

# Do State-Owned Enterprises Have Worse Corporate Governance?

## An Empirical Study of Corporate Practices in China<sup>†</sup>

Yu-Hsin Lin\* & Yun-chien Chang\*\*

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\* Assistant Professor, City University of Hong Kong School of Law. J.S.D, Stanford Law School.  
Email: yuhlin@cityu.edu.hk.

\*\* Research Professor & Director of Center for Empirical Legal Studies, Institutum Iurisprudentiae, Academia Sinica, Taiwan. J.S.D., New York University School of Law.  
Email: kleiber@sinica.edu.tw.

## Abstract

Prior literature on corporate governance in China asserts that state-owned enterprises (SOEs) are badly governed, but there is scant solid empirical evidence that can verify this claim. Using a unique, hand-coded data set on corporate charter provisions in a random sample of 297 publicly listed Chinese firms, we develop an additive corporate governance index demonstrating that SOEs for which the Chinese central government controls more than 30% of shares are more in favor of minority shareholders than are privately-owned firms. Moreover, generalized structural equation models show that, in China, being more pro-minority-shareholders (rather than being more pro-controller) is associated with higher firm value. Other things being equal, central SOEs would thus have better corporate governance and higher industry-adjusted Tobin's Q. This is the first empirical paper that shows this striking result, which warrants further research into the general perception of bad governance in SOEs.

## Keywords

state-owned enterprises (SOEs), corporate charters, corporate governance, Chinese firms, firm performance, rational myopia, external financial dependence, institutional investors

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## I. INTRODUCTION

The fast growth of the Chinese economy has forced scholars to rethink the theory of law and development and debate whether there is a unique model of development in China (Ramo 2004; Upham 2013; Dowdle and Prado 2017). Like many other economies, the Chinese economy is mainly driven by activities in the form of business organization: the corporation. What is unique in Chinese economic development is that state-owned enterprises (SOEs) dominate almost every industry.<sup>1</sup> Scholars have coined such corporate capitalism as “state capitalism” where major enterprises in the economy are controlled or related to the state (Lin and Milhaupt 2013).

With the development of local capital markets and increased cross-border investments, Chinese firms are now well connected with the world economy and have gradually taken the lead in many global corporate financing activities. In addition, as MSCI expects to include Chinese A-share companies in its emerging markets index from mid-2018, corporate governance of Chinese firms will affect the investment portfolio of worldwide investors, whether institutional investors or individuals.<sup>2</sup> The importance of a sound corporate governance regime in China cannot be overstated. To understand Chinese state capitalism, SOEs are definitely an integral part of the discussion. SOEs have long been criticized as being inefficiently run and poorly governed because they are required to meet policy goals that might not coincide with the goal of a profit-driven firm—maximization of shareholder wealth (Bai et al. 2000; Clarke 2003: 497–498; Bai, Lu, and Tao 2006; Qu and Wu 2014; Clarke 2016: 42). Put differently, SOEs are not completely constrained by the market, even though their shares are traded on stock exchanges and the main interests of their private shareholders are profit-seeking. In this regard, non-state shareholders’ interests might suffer. These institutional characteristics thus lead to lower market valuation for SOEs.

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<sup>1</sup> For a review of SOEs in China, particularly empirical studies on this topic, see Liebman and Milhaupt (2016).

<sup>2</sup> Evelyn Cheng, *China Finally Gets Long Sought-After Endorsement as MSCI Adds Stocks to Emerging Markets Index*, CNBC.com (20 June 2017), at <https://www.cnbc.com/2017/06/20/msci-adds-mainland-chinese-a-shares-to-key-emerging-markets-index-on-fourth-review.html>.

Scholars have also pointed out other weaknesses in SOE corporate governance, such as the “absent owner” problem. Traditional corporate governance theory postulates that controlling shareholders can be reasonably effective in monitoring corporate managers (Gilson and Gordon 2003: 785). However, in SOEs, the theoretical ultimate owner is the 1.4 billion Chinese citizens, too dispersed to play a meaningful role in monitoring. While the state government monitors SOE managers on citizens’ behalf, the task is handled by a set of agents (government officials) who monitor another set of agents (SOE managers). Ultimately, there is no (human) principal with residual claims of firm assets at the top of the agent chain to properly monitor the agents (Clarke 2008: 179–180).

Existing theoretical literature on Chinese SOEs studies SOEs’ interactions with other government agencies (Lin and Milhaupt 2013), their impact on rule-making (Zheng, Liebman, and Milhaupt 2016), and the external constraints on governance of SOEs (Clarke 2008; 2010). Empirical studies mostly treat state ownership as one single governance attribute and examine the effect of various governance mechanisms or a composite governance index on firm value (Bai et al. 2004; 2006; Liu 2006). Others focus on one specific governance attribute, such as CEO turnover or board composition, and compare the differences between SOEs and non-SOEs (Chang and Wong 2009; Shimin Chen et al. 2011; Tong and Li 2011; Qu and Wu 2014). No prior study investigates whether there is a real difference in the overall corporate governance design of SOEs and non-SOEs—as it involves massive, careful hand-coding—and, if so, whether such differences impact firm value. This paper aims to fill this research gap by looking into firm-level governance provisions adopted in corporate charters and to empirically examine the conventional wisdom that corporate governance of SOEs is worse than that of non-SOEs in China.

To this end, this study uses a hand-coded data set on corporate charters from a random sample of 20% of domestically-incorporated, publicly-listed companies in China ( $N=297$ ) to examine the firm-level governance regimes of SOEs and non-SOEs and the effect of such regimes

on firm performance (measured by Tobin's Q)<sup>3</sup>. Our research design, like that in many prior finance and economic studies, does not enable us to make causal inference. Describing whether the corporate governance provisions in SOEs provide less protection to minority shareholders than those in non-SOEs and whether the former has a lower Tobin's Q than the latter is valuable, as many theoretical claims and policy suggestions have been made without first examining whether the myth of mismanaged Chinese SOEs is empirically grounded.

Our findings from using pertinent data in descriptive statistics and generalized structural equation models challenge conventional wisdom. We find that central SOEs, in which the state owns at least 30% of the stakes, are more pro-minority-shareholder in their firm-level governance choices. While it is possible that these provisions might not be enforced in practice, the regression models also show that better governance is associated with higher firm value.

This paper is organized as follows: Part II details the two research questions and a review of relevant literature. Part III builds on the current literature and proposes our own index to measure corporate governance in China. Part IV explains the methodological challenges of making causal inference in this context and advances our (partial) solution: generalized structural equation model. Part V summarizes the pertinent data. Part VI discusses our main findings. Part VII concludes.

## II. RESEARCH QUESTIONS

This part explains our two related research questions. Section A summarizes the positions of the current literature: SOEs are worse than non-SOEs in terms of corporate governance; alternatively, non-SOEs are as bad as SOEs. As empirical evidence is scant, we explore which position is a better representation of reality. Section B examines the consequences of governance choices. That is, do better governed SOEs and non-SOEs have

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<sup>3</sup> Tobin's Q is the ratio of the market value of a firm to the replacement cost of its assets. This ratio has become a commonly recognized proxy for firm value. See Lang and Stulz (1994); Chung and Pruitt (1994); Lang, Stulz, and Walkling (1989).

higher values? There is certainly no shortage of studies that examine whether corporate governance affects firm performance, but very few have focused on China.

A. *Do SOEs Have Worse Corporate Governance Than Non-SOEs?*

Conventional wisdom on the corporate governance of SOEs is that SOEs have worse corporate governance than non-SOEs because SOEs are usually not profit-oriented and are less constrained by the market. The goal of a private firm is usually maximization of shareholders' wealth, while an SOE is inclined to prioritize policy goals over maximization of share value (Bai et al. 2000; Clarke 2003: 497–498; Bai, Lu, and Tao 2006; Qu and Wu 2014; Clarke 2016: 42). Scholars have argued that the national law for corporate governance in China tends to serve the interests of the state because the state itself sets the rules (Clarke 2016: 35–46). Hence, the corporate governance of SOEs might not be designed to serve the best interest of non-state shareholders.

SOEs in China also suffer from the “absent owner” problem (*suoyouzhe quewei*), which means that the theoretical owners of SOEs, the citizenry of China, are absent from the role of monitoring corporate managers. In theory, the state, being the agent of the citizenry, should take responsibility for monitoring and governance. Indeed, in China, the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) is in charge of monitoring the corporate governance of SOEs owned by the central government. However, the real monitoring decision has to be made by a human being, a government official, who is an agent himself and might not be motivated to serve the best interests of SOEs' outside shareholders. There is no human principal who has the right to the residual assets of the company and who will properly monitor the managers for her own personal benefits (Clarke 2008: 179–180; Cuervo-Cazurra et al. 2014). Therefore, SOEs are expected to have worse corporate governance than non-SOEs.

However, scholars argue that, in Chinese state capitalism,

privately-owned firms are not much different from SOEs because the institutional setting encourages all firms, whether SOE or not, to “remain close to the Party-state as a resource of protection and largesse” (Milhaupt and Zheng 2015: 691–92). Therefore, state ownership is less significant in China; what matters are the institutions in which huge rents are generated by government restrictions on economic activities, and only firms with political connections can capture them.

For example, large firms in China, whether SOEs or not, are all subject to the control of the Chinese Communist Party (“the Party”). Large, privately-owned enterprises have internal Party committees, and their controlling shareholders are often linked to the Party and government agencies in a similar fashion as SOEs managers (Milhaupt and Zheng 2015; Lin 2016). Internal party organs not only serve as corporate monitors over large firms but also act as the personnel office in charge of high-level managerial appointments and promotions (Milhaupt and Zheng 2015). Scholars argue that firms, at least large Chinese firms, may be more properly understood as Party-linked companies rather than state-owned or privately-owned firms (Milhaupt 2017: 287). China recently further enhanced Party control over all firms operating within China by pressing not only SOEs but also privately-owned or even foreign-owned firms to amend corporate charters to formally establish internal Party organizations (or Party cells).<sup>4</sup> It appears that the Party’s control over public firms will be tightened rather than loosened with the development of the capital market. If institutions matter, the corporate governance of SOEs and privately-owned firms should be similar. No scholar, in our knowledge, has observed or predicted that SOEs have better governance than non-SOEs.

So far, there is no study that utilizes an index approach, like our paper,

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<sup>4</sup> German businesses and diplomats raised concern over Chinese Communist’ Party’s attempt to strengthen its control over foreign business. *See* Wu, Wendy and Catherine Wong, German Firms Warn Chinese Communist Party’s Drive To Gain More Control Over Business Operations May Drive Them Away, South China Morning Post (November 17, 2017), at <http://www.scmp.com/news/china/diplomacy-defence/article/2120423/german-firms-warn-chinese-communist-partys-drive-gain>.

to compare the overall corporate governance of SOEs and non-SOEs. Empirical studies on comparing Chinese SOEs and non-SOEs tend to focus on one specific governance attribute, such as CEO turnover or board composition (Chang and Wong 2009; Shimin Chen et al. 2011; Tong and Li 2011; Qu and Wu 2014). Qu and Wu (2014) examine the sensitivity of CEO turnover to financial performance and find that the turnover of CEOs in SOEs is less sensitive to financial performance. The result suggests that political or other non-market factors drive CEO turnover in SOEs. Similarly, Tong and Li (2011) find that executive compensation is more tied to firm performance in non-SOEs than in SOEs, suggesting that market mechanisms work better in non-SOEs. However, Tong and Li (2011) find that independent directors with finance background can improve firm performance of SOEs but not non-SOEs, casting doubt on the impartiality of independent directors in non-SOEs.

### *B. Does Better Corporate Governance Lead to Better Firm Performance?*

Whether corporate governance regimes affect firm performance as measured by Tobin's Q is the focus of much finance literature. Some studies create corporate governance indices to measure the impact of the overall corporate governance quality of a firm, while others focus on one specific governance provision and test its effect on firm value. Gompers, Ishii, and Metrick (2003) and Bebchuk, Cohen, and Ferrell (2009) created G-index and E-index and find that weak shareholder protection correlates with negative firm performance. In particular, staggered boards as anti-takeover measures contribute to lower firm value (Cohen and Wang 2013; 2017).

In theory, shareholder participation in the adoption of anti-takeover measures may bring positive value to shareholders because their approval may represent shareholder commitment to refrain from dismissing directors prematurely, thus allowing directors to pursue projects that are beneficial to shareholders in the long run (Gilson 1982). Recent empirical

studies confirm this hypothesis and find that anti-takeover measures that require shareholder approval, such as staggered boards and charter amendment restrictions, are associated with higher firm value than measures adopted unilaterally by the board, such as poison pills and golden parachutes (Cremers, Masconale, and Sepe 2016; Cremers and Sepe 2016).

However, very little is known about Chinese firms. Chinese firms are not examined in most prior cross-country studies (Francis, Khurana, and Pereira 2005; Aggarwal et al. 2009; Chhaochharia and Laeven 2009; Bruno and Claessens 2010; Aggarwal et al. 2011). Even when they are, the sampled Chinese firms are not representative of all publicly listed companies there, as these studies rely on existing corporate governance rankings for which samples are selected by those ranking institutions (Durnev and Kim 2005; Doidge, Karolyi, and Stulz 2007).

Bai et al. (2004) and Bai et al. (2006) examine the relation between corporate governance and market valuation in China. However, their studies only contain eight governance variables and treated state ownership as one of the governance attributes, whereas our study covers 26 variables which enable us to capture the overall picture of governance. Moreover, we treat state ownership as one independent variable and categorize SOEs according to the shareholding percentage of the state and the level of government for a more nuanced analysis. Utilizing an index approach as ours, Bai et al. (2006) finds that corporate governance has statistically and economically significant effect on market valuation. The result indicates that investors are willing to pay premium for good corporate governance in China.

### III.MEASURING CORPORATE GOVERNANCE IN CHINA

To answer our research questions empirically, we need a measure of corporate governance in China. Section A reviews the approach adopted in prior literature, an additive index. Section B introduces our own A Index and explains why our 26 variables were chosen to delineate corporate governance regimes in China. Section C explains why and how our A Index

compares corporate governance provisions contained in corporate charters in Chinese listed companies with Delaware law and NYSE listing rules.

#### *A. Corporate Governance Index in the Literature*

Earlier empirical studies of corporate governance focus on the relationship between a country's legal system and its impact on the capital market and overall economic development (La Porta et al. 1997; La Porta et al. 1998; Djankov et al. 2008). However, jurisdiction-level corporate law may not reflect corporate governance regimes at the firm level. A recent strand of research has examined firm-level governance choices, which reflect the true state of a firm's corporate governance. Governance designs appear to matter. Stock returns are correlated with corporate governance indices. Gompers, Ishii, and Metrick (2003) created a governance index, the G-index, which includes twenty-four governance measures that weaken shareholder rights, and proved that firms with weaker shareholder protection have lower firm value. Subsequently, out of the twenty-four provisions in the G-index, Bebchuk, Cohen, and Ferrell (2009) selected six measures that entrench a board and created an entrenchment index called the E-index. They found that the six measures in the E-index are correlated with negative firm value, while the other eighteen measures are not.

We follow this index approach to measure corporate governance in China. When conducting cross-country survey or research studies, existing corporate governance ratings and literature have failed to recognize the differences in ownership structure by applying the same governance standard to widely-held and controlled firms (Aggarwal et al. 2009). We are aware that the ownership structure and institutional environment in China are far different from that in the U.S., so the variables that we choose to form the index are different from the G-index and E-index. The variables included in our study are catered towards concentrated ownership and are of importance to Chinese public companies.

## B. *Variable Choice in Our A Index*

The A Index includes corporate governance provisions only if they are crucial to evaluating the corporate governance in controlled firms in general (Bebchuk and Hamdani 2009: 1309–1313) and are important in light of China’s regulatory structure, corporate ownership, and corporate practice in particular. Some provisions that are highlighted in the U.S. literature are not included in our study because they are not allowed or not popular in China. For example, the adoption of the poison pill provision is not popular under Chinese law. In the U.S., a typical poison pill provision grants the board the right to issue new shares for the purpose of diluting hostile acquirers’ shareholding, increasing the bargaining power of the board and defeating unwanted offers. However, unlike U.S. law, Chinese law follows the UK model when it comes to the allocation of power in hostile takeovers. The takeover regulation promulgated by the China Securities Regulatory Commission (CSRC) clearly gives the power of taking anti-takeover measures to the shareholders, not the board. Therefore, under Chinese law, the board has no power to take any action during takeover negotiations without shareholders’ consent. In addition, even though a golden parachute is possible, it is in practice rarely used in China because ownership of most listed companies is concentrated and most controlling shareholders participate in management. Controlling shareholders, as compared with professional managers, usually are not willing to give up control in exchange for money.

The 26 selected variables are categorized into four categories: director nomination and election, board independence, entrenchment provisions, and conflict of interest provisions. Their meaning and importance are explained below.

### 1. *Director Nomination and Election*

Cumulative voting provides minority shareholders in controlled firms with the ability to influence board decisions and support directors that represent their interests. Proxy access further strengthens the effect of cumulative voting because minority shareholders can garner more support

from other shareholders through the distribution of proxies. In firms with controlling shareholders, the establishment of a nomination committee is also crucial in ensuring the quality of director candidates nominated by controlling shareholders. In sum, cumulative voting (Variable 1 in Table 1), nomination committee (Variable 2) and proxy access (Variable 3) are important factors to consider in director election of controlled firms.

## 2. *Board Independence*

The true independence of independent directors is questionable in controlled firms (Lin 2011; Yu-Hsin Lin 2013). Social ties with controlling shareholders compromise the impartiality of independent directors. In addition to the number and percentage of independent directors (Variable 5), we still need to consider the nomination and election process of independent directors. Hence, cumulative voting (Variable 4) and proxy access (Variable 6) for independent director election are important factors to consider.

## 3. *Entrenchment Provisions*

In general, control is not contestable in firms in which a controlling shareholder owns a majority of shares. Anti-takeover provisions are not necessarily indicative of the quality of firms with concentrated ownership (Bebchuk and Hamdani 2009: 1282). However, it is overly simplified to claim that any entrenchment provision is irrelevant in firms with controlling shareholders.

We argue that entrenchment provisions still matter in concentrated ownership firms. For listed companies, controlling shareholders rarely hold a majority of shares because the cost is too high. Given the fact that individual shareholders generally do not participate in shareholders' meetings and are not active in monitoring business affairs, controlling shareholders can normally control a firm even without holding a majority of the shares. Even when majority voting is required for director election, controlling shareholders can generally receive proxies from outside shareholders when needed. However, takeover threats still exist when

there is a substantial second-largest shareholder. If cumulative voting is adopted for director election, the second-largest shareholder may seek minority board representation. In that case, a majority shareholder will adopt entrenchment provisions to fend off possible minority board representation.

In China, our sample shows that the largest shareholder holds an average 33.5% of shares. The Corporate Governance Code in China provides that cumulative voting should be adopted if controlling shareholders own more than 30% of the shares. Once a firm adopts cumulative voting, there's a high chance that substantial outside shareholders will obtain some board seats and participate in business decisions, particularly those in non-SOEs. Therefore, majority shareholders have incentives to: adopt provisions on a staggered board (Variable 7); empower the board to appoint additional directors (Variable 8); and apply restrictions on shareholders' rights to remove directors (Variables 9, 16, and 17) and to call a special meeting (Variable 15), or to make other important business decisions (Variables 10–14).

#### 4. *Conflict of Interests Provisions*

Conventional wisdom assumes that controlling shareholders are better at monitoring executive compensation, and thus excessive executive compensation is less of an issue for concentrated firms (Bebchuk and Hamdani 2009: 1284). However, recent empirical studies on U.S.-based controlled firms have shown that controlling shareholders tend to overpay executives to maximize controller consumption of private benefits (Kastiel 2015). Hence, shareholder approval for director and executive compensation (Variables 18–19) as well as remuneration committees (Variables 20–21) still matter in firms with controlling shareholders.

Related party transactions provide the major channel through which controlling shareholders divert corporate value from the firm. Mechanisms (e.g. disclosure and disinterested shareholder approval requirements) that monitor duty of loyalty (Variables 22–24) and related party transactions

(Variables 25–26) are crucial in the corporate governance of concentrated firms.

### C. *U.S. Law as a Baseline*

After teasing out the variables to consider, we still need a proper benchmark to evaluate the corporate governance status of Chinese firms. Prior literature uses the additive method to construct a governance index that includes a number of variables, in which the presence of a weak shareholder protection measure or entrenchment measure counts as 1 (otherwise, 0) (Gompers, Ishii, and Metrick 2003; Bebchuk, Cohen, and Ferrell 2009). We use corporate law in the U.S. as the benchmark to measure the direction of deviations from American rules. A provision in the corporate charter of a Chinese firm that is more in favor of minority shareholders than the American rules is coded as -1 and labeled *pro-minority*; a provision that is more in favor of controlling shareholders than the American rules is coded as 1 and labeled *pro-controller*; and a provision on par with the American rules is coded as 0 and labelled *on-par*.<sup>5</sup> The A Index, an additive index, demonstrates the overall level of corporate governance of Chinese firms as compared with the American rules. In theory, the scores of the A Index range from -26 to 26.

Our tri-directional methodology is arguably an improvement over the bi-directional methodology used in the literature. That is, the traditional method assigns a value of 1 if the charter provision is pro-manager or pro-controller and 0 otherwise. Our approach assigns a value of -1 when the charter provision goes the other direction and further protects minority shareholders. In other words, our method is able to record not only bad governance but also good governance. For our purposes, to compare the overall governance of SOEs and non-SOEs, we need to identify firms that are more pro-minority as well.

More concretely, the American rules that serve as the benchmark are

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<sup>5</sup> We have another article that compares the corporate charters in China, Hong Kong, and Taiwan with corporate laws in their own jurisdictions because that is the best way to answer our research question in that paper. See Lin and Chang (2018).

Delaware General Corporation Law (DGCL), case law in Delaware, and the NYSE-Listed Company Manual. The State of Delaware has long been the domicile of the majority of Fortune 500 and NYSE-listed companies (Choper, Coffee, and Gilson 2013: 26) and Delaware corporate law has been influential in the development of US corporate law. NYSE is the largest stock exchange in the world in terms of market capitalization and is more than twice the size of NASDAQ. The American rules regarding the components of the A Index are summarized in Table 1.

We use a comparative approach to construct our index and choose American rules as the benchmark because our readers are more likely to be familiar with US corporate law than Chinese corporate law. In comparative corporate governance scholarship, American rules tend to be the reference point for understanding a foreign governance regime (Bebchuk and Hamdani 2009; Clarke 2011). Using American rules as a comparative baseline enables our readers to quickly comprehend the implication of the A Index. That is, an A Index score of -4 clearly conveys to readers that a Chinese firm is more pro-minority than the baseline, which the readers know well. As we will show, sampled Chinese firms are predominantly pro-minority as compared to American rules. If we instead used Chinese laws as the baseline, the hypothetical index could not readily inform us as to whether critiques of corporate governance in China are empirically grounded.

With 26 variables used in the A Index, it would be ideal to assign weights to reflect their different impact on minority protection and corporate governance (Klausner 2013: 1364). However, Gompers, Ishii, and Metrick (2003) use 24 variables in the famous G-index without assigning weights. Bebchuk, Cohen, and Ferrell (2009) later find that only 6 of these variables matter. As noted in Table 1, it turns out that, of the 26 variables, only 6 create major variances, and only 3 create minor variances, among sampled firms.<sup>6</sup> Hence, the A Index is essentially a composite of 9

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<sup>6</sup> This does not mean that charters of most Chinese companies look exactly like each other. As Lin and Chang (2018) shows, charter provisions of Chinese public firms, as compared with public firms in Taiwan and Hong Kong, deviate more from the domestic statutory corporate default rules. These differences sometimes do not matter when compared with the American rule. For example, if the American rule is a 5% threshold, and the Chinese

variables. Without strong subjective reasons and without clear precedents in the prior literature, we refrain from assigning weights to the 9 variables.

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statutory default rule is a 3% threshold, Chinese firms that opt into 1%, 2%, or 4% will have the same coded value in our A index.

Table 1 Twenty-six Variables Used to Construct the A Index

Variable Number	Corporate Governance Provisions	U.S. Laws — benchmark for coding
<b>Director Nomination and Election</b>		
1	Voting Rules for Director Election	DGCL 216(3): Plurality Voting
2†	Nomination Committee	NYSE Listed Company Manual 303A.04(a): must have a nominating/corporate governance committee composed entirely of independent directors.
3	Proxy Access for Director Nomination	Null rules
<b>Board Independence</b>		
4	Voting Rules for Independent Director Election	DGCL 216(3): Plurality Voting
5	Percentage and Minimum Number of Independent Directors	Majority of the board seats
6	Proxy Access for Independent Director Nomination	Null rules
<b>Entrenchment Provisions</b>		
7†	Staggered Board	DGCL 141(d): No
8	Board's Power to add additional directors at its discretion	DGCL 223: Yes
9	Shareholder's Right to Remove Directors Without Cause	DGCL 141(k): with or without cause; but if stagger board, only with cause

10	Attendance Threshold for Merger and Acquisition	DGCL 216: Quorum is majority
11	Voting Threshold for Merger and Acquisition	DGCL 251: Majority vote
12	Attendance Threshold for Charter Amendment	DGCL 216: Quorum is majority
13	Voting Threshold for Charter Amendment	DGCL 242(b)(1): Majority vote
14†	Fair Price Provision	Null rules
15	Restriction of Shareholders' Ability to Call a Special Meeting	DGCL 211(d): by such person or persons as may be authorized by the certificate of incorporation or by the bylaws.
16	Attendance Threshold for Director Removal	DGCL 216(1): Quorum is majority
17‡	Voting Threshold for Director Removal	DGCL 141(k): Majority vote

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**Conflict of Interests Provisions**

18	Shareholder Approval for Director Remuneration	Not required (only advisory vote)
19‡	Shareholder Approval for Executive Compensation	Not required (only advisory vote)
20†	Remuneration Committee	NYSE Listed Company Manual 303A.05(a): required
21‡	Percentage of Independent Directors in Remuneration Committee	NYSE Listed Company Manual 303A.05(a): composed entirely of independent directors.
22	Attendance Threshold for Directors' duty not to compete	DGCL 141(b): Quorum is majority
23	Voting Threshold for Directors' duty not to	DGCL 144 (a): Disinterested board approval

	compete	
24	Disgorgement of Undue Profit by Directors	Required
25†	Related party transaction	Disinterested board approval
26†	Self-dealing	Disinterested board approval

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*Note:* † are variables that have some variances among companies. ‡ are variables that have very little variances among companies. Companies without either † or ‡ have no variance in terms of their A Index scoring.

## IV. METHODOLOGY

This part is divided into two sections. Section A explains the difficulty of conducting empirical studies that identify causes and effects regarding our research questions. Section B proposes to use a generalized structural equation model to tease out association among SOE classifications, adoption of pro-minority provisions, and good performance. The several sub-sections lay out the reasons for including certain variables.

### *A. Methodological Challenges*

Ideally, empiricists would like to make causal inferences. In terms of identifying the effects of SOEs, however, we are not privileged with any exogenous shock, nor are firms randomly chosen to be nationalized or privatized. In observational studies like this, utilizing matching can enhance the credibility of the observed association (or lack thereof) and reduce model dependence (Ho et al. 2007; Boyd, Epstein, and Martin 2010). Nonetheless, our treatment is SOE classification, and the control group is privately-owned firms. This firm type, while not inherently immutable, has not been changed for the publicly listed firms. More frustratingly, a firm is an SOE or non-SOE since its initial public offering (IPO) or since its incorporation. Therefore, all the firm characteristics for which we have data are post-treatment, not pre-treatment. In other words, we cannot conduct proper matching on pre-treatment characteristics, as there are none.

We are left with the option of a traditional regression framework, with the understanding that the correlation found in the regression may not be consistent (in its statistical, technical sense). We endeavor to reduce the omitted variable bias by including control variables that are used in the prior finance and economics literature, but note that resorting to authorities is not a guaranteed method for causal inference or consistent estimates.

Another common hurdle that we and all prior literature encounter is that many variables potentially affect both the corporate governance regime and Tobin's Q. A simple ordinary least squares (OLS) model that

regresses Tobin’s  $Q$  against the corporate governance regime (in the form of an index) and a bundle of control variables may produce biased coefficients. We try to ameliorate this problem by adopting a generalized structural equation model (gSEM), which simultaneously (rather than sequentially, like two-stage least squares) solves two equations: One resembles the OLS just depicted, and the other regresses the index against the control variables. This gSEM framework enables us to observe the direct and indirect effects of these control variables and isolate the effects of the A Index itself.

### B. *Generalized Structural Equation Model*

Our generalized structural equation models (*gsem* in Stata) combine the OLS and the ordered logit model. The two regression equations are solved simultaneously (not sequentially) with robust standard errors clustered by industry.<sup>7</sup> The A Index is both the dependent variable in the second equation and the major independent variable of interest in the first equation (where industry-adjusted Tobin’s  $Q$  is the dependent variable). A variable that is statistically significant in the second equation but not in the first equation means that it affects Tobin’s  $Q$  only through the A Index. A variable that is statistically significant in the first equation but not in the second equation means that it affects Tobin’s  $Q$  through channels outside of the corporate charters.

More specifically, the generalized structural equation model takes the following form:

$$\left\{ \begin{array}{l} \mathbf{Q} = \alpha + \beta_1 \mathbf{A} + \beta_2 \mathbf{S} + \beta_3 \mathbf{T} + \beta_4 \mathbf{C} + \varepsilon \quad (1) \\ \mathbf{A} = \alpha + \beta_5 \mathbf{S} + \beta_6 \mathbf{T} + \beta_7 \mathbf{C} + \beta_8 \mathbf{E} + \varepsilon \quad (2) \end{array} \right.$$

where  $\mathbf{Q}$  is industry-adjusted Tobin’s  $Q$ , explained in Part IV.B.1;  $\mathbf{A}$  is the A Index, explained above in Part III.B;  $\mathbf{S}$  contains two dummy variables, strong central government SOEs and strong local government SOEs, explained in Part IV.B.2;  $\mathbf{T}$  represents several theory-informed control

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<sup>7</sup> Note that because the second equation is an ordered logit model, our generalized structural equation models cannot take into account the correlation between the error terms in the two equations. No statistical method has been developed to account for this potential correlation so far.

variables—institutional ownership, foreign ownership, cross-listing, and ownership concentration, explained in Parts IV.B.3 and IV.B.4; **C** indicates standard controlled variables used in the prior literature, including assets (in natural log), firm age (in natural log), capital expenditure divided by assets, debt divided by assets, return on assets (ROA), and sales growth; and **E** is an exclusionary variable used only in Equation 2, explained in Parts IV.B.5 and IV.B.6.

### 1. *Industry-Adjusted Tobin's Q*

Following the literature (Gompers, Ishii, and Metrick 2003: 126; Bebchuk, Cohen, and Ferrell 2009: 801; Gompers, Ishii, and Metrick 2010: 1067–69), the dependent variable in Equation (1) is either industry-adjusted  $Q$  or its natural log form.<sup>8</sup> Industry-adjusted  $Q$  equals  $Q$  minus the industry-median  $Q$ .

We follow Gompers, Ishii, and Metrick (2003) in computing Tobin's  $Q$  in the following way:  $Q = (\text{total assets} + \text{market value of common stock} - \text{book value of common stock} - \text{deferred taxes}) / \text{total assets}$ . To compute industry-median  $Q$ , we divide the 1,847 publicly listed Chinese firms into 64 groups by industry. The Global Industry Classification Standard (GICS), developed by MSCI and S&P Global, contains 68 types of industries. (No publicly listed Chinese firms operated in 4 of these industries.) We identified the industry type of the Chinese firms by the first 6 digits of its GICS code.

### 2. *State-Owned Enterprises*

Prior study have found that different types of state owners, such as central governments or local governments, affect firm performance (Gongmeng Chen, Firth, and Xu 2009). Therefore, we categorize SOEs according to the shareholding percentage of state governments as well as

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<sup>8</sup> Two firms will be omitted from our OLS models because they have extremely high Tobin's  $Q$ , more than 100, whereas most firms have a Tobin's  $Q$  between 1 and 5. Two other firms are not used because their Tobin's  $Q$  cannot be computed for lack of data.

the level of governments, i.e. central or local governments. Both equations include two dummy variables on SOEs, defined as the central or local governments owning  $\geq 30\%$  of the shares. One dummy variable equals 1 if the enterprise was controlled by the central government in 2015, whereas the other equals 1 if it was controlled by a local government. To simplify writing, we hereafter refer to non-SOEs and SOEs of which the state owns  $< 30\%$  of their shares “non- and weak SOEs.”

We use 30% as the cut-off because the Code of Corporate Governance for Listed Companies, issued jointly by China’s Securities Regulatory Commission (CSRC) and State Economic and Trade Commission, prescribes that once the largest shareholder controls 30% of shares, cumulative voting has to be used. This suggests that regulators in China consider owning 30% of shares as substantial control. Commercial databases like OSIRIS use 25% and 50% shareholding as the cutoff. If we use 25% instead, the results are essentially the same. We do not use 50% as the threshold because there are very few sampled SOEs that have such a large shareholder.

### *3. Institutional or Foreign Ownership*

In the past decade, individuals have changed their ways of investment in the stock market. Rather than investing in companies directly, more and more individuals invest through mutual funds, pension funds, or other vehicles professionally managed by institutions. As a result, institutional holdings in public companies have been increasing globally (Aggarwal et al. 2011: 160; Gilson and Gordon 2013: 874–876). Institutional investors can potentially influence firms’ governance choices by “voting with their feet” (selling their shares) or voice their dissatisfaction and demand changes (Hirschman 1970). If institutional shareholders do choose to exit or voice concerns, we should observe an overall better governance in firms with higher institutional holdings. However, if institutional shareholders choose to be loyal to the management, no clear correlation between institutional holdings and governance practices exists.

Gillan and Starks (2003) insightfully distinguish domestic institutional investors from foreign investors and posit that foreign institutional investors are more active in affecting firms' governance practices either through exiting or voicing opinions. On the other hand, domestic institutional investors tend to be loyal to the management because of their existing business relations with local corporations (Gillan and Starks 2003: 15–17). Aggarwal et al. (2011) empirically test this hypothesis on firms from 23 countries (excluding China) for the period 2003–2008. When domestic and foreign institutional ownership are included alone in the regression models, both are statistically significant, while, when both are included, only foreign institutional ownership is still significantly correlated with good governance. Bai et al. (2004) also find a positive correlation between foreign investors and firm value in Chinese firms. Such results imply a strong positive relationship between foreign institutional ownership on the one hand and good corporate governance and better firm performance on the other hand.

The regression models thus include one dummy variable that equals 1 if the firm was invested in by Qualified Foreign Institutional Investors (QFII) or was itself a foreign-owned enterprise (*waizi qiye*). Also included is a continuous variable (in natural log) that captures the number of shares held by domestic institutional investors. Additionally, as foreign stock exchanges have more explicit corporate governance best practices in favor of investors, we hypothesize that the corporate charters of cross-listed Chinese firms may be more pro-minority than are other firms.<sup>9</sup>

#### 4. *Ownership Concentration*

As in Doidge, Karolyi, and Stulz (2007: 20) and Durnev and Kim (2005: 1476–1478), the regression models include the levels of ownership concentration to control for the complicated effect of controlling shareholders' incentive schemes on governance regimes. Theoretically, the

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<sup>9</sup> Eleven sampled firms cross-list in other stock markets (10 in Hong Kong and 1 in the U.S.).

effect would not be linear. Morck, Shleifer, and Vishny (1988: 301–302), in studying the relationship between board ownership (highly correlated with ownership concentration) and Tobin’s Q, theorize (with empirical support from their data) that when blockholders own less than 5% of shares, they are incentivized to maximize firm value; when they own between 5% and 25%, the preference to entrench dominates and the acquisition of more shares leads to lower firm values; but, when controlling shareholders own beyond 25%, their interests again converge with investors. Anand, Milne, and Purda (2011: 97–102) follow the Morck, Shleifer, and Vishny (1988) theory and test whether ownership concentration in Canadian firms affects decisions to follow Canadian and American governance rules. Their results are inconsistent.

Our models include two dummy variables regarding the BvD Independence Index. The baseline is no shareholders owning more than 25% of total shares. One variable equals 1 if at least one shareholder owns between 25% to 50%. The other variable equals 1 if one shareholder directly or indirectly owns more than 50%.

##### 5. *Exclusionary Variable: External Financial Dependence*

Rajan and Zingales (1998) explore the relation between financial development and economic growth and found that, in countries with more developed financial markets, industries that are more dependent on external financing have higher growth rates. The development state of a country’s financial market is usually measured by the size of its capital market, its accounting standards, disclosure rules, and corporate governance regime. Financial development, through better accounting, disclosure, and corporate governance regulations, reduces the cost of external funding, especially for firms that are more reliant on external financing, and thus increases economic growth. Francis, Khurana, and Pereira (2005) examine the relation between external financing needs and voluntary disclosure and find evidence supporting Rajan and Zingales (1998)’s prediction.

Inspired by this line of literature, we explore the relationship between

external funding needs and firm-level corporate governance choices.<sup>10</sup> We hypothesize that firms that rely more on external funding for operations adopt more pro-minority corporate governance provisions, as pro-controller corporate governance design dissuades investors from betting their money (Rajan and Zingales 1998: 562–563; Doidge, Karolyi, and Stulz 2004: 207; Aggarwal et al. 2009: 3136).

Following Rajan and Zingales (1998), we use the external financing needs of U.S. firms in the same industries as a proxy for those of Chinese firms. Every industry has its own unique intrinsic demand for external funds. For example, the pharmaceutical industry has higher demand for external finance than the tobacco industry because of higher research and development costs and longer periods for product commercialization (Francis, Khurana, and Pereira 2005: 1135). The U.S. capital market is well-developed and can be considered to be closest to a frictionless market for external finance. The level of external finance in U.S. firms can therefore be viewed as the inherent demand for external finance of foreign firms in the same industry, should these firms have full access to external funding, regardless of a country's legal and financial development (Rajan and Zingales 1998).

Additionally, using U.S. industry data as a proxy can also address the endogeneity between the level of external financing of a specific firm and its own firm characteristics. Prior literature also employed the same approach to identify the external financing demand of foreign firms (Francis, Khurana, and Pereira 2005: 1131–1136; Aggarwal et al. 2009; Chhaochharia and Laeven 2009). The industry-average external finance dependence is suitable as an exclusionary variable in Equation (2), because industry averages should not affect a firm's deviation from industry-median performance, while the general need of an industry may affect most, if not all, firms in an industry. Hence, industry-wise finance needs would affect a firm's performance vis-à-vis other firms in the same industry only through a firm's corporate governance choices.

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<sup>10</sup> We thank Dhammika Dharmapala for bringing this research possibility into our attention.

## 6. *Exclusionary Variable: Industry-Average Long-Term Investments*

The rational myopia hypothesis posits that anti-takeover provisions “allow a firm to make long-term investments whose value might be imperfectly signaled to the market” (Stein 1988; 1989; Daines and Klausner 2001: 99–100). Without the protection of the anti-takeover provisions, managers would emphasize short-term paybacks over long-term value. This myopia, while rational for the managers, does not lead to maximization of shareholders’ interests. Rational myopia is particularly likely to exist when two conditions are present: if a firm has investments in long-term projects and if managers and investors have asymmetrical information regarding the value of such projects.

This hypothesis is empirically testable. Following Pugh, Page, and Jahera (1992), Johnson and Rao (1997), and Aboody and Lev (2000), Daines and Klausner (2001) use industry-average research and development (R&D) intensity as a proxy for long-term investments, whose value is imperfectly signaled in the market. That is, the problem of myopia and the employment of anti-takeover measures is expected to be greater in industries with high R&D than those with low R&D. Alternatively, Daines and Klausner (2001) use industry-average capital expenditure intensity as a measure of long-term, hard-to-value projects.<sup>11</sup> Daines and Klausner (2001: 111) find no empirical support for the rational myopia hypothesis; in fact, the coefficient for industry-average R&D intensity in their model is negative and statistically significant, suggesting that an opposite phenomenon (active R&D firms adopting less anti-takeover measures) is borne out by empirical evidence.

No matter whether the rational myopia hypothesis holds or the alternative phenomenon Daines and Klausner (2001) observes in the U.S. also took place in China, we could use either industry-average variables as exclusionary variables. Here, as in the external financial dependence discussion, industry averages should not affect a firm’s industry-adjusted Tobin’s Q, but an industry-specific pattern may affect corporate governance

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<sup>11</sup> Daines and Klausner (2001) also use other proxies such as market-to-book ratio. As these variables cannot serve as exclusionary variables, we do not use them.

in most, if not all, firms in the industry. Thus, in Models (1) and (3) reported in Table 3, industry-average R&D intensity is used as an exclusionary variable, while in Models (2) and (4) reported in Table 3, industry-average capital expenditure intensity is used.

## V. DATA

An empirical study like this requires not only hand coding of corporate charters from scratch (Section A), but also the assembly of data from multiple different commercial or public databases, as none contains comprehensive information regarding Chinese firms and American firms (Section B).

### A. *Hand-Coded Corporate Charters*

While empirical scholars who study American corporate charters have the luxury of using existent data, such as that compiled by the Investor Responsibility Research Center (Daines and Klausner 2001; Gompers, Ishii, and Metrick 2003; Listokin 2009), this study required the manual collection and coding of all 26 provisions from the original corporate charters because no database covers major corporate governance provisions of companies listed in China. We randomly sample 20% of listed companies on the Shanghai (SSE) and Shenzhen (SZSE) Stock Exchanges in China. Foreign firms were excluded from the sampling population because corporate charters are subject to the corporate law of the incorporation jurisdiction. Financial firms were also excluded from the sampling population because these firms are usually subject to stricter corporate governance rules and special regulations. Our random selection process yielded a total of 297 sampled firms, with 208 from SSE and 89 from SZSE.<sup>12</sup> We obtained corporate charters from the official company disclosure website (<http://www.cninfo.com.cn/>), and individual company websites. The provisions contained in the corporate charters were then

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<sup>12</sup> Several sampled companies have to be dropped out of the data set because their charters are not available from the aforementioned websites.

hand-coded to build the A Index for each company.

### B. *Data from Commercial Databases*

The level of dependence on external finance is computed with 2000–2015 Compustat U.S. industry-average data.<sup>13</sup> More specifically, following (Rajan and Zingales (1998)), we define external financial dependence as [capital expenditure - (funds from operations + inventories + decreases in receivables + increases in payables)]/capital expenditure. After computing external financial dependence for each US firm, we calculated the median external financial dependence within each by industry group (identified by the three-digit Standard Industrial Classification [SIC] codes) and merged the numbers to each sampled Chinese firm based on the three-digit SIC codes. Hence, Chinese firms with the same three-digit SIC codes were assumed to have the same financial dependence. (Rajan and Zingales (1998: 565))’s original comparative corporate governance research defends the position of relying on the financial dependence of U.S. firms on external finance as a proxy for the demand for external funds in other countries. We follow this approach not only because their arguments are convincing but also because neither Compustat Global nor OSIRIS contains comprehensive data on external finance in China.<sup>14</sup> Industry is defined by the common three-digit SIC codes contained in the Compustat databases.

From OSIRIS, we downloaded a number of variables. First, we acquired from OSIRIS the independence indicator (that is, how concentrated the shares are) and further categorized the level of concentration into 4 levels, A (no shareholders owning more than 25% of total shares), B (one or more shareholders owning between 25% to 50%), C (one shareholder directly or indirectly owning more than 50%), and D (one shareholder directly owning more than 50% of the shares. In addition, the exchanges listed and the three-digit SIC codes were fetched from OSIRIS.

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<sup>13</sup> We access the *Compustat* US data from *Compustat* Monthly Updates - Fundamentals Annual (North America):

<https://wrds-web.wharton.upenn.edu/wrds/ds/compm/funda/index.cfm?navId=84>.

<sup>14</sup> We access the *Compustat* China data from *Compustat* Global - Fundamentals Annual: <https://wrds-web.wharton.upenn.edu/wrds/ds/comp/gfunda/index.cfm?navId=74#CapitalIQ-toc>.

From the WIND Financial Terminal Database, we obtained data on the nature of the company, name of *de facto* controller (*shiji kongzhi ren*), name of first-largest shareholder, percentage of shares held by first-largest shareholder, percentage of shares held by institutions, percentage of shares held by QFII, whether the company cross-lists its shares, the city and province of the company's registered office, and all the standard control variables used in the regression models. All the variables needed to calculate Tobin's Q are also from WIND. To calculate the percentage of shares held by domestic institutional investors, we first obtained the percentage of shares held by institutions from WIND and deducted shareholding held by general corporations, non-financial firms, and QFII.

WIND categorizes the nature of the company according to the nature of *de facto* controller reported by the company: SOE (controlled by the central government or a local government), privately-owned enterprise (controlled by private individuals), foreign-owned enterprise (controlled by foreign entities or individuals), and widely held enterprise (with no controller). We define our sample firms as being SOEs or non-SOEs according to the nature of a company as defined by WIND.

To assess the impact of controllers on a firm's governance choices, we need to know the level of control by *de facto* controllers. However, the percentage of shares controlled by *de facto* controllers is not available from WIND. We therefore use the percentage of shares held by controlling shareholders from Genius Finance Database as a proxy. Under the Chinese Company Act, controlling shareholders and *de facto* controllers are slightly different concepts. A controlling shareholder is one who owns more than 50% of the shareholding or who, through its shareholding, has major influence in shareholders' meeting.<sup>15</sup> On the other hand, a *de facto* controller is one who is not a shareholder, but through investment, agreement, or other arrangement exerts *de facto* influence on the company.<sup>16</sup> While the Chinese Company Act distinguishes these two concepts, the CSRC broadly defines *de facto* controllers to include

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<sup>15</sup> Chinese Company Act, art. 217 (2).

<sup>16</sup> Chinese Company Act, art. 217 (3).

controlling shareholders who directly own shares in the subject company.<sup>17</sup> Furthermore, in most situations, *de facto* controllers exert control over the subject firm through their shareholdings in controlling shareholders. As a result, we find it reasonable to use the shareholding percentage held by controlling shareholders as a proxy for the level of control by *de facto* controllers.

From Compustat Global, we gathered the research and development expenses and capital expenditures of all Chinese listed companies in 2015. We then computed 2 variables<sup>18</sup>:

- R&D intensity by industry= industry-level average research and development expenses in 2015 / industry-level average assets in 2015
- Capital expenditure intensity by industry= industry-level average capital expenditure in 2015 / industry-level average assets in 2015

Summary statistics of the variables used in the regressions are shown in Table 2.

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<sup>17</sup> “Understanding and Application of Article 12 ‘No Change of Actual Controller’ of the ‘Measures for the Administration of Initial Public Offering and Listing of Stocks’ — Opinion No.1 on Application of Securities and Futures Laws”. (《《首次公开发行股票并上市管理办法》第十二条“实际控制人没有发生变更”的理解和适用——证券期货法律适用意见第 1 号》证监法律字[2007]15 号)

<sup>18</sup> Industry level in the following variables mean the average amount within firms with the same three-digit SIC codes.

Table 2 Summary Statistics  
Panel A: Continuous variables

Variable names	N	Mean	Median	St. Dev.	Max.	Min.
Q – industry-median Q	293	1.7	0.6	5.9	79.1	-1.9
Ln (Q – industry-median Q)	293	1.7	1.6	0.4	4.4	1.0
Age	293	20.6	20	5.3	66	6
Capital expenditure / Asset	293	0.04	0.02	0.04	0.27	0.000004
Debt / Asset	293	0.5	0.5	0.2	0.9	0.03
Return on assets	293	3.6	3.9	6.9	26.1	-28.4
Sale growth	293	0.5	-0.02	5.0	71.2	-0.9
Financial dependence	261	1.1	1.1	0.3	4.4	0.5
Years since listing	297	16.5	18.0	5.5	26.0	1.0
Asset (in million USD)	294	2,182	808	4,814	62,210	1.3
R&D Intensity by Industry	233	0.003	0.002	0.002	0.010	0.00002
Capital Expenditure Intensity by Industry	239	0.008	0.007	0.004	0.031	0.0008
Shares held by domestic institutional investors (%)	297	5.7	3.3	6.7	59.9	0.0

† For the formulas of calculating these variables, please refer to Part V.B.

Panel B: Categorical variables

Variable types and names	Number %	
<b>BvD Independence Index</b>	<b>295</b>	
A	71	24
B	165	56
C	15	5
D	44	15
<b>Stock Exchange</b>	<b>297</b>	
Shanghai	208	70
Shenzhen	89	30
<b>Firm Types</b> (re-grouped in the regression analysis)	<b>297</b>	
State-owned enterprise, central government (Central SOE)	50	17
State-owned enterprise, local government (Local SOE)	132	44
Privately-owned enterprise, controlled by private individuals (民营企业)	86	29
Widely-held enterprise, without controlling shareholders (公众企业)	13	4
Foreign-owned enterprise (外资企业)	10	3
Other types of firms	6	2
<b>Controller Type</b> (used in regression)	<b>297</b>	
Central SOE, $\geq 30\%$	35	12
Local SOE, $\geq 30\%$	112	38
Other firms (= SOEs where the state controls less than 30% of the shares OR non-SOEs)	150	50
<b>Cross listed in other stock exchanges</b>	11	4
<b>Qualified foreign institutional investors (QFII)</b>	21	7
<b>Divisions of Industries</b> (based on the SIC codes)	<b>297</b>	
0100–0999	Agriculture, Forestry and Fishing	10 3
1000–1499	Mining	8 3
1500–1799	Construction	6 2
2000–3999	Manufacturing	190 64
4000–4999	Transportation, Communications, Electric, Gas and Sanitary Service	34 11
5000–5199	Wholesale Trade	9 3
5200–5999	Retail Trade	9 3
6000–6799	Finance, Insurance and Real Estate	17 6
7000–8999	Services	14 5

## VI. FINDINGS AND DISCUSSION

Section A reports the surprising result that SOEs of which the Chinese central government controls 30% or more shares have better corporate governance (more pro-minority). Anticipating the question of the real-world implication, we demonstrate in Section B that Chinese firms with more pro-minority governance regimes have higher industry-adjusted Tobin's Q. Section C notes that the theory-informed and control variables produce coefficients in our regression models largely as expected.

### *A. Strong Central SOEs Have Better Governance*

Some of the prior literature contends that SOEs are badly governed. Figure 1 shows that, at least as far as corporate charter provisions are concerned, SOEs are not apparently worse than non-SOEs. Taking into account the fact that a higher percentage of strong and weak SOEs have A Index scores of -3 and -4 and a lower percentage of them have A Index scores of 0 and 1, we could make a case that SOEs are more pro-minority than non-SOEs. As for the claim that SOEs and non-SOEs are equally bad, Figure 1 also shows that weak SOEs and non-SOEs have similar distributions of A Index scores, ranging from 1 to -3 or -4. However, strong SOEs, whether central or local, tend to have fewer protective rules than do American rules.

The structural equation model produces more nuanced finding. In the two Equation (2) models (with different sets of exclusionary variables),<sup>19</sup> the coefficients for the strong central SOE dummy variables are both negative and statistically significant at the 0.1% level. In addition, the coefficients for the strong local SOE dummy variables are both positive, and one reported in column (2) of Table 3 is statistically significant at the 5% level. That is, compared with non-SOEs and weak SOEs, strong central SOEs are more pro-minority, while strong local SOEs may be more pro-controller.

One explanation is the principal-agent problem in the relationship

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<sup>19</sup> Note that in the Equation (2) part of the structural equation model, (1) and (3) are exactly the same, whereas (2) and (4) are exactly the same. So there are only two models.

between the state and appointed managers, which echoes the absent owner problem. In non-SOEs, large shareholders have strong personal incentives to monitor the behavior of managers. They can either serve as managers themselves and supervise on a daily basis or pay close attention to what the managers do. In central SOEs, the large shareholder is the state. Legal persons have to take care of their interests through some natural persons, in this case public employees. But these bureaucrats do not stand to gain personal benefits from monitoring state-appointed managers closely. To keep their jobs, bureaucrats may do a reasonable job, but they are unlikely to work as hard as if their personal wealth is at stake. Thus, the principal-agent problem arises here, because one set of agents (bureaucrats) does not have strong incentive to monitor another set of agents (managers) for the principal (the state) (Clarke 2016: 931). To alleviate this problem, the state may decide to empower minority shareholders. The latter is highly unlikely to take over a strong central SOE while having adequate legal means to protect their own investments. In other words, the state may deliberately choose to make strong central SOEs' corporate governance regimes more pro-minority to reduce its own monitoring costs and increase SOEs' performance.

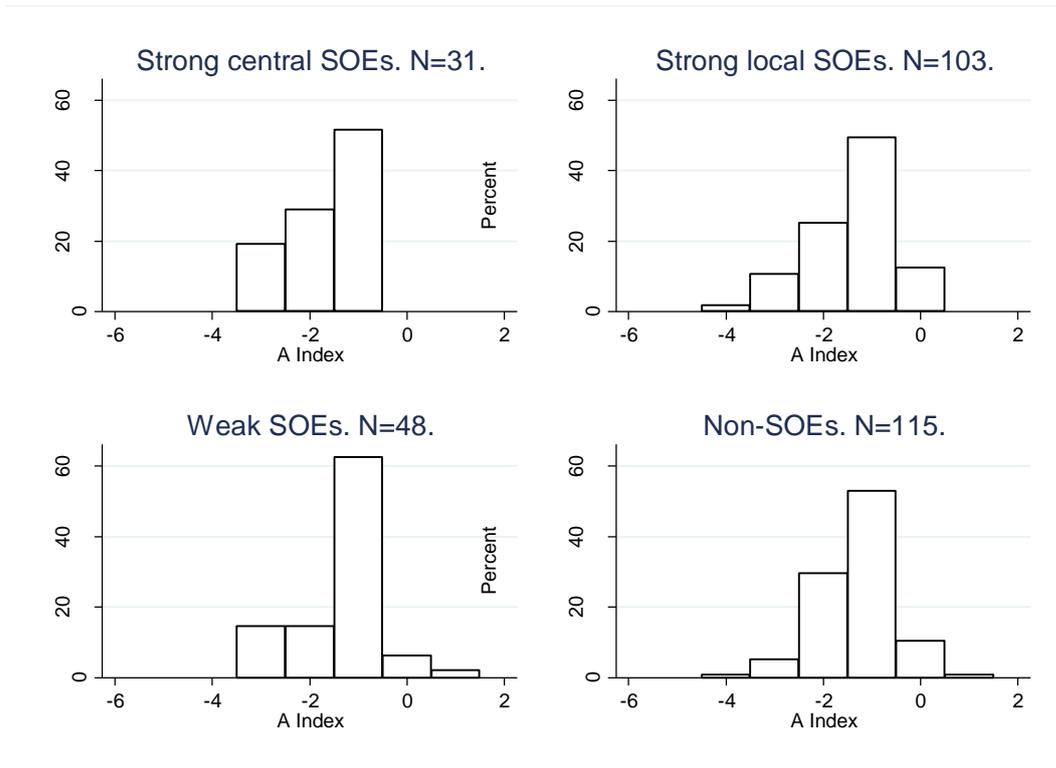
By contrast, the costs of monitoring central SOEs are higher than those of monitoring local SOEs. Only 8 of the 31 (25%) strong central SOEs are located in Beijing, whereas all the local SOEs are located in the same province as their government controllers. If our conjecture has some explanatory power, central SOEs, more than their local counterparts, are in need of pro-minority corporate governance regimes to enable external supervision. Therefore, strong central SOEs, but not strong local SOEs, are more pro-minority. Our results warrant further studies on the governance difference between central and local SOEs

However, there may be counterarguments to our theory. First, there is no need to enhance the monitoring of SOE managers through more pro-minority governance provisions because SOE managers are appointed and supervised by the Party directly. Political promotion, instead of a monetary incentive scheme, serves an important monitoring function

against Chinese SOE managers (Chang and Wong 2009; Cao et al. 2014). It is widely recognized that SOEs follow the Party cadre and personnel management system in appointing and supervising their executives and management team (Shimin Chen et al. 2011; Li-Wen Lin 2013). The Party, instead of the board, appoints and rotates top executives of SOEs (Pistor 2012; Li-Wen Lin 2013). The recent reform in writing the organization of party cells into the corporate charters of all SOEs also reflects the principle of Party personnel management (*dangguanganbu yuanze*). Direct Party control over SOE managers would greatly reduce the agency costs arising from the absent owner problem, which is similar to the agency problem between managers and shareholders in a US widely held firm. Studies have shown that 99.1% of the CEOs in central SOE groups are Party members (Lin 2016). Even though a majority of CEOs develop their careers within the same business groups, political promotion within the Party still serves as another important incentive mechanism to address the agency problem in Chinese SOEs (Qu and Wu 2014; Lin 2016; Leutert 2018 forthcoming).

There might be other explanations, though not necessarily contradicting our theory. For instance, SOEs do not need to worry about takeovers or minority representatives' interference with firm operation. Thus, they can afford to be pro-minority. Or, SOEs may be required to be exemplary firms, adopting fewer entrenchment provisions to set examples of better corporate governance. However, all these alternative theories cannot explain why local SOEs do not become more pro-minority.

Figure 1: Distribution of the Scores of the A Index by Firm Types



### B. *Better Governance, Higher Tobin's Q*

An across-the-board dismissal of our empirical endeavor is to take the position that corporate charters mean nothing in the Chinese context. This argument posits that, no matter what is written in a corporate constitution, it does not affect how firms are managed. If this admittedly plausible view were true, the A Index would not be associated with firm performance as measured by Tobin's Q.

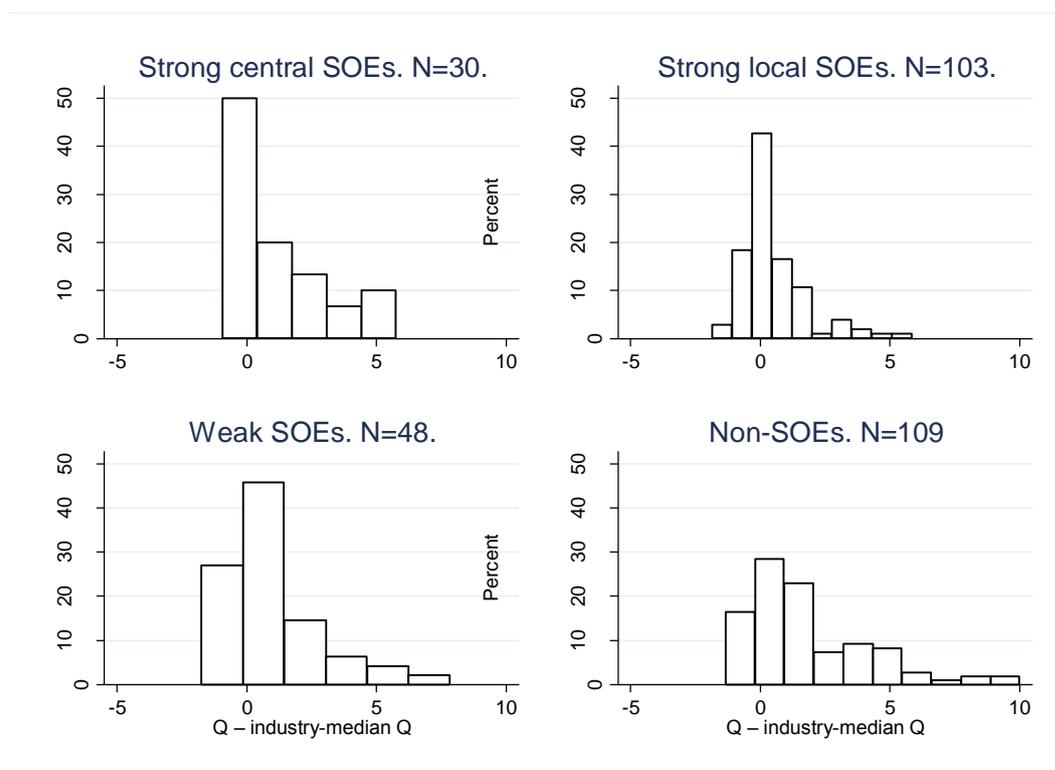
The structural equation models show the opposite. In the two Equation (1) models,<sup>20</sup> the A Index variables have negative coefficients and are statistically significant at the 5% or 1% level. As a negative score in the A Index indicates pro-minority governance and the dependent variable in Equation (1) is a firm's own Tobin's Q minus the industry average, the result demonstrates that firms with more pro-minority corporate governance have better performance. Also notable is that the two SOE

<sup>20</sup> Note that in the Equation (1) part of the structural equation model, (1) and (2) are exactly the same, whereas (3) and (4) are exactly the same. So there are only two models.

variables are statistically insignificant. This is sensible. Firms cannot perform better just because they are state-owned. The regression results, interpreted as a whole, suggest that strong central SOEs tend to have better corporate governance, and, whether state-owned or not, being pro-minority is associated with higher-than-median Tobin's Q.

Finally, for those who tend to question sophisticated regression models, we ran an OLS regression that yielded similar results (See Appendix B). Furthermore, Figure 2 shows the distribution of industry-adjusted Tobin's Q. At the very least, SOEs do not appear to be apparently worse than non-SOEs. While it is admittedly possible that SOEs have altered their books to make themselves look good, as empiricists, there is nothing we can do about it. Still, that many SOEs would independently do this and have the distribution of their industry-adjusted Tobin's Qs be similar to privately-owned firms seems implausible.

Figure 2: Distribution of Industry-Adjusted Tobin's Q by Firm Type



*Notes:* For better exposition of this graph, firms with industry-adjusted  $Q > 20$  have been omitted.

### *C. Other Variables Are as Expected*

Other variables are not our main concern, but it is worth noting that many of them turn out as theories would predict. First, firms with foreign investors tend to have better corporate governance, whereas cross-listed firms tend to perform better. Second, firms with higher external financial dependence tend to be pro-minority. Third, industry-average R&D intensity has a negative coefficient and is statistically significant, consistent with the finding of Daines and Klausner (2001). However, industry-average capital expenditure intensity is statistically significant in the opposite direction, seeming to support the classic rational myopia theory. Fourth, the most dispersed firms have the highest Tobin's Qs. Nonetheless, shares held by domestic institutional investors warrant further investigation, as more of such shares is associated with being more pro-controller while also associated with higher Tobin's Q.

Table 3 Generalized Structural Equation Model Results

	(1)	(2)	(3)	(4)	
Equation 1 Dependent variable:					
	Tobin's Q minus median Tobin's Q		Tobin's Q minus median Tobin's Q (ln)		
A Index	-0.782*	-0.782*	-0.048**	-0.048**	<b>A</b>
	(0.306)	(0.306)	(0.018)	(0.018)	
Firm type (baseline: non- and weak-SOEs)					
=1 if Strong central SOE	-0.180	-0.180	0.025	0.025	<b>S</b>
	(0.492)	(0.492)	(0.037)	(0.037)	
=1 if Strong local SOE	0.429	0.429	-0.022	-0.022	<b>S</b>
	(0.593)	(0.593)	(0.024)	(0.024)	
=1 if Cross-listed	1.689**	1.689**	0.153**	0.153**	<b>T</b>
	(0.608)	(0.608)	(0.055)	(0.055)	
Domestic institutional Investors' shares (ln)	0.630**	0.630**	0.040***	0.040***	<b>T</b>
	(0.221)	(0.221)	(0.011)	(0.011)	
=1 if Foreign investor	0.444	0.444	0.032	0.032	<b>T</b>
	(0.474)	(0.474)	(0.037)	(0.037)	
BvD Independence index (baseline=A)					
=1 if =B	-2.410*	-2.410*	-0.136**	-0.136**	<b>T</b>
	(0.959)	(0.959)	(0.043)	(0.043)	
=1 if =C or D	-1.947+	-1.947+	-0.082	-0.082	<b>T</b>
	(1.139)	(1.139)	(0.064)	(0.064)	
Asset (ln)	-2.883**	-2.883**	-0.210***	-0.210***	<b>C</b>
	(0.916)	(0.916)	(0.044)	(0.044)	
Age (ln)	-0.334	-0.334	-0.003	-0.003	<b>C</b>
	(0.632)	(0.632)	(0.058)	(0.058)	
Capital expenditure / Asset	-5.071	-5.071	-0.120	-0.120	<b>C</b>
	(5.296)	(5.296)	(0.394)	(0.394)	
Debt/Assets	5.598	5.598	-0.081	-0.081	<b>C</b>
	(3.731)	(3.731)	(0.184)	(0.184)	
Return on assets (ROA)	0.021	0.021	-0.001	-0.001	<b>C</b>
	(0.030)	(0.030)	(0.002)	(0.002)	
Sales growth	-0.000	-0.000	0.003***	0.003***	<b>C</b>
	(0.011)	(0.011)	(0.001)	(0.001)	
=1 if Shanghai Exchange	0.855+	0.855+	0.047	0.047	<b>C</b>
	(0.514)	(0.514)	(0.039)	(0.039)	
Constant	58.750**	58.750**	6.045***	6.045***	

	(18.030)	(18.030)	(0.884)	(0.884)	
	(1)	(2)	(3)	(4)	
Equation 2 Dependent variable: A Index					
Firm type (baseline: non- and weak-SOEs)					
=1 if Strong Central SOE	-0.820*** (0.191)	-0.771*** (0.188)	-0.820*** (0.191)	-0.771*** (0.188)	<b>S</b>
=1 if Strong Local SOE	0.079 (0.161)	0.216* (0.095)	0.079 (0.161)	0.216* (0.095)	<b>S</b>
Financial dependence (ln)	-0.944** (0.326)	-0.927** (0.347)	-0.944** (0.326)	-0.927** (0.347)	<b>E</b>
Industry-average R&D intensity (ln)	-0.196* (0.083)		-0.196* (0.083)		<b>E</b>
Industry-average capital expenditure intensity (ln)		0.556** (0.172)		0.556** (0.172)	<b>E</b>
=1 if cross-listed	-0.185 (0.116)	-0.067 (0.089)	-0.185 (0.116)	-0.067 (0.089)	<b>T</b>
Shares held by domestic institutional investors (ln)	0.098* (0.042)	0.128* (0.058)	0.098* (0.042)	0.128* (0.058)	<b>T</b>
=1 if foreign-owned firm or QFII	-0.404* (0.191)	-0.388* (0.189)	-0.404* (0.191)	-0.388* (0.189)	<b>T</b>
BvD Independence index (baseline=A)					
=1 if Independence index=B	0.085 (0.195)	0.108 (0.222)	0.085 (0.195)	0.108 (0.222)	<b>T</b>
=1 if Independence index=C or D	-0.327 (0.204)	-0.291 (0.216)	-0.327 (0.204)	-0.291 (0.216)	<b>T</b>
Asset (ln)	0.005 (0.075)	-0.011 (0.060)	0.005 (0.075)	-0.011 (0.060)	<b>C</b>
Age (ln)	-0.043 (1.043)	0.067 (1.045)	-0.043 (1.043)	0.067 (1.045)	<b>C</b>
Capital expenditure / Asset	-1.780* (0.822)	-2.581*** (0.684)	-1.780* (0.822)	-2.581*** (0.684)	<b>C</b>
Debt/Assets	0.016 (0.494)	-0.131 (0.507)	0.016 (0.494)	-0.131 (0.507)	<b>C</b>
Return on assets (ROA)	0.007 (0.005)	0.013 (0.009)	0.007 (0.005)	0.013 (0.009)	<b>C</b>
Sales growth	-0.022*** (0.004)	-0.024*** (0.005)	-0.022*** (0.004)	-0.024*** (0.005)	<b>C</b>
=1 if Shanghai Stock	-0.271	-0.361**	-0.271	-0.361**	<b>C</b>

Exchange	(0.184)	(0.136)	(0.184)	(0.136)
Constant	-3.981	-8.079	-3.981	-8.079
	(6.009)	(5.107)	(6.009)	(5.107)
Observations	290 / 228	290 / 234	290 / 228	290 / 234
<i>AIC</i>	2287.984	2296.734	615.906	624.656
<i>BIC</i>	2317.343	2326.093	645.265	654.015

*Note:* Robust Standard errors in parentheses. Clustered by industry (SIC first digit).

Equation 1 runs OLS, whereas equation 2 runs ordered logit. N=290 in the first equation while N=228 or 234 in the second equation due to missing values in the exclusionary variables. The column in the farthest right indicates the variable type in the regression model.

+  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## VII. CONCLUSION

In this study, we employed a unique, hand-coded data set on firm-level governance provisions of 297 randomly sampled Chinese firms listed in the Shanghai and Shenzhen Stock Exchanges. Our empirical inquiries filled in two gaps in the current literature. First, we demonstrated that corporate governance of SOEs appear to be as good as non-SOEs; if anything, SOEs of which Chinese central government controls more than 30% of shares appear to have more pro-minority charter provisions than do private firms. Second, our inquiry confirmed that pro-minority governance regimes correlate with better firm performance. The take-away of this article is that, “Chinese characteristics” notwithstanding, law and economics theories, developed mostly in the U.S. context, can largely explain the choices of corporate governance regimes and their impact on firm performance.

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## APPENDIX A: FOUR EXAMPLES OF CODING DECISIONS

To clarify how we compare Delaware law with Chinese corporate charters, we offer four examples. First, regarding voting rules for director election (Variable 1 in Table 1), DGCL 216(3) stipulates that directors shall be elected by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors. The default voting rule in Delaware is plurality voting, under which candidates who receive more votes would be elected. Under plurality voting, candidates with only one vote can be elected if there is no contested candidate. As a result, plurality voting has been considered as a sign of lax governance and is pro-controller. Under China's Company Law Article 105 and Code of Corporate Governance for Listed Companies in China Article 31, the default voting rule for director election is majority voting with a menu of cumulative voting should the controlling shareholder of a firm own more than 30% of the shares. Both majority voting and cumulative voting set a higher threshold for director election than plurality voting and thus are considered more pro-minority. Therefore, sampled Chinese firms that adopt either majority or cumulative voting receive a value of -1 for this particular governance rule.

Second, regarding a shareholder's right to remove directors without cause (Variable 9 in Table 1), DGCL 141(k) stipulates that shareholders can remove directors with or without cause; however, if a staggered board is adopted, directors can only be removed with cause. As a staggered board is the default rule in Delaware, we treat the default rule for director removal as only being with cause, which is more protective to incumbents. If a sample firm's corporate charter stipulates that directors can be removed without cause, then it will be considered to be more pro-minority shareholder and thus receive a value of -1. Otherwise, it will be on par with the U.S. default rule and receive a value of 0.

Third, regarding the attendance threshold for merger and acquisition (Variable 10 in Table 1) and attendance threshold for director removal (Variable 16 in Table 1), the general rule for attendance quorum in DGCL s216 is one-third to one half. We assign Chinese firms a value of +1 if there

is no provision in the corporate charter (it turns out that all sampled firms fell into this category), as China's Company Law requires no minimum attendance threshold.

Fourth, regarding the voting threshold for directors' duty not to compete (Variable 23 in Table 1), Delaware does not have a clear statutory rule, but, in general, directors' duty not to compete can be waived by approval of a majority of informed disinterested directors (see DGCL 144 (a)). China's Company Law Article 148 requires shareholder approval to waive directors' duty not to compete; therefore, all sample firms are given a value of -1 because shareholder approval is more pro-minority than disinterested director approval.

## APPENDIX B: OLS MODELS

Prior literature, in assessing the effect of corporate governance on firm performance, runs a single-equation model, such as OLS. We report OLS model results in Table B1. The results are qualitatively similar to those reported in Equation 1 part of Table 3: A Index is still statistically significant and has a negative coefficient. The SOE variables are still statistically insignificant.

Equation 2 part of Table 3 is an ordered logit model. Running a separate ordered logit model would produce exactly the same result as that reported in Table 3. The Equation 1 part of Table 3 would yield a different result from the OLS result, because gSEM, when estimating the coefficients of the independent variables, takes into account the relationship of the A Index and other variables.

Table B1. OLS Model Results

Dependent variable: Industry-adjusted Tobin's Q		
	(1)	(2)
	Q – industry-median Q	Ln (Q – industry-median Q)
A Index	-0.782*	-0.048*
	(0.314)	(0.019)
Baseline: Weak and non-SOEs		
=1 if Strong Central SOEs	-0.180	0.025
	(0.505)	(0.038)
=1 if Strong Local SOEs	0.429	-0.022
	(0.609)	(0.025)
=1 if Cross-listed	1.689*	0.153*
	(0.624)	(0.056)
Domestic institutional	0.630*	0.040**
Investors' shares (ln)	(0.227)	(0.011)
=1 if Foreign investor	0.444	0.032
	(0.487)	(0.038)
Baseline: BvD Independence index=A		
=1 if =B	-2.410*	-0.136*
	(0.985)	(0.044)
=1 if =C or D	-1.947	-0.082
	(1.170)	(0.065)
Asset (ln)	-2.883*	-0.210**
	(0.941)	(0.045)
Age (ln)	-0.334	-0.003
	(0.650)	(0.060)
Capital expenditure / Asset	-5.071	-0.120
	(5.439)	(0.405)
Debt / Assets	5.598	-0.081
	(3.832)	(0.189)
Return on assets (ROA)	0.021	-0.001
	(0.031)	(0.002)
Sales growth	-0.000	0.003**
	(0.011)	(0.001)
=1 if Shanghai Exchange	0.855	0.047

	(0.527)	(0.041)
Constant	58.750*	6.045***
	(18.517)	(0.907)
<hr/>		
Observations	290	290
Adjusted $R^2$	0.291	0.493
<hr/>		

Robust standard errors in parentheses. Clustered by industry.

+  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$