

Institutional change and corporate governance diversity in China's SOEs

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INSTITUTIONAL CHANGE AND CORPORATE GOVERNANCE

DIVERSITY IN CHINA'S SOEs

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DIVERSITY IN CHINA'S SOEs

Abstract This study investigates the impact of different types of state ownership on corporate governance, with particular reference to state-owned enterprises in China. Our findings are that Chinese institutional reforms have produced diversified state ownership regimes. We find that different types of government ownership exert different influences on ownership structure and executive shareholding. We contribute to corporate governance research by challenging the conventional definition of state ownership and propose that corporate governance studies should incorporate changing institutional environments in emerging economies.

Keywords: China, corporate governance, institutional environment, State-owned Enterprises (SOEs)

Word count: 7477

Introduction

China has experienced dramatic economic changes over the last three decades. Though China endeavours to transition to a market economy by corporatizing state-owned enterprises (SOEs), the state continues to exercise significant degree of influence over the economy (Warner 2014) and controls majority of the corporatized SOEs even after public listing (Ding, Zhang, and Zhang 2007). Corporatization has nevertheless generated different ownership types. The transitional nature of the Chinese economy offers us an opportunity to examine the effects of different ownership types on corporate governance structures among public listed companies and test existing management theories in this most important emerging economy.

Much of traditional corporate governance research relies on agency theory and views corporate governance as essentially an agency relationship between principals and agents (Berle and Means 1932; Jensen and Meckling 1976). Agency theory, however, treats the principal-agent relationship as a universal conflict and fails to link the varied corporate governance mechanisms with institutional factors (Aguilera and Jackson 2003). Recent studies acknowledge that institutions have important organisational implications for corporate governance because institutions can shape the supply of inputs and interest of large blockholders towards the organisation (Filatotchev, Jackson, and Nakajima 2013; Jackson and Deeg 2008) and therefore can have different effects on firms' strategic outcomes (Peng, Wang, and Jiang 2008).

This paper builds on institutional theory in a broad sense in line with Peng et al. (2009) and looks to embed corporate governance in institutionalism in emerging economies. Specifically, this paper argues that the corporate governance structures of state-owned enterprises (SOEs) in China must be analysed within their institutional

context in order to understand the distinctively different outcomes between central government- and local government-owned SOEs. China's economic reforms created different institutional resources and restraints for different levels of government (central and local) which were in charge of acting as owners of these SOEs. The tightening of the budgets for local governments and changing political incentives for local governments' bureaucrats-as-owners pushed local governments to pursue quasi-privatization or even outright privatisation of local SOEs. In contrast, resources and political incentives for central government bureaucrats-as-owners pushed in the direction of exerting greater state control of the central SOEs. Rather than a homogenous group, we argue that Chinese SOEs under divergent institutional contexts experience divergent corporate governance outcomes.

This paper, therefore, contributes to several streams of academic literature. First, in contrast to the rich and fruitful findings on consequences of state ownership for corporate governance (Chang and Wong 2004; Grosman, Okhmatovskiy, and Wright 2016; Nee, Opper, and Wong 2007; Xu and Wang 1999; Wei 2007; Wong, Opper, and Hu 2004; Zhou, Gao, and Zhao 2017), few studies have offered a comprehensive understanding of variation within state ownership (Bruton et al. 2015; Teng and Yi 2017). The paper posits that there is the diversity within state ownership, and consequently this diversity leads to differences in corporate governance practices for state owners. We contribute to state ownership literature by differentiating two types of government ownership (central versus local) and revealing the distinctive roles central- and local-level government play among listed firms. Existing studies propose that government ownership has a strong effect on corporate governance practices. We extend this line of argument and assert such effect is contingent upon the level of government at which the firm is affiliated. Officials at the different levels

of governments have different objectives and exert different institutional pressures on SOEs, which in turn shape their corporate governance.

Second, the paper contributes to corporate governance research by extending the actor-centred institutionalist approach in advanced capitalist settings of Aguilera and Jackson (2003) to account for blockholder diversity in emerging economies. While some scholars have argued that China's transition from a centrally-planned socialist economy to one with increasing market liberalisation has diversified SOEs (Cui and Jiang, 2012) and make corporate governance complex and multi-layered (Hua, Miesing, and Li, 2006), most studies have generally overlooked the corporate governance differences among Chinese SOEs and how those differences have been embedded in the wider institutional structures. The challenge remains to conceptualise the Chinese state's behaviour as a blockholder. What the salient corporate governance characteristics in SOEs are and how institutional change (i.e. economic reform) would impact on blockholder diversity and corporate governance remain under debate. This paper furthers the debate by offering an institutional account for why there are distinct types of blockholder behaviour among state owners.

Literature Review

Agency theory is the foundation of corporate governance research. The central premise of agency theory is the separation of ownership and control where the principal delegates work to an agent who then performs the work (Jensen & Meckling, 1976). The separation of ownership and control leads managers to discover that they have discretionary control over shareholders invested funds. As a result, managers as self-interested agent may act in a manner inconsistent with shareholders' best interests

and engage in opportunistic behaviour. Agency theory explains the agency problem that arises from the conflict of interests and goals between the principal and the agent, and primarily concerns efficiency from the perspective of those shareholders who invest resources and seek maximum economic returns on their investment. However, agency theory overlooks shareholder diversity because different types of investors (such as banks, institutional investors, families, state, individual etc.) define, interpret and pursue different desires and goals. Critiques of agency theory point out its “under-contextualised” nature and hence its inability to identify and explain the diversity of goals and objectives across different ownership contexts (Aguilera and Jackson 2003; Aguilera, Filatotchev, Gospel, and Jackson 2007; Yoshikawa and McGuire 2008).

In this paper, we invoke institutional theory in the broad sense (Peng, Sun, Pinhkam and Chen 2009) that incorporates new sociological institutionalism (Powell and DiMaggio 1983), new economic institutionalism (North 1990) and comparative capitalism institutionalism (Aguilera and Jackson 2003; Jackson and Deeg 2008), and explore how economic reforms and institutional changes create different types of state ownership and corporate governance regimes. Scholars have recognised that there is an institutional “logic” behind firm’s practices (North, 1990). Institutions, which are defined as the “rule of the game”, can be broadly classified as formal and informal ones (Peng, Wang, and Jiang 2008). Formal institutions include political and legal aspects while informal institutions refer to social norms and culture within a society (North 1990). Institutional theory explains how the company can gain legitimacy within a society by responding to both formal and informal institutions (Cui and Jiang 2012; Wang, Hong, Kafouros, and Wright 2012; Wright, Filatotchev, Hoskisson, and Peng 2005).

Scholars have noted that formal institutions (e.g. legal, regulatory and financial institutions) affect the way firms allocate their resources and shape corporate governance practices (Aguilera, Desender, Bednar, and Lee 2015; Aguilera and Jackson 2003; Kim, Kim, and Hoskisson 2010; La Porta, Lopez-de-Silanes, Shleifer, and Vishny 2000). Firms embedded in environments with sophisticated legal frameworks are likely to develop more transparent corporate governance practices. Although the aforementioned studies have been concerned with legal aspects of the formal institutions, some institutional theorists have examined political aspects of formal institutions and stressed the importance of the government (Qu, Qu, and Wu, 2017; Wang et al. 2012). In emerging economies where legal frameworks are poorly conceived and capital markets are weakly developed, the government can generate institutional pressures and influence firm's behaviour (Cui and Jiang 2012).

In new sociological institutionalism, scholars such as DiMaggio and Powell (1983) suggest that institutional pressures lead to isomorphism (i.e. behaviour convergence). However, in emerging economies, institutions are however inconsistent and change over time. Different actors (i.e. SOEs and different levels of governmental owners) in the same field may confront different institutional logics because they are exposed to different stakeholders, reduce the tendency towards isomorphism (Meyer and Peng 2016). Furthermore, Aguilera and Jackson (2003) suggest that institutions determine endowments of resources and shape interests of managers and shareholders, which in turn generate corporate governance diversity. Following in line with Aguilera and Jackson's (2003) insights, we explicate how Chinese institutional changes altered budget constraints and produced different types of governmental owners in this section.

The evolution of SOEs' institutional environment and divergent institutional logics of corporate governance

Two policy reforms were crucial: fiscal reform in 1994 and SOE reform in the latter half of the 1990s. China has undergone a process of fiscal decentralisation. In the 1980s, the aim of fiscal reform was to establish a tax responsibility system where provincial and local levels of government were under a revenue-sharing system that required localities to submit a portion of revenues to the upper level (Oi 1992). Fiscal reform carried out in 1994 changed fiscal relations between central and local levels of government, and created different budget constraints on central, provincial and local governments. The fiscal reform in 1994 classified sources of revenue into three categories: central government revenue, local government revenue and shared revenue. The new tax sharing system marked out clear boundaries in public finance between central and sub-national governments. The new tax sharing system altered the old relationships among the central, provincial and local governments in which the local governments (i.e. provincial and local) not only had authority over local expenditures but more importantly they also entered long-term fiscal contracts with the central government. The new tax sharing system marked out clear boundaries in public finance between central and sub-national governments. The fiscal reform in 1994, therefore, fixed the allocation of revenue and expenditure responsibilities for each level of government.

One consequence of the fiscal reform was that budget constraints for local government became harder (Pei 2002). Prior to fiscal reform, the sources of soft budget constraints of local governments were twofold: either through fiscal transfers from the higher level government or through easy access to state-owned banks (Jin, Qian, and Weingast 2005). With these soft budget constraints, local government

received sufficient financial resources to support a variety of SOEs without too much concern for their efficiency. Chinese leaders intended to adopt the tax-sharing system to reinforce the central government's capacity for macro-economic control and balancing central-local fiscal revenue asymmetry. The central government's revenue increased to 50% of total national fiscal revenue while fiscal transfers have been limited across all sub-national levels of government (Qian and Weingast 1997; Qian and Roland 1998). Furthermore, in the wake of the 1994 reforms, the taxation powers of governments at different layers of hierarchy now vary greatly (Zhang 1999). The central government has a larger revenue base than local governments and much larger fiscal resources, especially on a per capita basis. In short, the fiscal reforms of 1994 tightened the fiscal budget constraints of local governments, while expanding the resources available to central state authorities.

There are additional reasons that the central government bureaucrats have great access to resources. First, central government officials have more power than local government officials in exerting political influence on the lending decisions of bank branches and non-bank financial institutions (Qian and Roland 1998). Second, since the late 1990s, Chinese government recentralized a number of key bureaucracies in order to regulate local governments and avoid "local protectionism" (Krug and Hendrichske 2008; Jiang and McDermott 2013). Under such "centralised management" system, individual governmental departments within these bureaucracies are directly controlled by their functional administrative superiors; rather than supervised by the local government. However, the principal beneficiaries of this shift to centralised management have been the provinces, because the institutional mechanisms of personnel and budgetary resource allocations are concentrated at the provincial level (Mertha 2005).

To the extent that these centralization reforms lowered the amount of local protectionism, they also affected the relative distribution of resources between the local and central governments because local protectionism had been a key source of local governments' fiscal resources. Declining local protectionism meant increased competition for local SOEs that ended the profitability of many local SOE, many of which had been effectively local monopolies prior to the reforms (Lin, Cai, and Li 1998). Under local protectionism, these local SOEs had been cash cows providing local governments with funds to use for investment and other activities. As industrial investment has been one of the major criteria for promotion for bureaucrats in China's party-state system, the loss of their monopoly status made these local SOEs of less interest to local officials because the SOEs no longer offered profits that could be steered towards investment and career advancement.

As for SOE reform, in 1997 the Chinese government formally announced the adoption of the *zhua da fang xiao* ("grasp the large, release the small") policy that encouraged governments to privatise small SOEs while retaining large SOEs and SOEs in strategically important industries. This reform clearly signalled to government officials that continued support of small and medium-sized SOEs, particularly at the local level, that were not in strategically important sectors would be punished if such firms ran into financial difficulties (Meyer and Lu 2005). Officials involved in such failures would be punished by lack of career advancement because such failures not only reveal their inadequate competence but also reflect low political loyalty, which is a major criterion for promotion in Chinese governmental organisations (Zhou 2001; Zhao and Zhou 2004).

Given their greater resource constraints and the generally smaller size and less strategic significance of their SOEs, local level SOEs were less likely to receive

adequate support and thus more likely to become political liabilities than central government SOEs. The expanding market competition only increased the likelihood that smaller SOEs that had originally relied on rents accruing from local protectionism would fail. Thus, local governments moved to escape these political and economic liabilities by effectively privatising local SOEs. During the 1990s, thousands of small and medium-sized SOEs were therefore sold off, mostly through employee buyout or management buyout (Li and Rozelle 2003; Sun and Tong 2003; Naughton 2007; Sun, Wright, and Mellahi 2010).

One parallel phenomenon during the mid-1990s was the failure of local corporatism and massive privatisation of township–village enterprises (TVEs). “Local corporatism” highlights the entrepreneurial and community leadership roles of local government (town government and village committee) under a weak market structure and decentralised fiscal environment (Nee 1992; Oi 1992). “Local corporatism” has been considered as a key source of the rapid growth of the Chinese economy in the 1980s and 1990s. Oi (1992) asserts that Chinese institutional changes (i.e. fiscal reforms and market liberalisation) drove local government officials to pursue economic agenda and local industrial development. The premise for such argument is that these reforms provided more autonomy in managing local enterprises and harder budgetary constraints for local government hence offered incentives for the economic agenda (Oi 1999; Li 2005).

Despite its success in the initial phase, a large number of researchers have viewed TVEs primarily as a transitory form due to deteriorating performance of TVEs and dysfunction of “local corporatism”. Li (2005) reports that around 72–93% of TVEs were privatised by 2001. Scholars have attributed such massive privatisation to exogenous factors and indicated that loss of tax benefits for TVEs (Whiting 2001) and

loss of access to soft budget as a result of fiscal reforms (Cao, Qian, and Weingast 1999; Li 2003) drove the privatisation. Though their respective privatizations share the same exogenous drivers, there is clear distinction between local SOE and TVE's privatisation in terms of its endogenous reasons. Sun (2000) and Li (2005) argue that the fall of “local corporatism” and privatisation of TVE were pushed by the increasingly powerful TVE managers who actively sought formal property rights via privatisation. Compared to the privatisation of TVEs, privatisation of small and medium-sized SOEs was primarily driven by the state policy, rather than an internal push on the part of management.

These institutional changes, therefore, produced two groups of state owners with different resources (budget constraints) and levels of political risk (incentives) when supporting SOEs. Facing harder budget constraints and consequently heightened the political risk of failure of SOEs under their control, local governments often abandoned SOEs through management buy-outs (MBO) and employee buy-outs (EBO) as a mean to establish mixed ownership enterprises and consequently seek to enhance firm performance and avoid political punishment for supporting failing SOEs. In effect, local owners were privatising SOEs to escape responsibility in the case of failure.

In sharp contrast to the predicament of the local officials regarding their SOEs, central government officials had a much greater command of resources and more of their SOEs were large and/or regarded as strategic by the party-state leadership. Thus, the political risks of supporting such SOEs were lower because of the importance placed on these state firms. Instead, there was a strong inverse logic for central governments officials. They were incentivized not merely to maintain but strengthen state control over these strategic firms in sectors often viewed as the critical

commanding heights of the economy. Provided the resources to do so, central government officials realised exerting state control in central SOEs was the way to advance their careers.

The following hypothesis development section explains in greater detail how the institutional account offered here leads to different predictions than the extant corporate governance literature.

Theory and Hypotheses

Government ownership types and board independence

The board of directors is one important mechanism to minimise agency costs and monitor executive behaviour. The board represents an organisation's owners and is responsible for ensuring that management's behaviour and actions are consistent with the interests of the owners. Agency theory suggests that a vigilant board tends to be composed of a large group of independent directors (Shleifer and Vishny 1997). Independent directors are those who are not employed by a firm and do not have an affiliation with its management. Agency theorists suggest that independent directors can increase boards' objectivity in evaluating executive performance, and provide multiple perspectives regarding the firm's strategic affairs. Hence, independent directors are believed to be more effective in protecting small shareholders' interests, resulting in higher firm performance (Hillman and Dalziel 2003).

Central government officials view SOEs as vehicles to fulfill central government policies in line with more traditional views of SOEs elsewhere (Atkinson and Stiglitz 1980). Thus, central government owners are not interested in promoting

and protecting the interests of minority shareholders via independent directors. Furthermore, central government-owned SOEs would have less vigilant board because an insider dominant board tends to support the central government's social-political oriented initiatives by rubber-stamping the decision (Hua, Miesing, and Li 2006).

At the local level, a mixed ownership structure may actually provoke principal-principal conflict (Young et al. 2008). While conflicts between blockholders are not inevitable, they may become severe if only one principal has sufficient power to pursue exclusive benefits by sacrificing and exploiting another principal. While local governments have some proportion of ownership in SOEs, the political benefits of participating in corporate control have been depressed by the decline of profitability as these firms lost their monopolistic positions in local markets. Additionally, the ability of local officials to exert control has diminished as they ceded more ownership to the corporate insiders. We would expect a more independent board among local government-owned SOEs to balance the agency problems arising from principal-principal goal incongruence. Based on the above discussions, it is hypothesised that:

H1. *Ceteris paribus*, central government ownership has negative effects on board independency.

Government ownership types and ownership concentration

Much of the conceptual agency theory literature argues that principals have two options to reduce agency costs arising from conflicts of interest and self-serving behaviours on the part of agents: generate information about agents' efforts or link incentives to outcomes for agents. From this perspective, a large block shareholder

may better police the management than the standard market-oriented techniques because a large equity stake moderates information asymmetry and motivates the large block shareholder to effectively monitor managers or to manage the company directly. The corporate governance literature has considered ownership concentration as an alternative to ameliorate the frictions associated with the separation of management and control (Shan and McIver 2011).

Nevertheless, ownership structures are subject to institutional pressures exerted by different levels of governmental owners. Fiscal reform and SOE reform in the 1990s gave local governments incentives, legitimacy and even the pressure to at least partially privatise SOEs. During these partial privatisations, ownership was transferred from the state to new owners. At the local level, SOEs have typically converted into mixed ownership firms with a significant proportion of insider ownership. By granting formal authority to executives and employees, insiders controlled the business decision-making process. For central government SOEs, there was no economic pressure to “release” these firms; rather, there were political incentives on central government officials to increase their influence on many of these firms, which were in sectors deemed strategic. Thus, the central government continued to own the majority of shares.

H2. *Ceteris paribus*, central government ownership has positive effects on ownership concentration.

Government ownership types and managerial shareholding

According to agency theory, executives’ interests can be aligned more closely with other shareholders by offering appropriate rewards (Jensen and Meckling 1976).

Some researchers, however, criticise Chinese corporate governance by emphasising

the insufficient executive compensation scheme (Qian 1995; Firth, Fung, and Ruic 2006). Qian (1995) argues that incentive schemes in SOEs are weak and concludes that economic performance is not always the major factor in assessing executives. Prior to reforms, there was a highly structured pay scale system for all SOEs. There was no incentive scheme to motivate executives, nor were executives allowed to share the profits generated by their enterprises. Whilst executive stock options are now used to align the interests among shareholders and the management, the amount of executive shareholding is significantly less than their counterparts in the U.S. and U.K. Instead of economic rewards, political advancement in the party-state hierarchy is the motivating or driving force for many central SOE executives as these central SOE executives are by and large cadres/officials in the party-state (McGregor 2010). Due to its socialist ideology, central government attempts to moderate wage differences between workers and executives (Firth et al. 2006). Most importantly, the central government faced less economic pressure to release its SOEs so the central government was less willing to sell its SOEs due to the relatively important status of central firms. Thus, it is less likely for the central government to either offer ownership as an incentive payment or sell shares to executives. Due to the strategic importance of the central government SOEs, the central government intends to maintain strict control over its SOEs and tries to avoid any appearances of loss of valuable state assets. Hence the central government offers political career advancement to executives rather than giving high salaries and share options or incentive payments as a means to motivate them.

In contrast, SOE reform gave executives' rights to buy-out their firms for the first time. Such ownership transfer provided an opportunity for executives to buy shares in local firms as most of SOEs at the local level are considered to be

strategically unimportant. Economic pressure and fiscal constraints on local government officials also incentivized such insider buy-outs as a way for local governments to shift responsibility for loss-making SOEs. Therefore, we should expect that executive shareholdings in local firms are higher because of the SOE reforms and partial privatisations. Based on the above discussions, it is hypothesised that:

H3. *Ceteris paribus*, central government SOEs will have the lower levels of executive shareholding than local government SOEs.

Methodology

The data used in this research is collected from several sources. This first source is CSMAR database. This database has been widely used in corporate governance studies (Fan, Wong, and Zhang 2007; Firth, Fung, and Ruic 2006; Giannetti, Liao, and Yu 2015; Jia et al. 2007). Companies' ownership structures and corporate governance variables were obtained from this database. Performance-related data (i.e. ROA, sales, assets) were obtained from Thomson ONE banker. Performance-related data and industrial code (i.e. GICS code) were collected from this database.

Longitudinal panel data sampling was conducted, using data from non-financial listed firms. Our unbalanced-panel data contains 2879 public listed firms over the period 2005-2015.

Measures

Dependent variables. We examine three corporate governance aspects of the firms in our sample: board independence, ownership concentration, and managerial

shareholding. Board independency is measured by number of independent directors divided by the board size (Joseph, Ocasio, and McDonnell 2014; Shan and McIver 2011). Ownership concentration has been viewed as an effective approach to balance the agency problems caused by the separation of risk-bearing and decision functions in firms. The fraction of shares held by the largest state shareholder was used as ownership concentration proxies (Chen, Li, Shapiro, and Zhang 2014). The third measure is total managerial shareholding, which is measured by the shareholding of senior top management team (TMT) members and board directors. The shareholding is measured in terms of the percentage of all shares (Cheng, Lui, and Shum 2015).

Independent variables. The measurement and definition of central and local government ownership are critical to this paper. We adopted multi-stage data collection procedure to identify the ultimate government owners of sample firms. First, we selected firms in which the largest shareholder is a SOE, government departments, or other government-owned entities. CSMAR database contains information on the top ten shareholders names and the proportion of their shareholdings. Thus, it is relatively easy to separate SOEs from others. Second, we tracked down the ultimate owners by following the complex control chain of these selected firms to determine the government ownership level. For example, a firm, with its largest and ultimate shareholder being the central government or its agencies (e.g. State-owned Assets Supervision and Administration Commission and ministries), is classified as a central government SOE. Companies with mixed or unclear government owners were not included in the final data sample set¹. We carefully checked our sample to ensure that no company has two or more types of state ownership simultaneously. This process

¹ For example, Beiya Industrial Corporation's shareholders include Ha-Erbin Railway Bureau. However, it is difficult to categorise Ha-Erbin Railway Bureau because this special bureau is led by both the Ministry of Railways and Ha-Erbin local government.

ensures that our sample firms were truly owned and controlled by Chinese government and we can specify which level of government is the ultimate owner. Third, we cross-checked our classification with sinofin database. Sinofin is another reputable database and has been widely used in corporate governance studies (Chen, Li, and Shapiro 2011; Su, Xu, and Phan 2008). Sinofin contains information about ultimate owner classification, and we checked our results with this database to ensure the accuracy. This procedure provides a more accurate classification compared to other definitions of SOE in existing studies². This progress left our unbalanced panel with 1240 non-financial government-owned firms (10,520 observations) listed on the Shanghai and Shenzhen stock exchanges from 2005 to 2015.

Control variables. We use a number of control variables. The effect of firm size is well-documented in the literature and the empirical results show that firm size has an impact on firm outcomes. We measure *firm size* using the natural logarithm of firm's total assets (Dhnadirek and Tang 2003; Su, Li, and Wan 2017). Many researchers have indicated the effect of financial performance (e.g. Tobin's Q, ROA and ROE etc.) on corporate governance. We constructed a *performance* measure using the logged return on assets ratio. An additional control variable is the firm's *leverage*, measured as the total debts as the percentage of total assets (Wei 2007). Finally, industry and year dummies are included to account for idiosyncrasies associated with the industrial sectors and time variations. The industry dummy is

² Although Chinese institutional changes produced three groups of government owners, we focus on the comparison between the central government and local (municipal) government as two ends of the spectrum of SOE. The third group of government owners, provincial governments, present an intermediate category in terms of their resources and political risk of supporting their SOEs i.e. provincial governments have more resources and less risk than municipal government but more risk and less resources than central government.

dichotomous in that it is noted as 1 if the firm is in the sector or 0 otherwise. Each firm is classified in one industrial sector only.

Panel data estimation

We use pooled Ordinary Least Squares (OLS) to examine the impact of government ownership types on corporate governance. The regression is specified as follow:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 Z_{it} + D_t + SIC_i + \varepsilon_{it} \quad (1)$$

where is the dependent variable measuring three types of corporate governance (namely, ownership concentration, board independency, and top managers' shareholding) of firm i in year t ; X_{it} , the main independent variable, represents the dummy variable measuring ownership; Z_{it} stands for a set of control variables including firm size (total assets), lagged effect of profitability (lagged ROA), the measure for financial risks (Debt to assets ratio); D_t is a year dummy control; and SIC_i is an industry dummy variable.

Robustness check: Control for firm heterogeneity and endogeneity issue

System GMM estimation has been widely used in both firm-level and country-level empirical studies (e.g. Li, Murshed, and Tanna 2017; Wintoki, Linck, Netter 2012) to deal with the heterogeneity and potential endogeneity issue. In estimating the relationship between ownership and corporate governance, there is a potential endogeneity problem as ownership may be dependent on firms' characteristics, behaviours and performances, which in turn might affect corporate governance. There could also be reverse causality from corporate governance to other control variables, such as performance. Instrument variables (IVs) estimation can address this potential reverse causality and endogeneity problem. However, it is difficult to determine proper instruments for all endogenous variables that are included in the nexus of

‘corporate governance – ownership’, but this can be tackled effectively with system GMM estimation. Also, system GMM estimation overcomes biases typically associated with pooled OLS estimation or standard GMM estimation that does not account for firm heterogeneity (Baltagi, 2013).

We apply a two-step system GMM estimation of the following baseline specification:

$$Y_{it} = \beta_0 + \alpha Y_{it-1} + \beta_1 X_{it} + \beta_2 Z_{it} + D_t + \mu_i + \varepsilon_{it} \quad (2)$$

where Y_{it} , X_{it} , Z_{it} , and D_t are the exactly same variables used in the pooled method of equation (1); μ_i represents firm-specific effects with $\mu_i \sim iid(0, \sigma_\mu^2)$; and ε_{it} is random error with $\varepsilon_{it} \sim iid(0, \sigma_\varepsilon^2)$, and the β 's are the parameters to be estimated.

To illustrate, we follow Li et al. (2017) first-differencing the equation (2) and then we have³:

$$J' \Delta Y_{it} = J' \beta_0 \Delta Y_{it-1} + J' \Delta \varepsilon_{it} \quad (3)$$

where J' is a matrix of instruments (where for explanatory variables). Under the assumptions that the independent variables are weakly exogenous and the error term is not serially correlated, the GMM estimator is derived from the moment conditions: $E[Y_{it-s}(\varepsilon_{it} - \varepsilon_{it-1})] = 0$ where $s \geq 2; t = 3, \dots, T$ (Arellano and Bond, 1991). The system GMM estimator combines the first-difference transformation and simultaneous determination of moment conditions for both the level and first-difference equations (2) and (3). The instruments for the level equation are the lagged differences of the variables, and the moment conditions are: $E[(Y_{it-s} - Y_{it-s-1})(\mu_i + \varepsilon_{it})] = 0$ where $s = 1; t = 3, \dots, T$ (Blundell and Bond, 1998). The two-step system GMM estimator is preferred over the one-step system GMM estimator since the former is asymptotically more efficient. However, Windmeijer (2005) points out

³ For simplicity, we ignore the presence of the independent variables.

that there is a downward bias yield by the asymptotic standard errors when two-step GMM estimator is employed. A finite-sample correction of robust standard errors for the two-step covariance matrix can be used to deal with this bias. Hence, we apply the Windmeijer (2005) corrected standard errors. There are two additional tests for determining the validity of instruments. The first one is an over-identifying restrictions test to examine the overall instruments validity. The Hansen test is applied for over-identifying restrictions in this study⁴. The second one is the autoregressive (AR) test. The estimation allows for the rejection of the null hypothesis which is no first order autocorrelation of the error term, AR (1). In order to be consistent with the assumption of system GMM, there should be no second-order autocorrelation AR (2) of the residuals.

Data Analysis

Table 1 provides descriptive statistics for the variables of the study. In our sample firms, the central and local governments are found to own 36% of the total shares, compared to the managerial shareholding of 0.09%. Moreover, we found 36.88% board members were independent directors in our sampled firms. All correlations are very low. We further calculate the variance inflation factor (VIF), and the value ranges from 1 to 2.82, which is well below the critical value of 10 (Neter, Wasserman, & Kutner, 1985) and reduces the concern of multicollinearity.

[Insert Table 1 here]

⁴ Sargan test could be an alternative. However, Hansen test is considered to be more robust in the presence of autocorrelation and heteroscedasticity.

Table 2 shows the empirical results of the pooled OLS estimations using the full sample (including all the listed firms). Our focus here is to test the effects of local SOEs and central SOEs on corporate governance against the whole sample, which includes non-SOEs as well as SOEs, and make comparison between them. In model 1 and 2, we show the results for the influence of ownership on board independency; followed by the ownership concentration relationship in model 3 and 4. The findings of the effect of ownership on top managers' shareholding are reported in model 5 and 6.

In model 1 and 2 of Table 2, both central and local ownerships negatively and significantly affect board independency. In model 3 and 4 central has a positive effect on ownership concentration; while local government dummy have statistically insignificant effect on ownership concentration. In model 5 and 6, both ownership measures have a negative impact on top managers' shareholding at 1% significance level. Additionally, firm size (measured by total assets) has a significant effect on different measures of corporate governance in each column; it has a positive effect on both board independency and shareholder concentration while turns out to be negatively associated with top managers' shareholding.

[Insert Table 2 here]

The overall results in Table 2 suggest that stated-owned firms tend to have a similar pattern towards their corporate governance when we use the full sample. In order to further explore the difference between central-owned and local-owned enterprises, we drop all non-SOEs from our sample and use the same model specifications to re-test the relationship between central and local government

ownership types and corporate governance indicators. The results were shown in Table 3.

[Insert Table 3 here]

In model 1 and 2, both government ownership measures do not have any significant effect on board independency. H1 is thus not supported here. In model 3 and 4, central government ownership exerts a positive effect on ownership concentration. The relationship is statistical significant at 5% level. In contrast, local government ownership has significant negative influence on ownership concentration at 1% level. H2 thus is supported. In model 5 and 6, local government ownership type has a significantly positive effect on top managers' shareholding at 1% level, but central government has statistically insignificant effects on manager shareholding. Thus, H3 is partly supported. For control variables, firm size, in general, has a positive effect on three different measures of corporate governance. Conversely, financial risk (measured by debt to assets ratio) has a significant and negative effect on each aspect of corporate governance while lagged ROA positively affects shareholding concentration and top management's shareholding.

Robustness check

To ensure our results are robust to alternative measures and methods, we conduct a number of robustness tests. First, considering the firm heterogeneity and potential endogeneity, we use the system GMM to further investigate the relationship between ownership and corporate governance. Table 4 show the results for the GMM estimation. Table 4's model specifications are similar to Tables 2 and 3, except for introducing the lagged effect of dependent variable. We treat the ownership and profitability variables as endogenous, and the variable of lagged effect of corporate

governance is a pre-determined variable (which is weakly endogenous). The other variables (including firm size, financial risk and year dummy) are strictly exogenous. The system GMM estimates are obtained using the maximum number of available observations for each regression and the Hansen test confirms the validity of instruments to account for the endogeneity of the explanatory variables. Furthermore, the AR (2) test confirms the absence of second-order serial correlation in each regression.

[Insert Table 4 here]

In model 1, central government ownership is negatively associated with board independency at 10% significance level and local government ownership remains insignificant. In model 3 and 4, central government ownership positively relates to ownership concentration. Local government ownership, by contrast, has negative correlation with ownership concentration. Both results are statistically significant at 5% level. These results further confirm that the robustness of central and local government ownerships' effects on ownership concentration. In model 5 and 6, local government ownership robustly show a positive and significant effect on top managers' shareholding, and central government ownership has a negative significance, after controlling for heterogeneity and endogeneity. It is worth mentioning that the lagged effect of corporate governance is positive related to the current level effect at 1% significance level, suggesting that SOEs in China appear to hold sustainable strategy on their corporate governance; in other word, they are very unlikely to change their corporate governance frequently.

Second, we adopted different measures of ownership concentration and managerial shareholding. We used top five largest shareholder's ownership to re-test

the influence of different government ownership, which generates very similar results. We also test the managerial shareholding using executive directors' shareholding and supervisory board members' shareholding, and the statistical results remain qualitatively unchanged.

Discussion

This paper investigates corporate governance structures among Chinese SOEs and finds variation in terms of ownership concentration and managerial shareholding between central government-owned and local government-owned SOEs. We argue that such corporate governance diversity emerged from the process of China's economic reforms that differentially changed the resources endowment at the central and local levels.

This paper first contributes to corporate governance research by aligning governance practices with organisations' institutional environment. Previous corporate governance literature has been underpinned by agency theory and attempted to understand links between different corporate governance practices and firm performance (Shan and McIver 2011). This research stream implies that there is a universal set of agency problems between principals and agents. Though recent studies have started to pay attention to the diversity of shareholders and examined principal-principal problems (Filatotchev, Jackson, and Nakajima 2013), corporate governance research usually examine the effects of institutional setting across national boundaries and consequently attribute the diversity of principal's preferences and corporate governance arrangements to formal and informal institutions across nations (Aguilera and Jackson 2003).

This paper fills this research gaps and suggest that corporate governance variables are evolving following institutional changes in a particular country. Corporate governance should be considered as a dynamic system that entails both change and evolution over time (Yoshikawa and McGuire 2008). Since corporate governance practices are deeply embedded in the focal nation's institutional environment, corporate governance practices evolve in reaction to and in conjunction with social, economic, and political changes. This paper argues that the corporate governance outcomes of state-owned enterprises in China have to be placed within China's changing institutional context in order to understand the distinctively different outcomes between central government and local government owned SOEs. We suggest that China's economic reforms created different institutional resources and restraints for different levels of government vis-à-vis their SOEs. The tightening of the budget allowances for local governments and changing the incentives for local governments in favour privatisation of their SOEs produced diverse corporate governance practices. Institutional theory, hence, not only explains older corporate governance diversity across national boundaries, but also could explain the differences in corporate governance practices and why these different practices exist within a specific nation.

Second, this paper makes an important contribution to state ownership literature. Previous studies have generally considered state-owned organisations as a universal group and mostly focused on the process and outcome of privatization rather than the actual role of the state in corporate governance. This paper's findings indicate that SOEs are not a homogenous group due to different types of government owners and their concomitant resources (Teng and Yi 2017). We provide evidence of diversity within state ownership and consequently imply different predictions for the

performance and behaviour of state owners than the past literature. These insights on SOE diversity are particularly salient in the case of Chinese SOEs. Despite a considerable amount of research effort, the empirical findings on this causal link between state ownership and performance in China are mixed and inconclusive. Building on the insights of Hua *et al.* (2006) who argued that different profit incentive levels and corporate governance structures are contingent upon a given SOE's budget constraint, we assert that such mixed results can be attributed to the poor understanding of state ownership.

Implication

Our findings have important implications. First, our findings clearly show that state-owned enterprises are not a single, undifferentiated group. SOEs under central government control perform differently in terms of ownership structure and executive shareholding compared to SOEs under local government ownership. Investors should recognize the insider-controlled nature of central government-owned SOEs. By contrast, local government-owned SOEs have relatively effective corporate governance mechanisms (less concentrated ownership and more executive ownership), which in turn offer better shareholder protection.

Second, recognition of the diversity of government ownership reopens the debate on the effects of government ownership on firm performance. Conventional wisdom advocates the beneficial role of private ownership and suggested the Chinese government should continue to dilute its ownership proportion in order to improve performance. However, our results show that government ownership is not a universal ownership regime and hence indicate the varied performance implication.

Conclusion

This paper illustrates that the unique context of Chinese economic reform through differential institutional changes have produced diverse corporate governance practices among SOEs. This paper's findings indicate that state owned enterprises are not a homogenous group due to different levels of constraints and government control. Institutional context not only explains the differences in corporate governance practices for Chinese state ownership and why these different practices exist, but also can also be generalised to explain other blockholders' diversity and their different corporate governance practices across national boundaries.

There are several limitations to this study. First, in common with many other studies on corporate governance in China, this study was limited to listed firms because there is little publicly available data on corporate governance of state-owned entities that are not listed. Some scholars argue that much of the real governance of China's listed entities occurs in non-listed state holding companies (McGregor 2010), but thus far it is hard to test these assertions because of lack of data. Furthermore, the opaqueness of the relationship between listed and unlisted state entities makes it difficult to theorize about the impact of these non-listed entities on the corporate governance of the listed firms. Future research should try to gather both quantitative data, if possible, and qualitative data, which is perhaps more feasible to collect, to shed light on these relationships. Related to this issue, is the rise of a specific type of local government SOE, the local government investment vehicles that have in the wake of the global financial crisis been able to raise large amounts of capital from the state banking sector. This type of local SOE nearly does not face the resource constraints of the local SOEs covered in this paper. However, this type of firm is related to the first limitation in that these firms are unlisted and difficult to gather

accurate information about either their corporate governance or their actual financial status. Finally, we used executive share ownership as proxies for executive compensation because limited number of Chinese SOEs have disclosed their incentive payment scheme. Although executives' share ownership may not be considered as an incentive payment, it certainly aligns managers' interests with the firm's shareholders.

This paper provides promising avenues for future research. First, we empirically confirmed the diversity of corporate governance among Chinese SOEs and linked that to the different institutional incentives facing local versus central government owners in China. Although previous corporate governance researchers identified significant differences in corporate governance across different institutional settings, they did not anticipate that different institutional arrangements would produce different varied agency problems and corporate governance activities within state-owned firms within one economy. Future research could investigate such internal diversity in corporate governance among SOEs in other economies. Second, future research could test the effects and explore the implications of the impact of different types of Chinese SOE governance on strategic outcomes. For example, the current literature on the impact of the interplay different types of state ownership and corporate governance activities on firms' R&D and international strategies is limited.

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Table 1 Summary statistics and correlation matrix

	Mean	Std. Dev.	1	2	3	4	5	6	7	
1. Ownership concentration*	0.36	0.16	1							
2. Managerial share ownership*	0.09	0.19	-0.17***	1						
3. Board independency	0.37	0.05	0.02***	0.04***	1					
4. Central government ownership	0.16	0.37	0.12***	-0.22***	-0.03***	1				
5. Local government ownership	0.14	0.35	0.01*	-0.16***	-0.04***	-0.18***	1			
6. Firm size*	12.3	15.5	0.16***	-0.13***	0.03***	0.19***	0.01	1		
7. Performance	4.98	67.03	0.002	0.02***	0.005	-0.01	-0.01	0.002	1	
8. Leverage	0.27	3.14	-0.01	-0.02***	-0.002	-0.001	0.001	-0.04***	0.08***	1

* Log-transformed.

Note: *** Statistical significance at 1% level (p value < 0.01); ** Statistical significance at 5% level (p value < 0.05); * Statistical significance at 10% level (p value < 0.1).

Table 2 OLS estimation for full sample

	1	2	3	4	5	6
Dependent variable	Board Independency		Shareholder concentration (Cr1)		Top managers' shareholdings	
Firm size	0.0006** (0.0003)	0.0005* (0.0003)	0.0592*** (0.0024)	0.0639*** (0.0024)	-0.3172*** (0.0222)	-0.4066*** (0.0224)
Performance (t-1)	0.0002 (0.0006)	0.0002 (0.0006)	0.0086 (0.0061)	0.0081 (0.0059)	0.1695 (0.1188)	0.1743 (0.1202)
Leverage	0.0001 (0.0001)	0.0001 (0.0001)	-0.0007 (0.0005)	-0.0006 (0.0005)	-0.0311** (0.0150)	-0.0323** (0.0147)
Central government	-0.0034*** (0.0010)		0.1065*** (0.0083)		-2.3149*** (0.0698)	
Local government			-0.0070 (0.0088)		-1.5689*** (0.0721)	
constant	0.3505*** (0.0023)	0.3517*** (0.0024)	-1.4619*** (0.0210)	-1.4772*** (0.0212)	-7.3716*** (0.1900)	-6.7227*** (0.1941)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.0164	0.0165	0.0606	0.0543	0.1362	0.1205
N	21447	21447	21601	21601	21600	21600

Note: *** Statistical significance at 1% level (p value < 0.01); ** Statistical significance at 5% level (p value < 0.05); * Statistical significance at 10% level (p value < 0.1). Dependent variables are board independency in model 1 and 2, log of shareholder concentration (cr1) in model 3 and 4, and log of percentage of top managers' shareholdings in model 5 and 6. Estimation is by pooled OLS with robust standard errors reported below estimates (in parentheses).

Table 3 OLS estimation for SOEs only

Dependent variable	1	2	3	4	5	6
	Board Independency		Shareholder concentration (Cr1)		Top managers' shareholding	
Firm size	0.0044*** (0.0004)	0.0044*** (0.0004)	0.0567*** (0.0036)	0.0519*** (0.0036)	0.0060 (0.0220)	0.0463** (0.0217)
Performance (t-1)	-0.0189 (0.0074)	-0.0189** (0.0074)	0.2552*** (0.0855)	0.2588*** (0.0847)	2.0408*** (0.4758)	1.9994*** (0.4687)
Leverage	-0.0049* (0.0026)	-0.0050** (0.0026)	-0.1218*** (0.0227)	-0.1116*** (0.0229)	-0.4375*** (0.1615)	-0.5343*** (0.1682)
Central government	-0.0004 (0.0011)		0.0186** (0.0090)		-0.0117 (0.0657)	
Local government		0.0017 (0.0010)		-0.1168*** (0.0097)		0.8962*** (0.0674)
constant	0.3206*** (0.0034)	0.3194*** (0.0034)	-1.3118*** (0.0284)	-1.2304*** (0.0293)	-10.6402*** (0.1842)	-11.2536*** (0.1887)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.0321	0.0323	0.0557	0.0693	0.0157	0.0332
N	10424	10424	10520	10520	10519	10519

Note: *** Statistical significance at 1% level (p value < 0.01); ** Statistical significance at 5% level (p value < 0.05); * Statistical significance at 10% level (p value < 0.1). Dependent variables are board independency in model 1 and 2, log of shareholder concentration (cr1) in model 3 and 4, and log of percentage of top managers' shareholdings in model 5 and 6. Estimation is by pooled OLS with robust standard errors reported below estimates (in parentheses).

Table 4 SYS-GMM estimation for SOEs only

Dependent variable	1	2	3	4	5	6
	Board Independency		Shareholder concentration (Cr1)		Top managers' shareholding	
Dependent variable(t-1)	0.7074*** (0.057)	0.7037*** (0.0540)	0.9590*** (0.0247)	0.9245*** (0.0346)	0.8424*** (0.0397)	0.80943*** (0.0438)
Firm size	0.0016*** (0.0005)	0.0013* (0.0007)	0.0028 (0.0021)	0.0010 (0.0031)	0.0599*** (0.0197)	0.0722** (0.0320)
Performance (t-1)	0.0001 (0.0001)	0.0001 (0.0001)	-0.0015 (0.0023)	-0.0032 (0.0022)	-0.039* (0.0233)	-0.0094 (0.0275)
Leverage	-0.0035 (0.0026)	-0.0025 (0.0027)	-0.1739 (0.1188)	-0.0257 (0.0209)	-0.4393** (0.1807)	-0.3280* (0.1977)
Central government	-0.0150* (0.0091)		0.0640** (0.0288)		-0.9361*** (0.3270)	
Local government		0.0027 (0.0137)		-0.1340** (0.0627)		1.2494* (0.6947)
constant	0.1040*** (0.0196)	0.1025*** (0.0203)	-1.4894*** (0.5210)	-0.0490 (0.0444)	-1.5498*** (0.4349)	-2.8351*** (0.7558)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
AR(1)	0.000	0.000	0.000	0.000	0.000	0.000
AR(2)	0.131	0.116	0.466	0.320	0.690	0.806
Hansen test	0.603	0.329	0.302	0.375	0.791	0.617
N	9113	9113	9277	9277	9275	9275

Note: *** Statistical significance at 1% level (p value < 0.01); ** Statistical significance at 5% level (p value < 0.05); * Statistical significance at 10% level (p value < 0.1). Dependent variables are board independency in model 1 and 2, log of shareholder concentration (cr1) in model 3 and 4, and log of percentage of top managers' shareholdings in model 5 and 6. Estimation is by two-step system GMM with robust standard errors reported below estimates (in parentheses). Year dummy, DAR, and log of total assets are regarded as exogenous; the other variables are treated as endogenous in the estimation.