



Principal–Principal Conflict in the Governance of the Chinese Public Corporation

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ABSTRACT By examining the level of ownership concentration across firms, we determine how principal–principal conflict, defined as the incongruence of ownership goals among shareholder groups in a corporation, impacts agency costs of Chinese boards of directors. Based on data from Chinese companies listed on the Shanghai and Shenzhen stock exchanges during 1999–2003, we found that ownership concentration had a U-shaped relationship with board compensation, board size and the presence of independent directors. These results provide corroborating evidence that principal–principal conflict can lead to high agency costs.

KEYWORDS agency costs, board of directors, China, ownership concentration, principal–principal conflict

INTRODUCTION

There is now a fairly well-developed body of literature dealing with corporate governance in emerging economies. Early work in this domain conjectured an eventual adoption of a global corporate governance paradigm, based on the Anglo-American capital market form of governance, by emerging market firms (Guillén, 2000, 2001; Yoshikawa and Phan, 2001). Later research demonstrates that corporate governance systems in emerging economies may not necessarily converge on the Anglo-American model because of idiosyncratic institutional environments (Yoshikawa and Phan, 2005; Young, Ahlstrom, and Bruton, 2004). Hence, standard governance models that rely on agency theory are being reshaped to account for the institutional differences that can alter the relationships among the owners and managers of capital in such economies. In particular, there has been research pointing to the ‘principal–principal’ conflict that seems to manifest in emerging markets (Dharwadkar, George, and Brandes, 2000; Yoshikawa, Phan, and David, 2005; Young, Peng, Ahlstrom, Bruton, and Jiang 2008). Briefly, the principal–principal problem refers to the appropriation of value from minority

shareholders by majority shareholders, often by influencing board level decisions such as asset sales and purchases. In this paper, we take up the question of how ownership concentration and the structure of the board of directors of Chinese listed firms can lead to the principal–principal problem that is typical of emerging economy corporate forms.

Central to the research on governance in emerging economies is the understanding that when the legal institutions defining property rights are underdeveloped, investors can suffer from a severe information asymmetry problem (Hoskisson, Eden, Lau, and Wright, 2000; La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2000). In neoclassical contracting models, the combination of asymmetric information and an underdeveloped property rights regime usually leads to high risk premiums or market failure in investment assets (Fama, 1991). Yet, in such emerging economies as China, we observe growing and active markets, and therefore surmise that investors have found a way to alleviate the information asymmetry problem, and perhaps have done so in such a way as to account for the costs related to property rights protection.

Recent research suggests that a firm's ownership structure is a major cause of the principal–principal conflict in emerging markets (Chang, 2003; Claessens, Djankov, Fan, and Lang, 2002; Thomsen and Pedersen, 2000). These problems lie mainly in the conflict of interests between large and small shareholders. In emerging economies, because property rights are difficult to enforce, small shareholders are confronted with the possibility of expropriation by large shareholders, who frequently control the decisions made at the boardroom through their appointed directors. Forms of expropriation include below-market value asset transfers to the private holdings of large shareholders, corporate expenditures on non-value creating assets for the private consumption of shareholder appointed directors and corporate diversification plans that trade investment returns for stable cash flows to benefit the portfolio of large shareholders.

Given that such asset allocation decisions start in the boardroom, we suggest that one way to detect the potential for expropriation is to examine the structure of the board of directors. For example, a very large board that is highly paid may be ineffective because coordination is difficult and members have private incentives to protect their jobs by not 'rocking the boat' (Goodstein, Gautam, and Boeker, 1994; Kosnik, 1990). This results in a 'residual loss' due to the lack of proper monitoring and control (Jensen and Meckling, 1976, p. 324). In the Chinese context, where information asymmetry can be severe, the shareholder controlled board can become a platform for large shareholders to realize their private interests.

In the following sections, we establish a context-specific argument for the relationship between ownership concentration and board structure for Chinese firms, from the principal–principal conflict perspective, and conduct our empirical analysis on publicly traded companies listed on the two Chinese stock exchanges. We then report the findings and discuss the implications for future theory building.

THEORY AND HYPOTHESES

The Context

Because we are studying a form of agency problem in China, for which the theory was not originally conceived, context is central to the theoretical framing and hypothesis development of this study (Delios, Wu, and Zhou, 2006; Tsui, 2006). China is the largest emerging economy in the world. It is also the fastest growing. In 2005, China's GDP reached RMB 18.23 trillion (about \$US2.25 trillion), with a real (deflated) growth rate of 9.9 percent. As with other emerging economies, however, the market in China is characterized by severe information asymmetry in the capital market, a still developing corporate governance regime, and uneven legal enforcement, the last in part due to information asymmetry, incomplete regulation and a nascent enforcement capability (Chen, 2004; Peng, 2004; Xu and Wang, 1999; Young and McGuinness, 2001).

The two Chinese stock exchanges of Shanghai and Shenzhen were established in 1990 and 1991, respectively, for the recapitalization of failing state-owned enterprises (SOEs). As a result, the China Securities Regulatory Commission (CSRC) imposed a strict quota system on which companies could be listed to ensure that the SOEs were given priority. Consequently, by 2004 the majority of the 1,377 listed firms were former SOEs. These especially dominate the government designated strategic industries such as energy, transportation and telecommunications.

According to Xu and Wang (1999), the State – either directly or through state institutions – held about two-thirds of total shares outstanding in the average Chinese listed firm in the 1990s. During the time period covered in this study, these state and institutional shares were not circulated in the open market; they could only be traded through private negotiations. This significantly changes the institutional context of corporate governance since state firms and the state institutions that owned them differ from the rest of the investing public in terms of their strategic goals. The former has multiple goals, of which many are social and do not emphasize the maximization of operational profit or investment returns. For example, a major objective of the Communist government since 1989 has been to maintain 'societal stability' by maintaining social equity, ensuring full employment and refraining from taking such profit enhancing measures as asset divestiture and job cuts (Holz, 2007).

With an ownership structure dominated by state institutions, it follows that the boards of most listed companies would consist of state representatives, such as those from the local Bureau of State Property Management (BSPM), while board seats occupied by individual and corporate investors would be few (Xu and Wang, 1999). Among the state representatives, many are retired government and Communist Party officials. Their fiduciary duty as agents of the State owner is to uphold the government's policy on societal stability in economic enterprise. Similarly, the

managers of SOEs are also appointed from the ranks of the government or the Party hierarchy (Holz, 2007). They come from the same bureaucratic network as the board members and therefore would tend to view their managerial responsibilities in the same light.

A body of research on the apparent bias against private ownership in property rights disputes suggests that China's political institutional norm resolves the conflict between public and private interests in favour of the former (Huang and Khanna, 2003; Nee, 1992; Peng and Luo, 2000). This is partially due to the lack of an independent judiciary and unclear laws governing private property rights. For instance, until 2007, there was no formal law protecting private property. It is not surprising that directors educated in this tradition interpret their fiduciary duties in the light of the interests of the State (Clarke, 2003). In cases where the State is the majority shareholder of a specific company, the fiduciary of such directors is even more clearly to protect the interests of the State. The State controls a third of total shares in an average listed firm directly, and another third through its network of public institutions. In China, therefore, ownership concentration generally reflects the extent of control by the State, whereas in the Anglo-American context, concentration refers to ownership by institutional investors such as pension funds, mutual funds, corporations and banks.

Contextualized Framework

Agency theory deals with the problems that arise in public corporations when their owners delegate the task of managing the assets of the enterprise to managers. Here, principals contract with agents to manage a firm with a view to maximizing the wealth of the principals. However, information asymmetry between managers and owners, coupled with the incentives for opportunism, makes it difficult to ensure that agents always act in the best interests of principals. Extant empirical studies use agency theory to examine the resolution of principal-agent conflicts through governance mechanisms, such as boards of directors, executive pay and succession, and takeover defenses (see Shleifer and Vishny, 1997 for a comprehensive review). The focus of the corporate governance question is therefore on the problems faced by residual claimants (the owners) who are most exposed to expropriation (Jensen, 1986).

An underlying assumption of the principal – agent perspective is that the shareholders are homogenous in their goal of maximizing returns on investments. Such an assumption was developed in the institutional setting of developed economies, where minority shareholder interests are well protected by a system of laws, and large institutional shareholders behave as agents whose primary purpose is to maximize the returns on investments for their investors (Demsetz, 1986; Shleifer and Vishny, 1991).

Once the assumptions of the standard corporate governance framework are relaxed, we believe that this framework has to be adjusted. For example, recent attempts (Dharwadkar et al., 2000; Young et al., 2008) to apply agency theory to the problem of shareholder conflict, the so-called principal–principal conflict problems, mean that principals cannot be treated as a single entity with common interests. Owners diverge in their preferences for risk and returns, their private costs of monitoring and their strategic motivations for investing in a company. Moreover, owners who are in a better position to exert direct pressure in the boardroom, such as state representatives with political authority, institutional investors with large holdings and employees with the threat of industrial action, can enhance their parochial interests at the expense of a subgroup of owners who do not have similar levels of influence.

In emerging markets such as China, with the lack of legal protection, minority shareholders may face expropriation risks from large shareholders who can appoint representatives to board and management positions, or even directly participate in management themselves (La Porta, Lopez-de-Silanes, and Shleifer, 1999). Hence, the information asymmetry problem, and its attendant risks of expropriation between shareholders and managers, is exacerbated for small shareholders who do not have the benefit of monitoring provided by large and similarly motivated shareholders (Chang, 2003; Claessens et al., 2002; Dharwadkar et al., 2000; Faccio, Lang, and Young, 2001).

The root cause of minority shareholder oppression in this context, therefore, is the ability of large shareholders to directly influence the board by appointing directors that represent their parochial strategic interests rather than the narrowly defined financial interests of all shareholders. Just as principal–agent goal conflict creates agency costs through managerial perquisite consumption and entrenchment (Gedajlovic and Shapiro, 1998; Walsh and Seward, 1990), the powerful directors representing large shareholders, who are effectively agents of the State (Bai and Wang, 1998), are likely to advance their personal interests by expropriating from small shareholders. They can do this because the principals they represent have ambiguous economic and social objectives in investing and therefore are less able to determine (and hence monitor) the scope at which their assets should be employed. Whereas in developed economies, a board with powerful directors may signal a higher level of managerial monitoring (Fama, 1980; Johnson, Daily, and Ellstrand, 1996; Zajac and Westphal, 1994), such boards in emerging markets may signal the potential of a residual loss to small shareholders.

Further, it has been noted that when the controlling shareholder is the State, a firm's top management team is likely to comprise government and/or Party officials. In fact, the leadership teams of the 50 largest central Chinese SOEs – some being parents of multiple listed companies – are directly appointed by the Politburo (Holz, 2007). Many such SOE managers are also cross-appointed to listed firm subsidiaries. Since the institutional norm in China is that 'public' and

'majority' interests trump 'individual' and 'minority' interests, the directors of such companies imbue their roles with a powerful ideological doctrine, with the result that individual investors and non-state block holders are limited in what they can do to constrain management when it acts on behalf of the State.

Hypotheses

The situation described above – large shareholders failing to monitor their representatives, and having interests that conflict with those of the minority shareholders – implies that ownership concentration by large shareholders has special implications for agency costs in China. The entrenchment of the large shareholders, namely the State and its institutions, sets up a principal–principal conflict between the state owner's strategic and political interests and the minority owner's financial interests. This conflict is resolved in favour of the State since the directors interpret their fiduciary duty in light of the controlling shareholder's interests, rather than the interests of all shareholders, including the minority. Meanwhile, to the extent that the political goals of the state owner are met by the directors of the company, there is no incentive for the state owners to closely monitor their agents – the board members in the listed companies. Hence, such a principal–principal conflict in the listed companies is likely to result in agency costs that will show up as high levels of compensation for directors and large boards populated by members from the personal networks of existing board members.

We have established that ownership concentration in Chinese firms is closely related to the level of state control over these firms. Where ownership is highly dispersed, the State is typically passive in the governance of the firm. This is because the State may not have a strategic interest; otherwise, it would have maintained majority control. More importantly, because of ownership dispersion, neither the State nor private investors are in a position to constrain managerial power. Boards in this case resemble those of their Western counterparts, and are likely to be dominated by management. Thus we are likely to see a large, well-paid board full of management appointees.

As ownership concentration increases, shareholder monitoring over management is expected to improve (Grossman and Hart, 1980; Shleifer and Vishny, 1986). This is because the financial risks faced by large shareholders are now higher, which heightens the incentive for them to monitor management. More importantly, large shareholders do not face the same degree of liquidity as small shareholders since the very decision to sell shares will depress the value of the former's holdings. Hence, they are more likely to resort to direct action at the board level, which is in turn made possible by their enhanced ability and incentive to monitor and influence management. The change from management dominance towards owner dominance in the boardroom will imply smaller boards whose directors are paid their marginal wage, suggesting more efficient boards.

With respect to the state owners of Chinese firms, increased ownership increases their control over the board. However, at moderate levels of ownership concentration, no single shareholder group has complete influence, and the state owner is therefore forced to act collaboratively by forming coalitions with other shareholder groups to negotiate their common interests. Such mutual monitoring keeps minority shareholder expropriation in check.

As ownership concentration increases still further, the power of large shareholders to unilaterally appoint their own associates to managerial and board positions rises. Therefore state owners do not need to consult with other shareholder groups. They can appoint directors and managers who are sympathetic to the State's political and strategic objectives. The result is a higher potential for collusion between management and the large shareholders that appoint them. At such high levels of ownership concentration, the State can and has an incentive to play an active role in the company, either because the industry (e.g., telecommunications, resources and airlines) is designated as vital to national interests, or because the firm is a spin-off from an SOE parent with political objectives. Hence, in enterprises where the State has dominant control, the managers and the directors representing the State are likely to have a common social identity (and interests) because they are appointed from the same political and Party bureaucracy. It stands to reason that in such companies, the effect of ownership concentration is to entrench the State's – and by extension, management's – interests.

Furthermore, just as with the capital markets of the developed economies, high levels of ownership concentration in emerging capital markets will attenuate the liquidity of a firm's shares and the overall liquidity of the market, and thus impair information efficiency (Holmstrom and Tirole, 1993). Additionally, the lack of a developed cadre of specialized knowledge workers, such as independent stock analysts and business reporters, who can help produce market information for the average investors, worsens the information asymmetry problem. Therefore, high levels of ownership concentration make it easier for management and the board to withhold information from investors, contributing to the information asymmetry problem and lowering the effectiveness of external monitoring. This, again, will lead to an expansive board, in terms of both size and pay.

In sum, our discussion argues for a curvilinear relationship between ownership concentration and agency costs, as it is manifested in the structure of the board. At low levels of concentration, managerial self-interest is unchecked, resulting in a management dominated, inefficient board. At high levels of concentration, the same phenomenon in board structure will occur, but for a different reason; the control of the board by the State will result in the appointment of more directors from the network of government and Party officials and make it easier for incumbent board members to reward themselves with higher compensation (beyond the efficient wage rate). We therefore consider board compensation and board size as two proxies for the severity of the principal–principal conflict problems, such that:

Hypothesis 1: There will be a curvilinear (U-shaped) relationship between ownership concentration and the level of board compensation.

Hypothesis 2: There will be a curvilinear (U-shaped) relationship between ownership concentration and board size.

A third indicator of such agency problem is the presence of independent directors. Independent directors are expected to represent the interests of small shareholders and are considered an independent check on deviant managerial behaviour (Fama, 1980; Jensen and Meckling, 1976; Shleifer and Vishny, 1997). Despite this popular belief, the presence of independent directors is unlikely to contribute to better monitoring in the Chinese context, since the collusion between the controlling shareholders' board representatives and management will restrict the flow of information needed by independent directors to assess managerial effort or board expropriation of minority shareholder value (see Peng, 2004, for further discussions). Moreover, some have argued that independent directors in China often partner with the majority shareholder (Clarke, 2003), because they do not have a platform for exerting their independence (such as the support of institutional investors).

In fact, many independent directors in China are also former government officials or academics who, while not directly affiliated with the company, have neither the expertise nor the will to find out whether management is acting to maximize shareholder interests. Influenced by a long ideological tradition favouring state ownership and centralized control, some of these people may even believe that their primary duty is to safeguard the interests of the controlling shareholder, namely the State (Clarke, 2003). Thus, in the Chinese context, independent directors represent a residual loss and extra burden to the average shareholder. At both low and high levels of ownership concentration, where managerial and large shareholder power is unchecked, such residual loss is at its highest levels. Only at a moderate level of ownership concentration, where there may exist a balance of power between management and large shareholders, can the presence of independent directors be more reflective of their expected value. Thus:

Hypothesis 3: There will be a curvilinear (U-shaped) relationship between ownership concentration and the proportion of independent directors.

METHODS

Data and Sample

We collected data on all listed firms from Sinofin, a database compiled by the China Center for Economics Research (CCER) at Peking University. The Sinofin

Table 1. Number of independent directors in Chinese listed firms, 2000–2003

	2000	2001	2002	2003
0	998	812	44	6
1	24	89	22	7
2	26	148	799	185
3	7	68	257	697
4	3	11	62	266
5	0	5	12	77
6	0	2	3	10
7	0	0	0	3
8	0	0	0	1
Total	1,058	1,135	1,199	1,252

Source: Sinofin Database.

dataset provides financial and corporate governance information on companies listed on the Chinese stock exchanges in Shanghai and Shenzhen. Our sample includes all listed firms between 1999 and 2003 inclusive. The total number of listed firms in China was 1,377 by 2004. After excluding cases with missing or unreasonable values (probably due to data input errors), the size of our company year sample ranged from 2,683 to 3,862 for the different regression models. We did not find systematic biases in our estimates resulting from the treatment of missing values. As for independent director representation, they were very few in 2000. At the turn of the century, the China Securities Regulatory Commission issued guidelines to introduce independent directors into the boards of listed firms (CSRC, 2001). The number of independent directors grew rapidly in the first several years after the introduction of this regulation (see Table 1). Therefore, the time frame for independent directors in our analysis was from 2001 to 2003.

Measures

Dependent variables. Three variables – level of board compensation, board size and the proportion of independent directors – were used to capture the principal–principal conflict (broadly, agency costs) in the firm. We used two alternative measures for board compensation. The first is total compensation, including salary and bonuses, for all board members. The second measure is the sum of total compensation for the three highest paid directors. Consistent with previous studies (e.g., Zajac and Westphal, 1994), we used the natural log of the two measures in order to reduce the influence of the tails of the exponential distribution typical of such data. The total number of directors on the board measured board size. The proportion of independent directors was measured as the ratio of independent

directors to total board size. According to the CSRC, directors are independent if they are unaffiliated with management and the controlling shareholders.

Independent variable. We measured ownership concentration in terms of the Herfindahl index (Baysinger, Kosnik, and Turk, 1991). It was calculated as the squared sum of the percentage of shares held by the 10 largest shareholders. Compared with a cumulative concentration measure, the Herfindahl measure incorporates both the number of stockholders and differences in the shareholdings and puts more weight on larger ownership positions than smaller ones (Hay and Morris, 1979). This is in line with our theoretical argument that large controlling shareholders are more likely to exert disproportionate influence on the board. The larger the value of this variable, the more concentrated the stocks are in the hands of a few shareholders.

Control variables. As with previous studies on board composition, we controlled for a number of factors that would systematically be related to board structure but not relevant to the effects we were trying to detect. Peng (2004), for example, found that firm level attributes affected the appointment of independent directors. The first is firm size. We anticipate that larger firms, because of information processing requirements, will be associated with larger boards. This relationship is proposed to be monotonic. We used two measures for firm size, the natural log of total assets, and the natural log of the number of employees.

Next, we assumed that the more mature the firm was as a public company, the more developed the board. To measure the maturity of the firm as a public company, we used listing age in years from the year of initial public offering (IPO). For example, the firm that went public in 2003 (the last year of our dataset) had a listing age of zero in 2003 and one that went public in 2000 had a listing age of three in 2003.

Then, we expect firm performance to relate endogenously to board structure. While typical corporate governance studies hypothesize firm performance as a result of board structure, we surmise that better performing firms are more likely to have the resources to pay directors well, sustain a larger board, or have the credibility to attract independent directors. With respect to the latter, the measure of firm performance should therefore be market based; thus, we measured firm performance as the yearly Cumulative Abnormal Return (CAR) of its stock price, adjusted for splits and dividend payouts. The index is calculated as follows:

$$CAR_{i,t} = \sum_{t=1}^N AR_{i,t} = \sum_{t=1}^N (R_{i,t} - R_{m,t}), \quad (1)$$

where $R_{i,t}$ is the return on security i for day t , and $R_{m,t}$ is the return of the value-weighted market portfolio for the day.

In order to tease out any complications related to the impact of the State as controlling shareholder, we included control variables for other types of block ownership that could also impact the structure of the board, namely circulating shares and employee shares. Circulating shares, the shares that can be freely traded in the stock market, were measured by the percentage of circulating shares to total shares in a company for a given year. Employee shareholding was measured by the percentage of shares held by employees to total shares in the company.

CEO duality has been associated with higher agency costs in the corporate governance literature (Boyd, 1995). Generally, duality is seen as a violation of the principle of decision management and decision control (Fama, 1980) that underpins an efficient governance system. We coded duality as an ordinal variable that measures the degree of influence a CEO enjoys over the board: three if the CEO was also chairperson of the board, two if the CEO took on a director's position other than the chair, and one if the CEO was entirely separated from board positions. This method is superior to the usual way duality is measured (1–0) since it is more fine grained.

According to Jensen's (1986) free cash flow theory, corporate debt can work as an effective monitoring device by reducing the discretion of managers over the use of free cash from operations. According to this view, a firm that has to pay out interest obligations has to subject itself to the external capital markets for the financing of strategic projects. Hence, non-value creating projects or those that generate private benefits to the managers are less likely to be funded. Management with control over free cash is not similarly exposed to such discipline (Bathala and Rao, 1995; Ugurlu, 2000). We employed the percentage of debt to total assets as a measure of a company's corporate debt load. Some of the special treatment or particular transfer firms, the firms in abnormal financial status, have debts greater than assets possibly because of continued negative profit margins.

Finally, we created 13 industry dummies according to *Guidelines for Classification of Listed Companies* issued by the CSRC (A through M). Year dummies were also included in the final regressions. In the regressions examining the effect on independent directors, we also controlled for board size, which is one of the dependent variables.

Statistical Analysis

Our statistical analysis was conducted using panel data. A preliminary analysis of the data revealed the expected autocorrelations of the dependent variables. There were no other biases in the data. Thus, given the size of the sample, we addressed this issue with Feasible Generalized Least Squares (FGLS) regressions (Greene, 1993). We employed a total of four regression models to test our hypotheses, including two models for the alternative measures of board compensation (models

1 and 2), one for board size (model 3) and one for the presence of independent directors (model 4). All of the models contained a time-lag design. All the independent variables and control variables, except industry dummies, were lagged by one year. Due to the lag design, the dependent variables are from 2000 to 2003 and the independent variables are from 1999 to 2002 for models 1, 2, and 3. For model 4, the dependent variable, independent directors, is from 2001 to 2003 and the independent variables are from 2000 to 2002. In other words, the N (number of observations) in our final sample is for four years in the first three models, and is for three years in the last model.

As a robustness check, we also conducted random effect regressions and found that the results largely remained unchanged. In the next section, we report the results from the FGLS models only.

RESULTS

Table 2 presents pairwise correlations among the variables. It shows that the independent variables are not highly correlated with each other (all lower than 0.5).

Table 2 also reports descriptive statistics on the Chinese listed companies in our sample. The Herfindahl index of ownership concentration was 0.25 on average, which reflects the high level of concentration typical of emerging markets such as China. The average listing age of Chinese companies was 5.5 years, reflecting the short history of the Chinese stock market. Employee shareholding was less than one percent, indicating that stock-based incentives are seldom used in listed firms, which may have to do with the nascence of the practice rather than an aversion to such forms of compensation.

Circulating shares, or those held by market investors, accounted for less than 35 percent of total shares outstanding. This indicates that the level of state control, exercised in the form of non-circulating shares, had been maintained since the study by Xu and Wang (1999). The average debt to asset ratio is 45 percent. The data also show that most CEOs held either the chairperson's or a director's position on the board (average duality score = 2.03), which implies a balance of power that favoured management.

Table 3 reports the coefficients of the independent variables and the corresponding significance levels for the regressions on board compensation, board size and independent directors, respectively. These are presented in a pairwise format. Under each regression model, we report the results without the quadratic term of ownership concentration and those with the quadratic term in separate steps. The coefficient of ownership concentration remained negative and significant, and the model fit improved consistently, after ownership concentration squared was added to each model. In what follows, we mainly refer to the results in the full models.

Table 2. Means, standard deviations and correlations of variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Board compensation (all) (log-form)	1												
2 Board compensation (top) (log-form)	0.86**	1											
3 Board size	0.16**	0.10**	1										
4 Independent directors	0.30**	0.24**	0.03	1									
5 Ownership concentration	-0.04*	-0.07**	-0.02	-0.04*	1								
6 Total assets (log-form)	0.38**	0.31**	0.23**	0.12**	0.21**	1							
7 Employees (log-form)	0.07**	0.00	0.18**	-0.01	0.26**	0.48**	1						
8 Listing age	-0.01	0.01	-0.01	0.15**	-0.28**	-0.07**	-0.12**	1					
9 Firm performance (CAR)	0.00	0.00	-0.01	-0.10**	0.02	-0.03*	-0.02	0.05**	1				
10 Circulating shares	-0.05**	-0.03	-0.04**	0.06**	-0.45**	-0.17**	-0.13**	0.22**	-0.03*	1			
11 Employee shares	-0.03	-0.02	-0.05**	-0.11**	-0.13**	-0.02	0.04*	-0.21**	-0.01	-0.09**	1		
12 CEO duality	0.04*	0.07**	0.04*	-0.07**	-0.01	0.01	0.04*	-0.05**	0.00	0.03	0.07**	1	
13 Debt to asset ratio	-0.03	-0.02	0.00	0.06**	-0.11**	-0.03	-0.03*	0.27**	-0.06**	0.03	-0.04**	-0.03	1
Mean	13.40	12.45	9.71	0.17	0.25	20.94	7.30	5.52	0.04	34.74	0.93	2.03	45.56
STD	0.91	0.94	2.42	0.15	0.15	0.91	1.20	3.82	0.24	13.54	3.56	0.50	34.73
Min	4.25	4.80	5.00	0.00	0.00	17.55	2.30	0.00	-1.91	0.23	0.00	1	0.91
Max	18.83	16.95	19.00	0.67	0.78	26.64	13.00	21.00	1.55	100.00	36.80	3	1,037.52

Notes:

* $p < 0.05$; ** $p < 0.01$. All two-tailed tests.
CAR, Cumulative Abnormal Return.

Table 3. Results of GLS regression analysis

	Board compensation (all members)		Board compensation (top three)		Board size		Independent directors	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
Ownership concentration	-0.75*** (0.07)	-0.90*** (0.08)	-0.92*** (0.04)	-1.17*** (0.07)	-1.79*** (0.19)	-2.16*** (0.23)	-2.53** (0.89)	-3.50*** (0.97)
Ownership concentration × ownership concentration		0.93* (0.40)		2.26*** (0.40)		3.50** (1.12)		11.75* (4.91)
Total assets	0.42*** (0.01)	0.40*** (0.01)	0.41*** (0.01)	0.40*** (0.01)	0.50*** (0.03)	0.48*** (0.03)	0.92*** (0.14)	0.84*** (0.14)
Number of employees	-0.07*** (0.01)	-0.06*** (0.01)	-0.13*** (0.01)	-0.12*** (0.01)	0.22*** (0.02)	0.22*** (0.02)	-0.04 (0.11)	-0.01 (0.12)
Listing age	-0.02*** (0.00)	-0.02*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	0.00 (0.01)	-0.01 (0.01)	-0.01 (0.03)	-0.01 (0.03)
Firm performance	0.06** (0.03)	0.07* (0.03)	0.12*** (0.03)	0.11*** (0.03)	-0.01 (0.08)	0.00 (0.08)	0.79† (0.44)	0.81† (0.46)
Circulating shares	-0.64*** (0.08)	-0.69*** (0.08)	-0.78*** (0.04)	-0.72*** (0.08)	-1.34*** (0.21)	-1.36*** (0.21)	-3.81*** (0.96)	-4.00*** (1.00)
Employee shares	-0.50† (0.26)	-0.53* (0.27)	-1.04** (0.35)	-1.07** (0.37)	-2.96*** (0.75)	-3.04*** (0.75)	-6.79 (4.39)	-6.56 (4.33)
GEO duality	0.08*** (0.01)	0.07*** (0.01)	0.16*** (0.01)	0.15*** (0.02)	0.13** (0.05)	0.13** (0.05)	0.66** (0.23)	0.63** (0.24)
Debt to asset ratio	-0.05* (0.02)	-0.07** (0.02)	-0.01 (0.02)	-0.03 (0.03)	-0.03 (0.08)	-0.04 (0.08)	-0.01 (0.00)	-0.01** (0.00)
Board size							-0.55*** (0.04)	-0.56*** (0.04)
Log likelihood	-2,300	-2,295	-1,777	-1,766	-6,821	-6,817	-10,186	-10,184
Change in log likelihood		5**		11***		4**		2*
Wald χ^2	15,357***	15,969***	13,685***	3,109***	2,292***	1,115***	11,767***	10,405***
N (firm year)	3,466	3,466	2,683	2,683	3,862	3,862	3,044	3,044

Notes:

Standard errors in parentheses. † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. All two-tailed tests. The variables were mean-centred. Industry and year controls were included but not reported.

As a check on the potential multicollinearity problem caused by the inclusion of a quadratic term, we computed variance inflation factors (VIFs) for our variables and found that the VIFs for ownership concentration and ownership concentration squared were in the range of 14 and 15. We thus took the mean-centring approach in our regression analysis. The VIFs for the mean-centred variables in the various models were all smaller than two, except for those of the three-year dummies in model 2, which were close to the acceptable cut-off point of 10.

Hypothesis 1 predicts a U-shaped relationship between ownership concentration and board compensation. This hypothesis received strong and consistent support for the two compensation measures (models 1b and 2b). Similarly, Hypothesis 2 predicts a U-shaped relationship between ownership concentration and board size, while Hypothesis 3 predicts such a relationship between ownership concentration and the presence of independent directors. Both hypotheses received strong support (models 3b and model 4b, respectively). Generally, the support for all four hypotheses is demonstrated, by the negative signs for ownership concentration and the positive signs for ownership concentration squared, across all four models.

With respect to the control variables, the coefficient of total assets is positive and significant ($p < 0.001$) across the four models, while the coefficient of number of employees is significantly negative ($p < 0.001$) in models 1 and 2, but significantly positive ($p < 0.001$) in model 3 and insignificant in model 4. Although extant literature has long been concerned about the effects of firm size on governance structure (Bathala and Rao, 1995; Zajac and Westphal, 1994), few studies have distinguished the mechanisms of such effects. These contrasting results point to the need for future research to explore these differing size effects. The coefficient of listing age is negative and significant ($p < 0.001$) in models 1 and 2, implying an upwards trend for board compensation in newer firms. As for firm performance, the coefficient is positive and significant in models 1, 2 and 4. The result is consistent with our expectation that high performing firms are more likely to maintain an expensive board and attract independent directors.

The coefficient of circulating shares is negative and significant ($p < 0.001$) across all models, confirming the notion that when market liquidity is low, monitoring is less effective. The coefficient for employee shares is negative and significant in models 1, 2 and 3. This result points to a powerful incentive effect of employee shareholding, considering the fact that the average level of such shares in our sample is lower than one percent. We posit that this effect may be due to the institutional legitimacy accorded to workers in a socialist political system.

All four models report a positive coefficient for CEO duality in the statistical significance ranges of between $p < 0.01$ and $p < 0.001$. Again, the data appear to suggest that CEO duality incurs a higher agency cost, which is consistent with the

traditional agency argument and probably one of the clearer tests of this notion in the literature even though previous studies in China have reported mixed results (e.g., Peng, Zhang, and Li, 2007). The clarity of our result on this issue may be due to the fact that countervailing monitoring mechanisms, such as the external capital markets or the presence of independent boards, are less developed in China, with the result that the CEO's influence in the boardroom when he/she is director or chair is unattenuated. In addition, because many of the listed firms' CEOs were appointed by the government, their appeal to political legitimacy may confer a higher authority on subsequent board appointments and compensation decisions.

The coefficient for corporate debt is negative in models 1 and 4b, with statistical significance levels between $p < 0.05$ and $p < 0.01$. While the coefficient is statistically insignificant in models 2, 3 and 4a, it is also negative. These results generally show that when management is under higher debt pressure, there is a lower likelihood of an agency cost being incurred (Baer and Gray, 1995; Jensen, 1986).

Finally, we note that the robustness of these results is further strengthened by the high level of model fit, as indicated by the log likelihood ratio for all four models. There is also a good fit of data with the model in our random effect regressions, used as a robustness test but not reported here.

DISCUSSION

This study contributes to the ongoing research in corporate governance in emerging markets (Chang, 2003; Claessens et al., 2002; Peng, 2004). Our focus on the principal–principal conflict problems in Chinese listed firms represents an area that is less studied in the traditional agency theory literature. We had set out in this study to investigate the agency cost implications of ownership concentration by relating it to the board structure of a Chinese public corporation. Our rationale for doing so is to find an alternative indicator of agency cost because the price signals of shares in emerging markets tend to be noisier and therefore less useful. Using the principal–principal conflict perspective as the basis for setting up our hypotheses, we argued that independent boards, by the standard measures of independence, are less likely to exist in companies where controlling shareholders have a greater influence in the boardroom.

Conventionally, research has treated governance arrangements in the board as determinants of agency problems (Dalton, Daily, Johnson, and Ellestrand, 1999). For example, a company with more independent directors on the board should have less agency problems (Peng, 2004). We argue, however, that unique agency problems in Chinese companies have been caused by the ownership structure of the firm, and that board structure is the result of such agency problems. Thus, we provide a new perspective for detecting unique agency problems

in emerging markets. The consistent results we obtained across our measures of board costs seem to support our approach.

Ownership structure has been one of the most cited causes for agency problems in agency theory research (Amihud and Lev, 1981, 1999; Demsetz, 1986; Denis, Denis, and Sarin, 1999; Lane, Cannella, and Lubatkin, 1998). It is also a factor closely related to the recently developed principal–principal agency perspective for emerging market firms (Young et al., 2008). The latter, newer research stream, however, has mostly focused on aspects of ownership structure other than ownership concentration per se, such as insider ownership (Chang, 2003; Lins and Servaes, 2002) and the presence of large shareholders (Claessens et al., 2002). The implications of ownership concentration for the unique agency problems of emerging market firms have been alluded to but not directly tested (Dharwadkar et al., 2000; Young et al., 2008). Few studies, if any, have empirically examined the consequences of high ownership concentration on board profile. Our findings depict a curvilinear relationship, with decreasing agency costs in the board initially at low to medium levels of concentration, but increasing costs at higher concentration levels, due to the power and entrenchment of large shareholders. In a way, this study has integrated research findings from both developed and emerging markets to suggest that there is some moderate level of ownership concentration that can effectively balance both principal–agent and principal–principal types of agency conflict and minimize monitoring costs.

This study is limited by the standard caveats from research that uses secondary data. Some of the potential problems have to do with the inherent biases created by the lack of reporting standards in emerging capital markets and hence the lack of standardization in the terms used to define financial data. However, we attempted to minimize our exposure to such risks by using data that are not subject to social desirability or political biases (and therefore unlikely to be intentionally misreported) and that are less likely to be ambiguous in how they might be interpreted by companies and the reporting agencies. In addition, by using only listed firm data, we relied on a reasonable level of security provided by the external audit process. Finally, if there are inaccuracies, there is no reason to believe that these would be systematically distributed across the sample. In reality, the only proper way to deal with this is to repeatedly test our model over multiple time periods and in other emerging capital markets.

Another limitation of this study has to do with the generalizability of its results, and specifically, how the context under study can bias the conclusions. The introduction of independent directors into Chinese boards is a relatively new phenomenon that started in 2001 (CSRC, 2001). There may be institutional factors (Tuschke and Sanders, 2003) and bandwagon effects (Peng, 2004) working to determine the number of independent directors in a company. Such endogeneity issues stemming from exogenous forces can lead to the overspecification of our model. We do not believe this threat to be significant since we employed multiple

measures of board structure and obtained consistent results; yet, there is still a reason to be cautious in interpreting our findings. To deal with this, we conducted an additional robustness test by leaving out the data for the year 2001. We did not find meaningful variations from the main findings and therefore are fairly confident that the results are reliable.

From a theoretical standpoint, we argue that board structure is an indicator of agency costs, essentially turning on its head the traditional model of corporate governance that employs board structure as an independent construct. We believe that we stand on fairly solid theoretical ground for these arguments since there is a long line of research that shows the relationship, albeit mixed, between board structure and firm performance. We recognize that inherent in our arguments is the problem of endogeneity, which we attempted to mitigate by using the lagged values of the independent variables.

An important implication of this study for future research on emerging market firms is the possible consequences of the principal–principal conflict for investor performance. While we did not explicitly measure the financial impact on minority shareholders, the data confirmed our predictions that ownership concentration leads to the expropriation of shareholder wealth in the form of higher board compensation (after accounting for firm performance) and management entrenchment. Given that the directors on these boards represent, rather than monitor, the controlling shareholder, the only group from which wealth can be transferred would be the minority shareholders. Such a conjecture has had some empirical backing from other researchers, who found a negative performance effect resulting from direct state intervention in corporate decisions (Nee, Opper, and Wong, 2007). Indeed, the controlling shareholder in the Chinese context can exert an influence on the firm's asset allocation strategies by shifting cash flows from private to public use (e.g., guaranteeing job security, or infrastructure construction). This influence is not shared equally with the minority shareholders who only benefit when the residual cash flow of the firm is maximized and paid out to them in the form of dividends, stock buybacks, capital appreciation through positive value reinvestments, or enhanced liquidity.

Finally, from a practical standpoint, our approach to detecting agency costs is potentially useful to private investors in China, and particularly to international investors considering entry to the China market, because they both experience extraordinary difficulties in obtaining reliable information from firms. For domestic minority shareholders, such difficulties come from the presence of controlling shareholders that have the incentive to hide information for private benefit. For foreign entrants, information difficulties are exacerbated due to the cultural and institutional distances between China and their home countries (Kogut and Singh, 1988; Xu and Shenkar, 2002), even though the Chinese stock market is now accessible to the Qualified Foreign Institutional Investors. Since the membership of the board of directors, and other indicators such as board compensation, board size

and the presence of independent directors are easily detected by observers, they may serve as good substitutes for market price signals.

CONCLUSION

This study posited that the theoretical relationship between ownership concentration in Chinese listed firms and the structure of the boards in these firms can reveal agency problems that are caused by the principal–principal conflict. Our empirical tests on this relationship have provided corroborating evidence for the existence of such problems, which are conjectured to be widespread in emerging economies (Dharwadkar et al., 2000; Young et al., 2008). A unique aspect of corporate ownership structure in emerging market countries is the concentration of capital equity in the hands of such investors as the government, family foundations and labour pension funds. Our study findings suggest that it does not necessarily mean that these investors have the maximization of investment returns as their primary goal. Emerging economies such as China offer an excellent context for further theorizing and empirical testing of the agency problem. We hope that this study provides the basis for more direct and rigorous examinations of the financial consequences of the principal–principal conflict in emerging market firms and contribute to the corporate governance literature in general.

NOTE

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