

Institutional Development and Value of Business Groups: The Case of China

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Abstract

We investigate the link between institutional development and value of business groups in an emerging market context, while controlling for the potential effect of cultural norms. China provides a good research lab since it has been undergoing profound institutional changes during the past thirty years and it currently combines great heterogeneity in institutional development across the Chinese provinces with homogeneity in cultural norms, law, and regulation. Using hand-collected data from publicly listed Chinese firms, we find that the largest shareholder's ownership concentration creates value regardless the ownership nature (business group or SOE) and the institutional development level. Meanwhile, when institutional efficiency is low, the ownership of and the management by business group controlling shareholder increase value in comparison with other types of ownership and management, while the control in excess of ownership executed by business group controlling shareholder reduces value. When institutional efficiency is high, none of these effects are significant.

Keywords: Business group; Ownership; Control; Management; Founder; State; Value; Institutional development; China

For several decades, management researchers have been interested in business group as a form of organization, because of its prevalence in many emerging economies and the variation of its characteristics from country to country. In the extant literature, business group is defined in various ways. Granovetter (1995, p. 95), defines it in a very general way as “a collection of firms bound together in some formal and/or informal ways”, while Guillen (2000) prefers to focus on diversified business group, “that (1) are active in a wide variety of industries, (2) operate under somewhat unified entrepreneurial guidance, going beyond alliances among otherwise independent firms, and (3) fall short of constituting a fully integrated organizational structure” (p. 352-363). Furthermore, some other researchers are interested more specifically in family-controlled business group, for example, “a business group is defined as a gathering of formally independent firms under the single common administrative and financial control of one family.”(Chang and Hong, 2000, p. 429) Although these definitions differ from one to other, it is commonly accepted that (1) business group is defined as an organization form of private ownership, i.e. none of these authors refer to the possible existence of State-owned business group; (2) business group is some legally independent firms under the guidance of an identified single controller (an entrepreneur or a family). In this study, we follow these two features to define business group.

Previous studies cover a wide range of topics of business group, like its economic performance (Chang and Hong, 2000), the effect of diversification (Khanna and Palepu, 2000a), or ownership and expropriation (Chang, 2003). Meanwhile, to the best of our knowledge, several important issues related to business group remain unexplored in the current literature. First, as in emerging economies, widely held firms remain relatively rare, the other dominant form of firm organization besides business group is stated owned enterprise (SOE), not only in countries like China or Vietnam, but also in India (Mishra, 2009) or Latin America (Cuervo-Cazurra and Dau,

2009). It is very important to empirically test if business group is an economically more efficient organization form than SOE, i.e. offering better performance and creating more value. Second, it is also interesting to open the black box of business group, understand how it is owned, controlled, managed by its ultimate controller (Villalonga and Amit, 2006, 2009) and how these corporate governance aspects impact on the firm value. Third, although most of the previous studies acknowledge the importance of institutional background in which business group is created and operating, seldom have adopted a dynamic approach and explored the impacts of institutional variations and changes on business group. This point is particularly interesting in the context of emerging markets, since many of these countries have been undergoing profound promarket reforms during the last couple of decades (Cuervo-Cazurra and Dau, 2009).

In this paper we study a sample of publicly listed Chinese firms in order to shed some lights on these important issues related to business group. China provides a good research laboratory for this purpose, since not only the country offers clear-cut dichotomy between business groups and SOEs, but also there is great heterogeneity in the degree of institutional development of its provinces and regions, and at the same time great homogeneity in cultural norms, with strong emphasis on family values (Wong (1985), Allen et al. (2005)). We are thus able to investigate the role played by institutional development in the value of business groups, while controlling for the potential effect of culture. Moreover, by decomposing business groups into their ownership, control, and management elements, we are able to test the specific predictions of the investor protection and internal markets explanations.

The use of Chinese data brings about an additional advantage for the study of business groups, which is that it allows us to examine these firms very soon after they become founder-owned or controlled. This is important because many of the mechanisms used by founders

around the world to enhance their control over their firms are set up very early on and condition those firms' future ownership and control structure, which becomes very path-dependent.

Contrary to the cross-country evidence and to the investor protection and internal markets theories' prediction with respect to the prevalence of business groups, we find that these firms are relatively more common and have higher founder ownership stakes in the more developed provinces. They also have founder CEOs more frequently than do business groups in the less developed parts of the country. However, just as the investor protection theory would predict, business groups make greater use of control enhancing mechanisms in the less developed regions.

We find that business group significantly increases firm value in comparison with SOE, and that the effect is entirely attributable to low institutional efficiency regions or provinces. This finding is not inconsistent with the investor protection view, but it is particularly consistent with the internal markets view.

Founders' voting control in excess of ownership, which in China can be achieved through the use of pyramidal control structures, significantly decreases the value of business group. The significance of the effect is again entirely driven by the regions or provinces with low institutional efficiency, a result that is not inconsistent with the internal markets view, but is particularly consistent with the investor protection argument that business groups in low investor protection settings lend themselves to the appropriation of private benefits by their controlling shareholders.

Founder management significantly increases firm value when institutional efficiency is low, but not when it is high. In fact, the interaction of founder management with institutional efficiency is negative and significant and entirely offsets the positive effect of the low efficiency regions for the whole sample. This finding is consistent with the internal markets view, which

suggests that business groups may be a valuable source of management talent when the lack of institutional development makes the external labor market inefficient or in short supply.

Our results are robust to alternative measures of ownership, control, management, firm performance, and institutional efficiency. The estimated effects on firm value are also robust to controlling for the endogeneity of business group status. We therefore conclude that institutional development plays a critical role in the value of business groups.

The rest of the paper is organized as follows. Section I provides background information about institutional development and business groups in China. Section II presents the theoretical background of business groups in emergent economies and their SOE counterparts as well as the impact of institutional development. Section III describes our data and variables. Section IV summarizes our results about the role of institutional development in the value of business groups. Section V concludes.

I. Background: Institutional Development and Business Groups in China

Ever since China began its transition from a central planning system into a market economy in 1978, it has experienced unprecedented levels of growth: with average annual growth at around 9% and GDP quadrupled, China is now the world's largest and fastest-growing emerging economy. Two important features of this transition are of particular interest for our research purposes: (1) the increasing disparity across regions in their degree of institutional development, and (2) the shift of the bulk of economic activity from the state-owned to the private sector.

A. Regional Disparity in China

The rapid growth of the coastal regions in China over the past 25 years has widened the regional disparity within the country (Jian et al. (1996)). Using the Gini coefficient and generalized entropy (GE) measures of inequality, Kanbur and Zhang (2005) show that inland-

coastal disparity in income, health, and education has risen sharply and steadily since 1984. The World Bank's (2006) survey of the investment climate in 120 Chinese cities reports that the average per-capita GDP in Southeast China is more than 50 percent above that in the Northeast, and 150 percent above the averages for Central and Southwest China. Similarly, per-capita foreign direct investment (FDI) in the Southeastern provinces is 130 percent above per capita FDI for the Northeast, more than 7 times the average for Central China, and more than 25 times the average for Western China.

The disparity is even more remarkable given that business law, regulation, and culture are basically the same throughout China. Unlike the U.S., where corporate law differs across states, China has a centralized legal system where corporate law and security regulations are the same across all provinces. In their analysis of the law, finance, and economic growth in China, Allen et al. (2005) note that "despite the almost nonexistence of formal governance mechanisms, alternative mechanisms have been remarkably effective in the private sector. Perhaps the most important of these is the role of reputation and relationships (Greif (1989, 1993)). Without a dominant religion, the most important force shaping China's social values and institutions is the widely held set of beliefs related to Confucius; these beliefs define family and social orders and trust, and are different from western beliefs on the rule of law." The cultural homogeneity across the country is reinforced by the fact that more than 90% of Chinese people are from the Han ethnic group, which has shared the same social norms, culture, language, and traditions for more than 5000 years.¹ Such a predominance of a single ethnic group in one nation is the highest among large countries all over the world. Given these commonalities in the Chinese culture and

¹ Most minority ethnic groups in China, such as the Hui, Zhuang, Manchu, and Mongolian (which are the biggest ones), use Mandarin as their primary language and hence are strongly influenced by the Han culture. Moreover, although there are various dialects in China, the ideographic nature of the Chinese language allows for the separation of speaking and writing and therefore the dialects only differ phonetically. As a result, the written version of Chinese reinforces the cultural homogeneity across the country.

legal system, both Allen et al. (2005) and the World Bank study conclude that inter-regional differences in development mainly reflect local government efforts (or lack thereof) to support and participate in the growth of private-sector firms. Fan and Wang (2006) reach a similar conclusion in their survey of the institutional environment of the different Chinese provinces.

It is precisely this stark contrast between the heterogeneity in institutional and economic development and the homogeneity in law and culture across the country that makes China an ideal setting to analyze our research question about the role of institutional development in the value of business groups.

B. The Development of the Chinese Private Sector

Regional disparity aside, the transition in China has been marked by the progressive decline in large state-owned enterprises (SOEs) and corresponding expansion of the private sector. Anderson et al. (2003) show that the contribution of SOEs to GDP as measured by output percentage dropped from 77% in 1978 to just over 28% in 1999, while the relative output of privately-owned enterprises rose from zero to 18% over the same period, and collectively-owned firms accounted for 35% in 1999.² The All-China Federation of Industry and Commerce survey reports that the number of privately-owned and run firms with revenues above 120 million yuan (\$14.5million) rose from 1,582 in 2002 to 2,268 in 2004.³ In its 2005 survey on the private sector in China, Hong Kong based brokerage CLSA reported that the private sector in China was by then responsible for about three-quarters of economic output and employment.⁴ Allen et al. (2005) show that the private sector grows much faster than the other and provides most of the economy's growth. In late 2009, the private sector represented 95% of all companies in China

²Collectively-owned firms in China are similar to cooperatives in Western economies but often started by local town governments. They can be seen as a hybrid between SOEs and private firms.

³ "Survey confirms China's reliance on private companies to fuel growth," *Financial Times*, August 26, 2004.

⁴"Private sector 'in control of China economy'," *Financial Times*, September 13, 2005.

and contributed over 70% of all profits generated by Chinese companies.⁵

Part of the shift in balance between SOEs and private-sector firms has taken place through share-issue privatization in Chinese stock markets, the Shanghai and Shenzhen stock exchanges, which have gained considerable size and momentum since their establishment in 1990. On August 9, 2007, the total market capitalization for the first time exceeded the nation's previous-year GDP of 21 trillion yuan or about \$2.8 trillion.⁶ As stated by the Chinese government, the main purposes of the stock market are to raise much-needed capital for SOEs, and to facilitate SOEs' restructuring as corporations. However, most privatization processes have been partial, since the government still retains majority ownership or control in most listed companies (Sun and Tong (2003), Allen et al. (2005)).

Most of the remaining (non-state-controlled) listed companies are business groups, in which the largest shareholder is the founder or controlling family and the state has either withdrawn or never held any interest. Table I shows that, as of 2007, 896 (62%) of 1,453 publicly listed firms were state-controlled and 491 (34%) were business groups. Among the latter, 201 were privatized from former SOEs, 32 changed ownership from a collective organization to an individual or family, and 258 were founded *de novo* within the private sector (see Table IV and its discussion later in the paper). These figures suggest that the development of the Chinese private sector is not just the outcome of the privatization of SOEs. Rather, the privatization process has been complemented to a significant degree by entrepreneurial activity in China.

The growth of firms that have been born in the private sector is particularly remarkable given the Chinese stock exchanges' official mandate to serve SOEs, which has translated into a large bias in equity issuance against non-SOEs. In our sample, for instance, 187 (93%) of the 201

⁵Speech given by the head of the National Statistic Bureau of China at the Annual Forum of Chinese Economists on November 22, 2009.

⁶ "Mainland stocks become world giants after defying global rout," *South China Morning Post*, August 15, 2007.

business groups that were formerly state-owned had their IPO before they were privatized.⁷ The first listed business group appeared in 1992, but until 1997, the number of business groups was minimal compared with the rapid increase in market capitalization and the total number of listed firms. In 1997, less than six percent of listed firms were business groups, despite the increasing importance of non-SOEs in the Chinese economy. However, 1998 saw the start of a boom in business group listings. The trend was further boosted by the establishment of the Shenzhen second board market in 2004, and by the opening of the Chinext market in October 2009, which is designed to be the NASDAQ-style exchange for startup and innovative companies.

C. Ownership, Control, and Management of Business group in China

Starting with La Porta et al. (1999), the literature on international corporate ownership has documented that most firms around the world are controlled by large shareholders with the aid of mechanisms such as dual-class stock and pyramids that enable them to enhance their control above their economic interest. Claessens et al. (2000) show that the wedge between share ownership and voting control in East Asia is particularly pronounced in family firms. Yet it is worth noting that their study does not include China. Unlike other Asian countries, China does not allow the issuance of dual-class stock with different voting rights.⁸ However, pyramid structures are widespread among both SOEs and business groups, as suggested by Table I and discussed later in the paper. Fan et al. (2007) analyze the pyramid structures of Chinese listed SOEs and conclude that the government uses them to decentralize decision rights to firm management without selling off its ownership.

⁷ In contrast, 14 (44%) of the 32 family firms that were previously collectively-owned firms had their IPO before the family took control of the company

⁸ In China there are multiple classes of common stock that are issued for different types of investors: Class A and Class B shares, which are tradable in the Shanghai or Shenzhen stock exchanges among Chinese and foreign investors, respectively; Class H shares, which trade in the Hong Kong stock exchange and can be held by anyone; and non-tradable shares that are held by the state, the firm's founders, foreign owners, employees or legal entities during the process through which firms are converted into limited liability corporations but before they are listed (Allen et al., 2005).

Figure 1 shows an example of a Chinese business group, City Champ Dartong Co. Ltd.(Guan Cheng Da Tong, ticker 600067). Following Villalonga and Amit (2009), we decompose the wedge between the controlling family's ownership stake and its voting into its various elements to determine the contribution of each control-enhancing mechanism at play.

City Champ Dartong is controlled by the Han family, who owns a 23.07% equity stake through multiple control chains, as depicted in the Figure. The company's founder, Han Guolong, indirectly owns 4.75% of the listed company shares through a four-tier pyramid. He personally owns 80% of Xin Jing International, which holds 36.16% of China Hai Dian Holdings Limited. Hai Dian Holdings's, in turn, owns 100% of Starlex, which is the second largest shareholder in City Champ Dartong with a 16.39% ownership stake. Han Guolong's ownership stake in City Champ Dartong is the product of all these stakes along the chain of control: $80\% \times 36.16\% \times 100\% \times 16.39\% = 4.75\%$.

Meanwhile, Xue Lixi, who is Han Guolong's daughter-in-law, indirectly owns another 18.32% of the listed company shares through Fu Jian Feng Rong Investment, in which she personally owns a 68.5% equity stake. Since Fu Jian Feng Rong Investment owns 26.74% in City Champ Dartong, Xue Lixi's indirect ownership in the listed company is: $68.5\% \times 26.74\% = 18.32\%$. Therefore, the Han family's combined ownership in the listed company is $4.75\% + 18.32\% = 23.07\%$.

The family's voting control of City Champ Dartong is 43.13%, the sum of the weakest links in each control chain (16.39% and 26.74%), which is 20.1%, or 1.9 times, higher than the family's ownership stake. In addition, Han XiaoJie, Han Guolong's son, is the CEO of the company.

In this paper, we perform a similar analysis of each business group in our sample to arrive at separate measures of (1) the controller's ownership stake; (2) the extent to which the

controller's voting control exceeds its ownership stake; and (3) the controller's presence in management in the role of CEO. We then investigate how each of these measures impact firm value in different institutional settings.

II. Institutional Development, Business Groups and SOE

Institution is defined as "the rules of game in a society". A more developed economy should have a better institutional environment, e.g. well-structured property rights, an effective court and judicial system, and the complementary development of voluntary standards (North, 1990, p. 64). By lowering transaction costs, efficient economic institutions facilitate the long-run growth of both the economy and firms. In a superior institutional environment, the firm will be provided with more business opportunities and will be better able to exploit them. In accordance with institutional environment, there are largely two types of transaction structure. When institutional efficiency is low, there will be more "relational contracting", i.e. relationship-based, personalized exchanges. When institutional efficiency is high, arms-length transactions are more prevalent (Peng, 2003). In the extant literature, we identify three main theories explaining the prevalence of business groups in emergent economies: the investor protection view, the internal market view and the outcome of cultural norms.

Burkart et al.'s (2003) theoretical model of family succession suggests that it is attributable to the varying degrees of investor protection around the world: the lower the legal protection of outside investors, the higher the need for a large (family) shareholder that can mitigate the agency problem between owners and managers, but also the higher the ability of the large shareholder to expropriate minority investors. As a result, the model predicts that business groups controlled by families will be more prevalent in countries with low investor protection, which is consistent with the evidence in La Porta et al. (1999). The theory also suggests that the variation in business groups' value may be related to investor protection, but it is ambivalent

about the sign of the relationship: whether business groups have higher or lower value in high- or low- investor protection countries (relative to non-family firms) will depend on which of the two agency problems dominates—the one between owners and managers or the one between large and small investors. Indeed, the evidence on this point remains inconclusive; La Porta et al. (2002) find higher values for firms in countries with better investor protection and for firms with higher cash-flow ownership by the controlling shareholder, but find no significant interaction effect between the two factors.

A second explanation is suggested by Khanna and Palepu's (2000b) arguments about diversified business groups in emerging markets (which are usually family-controlled): when the institutions that contribute to the efficiency of input and output markets are under-developed, business groups can act as substitute markets for capital and labor and thus contribute to mitigate market failures caused by agency and information problems. Families can also add value to their firms in product markets, through their business and political connections or reputation. While fundamentally different from the legal investor protection argument, this "internal markets" explanation shares with it the prediction that business groups should be more prevalent in less developed markets. It does, however, offer a more definite prediction about the sign of the moderating effect of institutional development on the value of business groups: business groups should have higher value relative to non-group firms in less developed environments.

A third explanation to the variation in the prevalence and value of business groups is that it is the outcome of cultural norms such as family values or trust that are deeply embedded in social and economic behaviors in each country (Weber (1904), Banfield (1958), Fukuyama (1995)). Some macroeconomic evidence is consistent with this view: Morck et al. (2000) show that countries in which inherited wealth is large relative to their gross domestic product (GDP) have slower growth than similarly developed countries where entrepreneurs' self-made wealth is

large relative to GDP. Bertrand and Schoar (2006) show that countries with stronger family values such as children's obedience to parents or parental duties to their children have lower economic performance in terms of GDP per capita. As they acknowledge, however, family values may be the consequence rather than the cause of economic development. Moreover, because economic and institutional development are highly correlated, it is difficult to separate the cultural explanation from the central tenet, common to the other two explanations, that the variation in the prevalence and value of business groups across countries results from differences in institutional and market development.

Meanwhile, the existing literature supports the potential outperformance of business groups over SOEs through five different angles: principal-agent conflicts, contracting ability issues, soft budget constraints, corporate culture and organizational structure.

First, Jensen and Meckling (1976) brought the issue of misalignment between managers' interests and owners' interests to center stage. Lower agency costs are associated with better performances and thus higher firm values, all other things being equal. There are clear principal-agent conflicts between the state and the ultimate owners of the so-called "state-owned" firms, the citizens. Agency costs are incurred because the goal pursued by the state is very likely to be inconsistent with the goal pursued by the citizens. Apart from profit maximization, the state may pursue goals such as social welfare or other political purposes. To add to this, there are various governmental entities that de facto control the SOEs, and their interests can be contradictory. For example, SOEs may be controlled by central government and local government, or by various government departments. Conflicts of interest between these government entities add to the inefficiency of SOEs. In a business group, the management team is made up of leading members of the founding family. This combination of owners and managers avoids many of the "agency" problems that Western businesses face in getting executives to promote the interests of

shareholders (Weidenbaum 1996). The empirical literature regarding corporate takeovers adds support to the agency theory position that more concentrated management ownership leads to greater firm efficiency (Jensen 1988, Scharfstein 1988). Takeovers concentrate ownership and control into the hands of a small group of managers and buyout specialists. This concentration is generally followed by improvements in operating efficiency and increases in firm value. The research on corporate efficiency and changes in value after a takeover suggests that reduced agency costs due to the concentration of control created by the takeover are responsible for the improvements (McConaughy, Matthews, and Fialko 2001). The costs of monitoring are lower when management is concentrated, meaning family-controlled business groups should be more efficient (Fama and Jensen 1983). Referring specifically to closed organizations, Fama and Jensen suggest that family relationships among owner/managers should reduce agency costs as well as provide quasi-economic rents.

This difference in principal-agent conflicts between SOEs and business groups is even more interesting in this study on listed firms. The popular view of the traditional SOE is that it pursues political and social goals in addition to profit maximization. However, Chinese listed SOEs are unencumbered by such political and social burdens, and are solely for-profit companies. As stated by the Chinese government, the objective of the SOE reform is to transform the traditional SOEs into modern corporations focusing primarily on profit maximization. Going public is regarded by the government as a very important part of that process. While the objective of profit maximization as pursued by the firm and its shareholders are well aligned in business groups, there is a constant conflict between the for-profit mission of these listed SOEs and goals such as social welfare or other political purposes pursued by their largest shareholder – the state.

Even if the state and citizens agree that profit maximization is the only goal to be pursued by SOEs, contracting ability issues will also make state ownership less efficient than private ownership. Property rights literature suggests that there is a broader range of monitoring devices under privately-held ownership. Alchian (1977, p. 36) notes that, “behavior under [state and private] ownership is different, not because the objectives sought by organizations under each form are different, but, instead, because even with the same explicit organization goals, the costs-rewards system impinging on the employees and the ‘owners’ of the organization are different.” Shleifer (1998) argues that the owners of public firms (the nation’s citizens) are less able to write complete contracts with their managers because of their diffuse nature, making it difficult to tie the managers’ incentives to the returns generated by their decisions.

Business groups, in contrast, tend to solve this problem more easily. There is often a more clearly defined culture because the controlling shareholder ethos determine the prevailing values, norms, and attitudes and the family members have extensive knowledge of the firm, having been familiar with it from early childhood (Kets de Vries 1993). Family control often serves to monitor and discipline managers (DeAngelo and DeAngelo 1985), and as a result, family-controlled firms are less likely to have any explicit incentive compensation plan (Kole 1997). McConaughy (2000) found that founding family CEOs in family-controlled firms earn less and receive less incentive pay than non-family CEOs in family-controlled firms, after controlling for size, managerial ownership, and tenure. His results are consistent with the family incentive alignment hypothesis, namely that founding family managers are naturally more motivated than non-family managers to achieve good firm performance. This concurs with Fama and Jensen’s (1983) hypothesis that family control improves monitoring. In other words, more effective monitoring in family-controlled firms reduces the need to “incentivize” CEOs to aim for high performance.

Soft budget constraints protect SOEs from market discipline, which is a vital requirement for a company's viability. The concept of the soft budget constraint was coined by Kornai (1979, 1980). He describes the soft budget phenomenon as follows: "firms are bailed out persistently by state agencies when revenues do not cover costs" (Kornai 1998, p.12), and defines soft budgets as "the expectation of the decision-maker as to whether the firm will receive help in time of trouble..." (Kornai 1998, p.14). Stiglitz narrows the definition further to situations when "enterprises believe that any losses they incur will be made good by the government" (Stiglitz 1994, p.184). Armed with the expectation that the state will give them a helping hand whenever the company runs into trouble, managers of SOEs are inclined to behave imprudently, e.g. invest in new projects with negative net present value. Such imprudent behavior eventually results in financial distress. Berglof and Roland (1998), and Frydman et al. (2000) all suggest that soft budget constraints have been a major source of inefficiency for SOEs.

Business groups operate in a totally different environment. Their dynamics are different, because of the added dimensions of the family relationship and the time horizon (Kets de Vries 1993). Managers can adjust their capital structure to satisfy their own preferences regarding risk and return (Van Horne 1980). Managers in these firms have a high personal investment in it, in terms of both finance and human capital. They also have a likelihood of receiving quasi-rents from their positions. It can thus reasonably be expected that they will run their business more conservatively and more diligently than their counterparts in state-owned firms.

Corporate culture is an important factor in explaining the difference in firm performance between business groups and SOEs, as it is always related to a company's capability to adapt externally and integrate internally (Schein 1992). Weidenbaum remarks that Chinese business groups are typically headed by a paterfamilias figure who is "all powerful in both social and economic spheres" (1996, p. 141). The leader of the family business has great authority that few

subordinates would dare challenge, and he delegates key activities and positions to family members. As a result, the prevalent corporate culture is a command culture. A recent study conducted by Hay Group (2007) also finds that “the Chinese leadership style is predominantly paternalistic in nature. Chinese CEOs are less likely to give rationales for decisions and more inclined to issue directives – this is known as the ‘directive’ leadership style” (p. 5-6). With this type of corporate culture, business groups can swiftly adapt to external changes and coordinate internal resources efficiently.

In contrast, SOEs are notorious for their huge administrative organ and hierarchy (Lockett 1988). Even after nearly twenty years of economic reform, the historical legacy makes it difficult for SOEs to adopt new practices (Ding, Goodall, and Warner 2000) and hence their management structure remains overcomplex and inclined to redundancy. The culture of SOEs thus leads to bureaucracy and low efficiency problems. Tsui et al. (2006) find that compared with the organizational culture of private enterprises, SOE culture leads to less efficient external adaptation and internal integration.

Organizational efficiency is another advantage enjoyed by business groups. Their relatively small size is one factor, as it increases the simplicity of the organizational structure (see the descriptive statistics of our sample in Table III). Another reason is that a simple organization structure allows the family to maintain control over a large range of business activities (Weidenbaum 1996). Simple organizational structure leads to simple decision-making. However, for SOEs, with their huge and complex organizational structure and bureaucratic hierarchy, decision-making is slow. It is quite common for a small problem to go through several layers of the hierarchy before it can be solved (Liu 2003).

Simple decision-making results in a consensus on firm strategies, risk-taking, and fast responsiveness. It also reduces the standardization, rigidity, and formalization associated with

bureaucracy. As a result, compared with their state-owned counterparts, family-owned enterprises are more flexible and highly adaptable to environmental changes. For example, the Hay Group study (2007) confirms that family-owned firms, thanks to the simple decision-making structure within their organization, are experienced in seeking harmony in outside business relations when they are “faced with complex, multi-party negotiations involving other businesses and different parts of the local and/or national government – situations that would tax anyone’s negotiating skills” (p. 3).

In summary, it remains interesting to test empirically on one hand the value and performance differences between business groups and SOEs and on the other hand how these differences vary with the ownership, control and management of business group and with the institutional development.

III. Data and Variables

A. Sample and Data

Our sample consists of 1,453 A-share companies listed on the Chinese stock market in 2007, for which the ownership and financial data needed for our empirical analyses are available.⁹ We note that this is not a random sample of the total population of firms in China; which also includes non-listed firms. However, it is the best and largest sample for which we can obtain reliable ownership data, which are critical to our research objective. Since 2007, listed companies are required by the China Security Regulatory Commission (the stock market’s regulatory authority) to disclose information about their ultimate controlling shareholders. Prior to the enactment of this rule, controlling shareholders were difficult to identify due to lack of transparency. We thus take advantage of this new disclosure requirement and manually collect the following information from our sample companies’ 2007 annual reports: (1) the identity and

⁹ See footnote 4 above for a description of the different types of shares in Chinese listed companies.

immediate ownership percentage of the two largest shareholders; (2) the identity, control mechanism, and ownership stake of the ultimate controlling shareholder; and (3) the ultimate ownership stake of corporate insiders (officers and directors). Financial data for our sample firms are obtained from the GTA Data Company, the leading data provider in China, which collects financial information from company annual reports as well as from the Chinese stock exchanges.

We define group firms as those affiliated with a business group, i.e. controlled by an ultimate private owner (founder or family). Of the 1,453 companies in our sample, 491 are group firms and 962 are non-group firms. Among the latter, 896 are ultimately controlled by the state (and referred to as SOEs in the remainder of the paper), and 66 are neither group- nor state-controlled. Included in this category of owners are, in order of their prevalence, collective organizations, universities, foreign owners, and small Chinese investors.

Table I reports the average ownership and voting stakes of different controlling owner types. For listed business groups, the controlling shareholders on average hold 26% of the shares and control 35% of the votes. As noted above, this wedge of 9% (or 1.35 times ownership) is entirely attributable to the use of pyramids. The state, in turn, holds an average of 36% of the shares and 40% of the votes in the listed companies that remain under its control. The 4% wedge (or 1.1 times ownership) indicates that the Chinese government also resorts to the use of pyramids to retain control, as suggested by Fan et al. (2007). Other types of owners also control slightly more votes than the shares they hold (27% vs. 24%). Overall, however, business groups get considerably more leverage out of their pyramids than non-group firm owners, whose wedge averages only 4%.

Table I also reports the average ownership stake of the second largest blockholder. We find that, on average, the second largest blockholder in Chinese listed companies only holds 7% of the shares (as compared to a sample average of 32% for the largest shareholder). We note,

however, that because the China Security Regulatory Commission only requires full ownership disclosure from the controlling (largest) shareholder, for other shareholders only direct ownership stakes can be obtained. To the extent that these shareholders too may use pyramids to enhance their control, the direct ownership figure of 7% is likely to overestimate their actual ownership in the listed company. This power imbalance suggests that second-largest blockholders may be unable or unwilling to prevent controlling shareholders from appropriating private benefits of control if they choose to do so.

B. Variable Descriptions

Table II contains summary descriptions of all the variables we use in our empirical analysis. Two of the variables merit further explanation. The first is our key dependent variable, *Tobin's q*, which by definition is the ratio of the firm's market value to the replacement cost of its assets. Most Chinese listed companies have, in addition to their listed and tradable shares, a class of non-tradable shares that are not publicly listed on any stock market.¹⁰ When non-tradable shares are traded in private, their price tends to be primarily determined by their book value. We therefore measure *Tobin's q* as the sum of the market value of tradable equity, plus the book values of non-tradable equity and net debt (liabilities minus liquid assets), divided by total assets. All the empirical analyses reported in the paper are based on *Tobin's q* calculated in this way. However, our results are robust to the use an alternative measure of *q*, in which equity value is computed as the product of the tradable stock's price by total number of shares outstanding (including tradable and non-tradable shares).

¹⁰ In April 2005, the China Securities Regulatory Commission launched a so-called "non-tradable shares reform" to convert the non-tradable shares to be tradable on the open market. As stipulated by the reform, holders of the non-tradable shares paid cash and stock to the holders of tradable shares in exchange for their shares' "tradability." By 2007 (our sample year), the reform had been completed but the converted non-tradable shares were still within the 1-2 year official lock-up period.

The second variable that is worth describing in some more detail than what is provided in Table II is *Institutional Efficiency*, which is derived from the World Bank's (2006) ranking of 30 Chinese provinces according to their investment climate. Using a survey on 12,400 firms from 120 cities in China, the World Bank measures investment climate by an index that captures: (1) market potential, (2) labor flexibility, (3) skill and technology endowment, (4) private sector participation, (5) government efficiency, (6) contract enforcement, (7) access to finance, and (8) harmonious society (which is a combination of a broad range of factors such as air quality, female education, and medical insurance coverage). Based on this index, the World Bank (2006) ranks China's regions from best to worst as follows:

- (1) Southeast (Jiangsu, Shanghai, Zhejiang, Fujian, and Guangdong),
- (2) Bohai (Shandong, Beijing, Tianjin, and Hebei),
- (3) Central (Anhui, Henan, Hubei, Hunan, and Jiangxi),
- (4) Northeast (Heilongjiang, Jilin, Liaoning),
- (5) Southwest (Yunnan, Guizhou, Guangxi, Sichuan, Chongqing, and Hainan), and
- (6) Northwest (Shanxi, Shaanxi, Neimenggu, Ningxia, Qinghai, Gansu, and Xinjiang).

Empirically, the World Bank's (2006) study finds that better regional investment climate is associated with higher productivity. Therefore, the ranking of investment climate can be viewed as a measure of regional institutional efficiency in China. For most of our analyses, we collapse the six regions into two groups to simplify tests across groups and to facilitate the comparison between those tests and the results of the regressions where we interact our group-related variables with the institutional efficiency dummy. Specifically, the top two regions, where 836 of our sample companies are headquartered, are classified as having high institutional

efficiency, while the bottom four regions, which are home to the remaining 617 companies, are classified as having low institutional efficiency.¹¹

As robustness check, we also use another measure of institutional efficiency, which is based on Fan, and Wang's (2006) index of the market development of Chinese provinces as an alternative source to the World Bank's survey. Fan and Wang's index takes into consideration the following factors: (1) relationship between government and market; (2) development of the private sector; (3) development of product markets; (4) development of the labor market; (5) development of financial markets; (6) foreign direct investment; and (7) the legal environment, particularly as it relates to the protection of entrepreneurs, employees, consumers, and intellectual property. In our analyses, provinces are classified as having high (low) institutional efficiency when they are above (below) the median index value. The regression results are robust to the use of an alternative institutional efficiency measure.

C. Descriptive statistics: Group vs. Non-Group Firms

Table III shows descriptive statistics for the full sample as well as for subsamples formed along two dimensions: group vs. non-group firms, and high vs. low institutional efficiency. Panel A shows that group firms on average have significantly better performance than non-group firms, regardless of how performance is measured—Tobin's q , industry-adjusted q , or ROA.

Panel A of Table III also shows that business groups, as the controlling shareholders, use pyramids not just to a greater effect than other controlling owners (as reported in Table II), but also with much greater frequency—70% vs. 28%. In addition, 25% of business groups have a CEO related with the controlling shareholders.

On average, business groups are significantly smaller, younger, and less capital-intensive than non-group firms. Yet they exhibit significantly lower systematic risk, and they are not

¹¹ Dividing the sample into the top three and bottom three regions would create a higher imbalance in the size of the two subsamples.

significantly different from non-group firms in their growth and leverage. In terms of economic magnitude, the most significant differences are in firm size: business groups' assets (sales) average 3.89 (1.43) billion yuan, while non-group firms average 40.4 (8.56) billion yuan—more than ten times larger. This striking difference suggests that, for all the growth that the Chinese private sector has seen, the largest companies in the country still remain under state control.

In Panel B of Table III, we conduct a two-dimensional breakdown of the full sample. The tests of differences in high vs. low institutional efficiency regions within the subsample of business groups (second column from the right) shows that relative to business groups in low-efficiency regions, those that are headquartered in regions with high institutional efficiency have higher controlling shareholder ownership (28% vs. 22%); lower voting control, (8% vs. 9% in excess of ownership); and a significantly higher frequency of CEO related with controlling shareholder (30% vs. 19%).

Panel B of Table III also confirms that the largest, most capital-intensive, and least leveraged companies in China are the non-group firms (which are primarily SOEs) that are located in regions with high institutional efficiency.

The comparison between business group and non-group firms within each regional subsample yields very similar results to the comparison between group and non-group firms in the whole sample (shown in Panel A of Table III). Of particular interest is the difference in Tobin's q between group and non-group firms, which is $3.90 - 2.96 = 0.94$ in the full sample, $3.84 - 2.90 = 0.94$ in the high institutional efficiency subsample, and $4.01 - 3.04 = 0.97$ in the low-efficiency subsample. All three differences are statistically significant at the 1% level. The difference-in-differences is therefore $0.94 - 0.97 = -0.03$, and can be interpreted as a measure of the moderating role of institutional development in the effect of group ownership and control on firm value.

A similar calculation can be made with respect to the prevalence of business groups. These firms represent 37% (= 312/836) of the subsample of companies in regions with high institutional efficiency, but only 29% (=179/617) of companies in the low-efficiency subsample. The difference between the two, which can be interpreted as a measure of the role played by institutional development in the prevalence of business groups, is 8%.

IV. The Role of Institutional Development in the Value of Business Groups

A. Main Effects of Controlling shareholder Ownership, Excess Voting, and Management on Firm Value

We begin our investigation of the role of institutional development in the value of business groups by analyzing the impact of group controlling shareholder ownership, excess voting, and management on Tobin's q in our full sample of Chinese firms. Specifically, we run ordinary least squares (OLS) regressions of Tobin's q on controlling shareholders' ownership, excess voting, and CEO dummy and their interaction with business group dummy. Table IV shows the results of this analysis. The results reported in the second to and fourth columns of the table are based on three different alternative measures of firm performance. In addition to Tobin's Q , we also use industry-adjusted q to account for the fact that group firms are not distributed uniformly (nor randomly) across industries; thus, a concern may be raised that the results from the raw q estimation may be attributable to industry factors unrelated to group firms. In the fourth column we use return-on-assets (ROA) to address the potential concern that market-based performance measures in China are unreliable because Chinese stock markets are inefficient (Allen et al., 2005).

The results are very similar across the different measures of performance. Controlling shareholder ownership is positively and significantly associated to firm value, while excess voting and controlling shareholder management are not significantly associated to it.

The coefficients of the business group dummy and its interaction with controlling shareholder ownership excess voting and management are also insignificant.

B. Effects of Group Ownership, Control, and Management on Firm Value in Different Institutional Contexts

We next examine whether the effect of group ownership, control, and management on firm value varies across different institutional contexts. To this end, we first conduct OLS regression on two subgroups of firms from high and low institutional efficiency regions. The respective results are reported in Panel B and C of table IV. Comparison between the two panels shows substantial differences, i.e. only in regions with low institutional efficiency, business group significantly increases firm value and excessive voting control by business group significantly destroys firm value and management by business group significantly increases firm value. None of these effects is significant for subsample of firms from high institutional efficiency regions.

We then further extend the regression model of Table IV by all the three-way interaction terms of controlling shareholder ownership, excess voting, and management variables with business group dummy and with institutional efficiency dummy. The institutional dummy, which takes on a value of one when efficiency is high, and zero when it is low is based on world bank (2006)'s ranking of China' regional investment climate.

The results of this analysis are reported on Table V which confirms the strong role played by institutional efficiency in moderating the effects of business group ownership, excess voting and management on firm value. In specific, the business group ownership, though not significantly related with a firm's market performance, measured by the raw and industry-adjusted Tobin's Q, does have a significant and positively impact on operating performance, i.e.

ROA. As to Tobin's Q, it is significantly negatively related with business group excess control, indicating the market's awareness of the potential risk of expropriation by controlling shareholders. The business group management is positively related with firm performance for all three measures. However, the coefficient of interaction term between business group management and the institutional efficiency dummy is significantly negative, implying that the positively role of business group management played is stronger in low-efficiency settings and is significantly weakened in high-efficiency settings.

The results suggest a role for institutional development on the value of business groups that is consistent with the predictions of both the investor protection view and the internal markets view. In a more efficient institutional context, external factors play an important role in disciplining and incentivizing both group and non-group firms. Product and factor markets are more competitive, and courts and regulatory authorities are more effective in enforcing contracts and judging economic disputes. The labor market is also more sophisticated and efficient, so that professional managers become a viable choice for group firms as they are for non-group firms. As a result, group controlling shareholders' interests are better aligned with those of their companies, and less motivated to expropriate minority shareholders. Furthermore, in an environment with better investor protection and effective legal enforcement, group controlling shareholders are also closely monitored, which makes the expropriation of minority shareholders more difficult and costly.

In contrast, in regions with low institutional efficiency, both the positive effects of group ownership and the negative effect of group control in excess of ownership become much more prominent. As argued by Khanna and Palepu (2000b), when institutions are underdeveloped, group firms can play a valuable role to all shareholders (and even other stakeholders) by providing a substitute for external labor, capital, and product markets. Therefore we see that

group ownership enhances firm value in regions with low institutional efficiency . On the other hand, due to weaker external discipline, as the wedge between group ownership and voting becomes wider, small investors become more concerned with the risk of being expropriated and thus discount the stock price of group firms relative to their peers, which is consistent with the prediction of legal protection theory (La Porta et. al 1999)

Our findings about the effect of group management in different institutional settings are also very consistent with the internal markets view. In this type of setting, as labor is limited in supply and the market for it more inefficient, competent professional managers are a scarce resource, and internal group managers become a more attractive option—sometimes even the only one—for group firms. The investor protection theory offers a very different view of group management. In Burkart et al.'s (2003) model, for instance, appointing a family heir as a management successor is viewed as a private benefit of control that founders may enjoy. However, it is worth noting that group management in China is mostly exercised by founders, not heirs, given the recentness of the Chinese private sector's development. Thus the investor protection view may in fact agree with the prediction of the internal markets view in this setting.

C. Endogeneity of Group Firm Status

There is possibility that group firms do not occur at random but as a rational response on the part of their owners to keep ownership and voting control within the group. Hence, in estimating the effects of group ownership, control, and management on firm value, either by themselves or in their interaction with institutional development, one needs to control for the endogeneity of the group firm status.

In table VI, we use Heckman's (1979) two-stage approach to estimate several treatment effect models where the first stage is a probit model of the probability that a firm is a group firm. The second stage consists of linear regressions of Tobin's q on the effects of group ownership,

control, and management and their interaction effects with institutional efficiency. We apply the exclusion restriction to the institutional efficiency dummy, since we see no reason why it should affect firm value per se. Moreover, our findings in Tables V empirically confirm that institutional efficiency is uncorrelated with Tobin's q (the dependent variable in the second stage).

From the first stage regression, we can see that institutional efficiency is a significant predictor of the business group status, validating our choice. Moreover, the coefficient of the self-selection parameter λ is negative and statistically significant for all the three regressions, which supports our concern about possible selectivity bias in the single-stage estimates. The regression results in Table VI after controlling for this bias, the interaction effects of institutional development with group ownership, excess voting, and management on firm value do not change much in size or statistical significance after correcting for endogeneity.

V. Conclusion

In this paper, we use manually collected ownership data from a sample of publicly listed firms in China to test for the role of institutional development in the value of business groups. While legal investor protection and institutional development in general are often used to explain the observed variation in the prevalence and performance of business groups around the world, prior empirical studies did not explain how business group is owned, controlled, managed by its ultimate controller, how these corporate governance aspects impact on the firm value and if these impacts vary with various institutional development. Our focus on Chinese data allows us to do precisely this, since China offers great heterogeneity in institutional efficiency across its various regions, yet the whole country shares a common baggage of cultural and social norms together with a common legal and regulatory framework. Moreover, its disclosure regulation also facilitates the identification of the ultimate controllers of these listed companies.

We find that in the low institutional efficiency regions the ownership, control, and management of business group have significant effects on firm value and profitability: (1) business groups create more value than non-group firms (mainly SOEs); (2) the voting control in excess of ownership, which in China is primarily achieved through the use of pyramids, is negatively and significantly related to value; and (3) the involvement in management of group controlling shareholder, which in China is primarily exercised by founders, bears no significant relation to value in the full sample. In regions with high institutional efficiency, the significance of all the effects disappears. We further show that these results are not driven by our choice of variables or the endogeneity of family firm status.

We conclude that business group is an optimal response to institutional development, not to cultural differences. These findings are particularly relevant for China as it continues its transition from a central planning system to a market economy. More generally, we throw new light onto the debate about the causes and consequences of business group around the world.

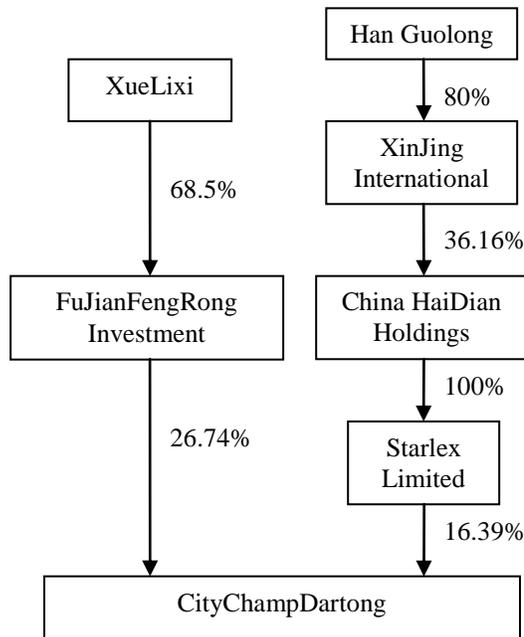
References

- Alchian, A. (1977), *Some Economics of Property Rights*, In *Economic Forces at Work*, (Ed, Alchian, A.).Liberty Press, Indianapolis, Indiana.
- Allen, Franklin, Jun Qian, and Meijun Qian (2005), “Law, Finance, and Economic Growth in China,” *Journal of Financial Economics* 77, 57–116.
- Anderson, Alistair, Jin-HaiLi, Richard Harrison, and Paul Robson (2003), “The Increasing Role of Small Business in the Chinese Economy,” *Journal of Small Business Management* 41, 310–316.
- Anderson, Ronald, and David Reeb (2003), “Founding Family Ownership and Firm Performance: Evidence from the S&P 500,” *Journal of Finance*58, 1301–1329.
- Banfield, Edward(1958),*The Moral Basis of a Backward Society*. New York: Free Press.
- Barontini, Roberto, and Lorenzo Caprio. (2006), “The Effect of Family Control on Firm Value and Performance: Evidence from Continental Europe,” *European Financial Management* 12:689–723.
- Berglof, E. & Roland, G. (1998), “Soft Budget Constraints and Banking in Transition Economies,” *Journal of Comparative Economics*, 26, 1, 18-40.
- Bertrand, Marianne, and Antoinette Schoar (2006), “The Role of Family in Family Firms,” *Journal of Economic Perspectives* 20, 73–96.
- Burkart, Mike, Fausto Panunzi, and Andrei Shleifer (2003), “Family Firms,” *Journal of Finance*58, 2167–2202.
- Campa, José M., and Simi Kedia (2002), “Explaining the Diversification Discount,” *Journal of Finance* 57, 1731–1762.
- Chang, S. J. (2003), “Ownership Structure, Expropriation, and Performance of Group-Affiliated Companies in Korea,” *Academy of Management Journal*, Vol. 46, No. 2, 238-253.
- Chang, S. J. and J. Hong. (2000), “Economic Performance of Group-Affiliated Companies in Korea: Intragroup Resource Sharing and Internal Business Transactions,” *Academy of Management Journal*, Vol. 43, No. 3, 429-448.
- Claessens, Stijn, Simeon Djankov, and Larry Lang (2000), “The Separation of Ownership and Control in East Asian Corporations,” *Journal of Financial Economics* 58, 81–112.
- Claessens, Stijn, Simeon Djankov, Joseph Fan, and Larry Lang (2002), “Disentangling the Incentive and Entrenchment Effects of Large Shareholdings,” *Journal of Finance* 57, 2741–2772.
- Cuervo-Cazurra, A. and L. A. Dau. (2009), “Promarket Reforms and Firm Profitability in Developing Countries,” *Academy of Management Journal*, Vol. 52, No. 6, 1348-1368.
- DeAngelo, H. &DeAngelo, L. (1985), “Managerial Ownership of Voting Rights: A Study of Public Corporations with Dual Classes of Common Stock,” *Journal of Financial Economics*, 14, 33-69.

- Demsetz, Harold, and Kenneth Lehn (1985), "The Structure of Corporate Ownership: Causes and Consequences," *Journal of Political Economy* 93, 1155–1177.
- Ding, D. Z., Goodall, K. & Warner, M. (2000), "The End of 'Iron Rice-Bowl': Whither Chinese Human Resource Management?" *International Journal of Human Resource Management*, 11, 217-236.
- Faccio, Mara, and Larry Lang (2002), "The Ultimate Ownership of Western European Corporations," *Journal of Financial Economics* 65, 365–395.
- Fama, E. F. & Jensen, M. C. (1983), "Separation of Ownership and Control," *Journal of Law and Economics*, 26, 301-25.
- Fan, Gang, and Xiaolu Wang (2005), *NeriIndex of Marketization of China's Provinces*. Beijing: Economic Science Press.
- Fan, Joseph, T.J. Wong, and Tianyu Zhang (2007), "Organizational Structure as a Decentralization Device: Evidence from Corporate Pyramids," Hong Kong University of Science and Technology Working Paper.
- Frydman, R., Gray, C., Hessel, M. & Rapaczynski, A. (2000), "The Limits of Discipline: Ownership and Hard Budget Constraints in the Transition Economies," *Economics of Transition*, 8, 3, 577-601.
- Fukuyama, Francis(1995),*Trust: The Social Virtues and the Creation of Prosperity*. New York: Free Press.
- Granovetter, M. (1995), "Coase revisited: Business groups in the modern economy," *Industry and Corporate Change*, 4, 93-130.
- Greif, Avner (1989), "Reputation and coalitions in medieval trade: evidence on the Maghribi traders," *Journal of Economic History* 49, 857–882.
- Greif, Avner (1993), "Contract enforceability and economic institutions in early trade: the Maghribi traders' coalition," *American Economic Review* 83, 525–548.
- Guillen, M. F. (2000). "Business Groups in Emerging Economies: A Resource-Based View," *Academy of Management Journal*, 43, 362-380.
- Hay Group (2007), "East Meets West: Combining Two Great Business Cultures," www.haygroup.com.
- Heckman, James (1979), "Sample Selection Bias as a Specification Error," *Econometrica* 47, 153–161.
- Jensen, M. C. (1988), "Takeovers: Their Causes and Consequences," *The Journal of Economic Perspectives*, 2, 1, 21-48.
- Jensen, M. & Meckling, W. (1976), "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics*, 3, 4, 305-360.
- Jian, Tianlun, Jeffrey Sachs, and Andrew Warner (1996), "Trends in Regional Inequality in China," *China Economic Review* 7, 1–21.
- Kanbur, Ravi, and Xiabo Zhang (2005), "Fifty Years of Regional Inequality in China: A Journey through Revolution, Reform and Openness," *Review of Development Economics* 9, 87–106.

- Kets de Vries, M. F. R. (1993), "The Dynamics of Family Controlled Firms: The Good and Bad News," *Organizational Dynamics*, 21, 3, 59-71.
- Khanna, Tarun, and Krishna Palepu (2000), "Is Group Affiliation Profitable in Emerging Markets? An Analysis of Diversified Indian Business Groups," *Journal of Finance* 55, 867-891.
- Khanna, T. and K. Palepu. (2000), "The Future of Business Groups in Emerging Market: Long-Run Evidence from Chile," *Academy of Management Journal*, 43, 268-285.
- Kole, S. (1997), "The Complexity of Compensation Contracts," *Journal of Financial Economics*, 43, 79-104.
- Kornai, J. (1979), "Resource-Constrained Versus Demand-Constrained Systems," *Econometrica*, 47, 801-819.
- Kornai, J. (1980), *Economics of Shortage*, Amsterdam: North-Holland.
- Kornai, J. (1998), "The Place of the Soft Budget Constraint Syndrome in Economic Theory," *Journal of Comparative Economics*, 26, 11-17.
- La Porta, Rafael, Florencio López De Silanes, and Andrei Shleifer (1999), "Corporate Ownership around the World," *Journal of Finance* 54, 471-517.
- La Porta, Rafael, Florencio López De Silanes, Andrei Shleifer, and Robert Vishny (2002), "Investor Protection and Corporate Valuation," *Journal of Finance* 57, 1147-1170.
- Liu, S. (2003), "Cultures within Culture: Unity and Diversity of Two Generations of Employees in State-Owned Enterprises," *Human Relations*, 56, 387-417.
- Lockett, M. (1988), "Culture and the Problems of Chinese Management," *Organizational Studies*, 9, 475-496.
- McConaughy, D. (2000), "Family CEOs Vs. Non-Family CEOs in the Family-Controlled Firm: An Examination of the Level and Sensitivity of Pay to Performance," *Family Business Review*, 13, 121-131.
- McConaughy, D. L., Matthews, C. H. & Fialko, A. S. (2001), "Founding Family Controlled Firms: Performance, Risk, and Value," *Journal of Small Business Management*, 39, 31-49.
- Mishra, R. K. (2009), "State Owned Enterprises in India: Reviewing the Evidence," *OECD Working Group on Privatization and Corporate Governance of State Owned Assets*, <http://www.oecd.org/dataoecd/14/28/42095406.pdf>.
- Morck, Randall, David Stangeland, and Bernard Yeung (2000), "Inherited Wealth, Corporate Control, and Economic Growth?" in R. Morck, ed., *Concentrated Corporate Ownership*, NBER Conference Volume. Chicago: University of Chicago Press.
- Morck, Randall, Daniel Wolfenzon, and Bernard Yeung (2005), "Corporate Governance, Economic Entrenchment, and Growth," *Journal of Economic Literature* 43, 655-720.
- North, D. C., (1990), *Institutions, institutional change, and economic performance*, Cambridge University Press (Cambridge ; New York).
- Peng, M.W. (2003). "Institutional transitions and strategic choices," *Academy of Management Review*, 28, 275-96.

- Scharfstein, D. (1998), "The Disciplinary Role of Takeovers," *The Review of Economic Studies*, 55, 185-199.
- Schein, E. H. (1992), *Organizational Culture and Leadership*, Second Edition, San Francisco, CA: Jossey-Bass.
- Shleifer, Andrei, and Robert Vishny (1986), "Large Shareholders and Corporate Control," *Journal of Political Economy* 94, 461-488.
- Shleifer, Andrei, and Robert Vishny (1997), "A Survey of Corporate Governance," *Journal of Finance* 52, 737-783.
- Shleifer, A. (1998), "State Versus Private Ownership," *Journal of Economic Perspective*, 12, 133-150.
- Stiglitz, J., (1994), *Whither Socialism?*, Wicksell Lectures. Cambridge and London: MIT Press.
- Sun, Qian, and Wilson Tong (2003), "China Share Issue Privatization: The Extent of Its Success," *Journal of Financial Economics* 70, 183-222.
- Tsui, A. S., Wang, H. & Xin, K. R. (2006), "Organizational Culture in China: An Analysis of Culture Dimension and Culture Types," *Management and Organization Review*, 2 345-376.
- Van Horne, J. C. (1980), *Financial Management and Policy*, Fifth edition, Englewood Cliffs, N.J.: Prentice-Hall.
- Villalonga, Belén, and Raphael Amit (2006), "How do Family Ownership, Control, and Management Affect Firm Value?," *Journal of Financial Economics* 80, 385-417.
- Villalonga, Belén, and Raphael Amit (2009), "How are U.S. Family Firms Controlled?," *Review of Financial Studies* 22, 3047-3091.
- Villalonga, Belén, and Raphael Amit (2010), "Family Control of Firms and Industries," forthcoming, *Financial Management*.
- Weber, Max (1904), *The Protestant Ethic and the Spirit of Capitalism*, New York: Scribner's Press.
- Weidenbaum, M., (1996) "The Chinese Family Business Enterprise," *California Management Review*, 38, 141-156.
- Wong, Siu-Lun (1985), "The Chinese Family Firm: A Model," *British Journal of Sociology* 36, 58-72.
- World Bank (2006), "China, Governance, Investment Climate, and Harmonious Society: Competitiveness Enhancements for 120 Cities in China," *World Bank Report 37759-CN*.



Han Family's Ownership and Wedge Control Mechanism
Control of CityChampDartong: Components: Creating the Wedge:

$$\left. \begin{array}{l}
 O \text{ (Share ownership)} = 23.07\% \\
 (C - O) = 20.06\% \rightarrow \text{Pyramid} \\
 C \text{ (Voting control)} = 43.13\%
 \end{array} \right\}$$

Figure 1. Family Ownership and Control of CityChampDartong. Han Guolong, the company founder, owns $80\% \times 36.16\% \times 100\% \times 16.39\% = 4.75\%$ of the shares of CityChampDartong, and controls $\min(80\%, 36.16, 100\%, 16.39\%) = 16.39\%$ of the votes. XueLixi, who is Han Guolong's daughter-in-law, owns $68.5\% \times 26.74\% = 18.32\%$ of the shares of CityChampDartong, and controls $\min(68.5\%, 26.74\%) = 26.74\%$ of the votes. Therefore, the Han family's combined ownership in CityChampDartong is $4.75\% + 18.32\% = 23.07\%$, and their voting control is $16.39\% + 26.74\% = 43.13\%$.

Table I
Ownership and Control in Chinese Listed Firms

Controlling owner is the holder of the largest ultimate ownership stake. Among non-group controlling shareholders, state owners include the central and local governments. Other owners include collective organizations, universities, foreign owners, and the general public. Collectively-owned firms in China are similar to cooperatives in Western economies but often started by local town governments. They can be seen as a hybrid between state-owned enterprises (SOEs) and private firms. The sample comprises 1,453 A-share companies listed on the Chinese stock market in 2007.

Controlling Owner Type	Number of Firms	Share Ownership	Voting Control	Direct Share Ownership of Second-Largest Shareholder
1. Group	491	26%	35%	9%
2. Non-group	962	35%	39%	7%
2.1. State	896	36%	40%	7%
2.1.1. Local Government	614	36%	39%	6%
2.1.2. Central Government	282	38%	42%	8%
2.2. Other	66	21%	27%	8%
2.2.1. Collective organization	31	24%	29%	7%
2.2.2. University	13	18%	26%	8%
2.2.3. Foreign	13	29%	33%	12%
2.2.4. Widely Held	9	6%	10%	6%
Total	1,453	32%	38%	7%

Table II
Variable Descriptions

Variable	Description
1	Business Group Firm which is a member of a business group, i.e. controlled by an ultimate private owner (founder or family). Source: 2007 firm annual reports.
2	Controlling shareholder ownership stake Percentage of all shares outstanding owned by the ultimate controlling shareholder directly and indirectly. E.g., if the controlling shareholder owns 25% of Firm X, which in turn owns 20% of all shares outstanding in Firm Y, then the group owns 5% of Firm Y (the product of the ownership stakes along the chain). Source: 2007 firm annual reports.
3	Controlling shareholder excess voting control Difference between the controlling shareholder's voting control and its ownership stake, where voting control is measured by the minimum voting stake (i.e., the "weakest link") along the control chain. E.g., if a group holds 25% of the votes in Firm X, which in turn holds 20% of the votes in Firm Y, then the controlling shareholder controls 20% of the votes in Firm Y. Source: 2007 firm annual reports.
4	Controlling shareholder CEO dummy Dummy variable equal to one if the CEO is the controlling shareholders or is related with the controlling shareholder, and zero otherwise. Source: 2007 firm annual reports.
5	Institutional efficiency Dummy variable equal to one if the institutional efficiency of the region or province in which the firm is headquartered is high, and zero if it is low. The classification of regions or provinces into the high and low institutional efficiency categories is based on two alternative rankings, which are described in more detail in the Appendix: 1. The World Bank's (2006) ranking of investment climate of six regions in China, which are (from best to worst): (1) Southeast (Jiangsu, Shanghai, Zhejiang, Fujian, and Guangdong; and (2) Bohai (Shandong, Beijing, Tianjin, and Hebei); (3) Central (Anhui, Henan, Hubei, Hunan, and Jiangxi), (4) Northeast (Heilongjiang, Jilin, Liaoning), (5) Southwest (Yunnan, Guizhou, Guangxi, Sichuan, Chongqing, and Hainan), and (6) Northwest (Shanxi, Shaanxi, Neimenggu, Ningxia, Qinghai, Gansu, and Xinjiang). The ranking does not include Tibet. In our analysis, the top two regions are classified as having high institutional efficiency and the bottom four as having low institutional efficiency. 2. Fan and Wang's (2006) index of market development of Chinese provinces. In our analyses, provinces are classified as having high (low) institutional efficiency when they are above (below) the median index value.
6	Tobin's q Ratio of the firm's market value (= equity value+ liabilities – liquid assets) to total assets, where equity value= stock price × tradable shares+ net asset value per share× non-tradable shares. Source: GTA Data Company.
7	Industry-adjusted q Difference between the firm's Tobin's q and the median of q of its main industry (4-digit SIC).Source: GTA Data Company.
8	ROA Return on assets, computed as net income over total assets. Source: Wind Data.
9	Sales growth Sales growth rate from 2006 to 2007. Source: GTA Data Company.
10	Beta Slope from a market model in which the firm's 2007 weekly returns are regressed on the Chinese stock market value-weighted index. Source: GTA Data Company.
11	Leverage Ratio of total liabilities to total assets. Source: GTA Data Company.
12	Firm age since founding Number of years since the founding of the firm or the oldest of its predecessor companies. Source: 2007 firm annual reports.

Table III
Group and Non-Group Firms in Regions with High vs. Low Institutional Efficiency: Descriptive Statistics

Means, standard deviations, and *t*-statistics from tests of differences in means between group and non-group firms and between firms from high and low institutional efficiency regions in their ownership, control, and financial characteristics. Group firms are defined as those affiliated with a business group. The high institutional efficiency regions are the top two in the World Bank's (2006) ranking of investment climate of six regions in China: Southeast and Bohai. The low institutional efficiency regions are the remaining four in this ranking: Central, Northeast, Southwest, and Northwest. Tobin's *q* is measured as the ratio of the firm's market value to total assets. Non-tradable shares are priced at book value of equity. Industry-adjusted *q* is the difference between the firm's Tobin's *q* and the median *q* of its main industry (4-digit SIC). Controlling shareholder ownership stake is the percentage of all shares outstanding owned by the Controlling shareholder. Controlling shareholder excess voting control is the difference between the controlling shareholder's voting control and its ownership stake, where voting control is measured by the minimum voting stake (i.e., the "weakest link") along the control chain. Controlling shareholder CEO dummy equals to one if the CEO is the controlling shareholders or is related with the controlling shareholder, and zero otherwise. The sample comprises 1,453 A-share companies listed on the Chinese stock market in 2007. Asterisks denote statistical significance at the 1% (***) , 5% (**), and 10% (*) level, respectively.

<i>A. One-Way Sample Divisions: By Group vs. Non-Group Firms</i>							
	All Firms		Group vs. Non-Group Firms				<i>t</i> -stat. of Diff. in Means (1) – (2)
	Mean	S.D.	(1) Group		(2) Non-Group		
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Tobin's <i>q</i>	3.28	3.62	3.90	4.00	2.96	3.37	(4.70) ***
Industry-adjusted <i>q</i>	0.86	3.57	1.45	3.95	0.55	3.32	(4.56) ***
ROA	0.08	0.14	0.11	0.20	0.07	0.08	(4.43) ***
Controlling shareholder ownership stake	0.32	0.17	0.26	0.16	0.35	0.17	(-10.31) ***
Controlling shareholder excess voting control	0.06	0.09	0.09	0.09	0.04	0.08	(10.84) ***
Controlling shareholder CEO dummy	0.48	0.50	0.26	0.44	0.59	0.49	(-12.34) ***
Pyramid	0.42	0.49	0.70	0.46	0.28	0.45	(17.13) ***
Sales (RMB billion)	6.15	42.0	1.43	30.5	8.56	51.4	(-3.07) ***
Assets (RMB billion)	28.1	339	3.89	41.5	40.4	415	(-1.94) *
PPE/Assets	0.28	0.19	0.23	0.16	0.31	0.20	(-7.19) ***
Market risk (Beta)	1.01	0.23	0.98	0.28	1.02	0.20	(-3.13) ***
Sales growth	0.34	1.51	0.39	1.63	0.31	1.44	(0.93)
Leverage	0.24	0.20	0.24	0.25	0.23	0.16	(1.02)
Age since founding	11.64	5.59	10.79	7.16	12.08	4.53	(-4.18) ***
Number of firms	1,453		491		962		

Table III
Group and Non-Group Firms in Regions with High vs. Low Institutional Efficiency: Descriptive Statistics—Continued

B. Two-Way Sample Division: By Group vs. Non-Group Firms AND High vs. Low Institutional Efficiency

	High institutional efficiency regions					Low institutional efficiency regions				
	(1) Group		(2) Non-Group		<i>t</i> -stat. of Diff. in Means (1) – (2)	(3) Group		(4) Non-Group		<i>t</i> -stat. of Diff. in Means (3) – (4)
	Mean	S.D.	Mean	S.D.		Mean	S.D.	Mean	S.D.	
Tobin's <i>q</i>	3.84	4.11	2.90	3.21	3.66 ***	4.01	3.80	3.04	3.55	3.02 ***
Industry-adjusted <i>q</i>	1.38	4.05	0.51	3.16	3.46 ***	1.56	3.77	0.60	3.49	3.03 ***
ROA	0.10	0.13	0.07	0.09	3.99 ***	0.11	0.29	0.07	0.08	2.65 ***
Controlling shareholder ownership stake	0.28	0.16	0.36	0.17	-6.58 ***	0.22	0.16	0.34	0.16	-8.85 ***
Controlling shareholder excess voting control	0.08	0.10	0.04	0.07	8.13 ***	0.09	0.08	0.04	0.08	7.31 ***
Controlling shareholder CEO dummy	0.30	0.46	0.56	0.50	-7.49 ***	0.19	0.39	0.62	0.49	10.59 ***
Pyramid	0.67	0.47	0.26	0.44	12.57 ***	0.77	0.42	0.29	0.46	11.94 ***
Sales (RMB billion)	1.62	3.61	12.6	69.0	-2.81 ***	1.11	1.65	3.71	8.13	-4.23 ***
Assets (RMB billion)	5.08	52.0	70.1	561	-2.04 **	1.82	2.11	4.86	9.33	-4.32 ***
PPE/Assets	0.21	0.16	0.27	0.20	-4.15 ***	0.26	0.17	0.35	0.19	-5.45 ***
Market risk (Beta)	0.98	0.31	1.03	0.18	-3.48 ***	0.99	0.23	1.01	0.23	-0.81
Sales growth	0.37	1.58	0.36	1.86	0.14	0.42	1.73	0.26	0.62	1.66 *
Leverage	0.24	0.25	0.22	0.16	1.78 *	0.24	0.25	0.25	0.17	0.32
Age since founding	10.76	7.95	12.44	4.81	3.82 ***	10.85	5.52	11.64	4.12	1.94 **
Number of firms	312		524			179		438		

Table IV
OLS Regressions of Tobin's q or ROA on the interaction of Controlling Shareholder Ownership, Excess Voting, and Management with Business Group Dummy

Business group dummy equals one if the company is affiliated with a business group. Controlling shareholder ownership stake is the percentage of all shares outstanding owned by the controlling shareholder. Controlling shareholder excess voting control is the difference between the controlling shareholder's voting control and its ownership stake, where voting control is measured by the minimum voting stake (i.e., the "weakest link") along the control chain. Controlling shareholder CEO dummy equals to one if the CEO is the controlling shareholders or is related with the controlling shareholder, and zero otherwise. Tobin's q is measured as the ratio of the firm's market value to total assets. Non-tradable shares are priced at book value of equity. Industry-adjusted q is the difference between the firm's Tobin's q and the median q of its main industry (4-digit SIC). The sample comprises 1,453 A-share companies listed on the Chinese stock market in 2007. Observations whose Tobin's q is greater than 20, or whose growth rate is greater than 1000% are considered outliers and excluded from estimation in the q regressions. The classification of regions into the high and low institutional efficiency categories is based on the World Bank's (2006) ranking of the investment climate in six regions in China. The high institutional efficiency regions are the top two in this ranking, Southeast and Bohai. The low institutional efficiency regions are the remaining four: Central, Northeast, Southwest, and Northwest. The ranking does not include Tibet. t -statistics are in parentheses. Asterisks denote statistical significance at the 1% (***) , 5% (**), and 10% (*) level, respectively.

Panel A: Full Sample

	Tobin's q	Industry-Adjusted Tobin's q	ROA
Controlling shareholder ownership stake	1.502*** (3.328)	1.354*** (3.017)	6.844*** (2.669)
Controlling shareholder excess voting control	0.908 (0.997)	0.612 (0.675)	-0.556 (-0.107)
Controlling shareholder CEO dummy	-0.003 (-0.021)	-0.123 (-0.900)	0.321 (0.410)
Business group dummy	0.502 (1.646)	0.464 (1.530)	1.138 (0.657)
Business group dummy * controlling shareholder ownership stake	-0.416 (-0.536)	-0.477 (-0.618)	8.212* (1.865)
Business Group dummy*Controlling shareholder excess voting control	-2.238 (-1.552)	-2.152 (-1.500)	1.548 (0.189)
Business Group dummy*Controlling shareholder CEO dummy	0.183 (0.717)	0.239 (0.938)	0.770 (0.529)
Ln(asset)	-0.539*** (-12.292)	-0.478*** (-10.975)	-0.004 (-0.017)
Sales growth	0.263*** (3.059)	0.248*** (2.904)	0.838* (1.717)
Leverage	-1.193*** (-3.943)	-0.959*** (-3.186)	-6.041*** (-3.513)
Ln (Age)	-0.191* (-1.921)	-0.199** (-2.010)	-0.326 (-0.577)
Market risk (Beta)	-1.817*** (-6.598)	-1.717*** (-6.268)	0.267 (0.171)
PPE/Assets	-0.060 (-0.198)	-0.191 (-0.633)	4.899*** (2.843)
Intercept	16.679*** (17.235)	12.984*** (13.489)	4.849 (0.882)

Adjusted R^2	0.181	0.155	0.045
Number of observations	1453	1453	1453

Panel B: subsample of firms from low institutional efficiency regions

	Tobin's q	Industry-Adjusted Tobin's q	ROA
Controlling shareholder ownership stake	1.66** (2.45)	1.78*** (2.63)	2.58 (0.54)
Controlling shareholder excess voting control	2.07 (1.59)	2.10 (1.62)	1.76 (0.19)
Controlling shareholder CEO dummy	0.07 (0.35)	-0.01 (-0.04)	-0.73 (-0.50)
Business group dummy	0.83* (1.72)	0.82* (1.69)	-1.16 (-0.34)
Business group dummy * controlling shareholder ownership stake	-0.21 (-0.16)	-0.30 (-0.23)	17.77* (1.95)
Business Group dummy*Controlling shareholder excess voting control	-5.39** (-2.24)	-5.36** (-2.23)	-9.20 (-0.54)
Business Group dummy*Controlling shareholder CEO dummy	0.74 (1.61)	0.76* (1.64)	5.87* (1.80)
Ln(asset)	-0.65*** (-7.44)	-0.64*** (-7.36)	-0.33 (-0.54)
Sales growth	0.23 (1.57)	0.18 (1.24)	0.88 (0.86)
Leverage	0.02 (0.05)	0.28 (0.62)	-12.36*** (-3.84)
Ln (Age)	-0.13 (-0.89)	-0.13 (-0.86)	-1.47 (-1.38)
Market risk (Beta)	-1.21*** (-2.94)	-1.08*** (-2.62)	0.61 (0.21)
PPE/Assets	-0.53 (-1.08)	-0.49 (-0.99)	10.44*** (3.00)
Intercept	17.90*** (10.20)	15.13*** (8.61)	15.75 (1.27)
Adjusted R^2	0.17	0.16	0.05
Number of observations	582	582	582

Panel C: Subsample of firms from high institutional efficiency regions

	Tobin's q	Industry-Adjusted Tobin's q	ROA
Controlling shareholder ownership stake	1.21** (1.99)	0.91 (1.51)	11.53*** (4.46)
Controlling shareholder excess voting control	-0.21 (-0.16)	-0.64 (-0.50)	-1.62 (-0.30)
Controlling shareholder CEO dummy	0.02 (0.10)	-0.13 (-0.71)	1.11 (1.42)
Business group dummy	0.20 (0.51)	0.15 (0.38)	3.12* (1.84)
Business group dummy * controlling shareholder ownership stake	-0.22 (-0.22)	-0.24 (-0.25)	2.94 (0.70)
Business Group dummy*Controlling shareholder excess voting control	0.08 (0.04)	0.19 (0.10)	7.13 (0.91)
Business Group dummy*Controlling shareholder CEO dummy	-0.08 (-0.26)	0.00 (0.00)	-1.30 (-0.98)
Ln(asset)	-0.52*** (-10.09)	-0.44*** (-8.66)	0.11 (0.51)
Sales growth	0.29*** (2.74)	0.29*** (2.82)	0.80* (1.77)
Leverage	-2.22*** (-5.49)	-2.01*** (-5.06)	-1.12 (-0.66)
Ln (Age)	-0.24* (-1.79)	-0.25* (-1.90)	0.99* (1.75)
Market risk (Beta)	-2.34*** (-6.25)	-2.21*** (-5.97)	0.22 (0.14)
PPE/Assets	0.39 (1.00)	0.18 (0.45)	1.47 (0.88)
Intercept	17.16*** (14.19)	13.12*** (11.01)	-2.99 (-0.58)
Adjusted R^2	0.21	0.18	0.07
Number of observations	772	772	772

Table V
OLS Regressions of Tobin's q on the Interaction of Controlling Shareholder Ownership, Excess Voting, and Management with Business Group Dummy, and with Institutional Efficiency

Institutional efficiency dummy equals one if the sample firm is headquartered in the high institutional efficiency regions and zero otherwise. The high institutional efficiency regions are the top two in the World Bank's (2006) ranking of the investment climate in six regions in China: Southeast and Bohai. The low institutional efficiency regions are the remaining four in this ranking: Central, Northeast, Southwest, and Northwest. Business group dummy equals one if the company is affiliated with a business group. Controlling shareholder ownership stake is the percentage of all shares outstanding owned by the controlling shareholder. Controlling shareholder excess voting control is the difference between the controlling shareholder's voting control and its ownership stake, where voting control is measured by the minimum voting stake (i.e., the "weakest link") along the control chain. Controlling shareholder CEO dummy equals to one if the CEO is the controlling shareholders or is related with the controlling shareholder, and zero otherwise. Tobin's q is measured as the ratio of the firm's market value to total assets. Non-tradable shares are priced at book value of equity. The sample comprises 1,453 A-share companies listed on the Chinese stock market in 2007. Observations whose Tobin's q is greater than 20, or whose growth rate is greater than 1000% are considered outliers and excluded from estimation. Asterisks denote statistical significance at the 1% (***), 5% (**), and 10% (*) level, respectively.

	Tobin's q	Industry-Adjusted Tobin's q	ROA
Controlling shareholder ownership stake	1.468*** (3.258)	1.319*** (2.943)	6.816*** (2.661)
Controlling shareholder excess voting control	0.893 (0.983)	0.596 (0.660)	-0.552 (-0.107)
Controlling shareholder CEO dummy	0.010 (0.069)	-0.110 (-0.806)	0.335 (0.428)
Business group dummy	0.473 (1.541)	0.434 (1.422)	1.196 (0.685)
Business group dummy * controlling shareholder ownership stake	0.492 (0.497)	0.469 (0.476)	13.706** (2.433)
Business Group dummy*Controlling shareholder excess voting control	-3.132* (-1.658)	-3.059 (-1.629)	-9.860 (-0.919)
Business Group dummy*Controlling shareholder CEO dummy	0.934** (2.200)	0.998** (2.365)	4.484* (1.859)
Institutional efficiency dummy	0.176 (1.323)	0.185 (1.398)	0.119 (0.158)
Institutional efficiency dummy* Business group dummy * controlling shareholder ownership stake	-1.201 (-1.381)	-1.253 (-1.449)	-7.687 (-1.556)
Institutional efficiency dummy* Business Group dummy*Controlling shareholder excess voting control	1.471 (0.834)	1.495 (0.852)	17.321* (1.727)
Institutional efficiency dummy* Business Group dummy*Controlling shareholder CEO dummy	-1.040** (-2.193)	-1.053** (-2.233)	-5.039* (-1.870)
Ln(asset)	-0.545*** (-12.300)	-0.485*** (-11.011)	-0.001 (-0.003)
Sales growth	0.266*** (3.103)	0.252*** (2.952)	0.836* (1.714)

Leverage	-1.218*** (-4.031)	-0.984*** (-3.275)	-6.243*** (-3.637)
Ln (Age)	-0.190* (-1.915)	-0.198** (-2.005)	-0.278 (-0.493)
Market risk (Beta)	-1.820*** (-6.627)	-1.720*** (-6.298)	0.256 (0.164)
PPE/Assets	0.032 (0.102)	-0.095 (-0.312)	5.071*** (2.897)
Intercept	16.709*** (17.244)	13.018*** (13.511)	4.605 (0.836)
Adjusted R^2	0.186	0.160	0.049
Number of observations	1354	1354	1354

Table VI

Treatment Effects Regressions of Tobin's q on the Interaction of Controlling shareholder Ownership, Excess voting, and Management with Business Group Dummy, and with Institutional Efficiency

Treatment effects regressions of Tobin's q on controlling shareholder ownership, excess voting, and management, and their interactions with business group dummy and with institutional efficiency. The treatment is a dummy variable that equals one if the company is identified as a business group member firm, i.e., affiliated with a business group. Institutional efficiency is measured by a dummy variable that equals one if the institutional efficiency of the region or province in which the firm is headquartered is high. The high institutional efficiency regions are the top two in the World Bank's (2006) ranking of the investment climate in six regions in China: Southeast and Bohai. The low institutional efficiency regions are the remaining four in this ranking: Central, Northeast, Southwest, and Northwest. Controlling shareholder ownership stake is the percentage of all shares outstanding owned by the controlling shareholder. Controlling shareholder excess voting control is the difference between the controlling shareholder's voting control and its ownership stake, where voting control is measured by the minimum voting stake (i.e., the "weakest link") along the control chain. Controlling shareholder CEO dummy equals to one if the CEO is the controlling shareholders or is related with the controlling shareholder, and zero otherwise. Tobin's q is measured as the ratio of the firm's market value to total assets. Non-tradable shares are priced at book value of equity. The sample comprises 1,453 A-share companies listed on the Chinese stock market in 2007. Observations whose Tobin's q is greater than 20, or whose growth rate is greater than 1000% are considered outliers and excluded from estimation. Asterisks denote statistical significance at the 1% (***), 5% (**), and 10% (*) level, respectively.

	First Stage	Second Stage		
	Pr[Group Firm]	Tobin's q	Industry-Adjusted Tobin's q	ROA
Business group dummy (treatment)		3.958***	3.735***	-2.398
		(8.589)	(8.295)	(-1.039)
Controlling shareholder ownership stake		1.229***	1.143**	7.764***
		(2.588)	(2.456)	(3.138)
Controlling shareholder excess voting control		0.956	0.681	0.203
		(0.993)	(0.721)	(0.040)
Controlling shareholder CEO dummy		0.020	-0.101	0.347
		(0.138)	(-0.701)	(0.445)
Business group dummy * controlling shareholder ownership stake		0.646	0.565	14.170***
		(0.667)	(0.591)	(2.588)
Business Group dummy*Controlling shareholder excess voting control		-2.274	-2.321	-11.696
		(-1.241)	(-1.283)	(-1.108)
Business Group dummy*Controlling shareholder CEO dummy		0.915**	0.972**	4.385*

		(2.218)	(2.385)	(1.828)
Institutional efficiency dummy*		-1.563*	-1.570*	-6.550
Business group dummy *				
controlling shareholder ownership stake				
		(-1.887)	(-1.924)	(-1.401)
Institutional efficiency dummy*		-0.223	0.045	17.256*
Business Group dummy*				
Controlling shareholder excess voting control				
		(-0.134)	(0.027)	(1.780)
Institutional efficiency dummy*		-1.033**	-1.042**	-4.900*
Business Group dummy*				
Controlling shareholder CEO dummy				
		(-2.258)	(-2.304)	(-1.829)
Intercept		1.465***	-0.789***	5.312***
		(6.119)	(-3.375)	(4.448)
Institutional efficiency dummy	0.306***			
	(3.901)			
Ln(asset)	-0.409***			
	(-10.536)			
Sales growth	0.071			
	(1.243)			
Leverage	0.971***			
	(3.871)			
Ln (Age)	-0.343***			
	(-5.136)			
Market risk (Beta)	-0.070			
	(-0.362)			
PPE/Assets	-1.456***			
	(-6.304)			
Intercept	9.176***			
	(11.544)			
λ		-2.097***	-1.986***	2.266**
		(-9.621)	(-9.358)	(2.210)
Wald χ^2 (p-value)		138.46	131.67	54.49
Number of observations		1453	1453	1453