OWNERSHIP, INSTITUTIONS AND FIRM VALUE: CROSS-PROVINCIAL EVIDENCE FROM CHINA

Boya Wang

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Centre for Business Research, University of Cambridge
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Boya Wang
Centre for Business Research
Judge Business School
Trumpington Street
Cambridge, UK
CB21AG
bw346@cam.ac.uk

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Abstract

The distinctive political-economic setups of emerging economies engender special corporate governance issues that warrant added attention to the broader institutional environments. Using a unique provincial firm-level dataset, we investigate how control natures, ownership concentration, and provincial differences in government quality and financial deregulation jointly affect the market value of Chinese listed companies. Firstly, the presence of a central government controller is generally associated with higher Tobin's Q, while a negative premium is found for firms ultimately controlled by local governments. We then use alternative concentration measures and an instrumental variable approach to confirm a nonlinear relationship between blockholder ownership and Tobin's Q, implying that firm value first decreases and then increases as blockholders own more shares. Further analysis reveals that government quality has a significant, positive moderating effect on the relationship between different control natures and firm value, while the valuation effect of ownership concentration also depends on regional financial development.

Key words: control natures, ownership concentration, government quality, financial development, firm value

JEL codes: G31 H77 P30 P48 H77

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1. Introduction

Corporate governance researchers often attribute first-order importance to investor protection in destemming firm performance (e.g. Durnev and Kim, 2005; Klapper and Love, 2004). For the legal finance scholarship in particular, effective investor protection critically hinges upon firm-specific corporate governance measures and the quality of legal environment *in situ* (La Porta et al., 2000). Differences in legal systems and the enforcement effects are often taken as the key institutional factor whether it is to understand the diversity of national governance models (Shleifer and Vishny, 1997), or the different causal links between particular governance practices and organisational outcomes (Holmstrom and Kaplan, 2001).

Nevertheless, considerations of legal systems alone may fail to capture the full complexity of all institutional dimensions implicated in governance practices and firm valuation (Dedman and Filatotchev, 2008). Policy prescriptions enshrined in codes of 'best' practices are mostly mediated by the political and economic realities and achieve limited effects (Ahrens et al., 2011). This is particularly so for those emerging markets where judicial inefficiency and government intervention render regulatory enforcement especially problematic (Tricker, 2015). To the extent the interests and behaviours of the key actors are shaped by these distinctive institutional contexts, the dynamics and accompanying conflicts of corporate governance necessarily differ from those found elsewhere (Aguilera and Jackson, 2003). In these countries the relations between certain governance practices and performance outcomes warrant added attention to other background institutions (Claessens and Yurtoglu, 2013).

This study aims to prove such an account by examining empirically how particular ownership characteristics and institutional factors jointly affect the value of Chines listed companies. We focus on ownership structure rather than other firm-specific governance mechanisms because the former decides the relative power and conflicts between different shareholders (Shleifer and Vishny, 1997), and thus explains the economic efficiency of the corporations they control (Jensen and Meckling, 1976). Meanwhile, China's unique political-economic setting provides an apposite research context. Although China's economic reform has so far been state-guided, it has also been a highly decentralised process with considerable autonomy granted to local bureaucracies (Heilmann, 2011). This gives rise to notable variation in local socioeconomic conditions, making it possible to compare the different institutional domains, and their implications for governance practices and firm performance. Focusing on a single nation in this way also helps control for

heterogeneity in national cultures and political institutions as encountered in much cross-national research (Hasan et al., 2009).

This study differs from the prevailing research on Chinese corporate governance in a number of respects. First, it distinguishes different natures of corporate control by tracing the identities of ultimate controllers along the ownership chains. In China holders of a given share class such as legal person shares typically consist of heterogeneous entities, ranging from quasi-administrative agents and central-controlled corporations to private individuals. They act as the intermediate agents for the different, ultimate controllers. The latter often imposes specific objectives and priorities on companies in ways that clearly impinge upon the evident market value (Thomsen et al., 2006). Consequently, relying on legal classification alone, as done in most previous studies (e.g. Tian and Estrin, 2008; Shan and McIver, 2011), obscures the objectives and motivations of these various controllers, and has yielded mixed results when explaining their performance implications.

Secondly, most scholars measure the ownership concentration of Chinese firms using the aggregate ownership held by top-ranked shareholders (e.g. Chen et al., 2009; Hovey et al., 2003). Our investigation only examines the equity stakes that are above 5% of the outstanding shares to take into account the disproportionate influences from one or a few blockholders. The Herfinhahl index of top 10 shareholdings is also applied for it assigns more weight to the very large shareholding positions and produces consistent results. To gain robustness, the nonlinear causal relationship between ownership concentration and firm value is tested using an instrumental approach which has not previously been applied.

Thirdly, this paper makes the first attempt to understand the impact on firm value of subnational-level policy environments. While the quality of public policies may depend on other institutions such as laws and the constitutions, such conventional constraints on executive power are relatively ineffectual in regulating the behaviours of officials in China, as with other emerging economies. Therefore, the quality of government policies, or ultimately the quality of bureaucrats and politicians who make the policies, is a critical impacting factor of Chinese firm performance and deserves separate attention in the analysis of Chinese firm valuation.

Last but not least, besides legal systems and firm-level mechanisms, competitions in real factor markets also help prevent corporate governance

problems (Claessens and Yurtoglu, 2013). The former includes all input and output markets, ranging from labour and raw materials to finance and distribution services (Khemani and Leechor, 2001). Januszewski et al. (2002) find that product market competition and concentrated ownership are complementary in enhancing German firm performance. Yet evidence on the role of factor market development in relation to corporate governance is still limited. China's accession to the WTO and the ongoing enterprise reform promotes the deregulation of regional financial markets. An interesting question is whether a similar relation exists between financial development, ownership concentration and firm value.

The remainder of the paper proceeds as follows. Section 2 describes the political and economic institutions pertaining to Chinese corporate governance. Section 3 assesses their potential impacts on Chinese firm value and develops appropriate hypotheses. Section 4 discusses the database, variables, and methodological issues. Section 5 reports empirical results, with robustness tests described in Section 6. The concluding section contains a summary and implications.

2. The Institutional Context of Chinese Corporate Governance

In the early 1990s, as China's state subsidies to loss-making state-owned enterprises (SOEs) reached untenable levels, it was clear that more profound structural changes in the government-enterprise relationship were needed (Oi, 2011; Wu, 2005). Since then, corporate governance has been identified by the Chinese authorities as the core element of the 'modern enterprise system' designated to promote enterprise performance and to redress incentive problems (Tenev et al., 2002). Many reform policies, and the corporatisation scheme that was part of them, involved parallel changes in different interrelated institutional realms, as will be discussed below.

First, under the policy of 'grasping the large and releasing the small', the central government retained control over only a relatively small number of large corporations in the 'commanding heights' (Lin and Milhaupt, 2013). Further regulatory reforms include the establishment of a central State Assets Supervision and Administration Commission (SASAC), which aims to unify the once fragmented state ownership rights performed by different line ministries and functional commissions (Pearson, 2005). Meanwhile, many small and medium-sized, primarily loss-making SOEs underwent outright privatisation. The rest was restructured into a variety of non-state forms through the expansion of shareholding systems, formation of joint-ventures, or sales to interested parties (Saich, 2011). The paces and patterns of these changes were

decided by local bureaucracies who calculated their strategies based on local resources and political interests (Heilmann, 2011). This led to a further division of the SOE ownership rights, reflecting the federalism so characteristic of China's central-local relations. Prevailing corporate governance research often employs a simple state-private ownership dichotomy when analysing their impacts on firm performance (e.g. Liu et al., 2012; Ning et al., 2014). Yet as Nee et al. (2007) suggest, the central and local bureaucracies are likely to face different policy imperatives and monitoring capabilities that may lead to distinctive impacts on how enterprises should be managed and run.

Second, the Chinese government has taken a top-down legalistic approach to transplant the basic structures of corporate governance from the external market-based model found in Anglo-American system (OECD, 2011). To date, however, Chinese listed companies are characterized by highly concentrated ownership, primarily in the hands of stable government agencies or private individuals. As with many other emerging economies, concentrated ownership, together with weak institutions, has been identified as the 'root cause' of various forms of expropriation among Chinese listed companies (Li and Qian, 2013; Su et al., 2008). Nevertheless, Young et al. (2008) consider concentrated ownership as a rational response to the weak institutional environment confronting most Chinese private-controlled firms, where preconditions for effective corporate governance are at times lacking or undeveloped. Milhaupt and Zheng (2015) note that the dominance of state ownership is rooted in the country's socialist ideology and plays a vital role in securing the loyalty from the key constituencies. For the private-controlled firms, the high cost of enforcing arm's-length contracts means that the entrepreneurs and/or founders have to reply on concentrated ownership to keep potential managerial opportunism in check (Dharwadkar, et al., 2000).

Third, along with large-scale corporate restructuring, both central and provincial governments frequently revise and reformulate industrial priorities in an effort to single out future winners and losers in the ongoing structural transformation of the economy. Common instruments such as market entry regulation, taxation and loan decisions are part of government's tool-kit to influence the direction of structural transformation (Lu, 2000). As such, Chinese governments continue significant influence across the private and public sectors (Peng and Zhou, 2005). Literature on China's local developmental state underscores the multiple roles of an interventionist government as the producer, planner, and regulator of a regional economy (Roland, 2002). Duckett (2001) notes that lower-level government officials, with newly-granted administrative autonomy and ready access to local information, are well positioned to interfere with major corporate decisions ranging from resource procurement and personnel selection, to

financing and overseas investments. For Tam (2002), excessive bureaucratic intervention, coupled with relation-based business practices, contradicts the fiduciary spirit and principle of arm-length transactions which constitute a cornerstone of modern corporate governance. Given the heavy government involvement in business, the quality of government policies, and ultimately the quality of bureaucrats and politicians who make these policies is a critical impacting factor of Chinese firm value (La Porta et al., 1999).

Last but not least, large-scale enterprise restructuring, coupled with the declining central budget, necessitated the growth of domestic financial markets as alternative capital sources. The accession to the WTO further accelerated the deregulation of China's domestic financial market, including granting more autonomy in investment decision-making and credit allocation to state-owned financial institutions, removing restrictions on their ownership structure, and relaxing geographical and legal restrictions on the entry of new financial intermediaries (He, 2012). According to Holmström and Tirole (1989), a well-functioning financial market contributes to greater investor protection by mitigating the information asymmetry between corporate insiders and public investors. However, governments at the different levels continue to interfere with the functioning of the market by directing certain loans or stock listing while discouraging others (Sapienza, 2004). Undue government discretion reduces the mobility and integration of the domestic financial market (Boyreau-Debray and Wei, 2005). As a result, the efficacy of the financial market in capital allocation and firm monitoring is mitigated.

3. Literature Review and Hypothesis Development

3.1 Literature Review

Based on the above review, our hypothesis development revolves around the value implications of corporate control natures and ownership concentration, along with their interactions with the provincial-level institutional factors of government quality and financial deregulation. We survey the theoretical arguments and empirical evidence from a variety of disciplinary perspectives, including finance, management studies, and political economics.

Private Control

Neoclassical economists posit that 'private ownership should generally be preferred to public ownership when the incentives to innovate and to contain cost must be strong' (Shleifer, 1998: 147). Specifically, because the wealth of private controllers is so closely linked to firm welfare, they are more single-mindedly focused on cost saving and profit maximization than government controllers. With the specialized knowledge of firms' technology, private controllers can easily enter into the management function and supervise firm operations to assure capital is deployed sparingly and used intensively (Brickley and Dark, 1987). On the other hand, private controllers may expropriate firm resources and appoint unqualified family members to key posts (Bloom and Van Reenen, 2006). Schulze et al. (2003: 102) argue that family relations may make agency conflicts 'more difficult' to resolve, because relations between principals (family owners) and agents (family-member managers) are based on emotions, sentiments, and informal linkages, resulting in less effective monitoring of family managers. For Chen et al. (2009), the fact that China's private corporate controllers are out of the regulatory scope of the state asset management agencies renders public investors more vulnerable to tunnelling and share price manipulation.

Local Government Control

Chinese regional governments often retain significant autonomy over the operation and revenue disposition of local state-owned enterprises (LSOEs) under the decentralized governance framework mentioned earlier. The interests and policy imperatives of local governments as corporate controllers are most influenced by the local social, political and economic conditions and therefore are likely to differ from those of the central agencies (Oi, 2011). The expanded supervisory and fiscal autonomy offer local bureaucracies greater latitude of discretion and thus LSOEs are often charged with nonfinancial objectives ranging from infrastructure financing to unemployment prevention and welfare provision (Zeng and Tsai, 2011). This not only raises difficulties in monitoring target fulfilment and imposing capital budgeting, but also dilutes the profit-making motives of local governments as corporate controllers when various social and political objectives collide with the firms' profit goals (Sappington and Stiglitz, 1987). As a result, LSOEs' resources have often been diverted into unprofitable, speculative or duplicative investments (OECD, 2009).

Moreover, to maintain the ownership control over a relatively large number of enterprises within the jurisdiction, a municipal government typically relies on a multitier asset management system consisting of secondary or even tertiary-level monitoring agencies (Peng, 2001). The undue organizational complexity, intertwined with goal multiplicity, increases information distortion and further diffuses the government's property rights and monitoring efforts. Chen et al. (2009) caution that the farther local agents are from the central authority, the more difficult it is to enforce laws and regulations. The fact that LSOEs are subject to weaker regulatory oversights creates fertile ground for predation and rent-seeking by local bureaucracies (Cheung et al., 2010).

Central Government Control

By contrast, through a centralized asset supervision system, the central government 'now has stronger, although far from perfect, control' over the operation and investment of central state-owned enterprises (CSOEs), bringing problems of state asset stripping and insider trading under control (Mattlin, 2009: 22). Yeo (2013) notes that the selection and compensation criteria for CSOEs' directors and managers become increasingly market-driven and such issues as profitability, liquidity, risk control and operational costs are among the major criteria against which managerial performance in the CSOEs is evaluated. As a result, Chinese CSOEs and their subsidiaries are subject to more stringent and comprehensive supervision than their local peers.

In its pursuit of nurturing 'national champions', the Chinese central government also channels enormous resources to a handful of large enterprises of 'commanding heights' (Dylan and Guest, 2010). CSOEs benefit from a range of preferential policies and treatments in areas ranging from taxation and technology transfer to material supplies and state-owned bank loans (Lin and Milhaupt, 2013). For Nolan and Wang (1999), the central government's 'helping hand' (Frye and Shleifer, 1997) substitutes for weak institutional environments in factor, labor and capital markets and provides CSOEs and their subsidiaries certain advantages that would otherwise be impossible. Matlin (2011) finds that having the central government as the implicit debt guarantor effectively mitigated the financial constraints of CSOEs over the 2008 global financial crisis.

Ownership Concentration

Owing to their significant equity holdings, concentrated shareholders typically have stronger incentives and power to discipline management and remedy the free-rider problem associated with dispersed ownership (Heugens et al., 2009). Nevertheless, significant equity positions can obviously tempt large shareholders to expropriate from minority investors by assuming control of the firm and depriving the latter of the returns due on their investments (Li and Qian, 2012). Whereas expropriation can occur anywhere, it is especially common in emerging markets where property rights are weakly enforced and there are but few rules and procedures to protect minority shareholders (Claessens et al., 2000).

The competing arguments imply the possibility of a nonmonotonic relation between ownership concentration and firm performance. McConnell and Servaes (1990) found that Tobin's Q increases with insider shareholdings up to some 40% of total outstanding shares and decreases after. Pedersen and Thomsen (2003) and Kvist et al. (2006) report a similar bell-shaped effect of ownership concentration on firm performance as measured by market-to-book ratio and asset returns. Yet the opposite pattern (i.e. a U-shaped curve), if anything, has been observed among the Chinese firms (Liu et al., 2012).

Government Quality

According to Fan et al. (2011), government quality is the extent to which the decisions of bureaucrats and politicians benefit the citizens they serve: whether the decisions are made and executed in a legally and socially acceptable manner. To a significant extent, the policy imperatives and behaviours of Chinese bureaucracies can be best explained by a combination of local economic and political structures (Zeng and Tsai, 2011) Specifically, progress in regional market liberalisation reflects strength of property rights protection, fairness of judicial system, extent of allowance and tolerance of local governments to the private sector and extent of local entrepreneurship (Hasan e al., 2009). Moreover, the competitive pressure unleashed by market deregulation, coupled with the quest for fiscal revenue, compels local officials to act as the promoters and protectors of local businesses (Duckett, 2001).

The competitive pressure from the rising non-state sector and ultimately government quality also has powerful implications for the incentives of Chinese government controllers and the way they exercise their power. Li and Zhou (2005) note that under the merit-based appraisal system, improving state asset value or reversing declining earnings amidst increased competition, becomes the crucial work target and evaluation criteria for the career progression of SOE cadres. Such political incentives deter government controllers from undue predation and expropriation (Duckett, 2001), and reinforces what Shevchenko (2004) termed 'the entrepreneurial adaptation' of the government controllers to increased market competition at both the central and local levels. Kwon (2005) suggests that the balance between the 'helping' and 'grabbing' hand of a government controller is not clear-cut but hinges on the extent to which the excessive intervention can be curtailed. Meanwhile, the imperative for them to mandate extra and/or noneconomic burdens on the SOEs may become less pronounced, inasmuch as the expanding non-state sector provides alternative sources of investment and employment (Gordon and Li, 2011). The alleviated goal multiplicity reduces the possibilities of rent-seeking and relation-based business conducts that would otherwise impair state asset value.

Financial Deregulation

A larger and more liquid financial market enables asset prices to incorporate information regarding business operation and growth prospect in a faster and more cost-effective manner (Demirgüç-Kunt and Maksimovic, 1998). The improved information flow is arguably valuable for scrutinising the actions of managers and even of majority shareholders, thereby alleviating the perceived risk of expropriation (Huyghebaert and Wang, 2012). Additionally, financial development stimulates the growth of legal and financial services that can act as both the information providers and management monitors (Gillan, 2006). Pistor et al. (2000) and Chen et al. (2005) stress the key role of legal and accountant professionals in deterring majority shareholders' oppressive behaviours, given the prohibition of class-action lawsuits in the Chinese mainland.

For Shleifer and Wolfenzon (2002), the disciplinary forces from various market participants make expropriation and other malpractices more costly and less attractive to large shareholders. By alleviating the interest conflicts between large shareholders and external investors, a well-functioning financial market mitigates the adverse effect associated concentrated ownership. Relatedly, financial market monitoring can be thought of as directly limiting the scope for managerial extraction and hence making large shareholder monitoring less needed (La Rocca and Montalto, 2013). Using a sample of 824 NYSE and AMEX firms for 1994, Chen and Steiner (2000) document that managerial

ownership (serving an internal governance devise) and analyst coverage (serving an external governance mechanism) are substitutes in firm monitoring.

3.2 Hypothesis Development

Firstly, it is hard to know a priori the impact on firm value of private controllers given the conflicting arguments discussed above. However, the divergent policy imperatives and monitoring capacities between the central and local government controllers are likely to cause contrasting effects on the Chinese firm value. Specifically, the excessive intervention and lax supervision by the local officials may increase expropriation risk and thus impair LSOE value, whereas CSOEs are advantaged by the easier access to necessary resources, and the better risk bearing and benefit sharing mechanisms.

Secondly, in governance systems with low investor protection, expropriation is lucrative and feasible for blockholders as they exclusively capture the entire benefit but only bear costs proportional to their equity positions. Nevertheless, as their ownership increases, doing so would simply result in a direct transfer of private wealth from one venture into another, which is unlikely to benefit themselves except perhaps for fiscal seasons. Thus, the most effective strategy for increasing their private benefits is to forego wealth extraction and gear the firms for higher performance. We expect that as blockholders own more shares, the Chinese firm value is likely to first decrease and then increase.

Thirdly, improvement in government quality results in a more growth-oriented policy environment and fosters a business culture more consistent with shareholder wealth accumulation (OECD, 2009). It also implies alleviated goal multiplicity and stronger market orientation among SOE cadres. In this way, higher government quality exerts a positive effect on Chinese firm value, and in particular enhances the positive effect of central government control while mitigating the negative effect of local government control.

Finally, as an external governance mechanism, a well-functioning financial market reduces risk of expropriation for public investors and thus leads to a positive effect on firm value. Moreover, by reducing the expropriation and monitoring incentives of majority shareholders, regional financial development may weaken the relationship between blockholder ownership and firm value, implying a substitution effect between financial development and concentrated ownership.

4. Data and Variables

Our sample initially consists of all listed companies on both Shanghai and Shenzhen Stock Exchanges between 2005 and 2009. The variables are mainly drawn from Thomson DataStream and the China Stock Market and Accounting Research Database (CSMAR). To identify corporate control natures, we start with the names of the largest shareholders reported by CSMAR and then manually trace the ownership chains using supplementary information sources. They include the audited annual reports and the notices regarding ownership transfers issued by the stock exchanges during the observation period. This method has the advantage of being clear-cut and standardized (Delios et al., 2006). It may not be able to catch the ultimate owners of a firm when control rights and cash-flow rights diverge significantly, but the observation here is that such ownership arrangements are uncommon among the sample firms. Firms are assigned to the provinces or municipalities based on the locations where they are officially registered. The firm-level data set is then merged with the provincial-level institutional indices retrieved from the 2011 Marketization Index for China's Provinces (MICP). After discarding observations with missing variables, the final sample consists of 6078 province-firm-year observations, including 896 companies in 2005, 958 in 2006, 1279 in 2007, 1381 in 2008, and 1564 in 2009.

We measure firm value by Tobin's *Q* which is calculated as the market value of a firm's outstanding stocks and liabilities divided by their replacement costs (Maury and Pajuste, 2005). For Durvev and Kim (2005) and Lang et al. (1989), Tobin's q is an increasing function of the quality of a firm's current projects and anticipated investments within the existing governance structure and institutional environment. Using the Q ratio complements the idea that investors favour or disfavour certain firms given the perceived investment risk and institutional quality, and that this will be reflected by particular Q values (Shan and McIver, 2011). To cross check the results, this study adjusts Tobin's *Q* using an illiquidity discount of 70% based on 364 private transfers of non-tradable shares (Firth e al., 2008). Specifically, it multiplies the amount of tradable shares by the market price and the amount of non-tradable shares by the 30 per cent of the market price to obtain the discounted equity value, denoted by *Q_70DIS*. Both the unadjusted and illiquidity-adjusted *Q* ratios are winsorized at the 1st and 99th percentiles of the full sample to mitigate outlier bias.

The independent variables of interests are corporate control natures, ownership concentration, and the institutional indicators of market deregulation and

financial deregulation. *CTL_CTRL* is defined as a dummy variable equal to one if the listed company is ultimately controlled by the central government and zero otherwise. Likewise, *LCL_CTRL* takes the value of one when a local government is the ultimate controller and zero otherwise. Companies controlled by private individuals or families, *PRI_CTRL*, are the reference group. As in Wright et al. (2007), ownership concentration, *O_CNT*, is measured by the cumulative shareholdings of blockholders who owns at least 5% of a firm's outstanding equity. The quadratic term, O_CNT^2 is also included to detect the possible nonlinear correlation.

The primary indictor for provincial government quality, further referred to as *GOV_Q*, is the MICP index of non-state sector development. The index itself is a weighted average of three sub-indexes regarding the non-state sector's shares in provincial (1) industrial output, (2) fixed-asset investment, and (3) urban employment. As noted earlier, the relative size of a non-state sector indicates the degree of marketization and accordingly the policy orientation within the given jurisdiction. The MICP index of financial competition captures the progress of regional financial deregulation, *FIN_DREG*. Allen et al. (2005) and Aziz and Duenwald (2002) find that financial intermediation in China is largely bank-based and dominated by the state-owned financial institutions. The index is based on the deposits held by non-state financial institution as a proportion of the provincial total. The financial institutions herein include the commercial banks, credit cooperatives, insurance companies, asset management companies, securities companies and trust investment companies that are not government-affiliated. A more commercialised financial market, as indicated by a higher index value, can impose stronger oversights over large shareholders and management.

To isolate the effects of the ownership and institutional variables, we control for other firm-specific governance characteristics that may affect firm valuation, including board size (*BD_SZ*), board independence (*BD_I*), and director shareholding (*DIR_SHR*). The number of functional board committees, denoted by *CMTE_NUM*, is also included given their important roles in monitoring and professionalising major corporate decisions such as strategy evaluation, financial auditing, remuneration setting, and executive nomination (Xie et al., 2003). Vafeas (1999) finds that investors devalue firms with more active boards as increased board activities signal poor performance or controversial decision-making. As in Marchionne and Niccoli (2012), director activeness (*DIR_ACT*) is measured by the frequency of board meetings. Correspondingly, the frequency of supervisory board meetings is used as a proxy for supervisor activeness (*SUPV_ACT)*. In China the supervisory boards may report directly to the regulatory authorities if they learn of any violation of laws, regulations,

accounting standards, or the company's charter. Arguably, an active supervisory board is more likely to successfully apply pressure on the company to improve its accounting information quality (Firth et al., 2007). Following Klapper and Love (2004), the dummy variable of cross listing, *CRS_L*, is set to one if the firm has shares traded in an advanced stock market. Because disclosure standards and investor protection in the advanced economies are much higher than in the Chinese mainland, it is predicted that firms cross-listed in overseas stock exchanges, such as Hong Kong, London and New York, should benefit from lower informational asymmetry and thus higher valuation (Hope and Thomas, 2008).

As for other firm-specific characteristics, firm size, *F_SZ*, is calculated as the natural logarithm of total assets as a measure of *firm size* (*F_SZ*) (Carter et al., 2003). Return on sales (*ROS*) provides a measure of firm profitability, while ratio of debt to equity ratio (*DE_R*) proxies for leverage (Bhojraj and Sengupta, 2003). Asset tangibility (*ATAG*) is approximated by the ratio of fixed assets to total assets. Firms with higher asset tangibility tend to operate in more traditional industries where growth opportunities are relatively limited (Tian and Estrin, 2008). We define the crisis period dummy (*C*) that takes on the value of one in 2008 and zero otherwise given the external adverse shock. We also create the fiscal stimulus dummy (*STIM*) for 2009 to capture the potential effects from the $586 billion stimulus package unveiled by the Chinese State Council in late 2008. The natural logarithm of provincial GDP (*PROV_GDP*) controls for regional economic disparity (Ferreira and Laux, 2007). Finally, the 2-digit SIC dummies (*IND*) are included given the industrial differences in accounting practices, government regulation, and competitiveness (Wang and Deng, 2006). Table 1 provides the variable definitions.

Table 1 Variable Definition

Variable	Specification
Q	Tobin's Q, calculated as the ratio of the sum of the market value of equity and book value of liabilities over the book value of total asset: $\frac{\text{equity market value} + \text{book vakue of total liabilities}}{\text{replacement cost of total assets}}$
Q_70DIS	Tobin's Q after 70 percent illiquidity discount, defined as the ratio of the sum of the adjusted market value of equity and book value of debt over the book value of total asset. It is calculated as: $\frac{\text{discounted equity market value} + \text{book value of total liabilities}}{\text{replacement cost of total assets}}$ where discounted equity market value = number of tradable shares * share price + number of non-tradable shares * share price * 30%
F_SZ	Firm size, defined as the natural logarithm of total assets.
DE_R	Debt to equity ratio.
ROS_R	Return on sales.
AT	Asset tangibility, defined as the ratio of tangible fixed assets to total assets.
C	Crisis dummy that equals to one for 2008 and zero otherwise.
STIM	Stimulus dummy that equals to one for 2009 and zero otherwise.
PROV_GDP	The natural logarithm of provincial GDP for the corresponding year.
IND	Dummy variables equal to one for each of the two-digit SIC categories and zero otherwise.
BD_SZ	Board size, defined as the total number of directors on a board.
BD_I	Board independence, defined as the proportion of non-executive directors on a board.
CMTE_NUM	The number of functional committees under the board.
DIR_SHR	The aggregate shareholdings held by directors.
DIR_ACT	Director activities, defined as the number of board meetings over the fiscal year.
SUPV_ACT	Supervisor activities, defined as the number of supervisory board meetings over the fiscal year.
CRS_L	Cross listing dummy that equals to one if the firm has shares traded in an advanced stock market and zero otherwise.
CTL_CTRL	Central control dummy that equals to one if the firm is ultimately controlled by the central government.
LCL_CTRL	Local control dummy that equals to one if the firm is ultimately controlled by a provincial or municipal government.
O_CNT	Ownership concentration, calculated as the aggregate shareholding held by investors who own 5 percent or more of a firm's outstanding equity.
GOV_Q	The MICP index of non-state sector development, using the weighted average of the proportional contributions of the non-state enterprises to provincial industrial output, fixed asset investment, and urban employment.
FIN_DREG	The MICP index of financial development based on the percentage of deposits at non-state financial institutions in total provincial deposits.

Table 2 reports the descriptive statistics. As shown in Panel A, the overall mean value of Tobin's *Q*, at 2.59, was significantly higher than the international norm. After the illiquidity discount, the average *Q* ratio was lowered to 1.98, which was more comparable with those in other major stock exchanges. Between 2007 and 2008 the unadjusted *Q* decreased by 1.95 (or approximately 52%) on average, reflecting the severe value declines among Chinese listed firms during the financial crisis (see also Liu et al., 2012). This, however, was followed by a recovery of 1.45 or around 79% in 2009, which could be interpreted as a result of the fiscal stimulus undertaken by the Chinese State Council. Along with the expanded *BD_SZ*, *BD_I* increased moderately from 35% in 2005 to 37% in 2009. *CMTE_NUM* averaged around 4, and the average *DIR_SHR* equalled around 3%. It is noteworthy that director shareholding was particularly low in the state sector; the average *DIR_SHR* was 0.19% for the CSOEs and 0.16% for the LSOEs. Both were significantly lower than that in the non-state sector (8.22%). As with *DIR_ACT*, the average frequency of supervisory board meetings increased from 3.24 in 2005 to 4.75 in 2009, indicating the increased involvement of supervisors in corporate governance over the observation period. Meanwhile, ownership structure of Chinese firms was highly concentrated, as the blockholders typically controlled 47% of total shares outstanding. This was comparable with, although somewhat lower than, the mean percentage of 56% reported by Xiao and Yuan (2007) for a smaller cross-sectional sample of 559 firms. While unreported, *O_CNT* remained robustly stable across different control natures, about 49% for CSOEs, 47% for the LSOEs, and 46% for the private firms. In Panel B, only a small number of Chinese firms conformed to the higher-quality accounting standards, as the average proportion of the firms cross-listed in the advanced capital markets is 2.99%. SOEs accounted for approximately 64% of the entire sample, the majority of which, around 74%, were in fact controlled by the provincial and municipal governments through local state asset administration agencies or shareholding companies. As expected, the institutional indicators of *GOV_Q* and *FIN_DREG* exhibited significant variation across different provinces and municipalities. Higher *GOV_Q* and *FIN_DREG* were primarily found in economically more developed regions such as Guangdong, Jiangsu and Zhejiang, despite the significant improvement of some interior provinces.

Table 2 Descriptive Statistics for Firm Value, Corporate Governance and Institutional Variables

		Panel A: Non-Dummy Variables				
		Obs.	**Mean**	**S.D.**	**Min.**	**Max.**
2005	*Q*	896	1.432	0.577	0.808	3.995
	Q_70DIS	896	1.095	0.630	0.698	10.184
	BD_SZ	896	9.648	2.045	5	19
	BD_I	896	0.348	0.046	0.083	0.600
	CMTE_NUM	896	3.046	1.550	0	6
	DIR_SHR	896	0.010	0.061	0.000	0.634
	DIR_ACT	896	7.608	3.205	2	32
	SUPV_ACT	896	3.238	1.655	1	16
	O_CNT	896	0.524	0.138	0.000	0.931
	GOV_Q	896	7.282	2.226	0.090	9.940
	FIN_DREG	896	6.909	2.476	-3.980	10.240
2006	*Q*	958	1.942	1.141	0.904	7.600
	Q_70DIS	958	1.452	0.888	0.698	10.184
	BD_SZ	958	9.458	2.000	4	19
	BD_I	958	0.353	0.046	0.111	0.571
	CMTE_NUM	958	3.294	1.378	0	7
	DIR_SHR	958	0.016	0.073	0.000	0.656
	DIR_ACT	958	8.204	3.533	2	33
	SUPV_ACT	958	4.100	1.598	1	13
	O_CNT	958	0.462	0.142	0.000	0.926
	GOV_Q	958	9.346	2.638	2.800	12.770
	FIN_DREG	958	7.268	2.248	-2.460	10.200
2007	*Q*	1279	3.846	2.504	1.379	15.928
	Q_70DIS	1279	2.722	1.586	0.986	10.184
	BD_SZ	1279	9.324	1.940	3	18
	BD_I	1279	0.359	0.048	0.143	0.667
	CMTE_NUM	1279	3.661	0.958	0	8
	DIR_SHR	1279	0.026	0.098	0.000	0.729
	DIR_ACT	1279	9.799	3.573	2	36
	SUPV_ACT	1279	4.568	1.663	1	15
	O_CNT	1279	0.457	0.162	0.000	0.911
	GOV_Q	1279	9.901	2.560	3.120	13.440
	FIN_DREG	1279	8.105	2.200	-2.780	11.010
2008	*Q*	1381	1.835	1.085	0.893	8.040
	Q_70DIS	1381	1.472	0.992	0.698	10.184
	BD_SZ	1381	9.197	1.889	4	18
	BD_I	1381	0.362	0.053	0.143	0.667
	CMTE_NUM	1381	3.860	0.590	0	8
	DIR_SHR	1381	0.039	0.123	0.000	0.730
	DIR_ACT	1381	9.681	3.468	3	36
	SUPV_ACT	1381	4.954	1.586	1	16
	O_CNT	1381	0.463	0.160	0.000	0.896
	GOV_Q	1381	10.076	2.467	3.440	13.730
	FIN_DREG	1381	8.312	2.100	-2.310	11.020

2009	*Q*	1564	3.289	2.086	1.184	14.141
	Q_70DIS	1564	2.635	1.585	0.842	10.184
	BD_SZ	1564	9.090	1.868	4	18
	BD_I	1564	0.365	0.052	0.091	0.714
	CMTE_NUM	1564	3.850	0.538	0	7
	DIR_SHR	1564	0.049	0.138	0.000	0.730
	DIR_ACT	1564	8.478	3.685	1	34
	SUPV_ACT	1564	4.748	1.603	0	16
	O_CNT	1564	0.456	0.164	0.000	0.903
	GOV_Q	1564	10.070	2.505	3.360	13.630
	FIN_DREG	1564	8.578	2.098	-1.870	12.100
All	*Q*	6078	2.590	1.952	0.808	15.928
	Q_70DIS	6078	1.976	1.423	0.698	10.184
	BD_SZ	6078	9.304	1.944	3	19
	BD_I	6078	0.359	0.050	0.083	0.714
	CMTE_NUM	6078	3.606	1.045	0	8
	DIR_SHR	6078	0.031	0.109	0.000	0.730
	DIR_ACT	6078	8.858	3.614	1	36
	SUPV_ACT	6078	4.432	1.714	0	16
	O_CNT	6078	0.469	0.157	0.000	0.931
	GOV_Q	6078	9.511	2.669	0.090	13.730
	FIN_DREG	6078	7.966	2.284	-3.980	12.100

		Panel B: Dummy Variables		
		N	**Frequency**	**Percentage**
2005	*CRS_L*	896	28	3.13
	CTL_CTRL	896	157	17.52
	LCL_CTRL	896	483	53.91
2006	*CRS_L*	958	27	2.82
	CTL_CTRL	958	156	16.28
	LCL_CTRL	958	497	51.88
2007	*CRS_L*	1279	39	3.05
	CTL_CTRL	1279	219	17.12
	LCL_CTRL	1279	597	46.68
2008	*CRS_L*	1381	43	3.11
	CTL_CTRL	1381	226	16.36
	LCL_CTRL	1381	616	44.61
2009	*CRS_L*	1564	45	2.88
	CTL_CTRL	1564	260	16.62
	LCL_CTRL	1564	660	42.20
All	*CRS_L*	6078	182	2.99
	CTL_CTRL	6078	1018	16.75
	LCL_CTRL	6078	2853	46.94

Table 3 presents the correlation matrix. Most of the correlations are less than 0.5. To ensure the results will not be affected by multicollinearity, variance inflation factors (VIFs) are computed and all VIF values are within an

acceptable range (mean 1.44). Thus, there is no evidence of serious multicollinearity problem being present in the regression models.

Table 3 Correlation Matrix

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
1 *Q*	1																			
2 *F_SZ*	-0.364	1																		
3 *DE_R*	-0.239	0.250	1																	
4 *ROS_R*	0.231	-0.037	-0.166	1																
5 *AT*	-0.145	0.167	0.141	-0.058	1															
6 *C*	-0.210	0.019	-0.003	-0.004	-0.019	1														
7 *STIM*	0.211	0.067	-0.024	0.041	-0.080	-0.319	1													
8 *PROV_GDP*	0.045	0.078	-0.040	-0.029	-0.101	0.104	0.216	1												
9 *BD_SZ*	-0.135	0.305	0.105	0.005	0.165	-0.030	-0.065	-0.045	1											
10 *BD_I*	0.063	0.009	-0.017	-0.028	-0.050	0.038	0.071	0.059	-0.265	1										
11 *CMTE_NUM*	0.049	0.023	0.024	-0.006	-0.035	0.132	0.137	0.084	0.032	0.052	1									
12 *DIR_SHR*	0.140	-0.154	-0.093	0.118	-0.125	0.039	0.099	0.175	-0.115	0.060	0.031	1								
13 *DIR_ACT*	-0.024	0.174	0.087	0.004	-0.122	0.124	-0.062	0.047	-0.028	0.035	0.071	-0.041	1							
14 *SUPV_ACT*	0.052	0.078	-0.014	0.011	-0.038	0.165	0.109	0.117	-0.028	0.036	0.122	0.006	0.328	1						
15 *CRS_L*	-0.061	0.330	0.022	0.004	0.110	0.004	-0.004	0.040	0.126	0.065	-0.001	-0.049	0.061	0.021	1					
16 *CTL_CTRL*	-0.018	0.202	0.063	-0.073	0.016	-0.006	-0.002	-0.037	0.148	-0.018	-0.005	-0.119	-0.015	-0.034	0.172	1				
17 *LCL_CTRL*	-0.168	0.142	0.045	-0.055	0.147	-0.025	-0.056	-0.082	0.116	-0.063	-0.006	-0.253	-0.024	-0.019	-0.009	-0.422	1			
18 *O_CNT*	-0.003	0.121	-0.029	0.087	0.049	-0.021	-0.047	0.008	0.035	0.019	-0.084	0.139	-0.075	-0.046	0.082	0.069	-0.008	1		
19 *GOV_Q*	0.073	0.052	-0.022	-0.020	-0.143	0.115	0.123	0.779	-0.062	0.058	0.079	0.196	0.098	0.148	0.037	-0.051	-0.126	-0.012	1	
20 *FIN_DREG*	0.041	0.116	-0.015	-0.041	-0.134	0.082	0.158	0.633	-0.005	0.056	0.057	0.139	0.055	0.122	0.053	0.018	-0.040	-0.008	0.573	1

5. Regression Results and Analysis

5.1 Univariate Analysis

Table 4 reports the univariate comparisons of firm value between different subsamples. Panel A shows that firm valuation does differ across different corporate control natures. The mean Q and *Q_70DIS* of LOSEs are significantly lower than those of either CSOEs or PEs, providing preliminary evidence of the contrasting effects between central and local governments as corporate controllers. The entire sample is also divided based on whether the ownership concentration degree is above or below the median. The mean *Q_70DIS* for firms with higher (upper quantile) *O_CNT* is 1.796 compared to 2.155 for firms with lower (lower quantile) *O_CNT*. The difference of -0.359 is significant at the 0.01 level, indicating the adverse expropriation effect associated with concentrated ownership.

The results also suggest that provincial government quality and financial deregulation are positively correlated with firm valuation. The *Q* and *Q_70DIS* average at 2.673 and 2.015 respectively for firms in provinces with higher (upper quantile) *GOV_Q*, which are significantly higher than the corresponding values for firm in provinces with lower (lower quantile) *GOV_Q*. In other words, public investors assign higher valuation to firms from a more market-driven policy environment. Similarly, there are significant differences in the mean *Q* and *Q_70DIS* values between firms in provinces with higher (upper quantile) and lower (lower quantile) *FIN_DVE*. For example, the mean *Q_70DIS* is 2.052 for firms in financially more developed jurisdictions compared to 1.903 for those in financially less developed, implying a positive correlation between financial development and firm value. Panel B reports the similar results from median comparisons. While the preliminary results are mostly consistent with the earlier expectation, they should be interpreted cautiously as many other firm-specific and macro-economic factors are neglected.

Table 4 Results from Univariate Tests

Panel A: Mean Comparison

		Q		*Q_70DIS*	
	Obs.	**Mean**	**Difference**	**Mean**	**Difference**
CTL_CTRL	1018	2.510	0.268***	1.912	0.151***
LCL_CTRL	2853	2.242		1.761	
PRI_CTRL	2207	3.076	0.834***	2.282	0.521***
LCL_CTRL	2853	2.242		1.761	
PRI_CTRL	2207	3.076	0.566***	2.282	0.370***
CTL_CTRL	1018	2.510		1.912	
Upper quantile of O_CON	3040	2.59	0.004	1.796	-0.359***
Lower quantile of O_CON	3038	2.588		2.155	
Upper quantile of GOV_Q	2958	2.673	0.162***	2.015	0.076**
Lower quantile of GOV_Q	3120	2.511		1.939	
Upper quantile of FIN_DREG	2971	2.678	0.172***	2.052	0.149***
Lower quantile of FIN_DREG	3107	2.506		1.903	

Panel B: Median Comparison

		Q		*Q_70DIS*	
	Obs.	**Median**	**Difference**	**Median**	**Difference**
CTL_CTRL	1018	1.932	0.187***	1.478	0.088***
LCL_CTRL	2853	1.745		1.390	
PRI_CTRL	2207	2.731	0.986***	1.782	0.392***
LCL_CTRL	2853	1.745		1.390	
PRI_CTRL	2207	2.731	0.799***	1.782	0.304***
CTL_CTRL	1018	1.932		1.478	
Upper quantile of O_CON	3040	1.984	0.015	1.427	-0.237***
Lower quantile of O_CON	3038	1.969		1.664	
Upper quantile of GOV_Q	2958	2.087	0.212***	1.629	0.169***
Lower quantile of GOV_Q	3120	1.875		1.460	
Upper quantile of FIN_DREG	2971	2.092	0.211***	1.643	0.187***
Lower quantile of FIN_DREG	3107	1.881		1.456	

Note: The mean and median comparisons use the unpaired *T*-test and the Wilconxon Z-test respectively.
* p<0.10, ** p<0.05, *** p<0.01

5.2 Model Specification

To alleviate the endogeneity issues associated particular governance practices, corporate governance researchers often employ a fixed-effect estimation that eliminates the time-invariant, firm-specific unobservables (Demsetz and Villalonga, 2001). However, the model only estimates the within effects, and so an insignificant effect of a rarely changing variable could be taken as saying that there is no evidence for a within effect of that variable (Green, 2011). This may give misleading answers to our research questions given that corporate control natures and status of cross listing are almost time constant (Caprio et al., 2004).

For this reason, this study estimates the ownership-valuation relations using a random-effects model augmented with the Mundlak (1978) correction, also referred to as a correlated random-effects approach (CRE) (Wooldrige, 2015). In order to modify the restrictive assumption that unobserved heterogeneity is random and particularly uncorrelated with the explanatory variables, a CRE model incorporates the averages of all firm-level time-varying variables to control for the correlation between the error term and corresponding covariates (Bell and Jones, 2015). It estimates the valuation effects of all time-varying characteristics net of the unobserved heterogeneity, though keeping the time-constant information (Wooldridge, 1995). In detail, the firm value is estimated by:

$$\begin{aligned} Q_{it}^{p} = \alpha &+ \beta_1 CTL\_CTRL_i^p + \beta_2 LCL\_CTRL_i^p + \beta_3 O\_CNT_{it}^p + \beta_4 O\_CNT_{it}^{p^2} \\ &+ \beta_5 GOV\_Q_t^p + \beta_6 FIN\_DREG_t^p + \beta_7 CTL\_CTRL_i^p * GOV\_Q_t^p \\ &+ \beta_8 LCL\_CTRL_i^p * GOV\_Q_t^p + \beta_9 O\_CNT_{it}^p * FIN\_DREG_t^p \\ &+ \beta_{10} O\_CNT_{it}^{p^2} * FIN\_DREG_t^p + \delta Control_{it}^p + \theta Averages_{it}^p \\ &+ \varepsilon_i^p + \mu_{it}^p \end{aligned}$$

where p denotes provinces or municipalities; i, firm; t, year; β_0, the intercept; $Control_{it}^p$, a vector of all the financial and corporate governance control variables; and $Averages_{it}^p$ a vector of the averages of all endogenous, firm-specific, time-varying variables. The unadjusted and adjusted Q_{it}^p values measure firm value separately. We multiply the exogenous, institutional variable $GOV\_Q_t^p$ by the $CTL\_CTRL_i^p$ and $LCL\_CTRL_i^p$ respectively, and $FIN\_DREG_t^p$ by $O\_CNT_{it}^p$ and its quadratic term respectively to capture the interaction effects. Finally, the composite error term consists of a time-constant unobservable, ε_i^p and the idiosyncratic shocks, μ_{it}^p. Both are assumed to be normally distributed.

5.3 Multivariate Analysis

We now test the hypotheses in a multivariate setting. The regressions of Tobin's Q on control nature and ownership concentration are presented in Table 5. Columns 1 and 4 represent the baseline linear estimations that include only the financial and corporate governance controls. Consistent with Stulz et al. (2008), *BD_SZ* is found to be negatively related to firm value, as a larger board typically incurs higher coordinating cost and entrenchment risk. The significantly positive coefficient on *CRS_L* indicates the valuation premium to cross-listed firms given the higher quality accounting standards and corporate transparency. As with *DIR_ACT*, *SUPV_ACT* is positively related to firm value, suggesting that increases in supervisory board activity improves monitoring and major decision making.

Table 5 Tobin's Q on Control Nature and Ownership Concentration

	Q			*Q_70DIS*		
	(1)	(2)	(3)	(4)	(5)	(6)
F_SZ	-1.095***	-1.088***	-0.986***	-0.914***	-0.909***	-0.806***
	(0.057)	(0.057)	(0.058)	(0.042)	(0.042)	(0.042)
DE_R	-0.073***	-0.075***	-0.076***	-0.049***	-0.051***	-0.053***
	(0.026)	(0.026)	(0.025)	(0.019)	(0.019)	(0.018)
ROS_R	1.263***	1.250***	1.400***	0.567***	0.560***	0.724***
	(0.269)	(0.269)	(0.266)	(0.197)	(0.197)	(0.193)
AT	-1.604***	-1.588***	-1.670***	-0.873***	-0.863***	-0.942***
	(0.236)	(0.236)	(0.233)	(0.173)	(0.173)	(0.169)
BD_SZ	-0.041*	-0.042*	-0.031	-0.040**	-0.041**	-0.029*
	(0.023)	(0.023)	(0.022)	(0.017)	(0.017)	(0.016)
BD_I	1.994***	1.982***	1.867***	1.370***	1.362***	1.254***
	(0.623)	(0.622)	(0.615)	(0.456)	(0.455)	(0.445)
CMTE_NUM	0.269***	0.269***	0.237***	0.201***	0.201***	0.167***
	(0.026)	(0.026)	(0.026)	(0.019)	(0.019)	(0.019)
DIR_SHR	-2.594**	-2.596**	-2.026*	-3.287***	-3.288***	-2.686***
	(1.068)	(1.066)	(1.055)	(0.781)	(0.780)	(0.764)
DIR_ACT	0.076***	0.075***	0.070***	0.054***	0.053***	0.048***
	(0.009)	(0.009)	(0.009)	(0.006)	(0.006)	(0.006)
SUPV_ACT	0.106***	0.106***	0.092***	0.084***	0.084***	0.068***
	(0.015)	(0.015)	(0.015)	(0.011)	(0.011)	(0.011)
CRS_L	0.559***	0.442**	0.415**	0.458***	0.380***	0.384***
	(0.188)	(0.188)	(0.186)	(0.137)	(0.137)	(0.135)
CTL_CTRL		0.210**	0.204**		0.151**	0.180***
		(0.094)	(0.094)		(0.069)	(0.068)
LCL_CTRL		-0.289***	-0.272***		-0.177***	-0.149***
		(0.070)	(0.069)		(0.051)	(0.050)
O_CNT			-6.613***			-5.714***
			(1.020)			(0.739)
O_CNT²			4.148***			3.129***
			(1.052)			(0.762)
Constant	6.362***	6.534***	8.398***	6.015***	6.140***	7.174***
	(1.190)	(1.184)	(1.210)	(0.867)	(0.862)	(0.879)
C	Yes	Yes	Yes	Yes	Yes	Yes
STIM	Yes	Yes	Yes	Yes	Yes	Yes
IND	Yes	Yes	Yes	Yes	Yes	Yes
PROV_GDP	Yes	Yes	Yes	Yes	Yes	Yes
Mundlak	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6078	6078	6078	6078	6078	6078
Firms	1605	1605	1605	1605	1605	1605
Within group R^2	0.262	0.265	0.283	0.313	0.314	0.345
Between group R^2	0.437	0.444	0.458	0.342	0.349	0.370
Overall R^2	0.340	0.346	0.363	0.335	0.340	0.363

Note: Robust standard errors are in parentheses

* p<0.10, ** p<0.05, *** p<0.01

In Column 2, *CTL_CTRL* is significantly positively related to *Q* after all controls are included (β_1=0.210, p<0.05), whilst the coefficient for *LCL_CTRL* is highly significant and with the expected negative sign (β_2=-0.289, p<0.01). Since the average adjusted value of Tobin's *Q* is 2.59, this implies that CSOEs generally enjoy higher valuation by approximately 22% than their local peers. The valuation gains may be attributable to the vast resource base and strong

monitoring capabilities processed by the central state (Chen et al., 2009). Column 3 detects a significant negative coefficient on *O_CNT* (β_3=-6.613, p<0.01), and a significantly positive coefficient on the quadratic term O_CNT^2 (β_4=-4.148, p<0.01). Although the signs and magnitudes of the coefficients offer evidence for a nonlinear correlation between a firm's market value and its blockholder ownership, we tend not to draw a strong inference since the institutional variables are excluded. Columns 4 to 6 reestimate the above regressions with *Q_70DIS* as an alternative valuation measure, recovering qualitatively the same results.

Table 6 extends the previous regressions by including the institutional variables of government quality and financial deregulation. Results of the control variables are largely maintained. In Column 1 of Table 6, *GOV_Q* is significantly and positively associated with firm value (β_5=0.142, p<0.0.1). *Ceteris paribus,* an improvement of one standard deviation in *GOV_Q* (2.669) raises Tobin's Q by 0.379, an almost 15% increase relative to the sample average. The effect is economically significant. This finding lends quantitative support to Edin (2005), who posits a positive connection between quality of policy environment and *investor confidence. FIN_DREG* is significantly positively related to firm value (β_6=0.113, p<0.01). The coefficient magnitude suggests that the same increase in regional financial development (2.284) would raise *Q* by 0.258 or almost 10% relative to the sample average. This finding supports the conjecture that a more developed financial market helps safeguard minority investors from insider expropriation, thus exerting a positive effect on firm valuation (Huyghebaert and Wang, 2012).

Table 6 Firm Value on Control Nature, Ownership Concentration and Institutional Factors

	Q			*Q_70DIS*		
	(7)	(8)	(9)	(10)	(11)	(12)
F_SZ	-1.035***	-1.061***	-1.289***	-0.842***	-0.863***	-1.032***
	(0.056)	(0.056)	(0.055)	(0.041)	(0.041)	(0.040)
DE_R	-0.072***	-0.072***	-0.039*	-0.050***	-0.049***	-0.025
	(0.025)	(0.025)	(0.024)	(0.018)	(0.018)	(0.017)
ROS_R	1.410***	1.509***	1.610***	0.732***	0.805***	0.877***
	(0.259)	(0.258)	(0.248)	(0.188)	(0.188)	(0.179)
AT	-1.534***	-1.561***	-1.069***	-0.848***	-0.868***	-0.501***
	(0.227)	(0.226)	(0.218)	(0.165)	(0.164)	(0.158)
BD_SZ	-0.029	-0.029	-0.012	-0.027*	-0.027*	-0.014
	(0.022)	(0.022)	(0.021)	(0.016)	(0.016)	(0.015)
BD_I	1.638***	1.591***	1.093*	1.102**	1.070**	0.703*
	(0.598)	(0.596)	(0.571)	(0.434)	(0.433)	(0.414)
CMTE_NUM	0.214***	0.208***	0.129***	0.150***	0.146***	0.087***
	(0.026)	(0.025)	(0.025)	(0.019)	(0.018)	(0.018)
DIR_SHR	-2.205**	-2.368**	-3.441***	-2.803***	-2.922***	-3.700***
	(1.025)	(1.022)	(0.981)	(0.744)	(0.742)	(0.711)
DIR_ACT	0.065***	0.063***	0.047***	0.045***	0.044***	0.032***
	(0.008)	(0.008)	(0.008)	(0.006)	(0.006)	(0.006)
SUPV_ACT	0.079***	0.077***	0.040***	0.059***	0.057***	0.030***
	(0.015)	(0.015)	(0.014)	(0.011)	(0.011)	(0.010)
CRS_L	0.330*	0.318	0.344*	0.327**	0.308**	0.326**
	(0.195)	(0.195)	(0.187)	(0.141)	(0.141)	(0.135)
CTL_CTRL (1)	0.239**	-0.552*	-0.571*	0.201***	-0.476**	-0.490**
	(0.097)	(0.315)	(0.302)	(0.070)	(0.228)	(0.218)
LCL_CTRL (2)	-0.240***	-0.832***	-0.625***	-0.127**	-0.501***	-0.346**
	(0.072)	(0.214)	(0.206)	(0.052)	(0.155)	(0.148)
O_CNT (3)	-6.022***	-6.090***	-15.131***	-5.311***	-5.362***	-10.801***
	(0.992)	(0.990)	(2.453)	(0.721)	(0.719)	(1.774)
O_CNT² (4)	4.023***	4.285***	12.881***	3.039***	3.225***	8.344***
	(1.022)	(1.020)	(2.652)	(0.742)	(0.741)	(1.919)
GOV_Q (5)	0.142***	0.085***	0.112***	0.089***	0.048***	0.069***
	(0.016)	(0.021)	(0.020)	(0.012)	(0.015)	(0.014)
FIN_DREG (6)	0.113***	0.118***	0.483***	0.091***	0.094***	0.404***
	(0.017)	(0.017)	(0.067)	(0.012)	(0.012)	(0.048)
(1)(5)*		0.165***	0.115***		0.124***	0.087***
		(0.036)	(0.034)		(0.026)	(0.025)
(2)(5)*		0.129***	0.074***		0.091***	0.050***
		(0.025)	(0.024)		(0.018)	(0.017)
(3)(6)*			1.376***			0.863***
			(0.289)			(0.209)
(4)(6)*			-1.168***			-0.710***
			(0.317)			(0.230)
Constant	19.928***	19.080***	14.641***	15.176***	14.544***	10.968***
	(1.642)	(1.654)	(1.667)	(1.188)	(1.195)	(1.201)
C	Yes	Yes	Yes	Yes	Yes	Yes
STIM	Yes	Yes	Yes	Yes	Yes	Yes
IND	Yes	Yes	Yes	Yes	Yes	Yes
PROV_GDP	Yes	Yes	Yes	Yes	Yes	Yes
Mundlak	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6078	6078	6078	6078	6078	6078
Firms	1605	1605	1605	1605	1605	1605
Within Group R^2	0.32	0.324	0.395	0.375	0.378	0.442
Between Group R^2	0.427	0.432	0.433	0.348	0.354	0.375
Overall R^2	0.358	0.363	0.401	0.359	0.365	0.409

Note: Robust standard errors are in parentheses

* p<0.10, ** p<0.05, *** p<0.01

Meanwhile, the earlier findings on control and ownership concentration are robust enough to include the institutional variables. The coefficients for *O_CNT* and O_CNT^2 retain the same signs and significance (β_3=-6.022, p<0.01; β_4=4.023, p<0.01), confirming the U-shaped relationship between ownership concentration and firm value. However, the inflection point occurring around 75%, which far exceeds the average ownership by blockholders observed in the full sample. Thus we cannot reject the graphic impression that the concentration-value relationship is virtually negative for Chinese listed companies. A plausible explanation is that the monitoring effect becomes dominant only if the equity stakes and incentives of large shareholders are sufficiently large (Daily et al., 2003).

Column 7 of Table 6 examines the moderating effect of government quality on the control-value relationships. The results are consistent with the hypotheses. The coefficient on GOV_Q*CTL_CTRL is positive and significant at the 0.01 level (β_7=0.165), indicating that investors additionally value CSOEs operating in policy environments that are benign and less interventionist. This finding supports the view voiced by Li (2014) that formalised corporate governance and increased competitive pressure promote market orientation among CSOEs cadres and thereby lead to better organizational performance. As expected, *the interaction between GOV_Q and LCL_CTRL enters significantly positive, confirming the conjecture* that a pro-growth policy environment, as implied by a more prosperous non-state sector, attenuates the adverse effects of local government controller and contributes to higher LSOE value. Specifically, one standard deviation improvement in the *GOV_Q* (2.669) raises the LSOE valuation (*LCLL_CTRL*=1) by 0.571, a 25% increase relative to the average Q ratio of 2.25 for the sample LOSEs. In provinces with a more prosperous non-state sector such as in Guangdong (the 5-year average *GOV_Q* =10.478), having a local government controller (*LCL_CTRL*=1) even increases Tobin's Q by 0.62.

The results quantitatively support Che (2002) and Jin et al. (2005), who document that the competitive pressure disciplines local government agencies to adopt better governance practices and to function as a 'helping hand' rather than a 'grabbing hand'. Therefore, the moderating effect of government quality is not only statistically significant, but also economically meaningful.

To examine the substitution effect between financial development and concentrated ownership, Column 3 of Table 6 enters the interaction terms of *FIN_DREG* with *O_CNT* and O_CNT^2. The interaction with the quadratic term, O_CNT^2, is found significantly negative (β_{10}=-0.968, p=0.01), indicating the mediating effect of financial development on the concentration-value relationship. To probe this finding, we plot the results in Figure 1. Following

Zhang and Rajagopalan (2010), all variables, except *FIN_DREG*, *O_CNT* and O_CNT^2, are constrained to the mean values. *FIN_DREG* takes the values at the 25^{th} and 75^{th} percentiles. Figure 1 illustrates that at lower levels of concentration, the negative expropriation effect on firm valuation declines less steeply for firm in financially more developed jurisdictions. It supports the conjecture that a well-functioning financial market reduces the inclination of blockholders to engage in expropriatory activities and thus mitigates the adverse effects associated with concentrated ownership (Gillan, 2006). Likewise, at higher levels of ownership concentration, the positive effects of large shareholder monitoring on firm valuation also rises less steeply for firms in financially more developed regions. In brief, the marginal impact of ownership concentration on firm value decreases with regional financial development. This can be interpreted as evidence that the disciplining mechanism of financial markets partially substitutes the monitoring function performed by major shareholder. Although unshown, the effects of financial deregulation are qualitatively unchanged by using the Herfinhahl index of top 10 shareholdings as an alternative measure of ownership concentration. The results remain qualitatively consistent when the dependent variable is change to *Q_70DIS*, and thus complement Holmstrom and Tirole (1989) who model a substitutive relationship between financial development and concentrated ownership. It is also evident that the addition of the institutional variables markedly increases the models' explanatory power. The adjusted R^2 increases substantially to 0.401 in Column 3 of Table 6 as compared to 0.34 in Column 1 of Table 5.

Figure 1 Moderating Effect of Financial Development on Concentration-Value Relationship

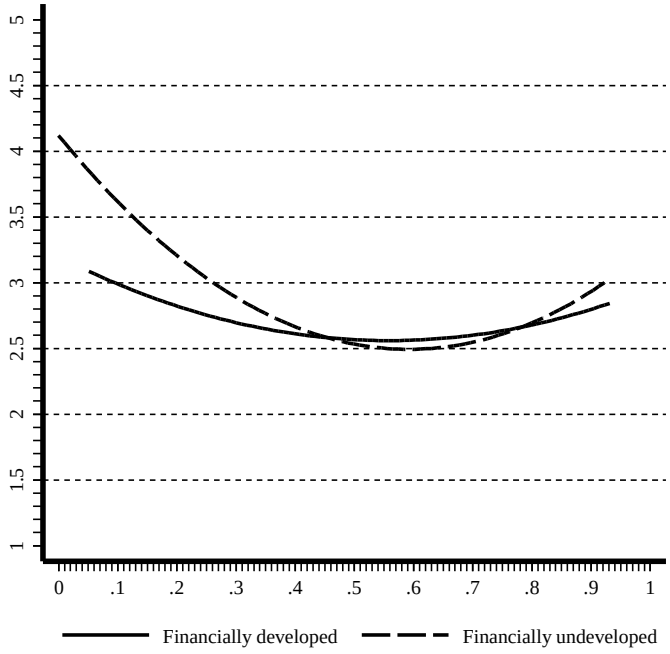
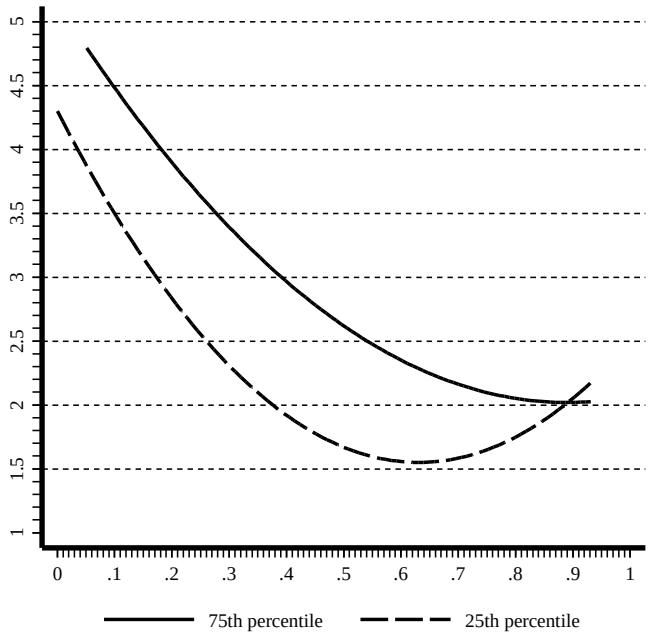


Figure 2 Moderating Effect of Legal Environment on Concentration-Value Relationship



6. Robustness

This section examines the robustness of the above findings. A common critique of the ownership-performance relationship is that ownership structure is an endogenous variable rather than an exogenous influence on firm performance (Demsetz and Villalonga, 2001). Yet the validity of this argument critically relies on the liquidity and informational efficiency of the underlying stock market. In China the transfers and liquidation of state shares are strictly scrutinized and restricted by the national and provincial state assets administrative apparatus. The highly regulated nature of state asset transactions suggests that identities of corporate controllers are relatively stable and unaffected by firm value fluctuation, suggesting that *CTL_CTRL* and *LCL_CTRL* can be treated as exogenous variables. Meanwhile, we adopt the percentage of shareholdings present at the annual general meeting (AGM) (*PCT_SHR_AGM*) as an instrumental variable to address the simultaneity issue pertaining to the concentration-value relationship. This can be justified on the basis of the following arguments. First, large shareholders have stronger incentives to engage in corporate governance through exercising their formal voting rights in AGMs. Such incentives are further enhanced given the

considerable exit costs incurred by the poor liquidity of the mainland stock markets (Coffee, 1991; Bhide, 1993). Therefore, the shareholdings present at the AGM should be highly correlated with the aggregate equity holdings held by large shareholders. Second, *PCT_SHR_AGM* is not highly correlated with firm value. Tam (2002) finds that in China minority investors exhibit a highly speculative tendency with very short investment horizon, as indicated by the high-standing share turnover rate. The relative inactivity of minority shareholders suggests that *PCT_SHR_AGM* may remain rather stable regardless of changes in firm performance. In fact, the correlation between Tobin's *Q* and *PCT_SHR_AGM* is -0.018, while the correlation between *O_CNT* and *PCT_SHR_AGM* is 0.79, suggesting that *PCT_SHR_AGM* is an appropriate instrument. Following Aivazian et al. (2005), *O_CNT* is regressed on *PCT_SHR_AGM* and then use the predicted value, i.e. *O_CNT _IV*, as the ownership concentration proxy in the second-stage regression. Drawn from the evidence of 2090 public auctions of restricted shares, this robustness test also uses the illiquidity discounts of 90% to derive additional valuation measures of the sample firms, denoted as *Q_90DIS*. Public auction represents a more market-driven pricing mechanism which is believed to be more efficient, whereas private transfers are often negotiated between two parties and thus more open to price manipulation (Hou and Howell, 2012).

Table 7 reports the results from the instrumental variable regressions. The contrasting effects of *CTL_CTRL* and *LCL_CTRL* on firm value are robust to different valuation measures, and their interactions with *GOV_Q* remained positively significant. These results challenge the commonly-held view that state ownership is uniformly harmful to firm value (e.g. Bai et al., 2004; Wei et al., 2005). Such differences in findings are due to this paper's focus on the actual identities of corporate controllers rather than the legal classification of shares.

When ownership concentration is treated as an endogenous variable, the magnitudes of the coefficients on *O_CNT _IV* and its quadratic term increase further compared to the previous results. In Columns 5 and 6, the negative interactions between *FIN_DREG* and $O\_CNT\ \_IV^2$ are maintained despite the minor decreases in significance and magnitude. In other words, the potential simultaneity cannot explain away the mediating effect of financial deregulation on the concentration-value relationship. Unreported tests obtain similar results, when the lagged value of *O_CNT* is applied as the alternative instrument as in Hermalin and Weisbach (1991) and Maury and Pajuste (2005). Thus, results using instrumental-variable regressions largely confirm the previous findings.

Table 7 Regression Results from Instrumental Variable Approach

	Q			*Q_90DIS*		
	(1)	(2)	(3)	(4)	(5)	(6)
F_SZ	-1.048***	-1.068***	-1.293***	-0.806***	-0.822***	-0.965***
	(0.056)	(0.056)	(0.054)	(0.038)	(0.038)	(0.037)
DE_R	-0.069***	-0.070***	-0.037	-0.041**	-0.041**	-0.02
	(0.024)	(0.024)	(0.023)	(0.017)	(0.017)	(0.016)
ROS_R	1.377***	1.465***	1.542***	0.579***	0.638***	0.688***
	(0.257)	(0.257)	(0.246)	(0.175)	(0.175)	(0.168)
AT	-1.354***	-1.383***	-0.944***	-0.585***	-0.606***	-0.313**
	(0.228)	(0.227)	(0.219)	(0.155)	(0.155)	(0.149)
BD_SZ	-0.025	-0.025	-0.011	-0.019	-0.019	-0.01
	(0.022)	(0.022)	(0.021)	(0.015)	(0.015)	(0.014)
BD_I	1.826***	1.784***	1.254**	1.121***	1.095***	0.748*
	(0.595)	(0.594)	(0.569)	(0.405)	(0.404)	(0.388)
CMTE_NUM	0.207***	0.201***	0.123***	0.130***	0.127***	0.075***
	(0.025)	(0.025)	(0.025)	(0.017)	(0.017)	(0.017)
DIR_SHR	-1.321	-1.476	-2.599**	-1.823**	-1.925***	-2.625***
	(1.062)	(1.060)	(1.016)	(0.722)	(0.721)	(0.694)
DIR_ACT	0.065***	0.064***	0.047***	0.041***	0.040***	0.029***
	(0.008)	(0.008)	(0.008)	(0.006)	(0.006)	(0.005)
SUPV_ACT	0.080***	0.078***	0.041***	0.047***	0.045***	0.021**
	(0.015)	(0.015)	(0.014)	(0.010)	(0.010)	(0.010)
CRS_L	0.165	0.157	0.199	0.323**	0.306**	0.333***
	(0.197)	(0.197)	(0.189)	(0.133)	(0.133)	(0.128)
CTL_CTRL (1)	0.209**	-0.512	-0.499*	0.145**	-0.435**	-0.432**
	(0.098)	(0.315)	(0.301)	(0.066)	(0.213)	(0.204)
LCL_CTRL (2)	-0.227***	-0.712***	-0.481**	-0.154***	-0.391***	-0.248*
	(0.072)	(0.214)	(0.206)	(0.049)	(0.145)	(0.140)
O_CNT_IV (3)	-8.032***	-7.856***	-13.786***	-4.693***	-4.573***	-8.792***
	(1.286)	(1.284)	(3.615)	(0.874)	(0.873)	(2.460)
O_CN_IV² (4)	4.782***	4.786***	10.741***	1.515*	1.510*	6.396**
	(1.312)	(1.309)	(4.008)	(0.892)	(0.890)	(2.729)
GOV_Q (5)	0.139***	0.090***	0.117***	0.079***	0.049***	0.067***
	(0.016)	(0.021)	(0.020)	(0.011)	(0.014)	(0.014)
FIN_DREG (6)	0.114***	0.118***	0.554***	0.084***	0.087***	0.382***
	(0.017)	(0.017)	(0.100)	(0.012)	(0.012)	(0.068)
(1)(5)*		0.154***	0.100***		0.103***	0.068***
		(0.035)	(0.034)		(0.024)	(0.023)
(2)(5)*		0.109***	0.055**		0.068***	0.033**
		(0.025)	(0.024)		(0.017)	(0.016)
(3)(6)*			1.131***			0.791***
			(0.437)			(0.297)
(4)(6)*			-0.917*			-0.733**
			(0.487)			(0.332)
Constant	20.392***	19.613***	14.670***	12.824***	12.280***	9.010***
	(1.660)	(1.674)	(1.789)	(1.120)	(1.129)	(1.212)
C	Yes	Yes	Yes	Yes	Yes	Yes
STIM	Yes	Yes	Yes	Yes	Yes	Yes
IND	Yes	Yes	Yes	Yes	Yes	Yes
PROV_GDP	Yes	Yes	Yes	Yes	Yes	Yes
Mundlak	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5909	5909	5909	5909	5909	5909
Firms	1543	1543	1543	1543	1543	1543
Within Group R^2	0.327	0.331	0.401	0.393	0.396	0.451
Between Group R^2	0.429	0.433	0.439	0.352	0.357	0.374
Overall R^2	0.362	0.366	0.406	0.367	0.372	0.411

Note: Robust standard errors are in parentheses

* p<0.10, ** p<0.05, *** p<0.01

Our second robustness test retrieves the MICP index of enterprise nontax burden reduction as a more direct measurement of government quality, denoted by *NTX_RED*. For La Porta et al. (1999), entrusting officials with greater power of extracting non-tax revenues invites corruption and predation. The political economy literature (e.g. Li et al., 2007; Li, 2007) on China's enterprise reform suggests that under the decentralised fiscal structure, the provincial and municipal governments often impose considerable nontax fiscal burdens on local businesses via their patron-client networks in order to fulfil their social and other non-economic functions. A higher value for the index is associated with less bureaucratic intervention and more growth-oriented policies within the corresponding jurisdiction. Turning to the interaction between *FIN_DREG* and O_CNT^2, legal economists suggest a similar substitution effect between legal quality and ownership concertation (e.g. Durnev and Kim, 2005; Filatotchev et al., 2008). For this reason, *FIN_DREG* is replaced with the MICP index of legal quality, *LGL_Q* as an alternative proxy for the strength of external oversight. The index represents a weighted average of six sub-indices related to different aspects of legal protection including legal intermediary development, contract enforcement, and property right protection.

Columns 1 to 3 of Table 8 reestimate the regressions in Table 6 using the alternative institutional proxies. The results are broadly consistent with the earlier findings. Columns 1 shows a positive relationship between *NTX_RED* and *Q*. The effect is economically important and statistically significant as with *GOV_Q*. The sign and significance of the *LEG_QUA* coefficient indicate that firms in provinces with stronger legal protection are significantly valued higher. However, the coefficient magnitude is much smaller compared to that of *FIN_DREG*. We interpret this result as evidence of the limited protection by Chinese legal institutions due to the absence of judicial independence. Similar results are obtained when *Q_90DIS* is applied as the alternative valuation measure (Models 4 to 6).

Table 8 Firm Value on Control Nature, Ownership Concentration and Other Institutional Factors

	Q			*Q_90DIS*		
	(1)	(2)	(3)	(4)	(5)	(6)
F_SZ	-1.001***	-1.000***	-1.089***	-0.742***	-0.742***	-0.808***
	(0.058)	(0.058)	(0.058)	(0.039)	(0.039)	(0.039)
DE_R	-0.074***	-0.073***	-0.067***	-0.045***	-0.045***	-0.040**
	(0.025)	(0.025)	(0.025)	(0.017)	(0.017)	(0.017)
ROS_R	1.416***	1.383***	1.401***	0.565***	0.553***	0.563***
	(0.265)	(0.265)	(0.262)	(0.178)	(0.178)	(0.176)
AT	-1.643***	-1.640***	-1.476***	-0.744***	-0.747***	-0.617***
	(0.232)	(0.232)	(0.230)	(0.156)	(0.156)	(0.155)
BD_SZ	-0.029	-0.031	-0.023	-0.024	-0.025*	-0.018
	(0.022)	(0.022)	(0.022)	(0.015)	(0.015)	(0.015)
BD_I	1.841***	1.806***	1.841***	1.164***	1.151***	1.188***
	(0.611)	(0.611)	(0.604)	(0.411)	(0.411)	(0.405)
CMTE_NUM	0.228***	0.230***	0.205***	0.142***	0.143***	0.123***
	(0.026)	(0.026)	(0.026)	(0.018)	(0.018)	(0.017)
DIR_SHR	-2.033*	-1.921*	-1.485	-2.800***	-2.747***	-2.373***
	(1.050)	(1.051)	(1.041)	(0.706)	(0.707)	(0.698)
DIR_ACT	0.070***	0.069***	0.067***	0.043***	0.043***	0.041***
	(0.009)	(0.009)	(0.008)	(0.006)	(0.006)	(0.006)
SUPV_ACT	0.090***	0.090***	0.079***	0.061***	0.061***	0.053***
	(0.015)	(0.015)	(0.015)	(0.010)	(0.010)	(0.010)
CRS_L	0.398**	0.390**	0.430**	0.340***	0.334***	0.380***
	(0.188)	(0.188)	(0.187)	(0.124)	(0.125)	(0.123)
CTL_CTRL (1)	0.180*	-2.866**	-3.997***	0.150**	-1.128	-1.932**
	(0.094)	(1.273)	(1.266)	(0.063)	(0.851)	(0.843)
LCL_CTRL (2)	-0.264***	-2.062**	-2.509***	-0.116**	-0.943	-1.224**
	(0.070)	(0.879)	(0.873)	(0.046)	(0.589)	(0.583)
O_CNT (3)	-6.557***	-6.445***	-5.890***	-5.441***	-5.396***	-4.848***
	(1.014)	(1.013)	(1.052)	(0.682)	(0.682)	(0.706)
O_CNT (4)	4.203***	4.143***	1.964*	2.912***	2.884***	1.395*
	(1.045)	(1.044)	(1.068)	(0.703)	(0.703)	(0.716)
NTX_RED (5)	0.151***	0.079*	0.077*	0.090***	0.056*	0.060**
	(0.032)	(0.045)	(0.045)	(0.021)	(0.030)	(0.030)
LEG_Q (6)	0.014*	0.012	0.044***	0.013**	0.012**	0.045***
	(0.008)	(0.008)	(0.012)	(0.005)	(0.005)	(0.008)
(1)(5)*		0.196**	0.269***		0.08	0.132**
		(0.086)	(0.086)		(0.058)	(0.057)
(2)(5)*		0.097	0.128**		0.048	0.067*
		(0.060)	(0.059)		(0.040)	(0.040)
(3)(6)*			-0.220***			-0.171***
			(0.051)			(0.034)
(4)(6)*			0.385***			0.261***
			(0.048)			(0.032)
Constant	7.875***	9.129***	7.102***	6.656***	7.222***	5.695***
	(1.398)	(1.489)	(1.511)	(0.929)	(0.991)	(1.002)
C	Yes	Yes	Yes	Yes	Yes	Yes
STIM	Yes	Yes	Yes	Yes	Yes	Yes
IND	Yes	Yes	Yes	Yes	Yes	Yes
PROV_GDP	Yes	Yes	Yes	Yes	Yes	Yes
Mundlak	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6078	6078	6078	6078	6078	6078
Firms	1605	1605	1605	1605	1605	1605
Within Group R^2	0.288	0.29	0.313	0.368	0.369	0.389
Between Group R^2	0.459	0.459	0.449	0.334	0.334	0.344
Overall R^2	0.366	0.367	0.374	0.363	0.363	0.376

Note: Robust standard errors are in parentheses
* p<0.10, ** p<0.05, *** p<0.01

In Columns 3 and 6 of Table 8, the interactions of *NTX_RED with CTRL_CTROL and LCL_CTROL* are statistically significant and with the expected positive sign. These reaffirm the importance of local political and economic institutions in shaping the incentives and behaviours of government controllers. Furthermore, the interaction terms between *LGL_Q* and O_CNT^2 enter significantly positive at the 0.01 level (β_{10}=0.358 in Column 3 and 0.261 in Column 6 respectively). These results are presented graphically in Figure 2, following the earlier approach. T*he* less steep, downward-sloping solid curve shows that genuine legal quality (75^{th} percentile) may mitigate the negative expropriation effect at lower levels of ownership concentration. However, as *CON_CNT* increases, such a negative effect levels off and the expected positive effect of large shareholder monitoring remain either trivial or non-existent. As argued by Heugens et al. (2009), stronger legal protection renders large shareholder monitoring redundant. Taken together, the association between concentrated ownership and firm value proves to be weaker in the presence of effective external governance mechanisms (i.e. regional financial market and legal protection).

7. Conclusions

This paper examines empirically the impacts on Chinese firm value of particular ownership characteristics and the relevant institutional factors of government quality and financial development. Several revealing findings emerge. Firstly, the positive role of central government controllers contrasts significantly with that of local government controllers, indicating their divergent policy imperatives and monitoring capacities under fiscal and administrative decentralization. This challenges the commonly-held view of one monolithic state uniformly presiding over Chinese corporate governance. Secondly, it confirms a U-shaped effect of ownership concentration on firm value using alternative concentration measures. However, it is only at very high levels of concentration that a positive impact on firm valuation is observed, suggesting that the potential expropriation risk remains a major investor concern. Thirdly, the value implication of provincial-level government quality is statistically and economically significant. A pro-growth policy environment enhances the positive relationship between central government control and firm value while alleviating the deleterious effect associated with local government controllers. These findings indicate that there are gains to be obtained by altering the incentives structure of SOE cadres without large-scale privatisation. Finally, the effect of ownership concentration on firm value is reduced by regional financial development, as well as is the case of regional legal quality. This is because the disciplining function of a well-functioning financial market mitigates both the expropriation and monitoring incentives of large shareholders. Extending the

legal finance literature, these results shed light on the institutional embeddedness of Chinese corporate governance (Aguilera and Jackson, 2003).
For many emerging economies, an acceptance of the primacy of legal investor protection is unlikely to simply materialize under the present reform processes. As heavy government intervention on economic activities continues, reform initiatives should also be directed towards limiting bureaucratic predation and cultivating a more growth-oriented policy environment that is advantageous to both public and private enterprises. Accordingly, more research is needed to understand the incentives of a government in its relationship with firms under its jurisdiction. This entails an analysis of the political system and an understanding of how bureaucrats are compensated and promoted, how politicians are selected into power, and how misconduct is detected and punished. In addition to capital raising and risk sharing, competition in financials helps safeguard investors' interests and prevent corporate governance problems. Firms subject to the scrutinization and monitoring of market participants must adjust their operations and management to maximize value added. To this extent financial deregulation can have a powerful role in guiding firms towards good governance practices. Further research should take into account other factor markets, including labour, raw material, and distribution services, and in particular their interactions with particular firm-level governance mechanisms.

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