownership, associated with high level of firm performance, is likely to signal to the market that the Chinese government may take a disproportional profit to make up for the financial support they provide to the firms (Sun, Li & Zou, 2005).

Although we suggest that state ownership is associated with positively reported firm performance due to both the financial support and administrative manipulation from the government, we argue that the association is perceived by the market more as a consequence of the second. In other words, the *well known* manipulation of accounting value (Peng, 2006) as well as the conventional view of the state as a restructuring or inhibiting force may send a negative signal to investors. Therefore, the firms' reported positive firm performance under the condition of high levels of state ownership may not convince the market, resulting in the reduction of firm value.

From the perspective of investors, state ownership is generally observed as a major inhibiting factor for both technical and administrative changes (Zhou, Tse & Li, 2006). We argue that the market responds positively to the process of privatization. More specifically, privatization is positively appreciated because of better monitoring from outsiders and more restructuring motivates insiders, thus, subsequently, enhancing firm value (Djankov & Murrell, 2002). In other words, the reduction of levels of state ownership is "welcomed" by the market. Again, the positive association between state ownership and firm performance is more likely to be perceived negatively than positively by the market.

**Hypothesis 2:** *There will be a negative interaction between state ownership and firm performance with respect to their impact on firm value in transition economies.*

## Methodology

### *Sample Characteristics*

Our hypotheses are tested with a large sample of companies traded on China's two stock exchanges in the two years 2004 and 2005. It is noted that there were many regulatory reforms in China in 2001 encouraging firms to be more market oriented and better monitored (Peng, 2004; Tenev & Zhang, 2002). Consequently, we assume that these



reforms had started to be effective by 2004 (i.e., less state-control). Therefore, choosing the two years of 2004-05 may also be considered as a proper trial to see if Chinese listed firms have been free from, or at least, less dependent on state manipulation.

The data is obtained from the China Stock Market and Accounting Research Database (CSMAR) of the Shenzhen GTA Information Technology Company Ltd, (see <http://www.gtadata.com>). Financial firms and firms with less than six months of trading are not included in the sample. In addition, extreme outliers with regard to our paper's variables are trimmed from the data. Specifically, our sample consists of 1,154 firms from the financial year 2004, and 1,255 firms from 2005.

We acknowledge that on the one hand, using secondary data has its own limitations in the Chinese context (Lin, 2004), while on the other, primary data collection in emerging markets has been a serious challenge to researchers (Hoskisson et al., 2000), particularly in China (Wang, Zhang & Goodfellow, 1998). In using this data we draw comfort from the experience of the data supplier as well as the relative popularity of the database.

## *Measures*

### *Dependent Variable:*

*Firm value or market-based value (Tobin's Q):* Most studies on ownership and firm value have used *Tobin's Q* (the ratio of market value to book value of the firm) as a measure of firm value (Demsetz & Villalonga 2001). Thus, following previous studies (e.g., Wei et al., 2005), *Tobin's Q* is also adopted here as a proxy for firm value.

*Firm performance or accounting returns (ROA and ROS):* ROA (the ratio of earnings before interest and tax to total assets) has been widely used to measure firm performance (e.g., Sun & Tong, 2003; Xu & Wang, 1999). The literature generally shows that the three commonly used financial measures – return on equity (ROE), return on assets (ROA) and return on sales (ROS) have almost the same empirical quality for evaluating performance (Markides, 1995). However, of the three measurements of firm performance, ROA has been the most commonly used (Carton and Hofer, 2006). In the Chinese context, ROA is assumed to be more appropriate than ROE since accounting data on assets is more stable than share value (Peng and Luo, 2000). We therefore use ROA as a proxy for firm performance. In addition, ROS (the ratio of earnings before interest and tax to total sales) is employed as a second proxy to test the robustness of our results.

### *Independent Variables:*

*State Ownership (state):* The main independent variable is state ownership (*state*). *State* is the percentage of shares owned by the state at a central and local level, including shares of governmental institutions (state legal-person). However, reported state ownership measured in this way may under-estimate state control resulting from such issues as dual classes of shares, control pyramids and cross-shareholding (Green & Liu, 2005). In such conditions, however, researchers consider using the above description

of state ownership. In our sample, state ownership extends from 0% (i.e., the SOE is fully privatized) to 85%, with an average of 35.2 %, and 34% for 2004 and 2005 respectively.

*Control Variables:*

*Firm size (logempl):* Firm size may represent the potential economies of scale and scope which may be associated with firm profitability (Gedajlovic & Shapiro, 2002; Ang, Cole & Lin, 2000). Therefore, we control for firm size, specifically, the logarithm of total employees (*logempl*).

*Debt-to-equity ratio (LEV):* Debt is assumed to have a positive association with state ownership (Lu et al., 2005) and thus affects firm performance (Sun et al., 2002). Therefore, we control for the debt-to-equity ratio (*LEV*) in studying the relationships between state ownership and firm performance/value.

*Industries:* Chinese firms may have different level of state intervention because industries are considered differently in terms of their political importance (Nee, Opper, & Wong, 2007). Acknowledging the variance in the level of state support across industries, we control for industries as dummy variables.

**Results**

Table 1 shows that there is no high correlation among independent and control variables. In addition, the maximum Variance Inflation Factor (VIF) for the variables is under 2.0, much smaller than the threshold of 10 specified by Neter et al. (1996). Therefore, multicollinearity does not appear to be a problem. We carried out further tests to ensure the applicability of OLS regression to our data. For example, using the P-P plot, our data satisfied the assumption of normality of the dependent variable, and scatter graphs suggested a linear relationship between the dependent and independent variables. Tests for heteroskedasticity and correlation error terms showed neither of these problems were in the data.

TABLE 1. Descriptive Statistics and Correlations

Variable	1	2	3	4	5	6
<b>Mean</b>	<b>1.33</b>	<b>0.02</b>	<b>0.02</b>	<b>0.47</b>	<b>3.18</b>	<b>0.36</b>
<b>Std.Deviation</b>	<b>0.69</b>	<b>0.06</b>	<b>0.39</b>	<b>0.19</b>	<b>0.56</b>	<b>0.26</b>
1. Firm value <i>Tobin Q</i>	1.00					
2. Firm performance <i>ROA</i>	0.16***	1.00				
3. Firm performance <i>ROS</i>	0.00	0.65***	1.00			
4. Debt-equity ratio ( <i>LEV</i> )	-0.21***	-0.38***	-0.33***	1.00		
5. Firm size ( <i>logempl</i> )	-0.15***	0.11***	0.06**	0.06**	1.00	
6. State ownership ( <i>state</i> )	-0.04	0.12***	0.11***	-0.10***	0.19***	1.00

Notes: †p <0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001

Table 2 shows the results of the hierarchical regression that we use to test the association of the control variables (*LEV*, *logempl* and *industries dummies*) and the independent variable *state* with firm performance (*ROA*) for two consecutive years 2004 and 2005.

TABLE 2. Results of regression analysis for ROA

Variable	2004		2005	
	Model 1	Model 2	Model 3	Model 4
Intercept	0.03**	0.03**	0.03*	0.03*
Debt-equity ratio ( <i>LEV</i> )	-0.11***	-0.11***	-0.22***	-0.22***
Firm size ( <i>logempl</i> )	0.02***	0.01***	0.03***	0.02***
Industries dummies ( <i>ind</i> )	Yes	Yes	Yes	Yes
State ownership ( <i>state</i> )		0.01*		0.02*
$\Delta R^2$		0.01**		0.01**
F-value for $\Delta R^2$		2.99**		3.13*
$R^2$	0.17	0.18	0.33	0.34
Adjusted $R^2$	0.16	0.17	0.32	0.33
N =	1154		1255	

Notes: †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001

Models 1 and 3 show a significant association ( $p < .001$ ) between two of the control variables (*LEV* and *logempl*) with firm performance (*ROA*). Specifically, the results indicate that firm size of Chinese privatized SOEs is positively related to firm performance. However, leverage (*LEV*) is found to be negatively associated with firm performance (*ROA*). This is consistent with Dharwadkar et al.'s (2000) proposition that debt in transition economies is negatively associated with firm performance. The results are consistent through the two years 2004 and 2005. With regards to the possible association with industry, two out of twelve *industry dummies*, have significant (positive) associations with firm value (for the sake of brevity, report on industries dummies is not included).

State ownership (*state*) is added to Model 2 (2004), and Model 4 (2005). In support of H1 in relation to state ownership and firm performance, both models show that *state* is positively related to *ROA*, statistically significant ( $p < 0.05$ ) for the two years. Therefore, with *ROA* used as a proxy for firm performance, H1 is supported: *state* is positively associated with *ROA*.

In addition, similar results are found when *ROS* is used as a measure of firm performance as shown in Table 3.

Results for testing Hypotheses 2 are reported in Table 4. Firm size, leverage and industry dummies are used to control for the association between *ROA/ROS* and *Tobin's Q* as well as the moderating effect of *state* on the association between *ROA/ROS* and *Tobin's Q*. Different from its association with firm performance, firm size is found to be negatively associated with firm value ( $p < .001$ ). The association between *LEV* and

TABLE 3. Results of regression analysis for ROS

Variable	2004		2005	
	Model 5	Model 6	Model 7	Model 8
Intercept	0.09	0.07	0.02	0.01
Debt-equity ratio (LEV)	-0.70***	-0.69***	-0.50***	-0.50***
Firm size (logempl)	0.07***	0.07***	0.07***	0.07***
Industries dummies (ind)	Yes	Yes	Yes	Yes
State ownership (state)		0.08*		0.04*
$\Delta R^2$		0.005**		0.01*
F-value for $\Delta R^2$		3.47**		2.74*
R <sup>2</sup>	0.13	0.13	0.28	0.28
Adjusted R <sup>2</sup>	0.12	0.12	0.27	0.27
N =	1154		1255	

Notes: †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001

TABLE 4. Results of regression analysis on Firm value (Tobin Q)

Variable	2004			2005		
	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Intercept	2.4***	2.38***	2.39***	1.38***	1.40***	1.37***
Debt-equity ratio (LEV)	-0.46***	-0.28**	-0.50***	0.18**	0.17**	0.21**
Firm size (logempl)	-0.26***	-0.28***	-0.30***	-0.19***	-0.20***	-0.19***
Industries dummies (ind)	Yes	Yes	Yes	Yes	Yes	Yes
State ownership (state)		-0.06	-0.06		-0.04	0.00
Firm performance (ROA)		-0.30*			-0.98***	
Firm performance* state ownership (ROA*state)		5.10***			4.43***	
Firm performance (ROS)			-0.22***			-0.19**
Firm performance* state ownership (ROS*state)			0.76***			1.07***
$\Delta R^2$		0.02***	0.01***		0.03***	0.01***
F-value for $\Delta R^2$		10.20***	6.40***		12.93***	6.08***
R <sup>2</sup>	0.16	0.18	0.17	0.13	0.15	0.14
Adjusted R <sup>2</sup>	0.15	0.17	0.16	0.12	0.14	0.13
N =	1154			1255		

Notes: †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001

*Tobin's Q* is inconclusive: it is negatively related to *Tobin's Q* in 2004 but positively related to *Tobin's Q* in 2005. Model 10 and Model 13 show a negative association between ROA and *Tobin's Q*. The relationship is significant at p < .05 for 2004 and at p < .001 for 2005. R squared change increases 2% for 2004 (p < .001) and 3% for 2005 (p < .001). Therefore, our proposition for a negative between firm performance and firm value is supported with ROA as a proxy for firm performance. Similar results are also found for ROS in support of the proposition in Models 11 and 14.

However, with regard to the moderating effect of state ownership on the association between firm performance and firm value, the interaction terms between *state* and ROA (Model 10 and 13) and between *state* and ROS (Model 11 and 14) are all found to be positively associated with the dependent variable (*Tobin's Q*) ( $p < .001$ ). Therefore, *state* ownership does not strengthen the negative association between ROA/ROS and *Tobin's Q* but instead turns the association to be positive. Specifically, at a low level of state ownership, firm performance is negatively related to firm value. However, at a high level of state ownership, firm performance is positively related to firm value (Figures 1–4). Therefore, H2 is not supported in terms of a reinforcing effect of state ownership.

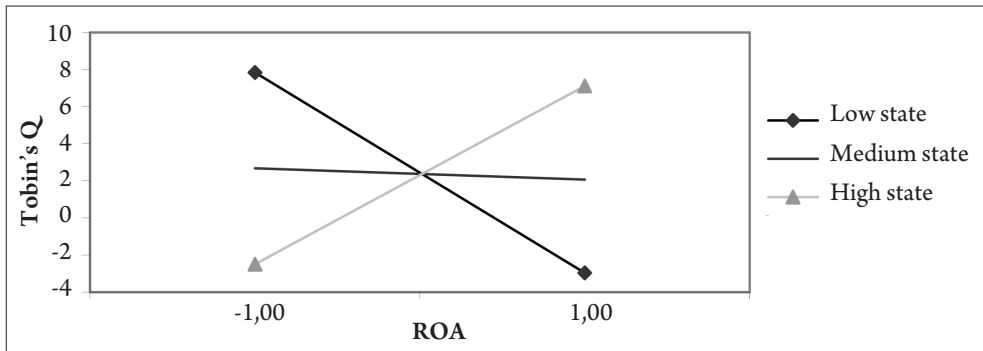


FIGURE 1. Moderating effect of state on the association between ROA and Q (2004)

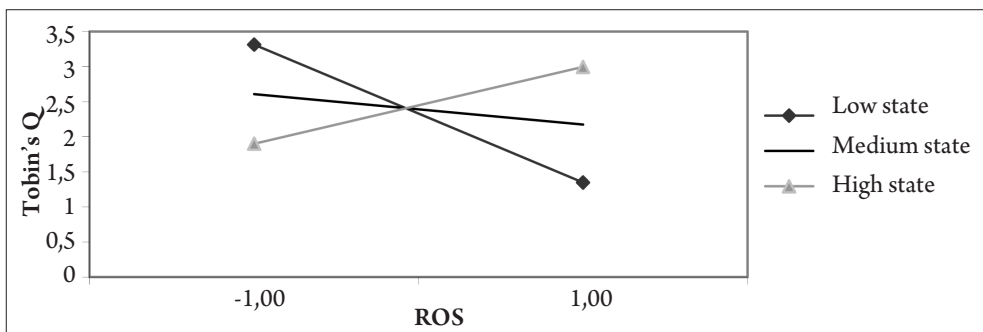


FIGURE 2. Moderating effect of state on the association between ROS and Q (2004)

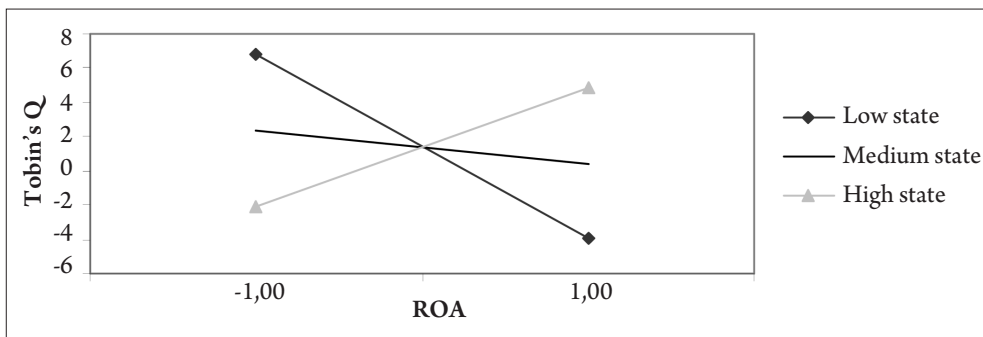


FIGURE 3. Moderating effect of state on the association between ROA and Q (2005)

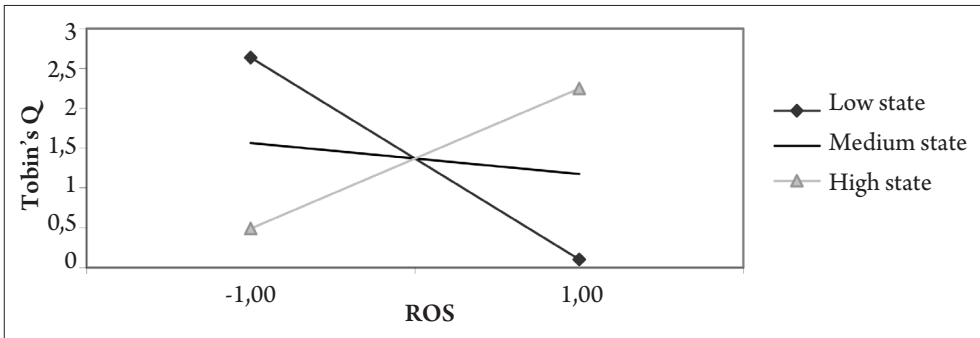


FIGURE 4. Moderating effect of state ownership on the association between ROS and Q (2005)

## Discussion and Conclusions

This paper may be the first to examine the role of state ownership in the association between firm performance (accounting returns) and firm value (Tobin's Q), at least in the case of China. In addition, the paper provides some explanation for the difference between the impact of state ownership on firm performance and that on firm value, an aspect that has previously been overlooked. While the results do not support the hypothesized view that state ownership strengthens the negative association between firm performance and firm value, the paper demonstrates a moderating effect of state ownership on the association. Specifically, at high levels of state ownership, and not as hypothesized, firm performance is favorably perceived by the market (firm performance and firm value are positively related). However, at low levels of state ownership, and as hypothesized, firms are highly-valued by the market even when firm performance is reported to be low.

Not as hypothesized, however interesting, state ownership and its positive impact on firm performance have not been negatively perceived but rather confirmed by investors in the Chinese market. Investors are more likely to appreciate the high level of state ownership and they may be convinced by the positive association between state ownership and firm performance. In other words, the investors may not think that the positive association is a consequence of accounting manipulation and thus temporal. Investors are, therefore, willing to invest in the firms with high state ownership and reported firm performance. As a consequence, stock price increases. The results still show that signaling theory can help explain the investors' perception towards low levels of state ownership in that the market responds positively to privatization, i.e., firms with low levels of state ownership are highly valued by the market even in the case of low level of accounting performance. This may imply market support towards the process of privatization. Being free from governmental support also means being free from state intervention as well as possible governmental disproportional withdrawal of profit. This eventually helps the firm to survive better in the long run. However, the negative association between accounting performance and firm value in firms with low levels of state ownership needs further examination.

Our results show that the Chinese government still strategically assists privatized SOEs with high levels of state ownership. In this context, investors may be sufficiently alert and practical to invest in the high state ownership -high reported firm performance firms which eventually raise firm value of the firms. In addition, it is likely that there is administrative support for reporting high firm performance in the firms. We maintain a skeptical view on this type of non-market oriented subsidization even though, as found, it may be associated with both firm performance and firm value. Specifically, we assume that the administrative intervention, boosting firm performance, may temporarily cloak poor management of firms but fail to prevent firm value from declining in the long run.

As with any applied research, this study has its limitations. First, we note that the paper fails to prove that state ownership strengthens the negative association between firm performance and firm value as hypothesized. Rather, results show that the association turns to be positive when state ownership is high. In other words, investors may perceive highly reported accounting returns (firm performance) as a signal for investing regardless of the likelihood of administrative distortion due to the high levels of state ownership. Further research is needed to establish the mechanisms that explain this outcome. If China's unique investing environment, resulting from cultural and economic characteristics, is responsible, this needs to be modeled and better understood. Second, with complex cross-shareholdings between different national and provincial state agencies and state-controlled firms in China, this paper may not precisely identify state influences. Therefore, state control devices such as pyramids, cross-shareholding and multiple share classes have not been explored and this is potentially another complex issue that deserves focused research. Third, this research is limited to a short window of observation, 2004-2005. While this period is very important, following governance reforms in China, it may not fully capture the dynamic perceptions of the market toward changes in state support as well as possible state accounting manipulation. Hence, future longitudinal studies that include recent years, concerning these issues may help confirm the perspectives as well as findings from this research.

Finally, similar studies can be carried out for other transitional nations such as India, Vietnam, and many developing African countries, where governments still retain their dominant ownership as well as administrative influence in post-privatized firms, a situation common in China (Birdsall & Nellis, 2005). For example, Vietnam, a transitional country, that has reformed the economy, without significantly transforming her political system (Vu, 2005; Wright & Nguyen, 2000), could provide a somewhat similar laboratory context for researchers, to replicate our study. In addition, the huge divergence of firm value of Vietnamese listed firms from their accounting returns due to both the Vietnamese government's support for their privatized SOEs and the surge of foreign investment into the market (Suri & Dinh, 2007) may be linked to what has happened in China. The findings of this study may therefore provide useful implications for foreign investors who have been involved as well as those who intend to invest in Vietnam's fledgling stock market. However, the generalization of our results will be more compelling if the institutional elements, including the political context of the researched countries are taken into consideration.

## References

- Aguilera, V. R., & Jackson, G. (2003). The cross-national diversity of corporate governance: dimensions and determinants. *Academy of Management Review*, 28, 447–465.
- Allen, F., Qian, J., & Qian, M. (2005). Law, finance, and economic growth in China. *Journal of Financial Economics*, 77: 57–116.
- Allen, F. and Michaely, T. (2003). Payout policy, in G.M. Constantinidis, M. Harris and R.M. Stulz, (eds.) *Handbook of the Economics of Finance*, Vol 1, Chap7, 337–429.
- Aharony, J., Lee, C.W.J., & Wong, T. J. (2000). Financial packaging of IPO firms in China. *Journal of Accounting Research*, 38, 103–126.
- Ang, J. S., Cole, R. A., & Lin, J. W. (2000). Agency costs and ownership structure. *Journal of Finance*, 55, 81–106.
- Baer, H. L., & Gray, C. W. (1995). Debt as a control device in transitional economies: the experiences of Hungary and Poland, Working Paper No. 1480, World Bank.
- Birdsall, N., & Nellis, J. (2005). *Reality check: the distributional impact of privatization in developing countries*. Washington DC: Center for Global Development.
- Boycko, M., Shleifer, A., & Vishny, R. W. (1996). A theory of privatization. *Economic Journal*, 106, 309–319.
- Brada, J. C. (1996). Privatization is transition – or is it? *Journal of Economics Perspective*, 10, 67–86.
- Brickley, J. A. (1983). Shareholder wealth, information signalling, and the specially designated dividend. *Journal of Financial Economics*, 12, 187–209.
- Broadman, H. G. (1999). The Chinese state as corporate shareholder. *Finance and Development*, 36, 52–55.
- Buck, T.W., Liu, X., & Skovoroda, R. (2008). Top executive pay and firm performance in China. *Journal of International Business Studies*, 39, 833–850.
- Cao, Y., Qian, Y., & Weingast, B. R. (1999). From federalism, Chinese style to privatization. Chinese style. *Economics of Transition*, 7, 103–131.
- Carton, R. B. and Hofer, C. W. (2006) *Measuring Organizational Performance: Metrics for Entrepreneurship and Strategic Management Research*, Northampton, MA: Edward Elgar.
- Certo, T.S., Daily, C.M. and Dalton, D.R. (2001). Signaling firm value through board structure : An investigation of initial public offerings. *Entrepreneurship Theory and Practice*, 26, 1–22.
- Chen, G., Firth, M., & Rui, O. (2006). Have China's enterprises reforms led to improve efficiency and profitability? *Emerging Markets Review*, 7, 82–109.
- Chen, L., Li, S., & Lin, W. (2007). Corporate governance and corporate performance: some evidence from newly listed firms on Chinese stock markets. *International Journal of Accounting, Auditing and Performance Evaluation*, 4, 183–197.
- Chemmanur, T. J., & Fulghieri, P. (1997). Why include warrants in new equity issues? a theory of unit IPOs. *Journal of Financial and Quantitative Analysis*, 32, 1–24.
- Chizema, A. (2010). Early and late adoption of Americanised executive compensation in Germany: Governance and institutions. *Journal of World Business*, 45, 9–18.
- Connelly, B.L., Cero, S.T., Ireland, R.D. and Reutzell, C.R. (2011). Signaling theory: A review and assessment. *Journal of Management*, 37, 39–69.
- Cull R., & Xu L. C. (2003). Who gets credit? The behavior of bureaucrats and state banks in allocating credit to Chinese state-owned enterprises. *Journal of Development Economics*, 71, 533–559.
- DaDalt, P., Gay, G. and Nam, J. (2002). Asymmetric information and corporate use of derivatives. *The Journal of Future Markets*, 22, 261–277.



- Dharwadkar, R., George, G., & Brandes, P. (2000). Privatization in emerging economies: An agency theory perspective. *Academy of Management Review*, 25, 650–69.
- Demsetz, H., & Villalonga, B. (2001). Ownership structure and corporate performance. *Journal of Corporate Finance*, 7, 209–233.
- Djankov, S., & Murrell, P. (2002). Enterprise restructuring in transition: a quantitative survey. *Journal of Economic Literature*, 40, 739–792.
- Estrin, S., Hanousek, J., Kočenda, E., & Svejnar, J. (2007). Effects of privatization and ownership in transition economies. CERGE-EI. Charles University, Czech Republic.
- Frydman, R., Gray, C., Hessel, M., & Rapaczynski, A. (1999). When does privatization work? The impact of private ownership on corporate performance in the transition economies. *Quarterly Journal of Economics*, 114, 1153–1191.
- Gajewski, J-F., Ginglinger, E., & Lasfer, M. (2007). Why do companies include warrants in seasoned equity offerings? *Journal of Corporate Finance*, 13, 25–42.
- Gedajlovic, E., & Shapiro, D. M. (2002). Ownership structure and firm profitability in Japan. *Academy of Management Journal*, 45, 565–575
- Gordon, R. H., & Li, W. (2003). Government as a discriminating monopolist in the financial market: The case of China. *Journal of Public Economics*, 87, 283–312.
- Green, S., & Liu, S.G. (2005). *Exit the dragon? privatization and state control in China*. London: Chatham House, Blackwell Publishing.
- Grinblatt, M., Masulis, R., & Titman, S. (1984). The valuation effect of stock splits and stock dividends. *Journal of Financial Economics*, 13, 461–490.
- Groves, T., Hong, Y., McMillan, J., & Naughton, B. (1997). Autonomy and incentives in Chinese state enterprises. *Quarterly Journal of Economics*, 109, 183–209.
- Guthrie, D. (1997). Between markets and politics: organizational responses to reform in China. *American Journal of Sociology*, 102, 1258–1304.
- Hanousek, J., Kočenda, E., & Svejnar, J. (2004). Spinoffs, privatization and corporate performance in emerging markets, Working Paper No. 685, William Davidson Institute, University of Michigan Business School.
- Harvie, C., & Naughton, T. (2000). Corporate governance, ownership change, and state-owned enterprises reform. In Harvie, C. (Ed.), *Contemporary Development and Issues in China's Economic Transition*, 45–71. London: Macmillan/St. Martin's Press.
- Hassard, J., Morris, J., & Sheehan, J. (2002). The elusive market: privatization, politics and state-enterprise reform in China. *British Journal of Management*, 13, 221–231.
- Hitt, M. A., Dacin, M. T., Levitas, E., Arregle, J-L., & Borza, A. (2000). Partner selection in emerging and developed market contexts: Resource-Based and Organizational Learning Perspectives. *Academy of Management Journal*, 43, 449–467.
- Hoskisson, R. E., Eden, L. L., Chung, M., & Wright, M. (2000). Strategy in emerging economies. *Academy of Management Journal*, 43, 249–267.
- Hovey, M., Li, L., & Naughton, T. (2003). The relationship between valuation and ownership of listed firms in China. *Corporate Governance: An International Review*, 11, 112–122.
- James, C. (1987). Some evidences on the uniqueness of bank loans. *Journal of Financial Economics*, 19, 217–235.
- 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.
- Jia, J., Sun, Q., & Tong, W. (2005). Privatization through an overseas listing: Evidence from China's H-share firms. *Financial Management*, 34, 3–30.
- Jingu, T. (2007). Corporate governance for listed companies in China – recent moves to improve the quality of listed companies. *Nomura Capital Market Review*, 10, 36–52.

- Lau, L.J., Qian, Y., & Roland, G. (2000). Reform without losers: an interpretation of China's dual-track approach to transition. *Journal of Political Economy*, 108, 120–143.
- Le, T. & O'Brien, J. (2010). Can Two Wrongs Make a Right? State Ownership and Debt in a Transition Economy. *Journal of Management Studies*, 47, 1297–1315.
- Leland, H., & Pyle, D. (1977). Information asymmetries, financial structure and financial intermediation. *Journal of Finance*, 32, 371–387.
- Li, W. (1997). The impact of economic reform on the performance of Chinese state enterprises, 1980–1989. *Journal of Political Economy*, 105, 1080–1106.
- Lin, J. Y., Cai, F., & Li, Z. (1998). Competition, policy burdens, and state-owned enterprise reform. *American Economic Review*, 88, 422–427.
- Lin, T. W. (2004). Corporate governance in China: recent developments, key problems and solutions. *Journal of Accounting and Corporate Governance*, 1, 1–23.
- Lu, D. (2000). Industry policy and resource allocation: implications on China's participation in globalization. *Chinese Economic Review*, 11, 342–360.
- Lu, D., Thangavelu, S., & Hu, Q. (2005). Biased lending and non-performing loans in China's banking sector. *Journal of Development Studies*, 41, 1071–1091.
- Lummer, S., & McConnell, J. (1989). Further evidence on the bank lending process and the capital-market response to bank loan agreements. *Journal of Financial Economics*, 25, 99–122.
- Luo, Y. (1997). Partner selection and venturing success: the case of joint ventures with firms in the People Republic of China. *Organization Science*, 8, 648–662.
- Markides, C. (1995). Diversification, Restructuring and Economic Performance. *Strategic Management Journal*, 16: 101–118.
- McNally, C. A., & Lee, P. N. S. (1998). Is big beautiful? Restructuring china's state sector under the Zhuada policy. *Issues and Studies*, 34, 22–48.
- Meggison, W. L., & Netter, J. M. (2001). From state to market: a survey of empirical studies on privatization. *Journal of Economic Literature*, 39, 321–390.
- Nee, V., Opper, S., & Wong, S. (2007). Developmental state and corporate government in China. *Management and Organization Review*, 3, 19–53.
- Nolan, P. (2001). *China and the global business revolution*. Palgrave: New York.
- Peng, M. W. (2002). Towards an institution-based view of business strategy. *Asia Pacific Journal of Management*, 19, 251–267.
- Peng, M. W. (2004). Outside directors and firm performance during institutional transitions. *Strategic Management Journal*, 25, 453–71.
- Peng, M. W. (2006). Making M&A Fly in China, *Harvard Business Review*, March, 26–27.
- Peng, M. P. and Luo, Y. (2000). Managerial Ties and Firm Performance in a Transition Economy: The Nature of a Micro-Macro Link. *Academy of Management Journal*, 43, 486–501.
- Price, B. E. (2007). The threat of privatization: the impetus behind government performance. *International Journal of Public Administration*, 30, 1141–1155.
- Qi, D., Wu, W., & Zhang, H. (2000). Shareholding structure and corporate performance of partially privatized firms: evidence from listed Chinese companies. *Pacific-Basin Finance Journal*, 8, 587–610.
- Shirley, M., & Walsh, P. (2000). Public versus private ownership: The current state of the debate, Working Paper No. 2420, World Bank.
- Shleifer, A. (1998). State versus private ownership. *Journal of Economic Perspectives*, 12, 133–150.
- Shleifer, A., & Vishny, R. W. (1998). *The grabbing hand: government pathologies and their cures*. Boston: Harvard University.

- Smirlock, M., Gilligan, T., & Marshall, W. (1984). Tobin's Q and the structure-performance relationship. *American Economic Review*, 74, 1051–60.
- Su, D. (2005). Corporate finance and state enterprise reform in China. *China Economic Review*, 16, 118–148.
- Sun, Q., & Tong, W. (2003). China share issue privatization: the extent of its success. *Journal of Financial Economics*, 70, 183–222.
- Sun, Q., Tong, W., & Tong, J. (2002). How does government ownership affect firm performance? Evidence from China's privatization experience. *Journal of Business Finance and Accounting*, 29, 1–27.
- Sun, L., Li, T., & Zou, L. (2005). State ownership, corporate performance, and parameter heterogeneity: a quantile analysis on China's listed companies, Discussion Paper No. 60, Centre for Financial and Management Studies, SOAS, University of London.
- Suri, V., & Dinh, V. T. (2007). Taking stock: an update on Vietnam's economic developments, Working Paper No. 41051, World Bank.
- Tenev, S., & Zhang, C. (2002). *Corporate governance and enterprise reform in China*. World Bank: Washington DC.
- Tian, L., & Estrin, S. (2005). Retained state shareholding in Chinese Plcs: does government ownership reduce corporate value? Working Paper No. 750, William Davidson Institute.
- Vu, T. T. A. (2005). Vietnam – The long march to equitization, Policy Brief No. 33, William Davidson Institute.
- Wang, C. (2005). Ownership and operating performance of Chinese IPOs. *Journal of Banking and Finance*, 29, 1835–56.
- Wang, Y., Zhang, X. S., & Goodfellow, R. (1998). *Business culture in China*. Singapore: Academic Publishing Asia.
- Wei, Z., & Varela, O. (2003). State equity ownership and firm market performance: evidence from China's newly privatized firms. *Global Finance Journal*, 14, 65–82.
- 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, 87–108.
- Welch, I. (1996). Equity offering following the IPOs: theory and evidence. *Journal of Corporate Finance*, 2, 227–259.
- Wright, P. C., & Nguyen, V. T. (2000). State-owned enterprises (SOEs) in Vietnam – Perceptions of strategic direction for a society in transition. *International Journal of Public Sector Management*, 13, 169–177.
- Xu, X., & Wang, Y. (1999). Ownership structure and corporate governance in Chinese stock companies. *China Economic Review*, 10, 75–98.
- Zhang, W. (2006). China's SOE Reform: A Corporate Governance Perspective. *Corporate Ownership and Control*, 3, 132–150.
- Zhou, Z. K., Tse, D., & Li, J. J. (2006). Organization changes in emerging economies: drivers and consequences. *Journal of International Business Studies*, 37, 248–263.