

The private benefits of control in Chinese listed firms: Do cash flow rights always reduce controlling shareholders' tunneling?

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Abstract This study measures the size of private benefits of control (PBC) and explores the impact of ownership structure and board independence on controlling shareholders' tunneling. Using data of Chinese listed companies between 2003 and 2006, we find that the average size of PBC, as measured by the price premium of block share transactions, is approximately 10.66% in Chinese listed companies. Also, firms with more independent directors on the board and firms with multiple large shareholders have a smaller size of PBC. Therefore, they experience a lower level of expropriation of minority investors by controlling shareholders. We particularly find evidence of a nonlinear U-shaped relationship between controlling shareholders' PBC and their cash flow rights. On the left half of the nonlinear U-shaped curve, consistent with the interest-alignment effect of increased ownership concentration, increased cash flow rights appear to be effective in reducing controlling shareholders' tunneling. However, on the right half, increased cash flow rights would exacerbate controlling shareholders' expropriation of minority investors, which is the entrenchment effect of increased ownership concentration.

Keywords Corporate governance · Cash flow rights · Board independence · Private benefits of control (PBC) · Tunneling · China

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Researchers increasingly realize that concentrated ownership is common around the world, especially in emerging economies (Claessens, Djankov, Fan, & Lang, 2000; Faccio & Lang, 2002; La Porta, Lopez-de-Silanes, & Shleifer, 1999). This fact has overturned the theoretical basis that the traditional principal–agent model, between shareholders and managers, was built on. The principal–agent conflicts stem from the separation of ownership and control in modern corporations with highly dispersed ownership structures (Jensen & Meckling, 1976). However, in a firm with concentrated ownership, controlling shareholders (not managers) have control of the firm. This has led to the development of a new corporate governance perspective which focuses on how to resolve the conflicts of interests between the controlling and minority shareholders. This is known as the principal–principal model (Chen & Young, 2010; Dharwadkar, George, & Brandes, 2000; Jiang & Peng, 2010; Young, Peng, Ahlstrom, Bruton, & Jiang, 2008). The appropriation of value from minority shareholders by controlling shareholders (i.e., the private benefits of control (PBC) extracted by controlling shareholders),¹ is the core problem for the principal–principal perspective (Su, Xu, & Phan, 2008).

Since Grossman and Hart (1980) advanced the idea of PBC in their theoretical model, PBC has become a centerpiece of the recent literature in corporate governance (Dyck & Zingales, 2004). Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000) vividly use the term “tunneling” to characterize the behaviors of controlling shareholders’ extracting PBC, because these behaviors usually refer to the transfer of assets and profits out of firms (e.g., transfer pricing, subsidized personal loans, related-party transactions, and even outright theft) (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2002; Su et al., 2008).

In the absence of effective legal protection for minority shareholders in emerging economies, controlling shareholders will be prone to extract much PBC and maximize their own utility with strong control, but with relatively small ownership, at the expense of minority investors (Friedman, Johnson, & Mitton, 2003; Johnson et al., 2000; Shleifer & Vishny, 1997; Su et al., 2008). Several prior studies suggest that increased cash flow rights can align controlling shareholders’ interests with minority shareholders’ interests (Claessens, Djankov, Fan, & Lang, 2002; Dyck & Zingales, 2004; La Porta et al., 2002). Despite the interest-alignment effect of increased cash flow rights, increased cash flow rights would bring about additional costs to block shareholders (Demsetz & Lehn, 1985; Liu, 2007; Peng & Jiang, 2010), which would result in the entrenchment effect of increased ownership concentration. This is always ignored in previous research. Combining the interest-alignment and the entrenchment effects of increased ownership concentration, we argue that increased cash flow rights would not always reduce controlling shareholders’ tunneling. In other words, there would be a non-monotonic relationship between controlling shareholders’ PBC and their cash flow rights. Furthermore, little is known about the role of governance mechanisms on controlling shareholders’ tunneling behaviors. In

¹ It should be noted that there are two kinds of PBC: (1) pecuniary PBC (e.g., transfer assets under market price, excessive perk consumption) and (2) non-pecuniary PBC (e.g., social position, reputation) (Grossman & Hart, 1988; Holderness, 2003). The non-pecuniary type does not necessarily reduce the wealth of minority shareholders (Holderness, 2003). Since non-pecuniary PBC is hard to measure, PBC in empirical research usually only refers to pecuniary PBC. In this study, PBC is the most pecuniary PBC, which is always associated with expropriation of minority investors by majority shareholders or managers.

emerging economies, with highly concentrated ownership and weak legal protection for investors, external governance mechanisms (e.g., markets for corporate control and managerial labor markets) would hardly work effectively (Berglöf & Pajuste, 2003; Jiang & Peng, 2010; Peng & Jiang, 2010). When a firm is controlled by the top shareholder, the effectiveness of several internal governance mechanisms (e.g., managerial compensation schemes and board of directors) would also be very limited (Berglöf & Pajuste, 2003; Chen, Li, & Shapiro, 2010; Claessens & Fan, 2002; Morck, Wolfenzon, & Yeung, 2005). Therefore, a different bundle of governance mechanisms would be required to resolve principal–principal conflicts in emerging economies (Jiang & Peng, 2010; Young et al., 2008).

Under what circumstances will firms with concentrated ownership experience less appropriation of minority shareholder value by controlling shareholders (in other words, experience a lower level of PBC)? Recently, scholars have emphasized two internal governance mechanisms: (1) the independent director system (Anderson & Reeb, 2004; Hu, Tam, & Tan, 2010; Peng, 2004; Shleifer & Vishny, 1997; Ye, Lu, & Zhang, 2007) and (2) the multiple large shareholders structure (Bennedsen & Wolfenzon, 2000; Gomes & Novaes, 2005; Jiang & Peng, 2010; Maury & Pajuste, 2005). This is because both independent directors and other large shareholders would be expected to balance and restrict controlling shareholders' strong power and actions, therefore effectively reduce their tunneling.

To start filling the gaps described above, we choose China as the research context for the following three reasons. First, because, similar to other emerging economies, China has weak legal protection for investors and the principal–principal conflicts are reportedly severe (Su et al., 2008; Young et al., 2008), China necessitates more research attention (Fang, 2010; Peng, Li, Xie, & Su, 2010; Tan & Peng, 2003). Second, although several studies have empirically studied the expropriation of minority shareholders from specific tunneling behaviors (e.g., related-party transactions, earning management) by controlling shareholders in China (Cheung, Jing, & Lu, 2009; Ding, Zhang, & Zhang, 2007; Liu & Lu, 2007), little is known about the role of governance mechanisms on the total size of PBC that controlling shareholders would extract in China.² Finally, China's transition context also facilitates us to collect a relatively large sample of block share transactions with control transfer, which this study depends on. Using a sample of 85 block non-tradable share transactions in Chinese listed companies, during the period of 2003 to 2006, we find that the average size of the controlling shareholder's PBC, as measured by the price premium of block share transactions, is approximately 10.66% in China. Firms with more independent directors on the board and firms with multiple large shareholders have a smaller size of PBC. Consistent with our hypothesis, we find a nonlinear U-shaped relationship between controlling shareholders' PBC and their cash flow rights. As a whole, our research indicates that, for China and perhaps other emerging economies, both constructing multiple large

² As we know, most listed firms are state-controlled in the Chinese stock market. Thus, most controlling shareholders of Chinese listed companies are the government. For the reasons why the state controlling shareholders have incentives to expropriate minority shareholders, please refer to the detailed arguments in Bai, Liu, Lu, Song, and Zhang (2004), Chen, Firth, and Xu (2009), Deng, Gan, and He (2006), and Gao and Kling (2008).

shareholders structures and strengthening the independence of the board of directors are effective solutions to solving severe principal–principal conflicts.

Literature review and hypotheses development

The origin of ownership concentration

In emerging economies, both the legal system and the law enforcement are very poor. This institutional context makes the enforcement of agency contracts costly and problematic (North, 1990; Wright, Filatotchev, Hoskisson, & Peng, 2005), and investors suffer from a severe information asymmetry problem (Hoskisson, Eden, Lau, & Wright, 2000; La Porta et al., 2000). This usually leads to high risk premiums or market failure in investment assets (Fama, 1991; Su et al., 2008). In order to protect their investment in the firm, shareholders have to hold a block share and thus take control of the firm (Peng & Jiang, 2010). It is the major cause of the prevalence of concentrated firm ownership in emerging economies (Dharwadkar et al., 2000; Young et al., 2008). Empirically, La Porta and colleagues (1999) find evidence that the ownership structure of firms in countries with better legal protection for investors is less concentrated than that in countries with a poor legal system. As a result, Shleifer and Vishny (1997) argue that the legal system and concentrated ownership are two main effective solutions to protecting the interests of minority investors and can substitute for each other (Ding et al., 2007). In other words, without an effective legal system in emerging economies, concentrated ownership is an alternative choice for investors to protect their investment and is thus prevalent.

The interest-alignment effect of increased ownership concentration

As early as 1980, Grossman and Hart suggested that a certain degree of ownership concentration could help to resolve the problem of free-riders in monitoring managers, which is prevalent in corporations with highly dispersed ownership structure. In contrast with the small shareholders who often “vote with their feet” when firm performance is poor because they have few incentives or abilities to monitor managers (Jensen & Meckling, 1976), block shareholders would have enough voting power and incentives to collect information and monitor managerial opportunistic behaviors (Chen et al., 2010; Hengartner, 2006; Pi & Lowe, 2010). Therefore, their investment in corporations would be protected.

Besides the above benefits of concentrated ownership, which could be jointly shared by the controlling and minority shareholders, concentrated ownership can also bring about private benefits to controlling shareholders (Grossman & Hart, 1988; Holderness, 2003). In emerging economies, large shareholders generally have outright control of the firms and their management with relative small shares, through some kind of control-enhancing mechanisms (e.g., pyramid structure, cross-holding, and dual-class shares) (Adams & Ferreira, 2008; Morck et al., 2005; Shleifer & Vishny, 1997). In this context, large shareholders will have a general interest and enough control to pursue their private benefits by expropriating minority

investors (Friedman et al., 2003; Johnson et al., 2000), as they will have the PBC alone but bear a small part of the costs of tunneling (Shleifer & Vishny, 1997).³ Since controlling shareholders' PBC is always at the expense of minority shareholders' interest, concentrated ownership arouses another kind of conflicts of interests between the controlling and minority shareholders, resulting in principal–principal conflicts (Morck et al., 2005; Shleifer & Vishny, 1997; Young et al., 2008). Previous research suggests that the separation of cash flow rights and control rights is the root cause of the principal–principal conflicts in emerging economies (Claessens et al., 2002; Dyck & Zingales, 2004; La Porta et al., 2002; Shleifer & Vishny, 1997). One solution to reducing controlling shareholders' tunneling would be to increase their cash flow rights because increased cash flow rights will cost controlling shareholders more when they divert profits or assets from the companies to their own pockets (Ding et al., 2007; Shleifer & Vishny, 1997). As their cash flow rights increase, controlling shareholders' interests are better aligned with the firms' interests (Jensen & Meckling, 1976; McConnell & Servaes, 1990). This is the interest-alignment effect of increased ownership concentration (Ding et al., 2007; Shleifer & Vishny, 1997).

The entrenchment effect of increased ownership concentration

In order to obtain the shared and private benefits of concentrated ownership, the controlling shareholder naturally has to hold a block share and take control of the firm. In this situation, compared with other minority shareholders, for three reasons the controlling shareholder bears additional costs. First, one of the foundations of modern finance is diversification. Investors will hold diversified portfolios to eliminate diversifiable risk (Holderness, 2003). Therefore, controlling shareholders bear additional risk for their concentrated investment and lose the benefits of potentially diversified portfolios (Demsetz & Lehn, 1985; Shleifer & Vishny, 1997). Second, as the interest-alignment effect displays, controlling shareholders have incentives to collect information and monitor the management and to pursue the shared benefits of control. In this process, controlling shareholders have to pay corresponding costs (Liu, 2007). Third, block share transactions are restricted by many regulations around the world. For example, company promoters cannot sell their block share until a particular time after initial public offerings (IPO) internationally (Xu, Huang, Liu, & Xue, 2006). This liquidity restriction sets a high discount on block share's price when compared with otherwise identical registered stock, and this lowers the block share's market value (Claessens & Fan, 2002; Kahl, Liu, & Longstaff, 2003).

In China, about two-thirds of listed companies' stock are non-tradable. Compared with tradable stock, Chen and Xiong (2002) empirically find that the illiquidity discount on Chinese listed companies' non-tradable stock's market price is as high as 70–80%. Furthermore, controlling shareholders also have to bear costs to acquire and preserve their control of the firms, or they would lose both the shared and private benefits of control (Liu, 2007). As a result, controlling shareholders bear

³ Many empirical studies have found that controlling shareholders frequently extract PBC in the forms of related-party transactions (Cheung et al., 2009), earning management (Ding et al., 2007; Liu & Lu, 2007) and loan guarantee (Berkman, Cole, & Fu, 2009; Jiang, Lee, & Yue, 2005) and thus reduce firm performance/value (Claessens et al., 2002).

huge additional costs for their block ownership. Yet, in emerging economies like China, concentrated ownership is very common (Claessens et al., 2000; Faccio & Lang, 2002). We argue that controlling shareholders would find a way to compensate for their additional costs related to their concentrated ownership. In the current income structure, controlling shareholders can gain the shared and private benefits of control for their concentrated ownership. The former one is a kind of joint income (i.e., one share one income for every shareholder), and this cannot compensate for the additional costs they bear on their own. So, considering their additional costs of concentrated ownership, controlling shareholders would be prone to extract many private benefits (i.e., PBC), especially when the legal system and corporate governance are poor. While controlling shareholders' cash flow rights increase, the additional costs of concentrated ownership they bear would increase exponentially (according to the investment portfolio theory) and exacerbate their tunneling. Accordingly, there is also the entrenchment effect of increased ownership concentration, which is always ignored in prior studies of the principal–principal conflicts.

Combining the interest-alignment and the entrenchment effects of increased ownership concentration, we suggest that when controlling shareholders' cash flow rights (a standard measure of concentrated ownership) are at relatively low to medium levels, the additional costs of concentrated ownership are also relatively small. Therefore, the interest-alignment effect of increased ownership concentration dominates. In other words, as their cash flow rights increase, controlling shareholders' interests are better aligned with the firms' interests, and this reduces their tunneling. However, when controlling shareholders' cash flow rights are at a high level, the costs of block ownership would become huge and the entrenchment effect of increased ownership concentration would dominate. In other words, as their cash flow rights further increase, controlling shareholders would turn to increase their tunneling to compensate for their huge additional costs of concentrated ownership. Thus, as Figure 1 displays, although increased cash flow rights could reduce controlling shareholders' tunneling, after a certain point of inflection, they can also exacerbate controlling shareholders' expropriation of minority shareholders. Therefore:

Hypothesis 1 There will be a nonlinear U-shaped relationship between controlling shareholders' cash flow rights and the level of their extracting PBC.

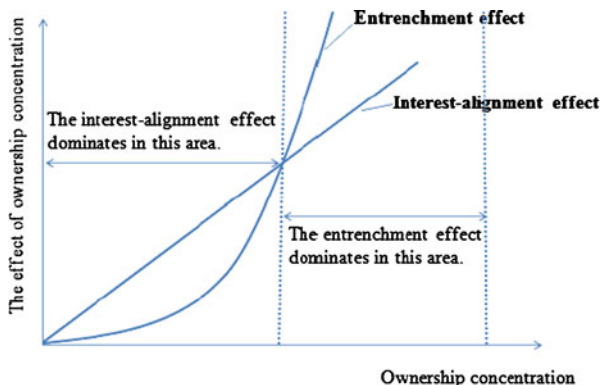


Figure 1 The interest-alignment and the entrenchment effects of ownership concentration

Board independence

In the context of concentrated ownership, controlling shareholders have the ability and willingness to directly influence the board by appointing directors that represent their personal interests, rather than the interests of all shareholders (La Porta et al., 1999; Su et al., 2008). Naturally, a board of directors where insiders dominate is hardly to protect minority investors' interests but likely to advance their personal interests by expropriating from small shareholders. Therefore, board independence is supposed to provide defense against the tunneling behaviors by controlling shareholders and independent directors play a critical role (Hu et al., 2010; Shleifer & Vishny, 1997). As independent directors have no affiliation with the firms other than their directorship (Byrd & Hickman, 1992), they are expected to effectively balance the power of controlling shareholders and affiliated directors and reduce the misuse of power by insiders (Guan, 2007; Pi & Lowe, 2010). Hence, independent directors are expected to play a more active and effective monitoring role than executive (inside) directors (Hu et al., 2010; Johnson, Daily, & Ellstrand, 1996).

However, previous empirical findings on the effectiveness of independent directors are inconclusive (Chen et al., 2010; Hu et al., 2010; Peng, 2004). For example, Baysinger and Butler (1985) find evidence that board monitoring is more efficient when there are a higher proportion of independent directors on the board (also see Byrd & Hickman, 1992; Kato & Long, 2006). But in the very first study examining the role of independent directors of Chinese listed companies, Peng (2004) finds that non-affiliated outside directors—-independent directors—do not contribute to firm performance (measured as ROE and sales growth) (also see Chen et al., 2010; Hu et al., 2010). Considering that many factors influence firm performance and that independent directors are not directly responsible for firm performance (Kesner & Johnson, 1990), it would be natural to assume that prior research has found mixed evidence. Kosnik (1987) argues that it would be much more meaningful to examine the effectiveness of board independence on specific governance behaviors. Therefore, by taking a specific behavior of tunneling by controlling shareholders (i.e., fund embezzlement) as the research object, Ye and colleagues (2007) find strong evidence that independent directors could effectively reduce controlling shareholders' tunneling in Chinese listed companies. Independent directors are explicitly required to supervise many other kinds of specific tunneling behaviors of controlling shareholders (e.g., loan guarantee, related-party transactions) in China (CSRC, 2001). One of the main purposes of setting up the independent director system in China is to restrict controlling shareholders' expropriation of minority investors (CSRC, 2001).

As a result, although empirical findings on the effectiveness of independent directors are mixed, independent directors could also be expected to effectively restrict controlling shareholders' tunneling in China. This brings us to the second testable hypothesis:

Hypothesis 2 The proportion of independent directors is negatively related to the level of controlling shareholders' PBC through tunneling.

Multiple large shareholders

As another important characteristic of ownership concentration, multiple large shareholders have drawn growing research attention from the principal–principal perspective (Bennedsen & Wolfenzon, 2000; Gomes & Novaes, 2005; Jiang & Peng, 2010; Maury & Pajuste, 2005). In emerging economies, the presence of multiple large shareholders with substantial block share is common (Faccio & Lang, 2002; Faccio, Lang, & Young, 2001). Similar to controlling shareholders, by holding a substantial voting block, other large shareholders would also have the power and incentives to monitor insiders (i.e., controlling shareholders and their affiliated managers), therefore restricting insiders' opportunistic behaviors (Maury & Pajuste, 2005). For instance, Lehman and Weigand (2000) find evidence that the presence of a strong second largest shareholder is positively related to firm profitability in German listed companies (also see Faccio et al., 2001; Maury & Pajuste, 2005). These findings indicate that multiple large shareholders would be an effective governance mechanism to balance the control of controlling shareholders and would restrict their tunneling in firms with concentrated ownership. However, multiple large shareholders are also found to collude with each other to form a controlling coalition and share PBC through expropriation of minority shareholders (Faccio et al., 2001; Maury & Pajuste, 2005). Hence, there are two opposite impacts of multiple large shareholders on the principal–principal conflicts (Bennedsen & Wolfenzon, 2000).

In China, the one-dominant controlling shareholder phenomenon (*yigududa*) is still typical in most listed companies (Hu et al., 2010). In other words, there is a single dominant shareholder whose ownership far exceeds that of the second largest shareholder in most Chinese listed companies (Chen et al., 2009). This fact suggests that controlling shareholders would have outright control of the firms. Therefore, the top shareholders with outright control do not have the need to collude with other large shareholders to form a winning coalition and then share PBC with each other. Accordingly, we expect that multiple large shareholders in China would play a monitoring role on controlling shareholders' tunneling behaviors. In other words, multiple large shareholders may compete for control of the firms, thus restricting the outright control of the controlling shareholders and their expropriation of minority investors in China. Specifically:

Hypothesis 3 The presence of multiple large shareholders is negatively related to the level of controlling shareholders' PBC through tunneling.

Methodology

Sample

We collected block non-tradable share transactions in Chinese listed companies during the period of 2003 to 2006 (inclusive) as our sample. To identify our target block share transactions and minimize the influence of outliers, the transactions should follow the following rules (Dyck & Zingales, 2004; Ma & Xu, 2007; Tang

& Jiang, 2002). (1) The transaction has been authorized by all of the related supervisor departments. (2) The underlying firms of the transactions should be non-financial companies because financial companies have to comply with very stringent legal requirements. (3) The net asset per share of the underlying firm should be positive. (4) The transaction should be a market dealing, eliminating those cases such as government voluntary transfer, the public sale by the court, and so on. (5) The transfer shares should be no less than 10% of the stock.⁴ By following this plan, we can collect the desired transactions purposefully. (6) The transaction should result in control rights transfer. In other words, the position of the controlling shareholder should be conveyed from the bargainer to the acquirer. (7) The information about the share and the price per share of the transaction can be obtained in public. Following the above criteria, the final sample consists of 82 firms and 85 firm-year observations. The number of firms in each sample year for the period 2003 to 2006 is 24, 7, 28, and 26, respectively.

The accounting data is collected from CSMAR Database. And the information about the control chains of listed firms is obtained by hand from the companies' annual reports from the CNINF website (<http://www.cninfo.com.cn/default.htm>) appointed by the China Securities Regulatory Commission (CSRC).

Measurements

Dependent variable The dependent variable is PBC. Given that the controlling shareholder's PBC is very covert, we cannot measure PBC directly (Bai, Liu, & Song, 2003; Dyck & Zingales, 2004). However, there are two main indirect methods that have been used in the literature to quantify the size of PBC (Doidge, 2004). The first method takes the voting premium of dual-class shares as the measure of PBC (Zingales, 1994). The second method takes the price premium paid for a block share transaction as a proxy of PBC (Barclay & Holderness, 1989; Dyck & Zingales, 2004; Tang & Jiang, 2002). Since there is only one class of stock in Chinese listed companies, we use Barclay and Holderness's (1989) method with some adjustments to assess the PBC in this study. The stock of Chinese listed companies is classified into two kinds, the tradable stock and the non-tradable one. The latter one occupies about two-parts and does not dispersedly distribute (Xu & Wang, 1999). In other words, in China the underlying stock for block share transactions is an almost non-tradable one, which does not have a market price. Therefore, following previous studies (Ma & Xu, 2007; Tang & Jiang, 2002), we take the net asset per share as a proxy for non-tradable stock's

⁴ Controlling shareholder averagely owns nearly half of a listed company in Chinese listed companies (Chen et al., 2009; Hu et al., 2010). As a result, a block share transaction for less than 10% of the stock can hardly result in control transfer. Following Dyck and Zingales (2004), we take 10% as our critical point to collect our target transactions.

market price.⁵ As the net asset per share is determined historically and does not capture the firm's growth prospects, we subtract a proper anticipative growth rate of the underlying firm at the same time when measuring the price premium of block share transactions (Ma & Xu, 2007). So, we compute the controlling shareholder's PBC as follows:

$$PBC = \alpha \left(\frac{P - NP}{NP} - AROE \right)$$

Where *PBC* is the rate of the controlling shareholder's PBC, *P* is the bargain price of block non-tradable stock, *NP* is the net asset per share of the transferred stock, *AROE*, which we take as a proper anticipative growth rate of the underlying firm, is the average 3-year ROE (rate of return on common stockholders' equity) of the firm before the transaction occurs (Ma & Xu, 2007), and α is the ratio of the transferred non-tradable stock to all common stock of the firm.

Independent variables The most important independent variable is the controlling shareholder's *cash flow rights*. Considering that control is often enhanced through pyramid structures in Chinese listed firms (Fan, Wong, & Zhang, 2009), we cast back the firm's control chain and use La Porta and colleagues' (2002) method to calculate the controlling shareholder's ultimate cash flow rights. That is, cash flow rights are computed as the sum of the products of all the equity stakes along the control chains.

Following previous studies (Chen et al., 2010; Hu et al., 2010; Lo, Wong, & Firth, 2010; Peng, 2004), *board independence* is measured as the proportion of independent directors on the board. *Multiple large shareholders* is measured by a dummy variable, which takes value one if the share of the second largest shareholder is no less than 5% (Chen et al., 2009; Yu et al., 2006). That is, if the dummy variable equals one, there exist multiple large shareholders in the firm.

Control variables As with previous literature (Bai et al., 2003; Barclay & Holderness, 1989; Dyck & Zingales, 2004; Ma & Xu, 2007; Tang & Jiang, 2002; Xu et al., 2006) on controlling shareholders' expropriation of minority investors, we control a number of factors that would systematically be related to the size of controlling shareholders' extracting PBC. The first factor is *firm size* (measured as the natural log of total assets in the previous year). As larger firms usually have better disclosure, more liquid trading, and more attention from analysts, the expropriation of minority shareholders would be relatively weak in large firms (Claessens et al., 2002). Hence, we expect that there is a negative relationship between firm size and PBC.

⁵ Since non-tradable stock does not have a market price, the net asset per share would be a secondary proxy for its market price. There are two reasons. First, compared with tradable stock, there is a huge illiquidity discount on non-tradable stock's market price (Chen & Xiong, 2002). Thus, it is unreasonable to take the market price of tradable stock as a proxy for non-tradable one's market valuation. Second, net asset per share is usually used to be an important benchmark for asset pricing around the world (Tang & Jiang, 2002). And as a proxy for non-tradable stock's market price, net asset per share has been commonly accepted in practice in China. Especially, related regulatory policy in China requires that the bargain price of non-tradable state shares should be based on net asset per share and no less than net asset per share (Yu, Xia, & Pan, 2006).

The second factor is *leverage* (measured as the ratio of total debt and total assets in the previous year). Generally speaking, to repay capital with interest would continuously reduce a firm's free cash flow (Jensen, 1986), which then reduces the size of free cash flow that the controlling shareholder could expropriate. As a result, the relationship between leverage and PBC is proposed to be negative.

The third factor is *cash assets* (measured as the natural log of cash and cash equivalent in the previous year). If a firm has many cash assets, the controlling shareholder would have many resources to invest on behalf of his/her own interests. We expect that there is a positive relationship between cash assets and PBC.

The fourth factor is *firm profitability* (measured as the ratio of profit after tax and net assets in the previous year, ROE). The higher the firm profitability is, the more the anticipated profit is, and if a firm is in a bad financial condition, the resources that the controlling shareholder could expropriate would be very limited. Accordingly, the relationship between firm profitability and PBC is expected to be positive.

Finally, *industry* and *year* indicators are also included in regressions. According to *Guidelines for Classification of Listed Companies* issued by the CSRC (A through M), the sample in this study comes from 10 industries. However, considering that our sample size is relatively small, and that about 55% of the sample comes from manufacturing, and the residual sample is distributed in other industries dispersedly, we only introduce one industry dummy variable, which equals the value one if the sample comes from manufacturing. Similarly, taking 2003 as the base year, we generate three year dummy variables that are representative of year 2004, 2005, and 2006, respectively.

Results

Descriptive statistics are presented in Table 1. The average rate of the controlling shareholder's PBC is about 10.66%, which is much lower than 28% in Tang and Jiang (2002), 32% in Bai and colleagues (2003), but higher than that in many countries (see Table 2). This suggests that the tunneling problem of minority investors by controlling shareholders is severe in China. The average ultimate cash flow rights of controlling shareholders is about 33.41%, which indicates that the one-dominant controlling shareholder phenomenon (*yigududa*) is still severe in Chinese listed companies. On average, the proportion of the independent directors on the board is 28.71%, which is much lower than that in Western developed countries. In the total sample firms, 62% of firms have a second largest shareholder with no less than 5% ownership. Out of four control variables, the profitability measure (ROE) is averagely about -10%, which is much lower than that of all the listed firms in China.⁶ This result may suggest that a firm with bad performance would become the target of an acquirer much more easily.

Table 3 displays the correlation coefficients of the variables included in the regression analyses. There is a significant and negative correlation between board

⁶ The weighted average of ROE for all Chinese listed companies is about 5.9% in 2003–2006, taking firms' total assets as weighted item.

Table 1 Descriptive statistics.

Variables	Mean	SD	Min	25th Percentile	Median	75th Percentile	Max
Private benefits of control (PBC) (%)	10.66	22.90	-23.15	-1.03	4.10	15.29	128.10
Cash flow rights (%)	33.41	14.81	2.98	24.90	29.93	41.64	70.00
Board independence (%)	28.71	10.25	0	22.22	33.33	33.33	44.44
Multiple large shareholders	0.62	0.49	0	0	1	1	1
Firm size	20.70	0.85	19.08	20.07	20.62	21.04	23.15
Leverage	0.52	0.23	0.01	0.38	0.53	0.68	0.94
Cash assets	18.14	1.39	14.84	17.32	18.25	19.12	21.56
Firm profitability (ROE)	-0.10	0.27	-1.40	-0.19	0.02	0.06	0.26

independence and PBC ($r = -0.29$, $p < 0.01$), which provides some preliminary evidence for our Hypothesis 2. Both the correlations between the presence of multiple large shareholders and PBC and between cash flow rights and PBC are negative but insignificant, which is also basically consistent with our argument in Hypotheses 1 and 3. The maximum variance inflation factors (VIF) for the regression models is 4.87, which is much smaller than the acceptable cut-off point of 10, implying that the problems of multicollinearity are acceptable (Neter, Wasserman, & Kutner, 1990).

Table 4 shows the results of OLS regression analyses. Model 1 is a baseline model, which only includes control variables. Model 6 is the full model, which adds both control variables and all independent variables. The other models are developed for testing the hypotheses proposed in this study. All models are significant as their F values are all significant at the level of 0.01. Both industry and year indicators are added in all regression models but not reported.

Models 2–3 test Hypothesis 1, that there is a nonlinear U-shaped relationship between controlling shareholders' cash flow rights and their extracting PBC. As is

Table 2 Summary of the size of PBC around the world.

Country or region	Mean (Median) size of PBC	Sample period	Reference
United States	1% (2%)	1990–2000	Dyck and Zingales (2004)
United Kingdom	1% (0%)	1990–2000	Dyck and Zingales (2004)
Germany	10% (11%)	1990–2000	Dyck and Zingales (2004)
France	2% (1%)	1990–2000	Dyck and Zingales (2004)
Japan	-4% (-1%)	1990–2000	Dyck and Zingales (2004)
Hong Kong	0% (2%)	1990–2000	Dyck and Zingales (2004)
Taiwan	0% (0%)	1990–2000	Dyck and Zingales (2004)
Mainland China	28% (unavailable)	1999–2001	Tang and Jiang (2002)
	32% (34%)	1998–2000	Bai and colleagues (2003)
	11% (4%)	2003–2006	In this study

Table 3 Pearson correlation matrix of regression variables.

Variables	1	2	3	4	5	6	7	8
1. Private benefits of control (PBC)	1.00							
2. Cash flow rights	-0.06	1.00						
3. Board independence	-0.29***	0.03	1.00					
4. Multiple large shareholders	-0.11	-0.37***	0.17	1.00				
5. Firm size	-0.25**	0.01	0.20*	-0.20*	1.00			
6. Leverage	0.20*	-0.02	0.01	-0.05	0.33***	1.00		
7. Cash assets	-0.23***	-0.03	0.30***	0.06	0.72***	-0.13	1.00	
8. Firm profitability (ROE)	-0.38***	0.03	0.13	0.11	0.10	-0.42***	0.38***	1.00

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

shown in the table, when only including cash flow rights into the regression model (Model 2), we do not find a significant effect ($\beta = -0.06$, $p > 0.10$). However, we find a significant effect when including cash flow rights and its square item into the regression model (Model 3). The cash flow rights are significantly and negatively related to PBC ($\beta = -1.05$, $p < 0.10$), and its square item is significantly and positively related to PBC ($\beta = 0.01$, $p < 0.10$). As a result, Hypothesis 1 is supported even though the significant level is only 0.10. The effects of board independence and multiple large shareholders are examined in Models 4 and 5, respectively. Both the variables of board independence ($\beta = -0.81$, $p < 0.01$) and multiple large shareholders ($\beta = -11.08$, $p < 0.05$) have a significant and negative effect on PBC. These results indicate that both the independent directors system and the multiple large shareholders structure are effective governance mechanisms in restricting the controlling shareholder's tunneling behaviors. Therefore, both Hypotheses 2 and 3 are supported.

We also have examined the differences in models by hierarchical regression, and the values of ΔR^2 and the statistic significance levels of their F -test are shown in Table 4. The results show that, except Model 2, Models 3–6 that include independent variables all explain significantly more variance than the baseline model (Model 1).

Discussion

Previous studies based on the principal–principal perspective have emphasized the tunneling of minority investors by large shareholders (Chen et al., 2010; Dharwadkar et al., 2000; Jiang & Peng, 2010; Peng & Jiang, 2010; Su et al., 2008; Young et al., 2008), but have always ignored the additional costs that large shareholders bear for their block ownership, which results in the entrenchment effect of increased ownership concentration. Combining the interest-alignment and the entrenchment effects of increased ownership concentration for the first time, this study contributes

Table 4 Results of regression analyses on PBC.

Variables	Private benefits of control (PBC)					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	197.79***	197.53***	206.23***	219.87***	264.53***	304.33***
Firm size	-14.68***	-14.45***	-14.20***	-16.06***	-19.72***	-20.85***
Leverage	28.14**	27.66*	38.41**	32.71**	36.14**	40.18***
Cash assets	5.41*	5.28*	5.37*	6.48**	7.55**	8.64***
Firm profitability (ROE)	-29.19***	-29.13***	-27.47***	-25.15**	-26.76***	-20.52**
Cash flow rights		-0.06	-1.05*			-1.26**
The square of cash flow rights			0.01*			0.02**
Board independence				-0.81***		-0.79***
Multiple large shareholders					-11.08**	-12.68**
<i>F</i>	3.32***	2.93***	2.98***	4.25***	3.61***	4.32***
Adj. R^2	0.18	0.17	0.19	0.26	0.22	0.32
ΔR^2		-0.01	0.01*	0.08***	0.03*	0.14***

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$. $N = 85$. Two-tailed test.

to the literature by suggesting that the relation between controlling shareholders' cash flow rights and their extracting PBC is not simply linear but non-monotonic.

Using a sample of block share transactions with control transfer from 2003 to 2006 in China, this study confirms our argument that there is a significant U-shaped relation between controlling shareholders' cash flow rights and their PBC (measured as the price premium of block share transactions). This result indicates that on the left half of the nonlinear U-shaped curve at low to medium levels of ownership concentration, the additional costs of block ownership is relatively small and the interest-alignment effect of increased ownership concentration is predominant. Therefore, increased cash flow rights appear to be effective in reducing controlling shareholders' tunneling. However, on the right half, ownership structure is highly concentrated and controlling shareholders have to bear huge additional costs of block ownership (e.g., risk of undiversified investment, loss of the benefits from diversified investment, liquidity restrictions on block share transactions, illiquidity discount on the price of block share) (Demsetz & Lehn, 1985; Kahl et al., 2003; Liu, 2007). In order to compensate for their additional costs, controlling shareholders are prone to extract much PBC at the expense of minority investors' interest. In other words, the entrenchment effect of increased ownership concentration turns to dominate. This finding refreshes our understanding of the relation between the level of ownership concentration and large shareholders' tunneling behaviors. In view of the fact that the one-dominant controlling shareholder phenomenon (*yigududa*) is still severe in most Chinese listed companies (Hu et al., 2010), Chinese policy-makers and regulators should make an extra effort to reduce the level of ownership concentration and investors should avoid investing in listed companies with highly concentrated ownership structures.

In comparing our findings with previous studies (Chen et al., 2010; Hu et al., 2010; Peng, 2004; Su et al., 2008), our empirical findings provide strong evidence that board independence impacts negatively on controlling shareholders' extracting PBC in Chinese listed companies. On the one hand, until 2001, Chinese listed companies have been required to introduce independent directors into the boards (Chen et al., 2010; CSRC, 2001; Peng, 2004; Peng, Zhang, & Li, 2007), and the independent director system in Chinese listed companies is basically set up by June 30, 2003, when at least one third of the board should be independent directors. Not surprisingly, studies that use data before 2003 (Chen et al., 2010; Peng, 2004; Su et al., 2008) do not find independent directors' governance impact. On the other hand, since independent directors are not directly responsible for firm performance (Kesner & Johnson, 1990; Johnson et al., 1996; Ye et al., 2007), and previous studies mostly focus on the relationship between board independence and firm performance, our finding in this study is not completely contrary to previous findings. We suggest that it will be much more meaningful to explore the relationship between board structure and various specific internal governance behaviors in the future (Kosnik, 1987; Ye et al., 2007).

Several researchers (Berglöf & Pajuste, 2003; Claessens & Fan, 2002; Morck et al., 2005) point out that the role of many corporate governance mechanisms (e.g., managerial compensation, board of directors) would be limited in the context of concentrated ownership. For instance, Berglöf and Pajuste suggest that:

“With strongly concentrated ownership and control, hostile takeovers and proxy fights are largely ineffective as disciplining devices. Similarly, boards of directors cannot be expected to play an independent role, and the role of executive compensation schemes is more limited in companies controlled by a single shareholder” (2003: 268).

Ding and colleagues (2007) also point out that top managers and directors are (or directly represent the interests of) controlling shareholders in the firms with concentrated ownership. Hence, this study argues that the presence of multiple large shareholders and independent directors could be expected to balance the power of controlling shareholders, which would effectively restrict the expropriation of minority investors by controlling shareholders. The results in this study find that the presence of multiple large shareholders can significantly reduce controlling shareholders' PBC. This finding suggests that another large shareholder monitors rather than colludes the controlling shareholder in Chinese listed companies, which is consistent with Maury and Pajuste's (2005) and Yu and colleagues' (2006) findings. Since block ownership is stable and hard to change in a short time (Holderness, 2003), a practical and feasible approach to improve corporate governance in the context of concentrated ownership is to speed up the development of institutional investors and attract their investment in companies and thus construct multiple large shareholders structures.

Limitations and suggestions for future research

Despite some insightful implications, several limitations are associated with this study and can be identified for future research. First, the sample size in this

study is relatively small and it would restrict the results' general applicability. However, China's split share structure reform, which was initiated by the Chinese government on April 29, 2005, aims to convert all non-tradable shares into tradable ones. While still ongoing, this reform will be thoroughly completed over the next few years, block share transactions with control transfer in China will become easier to implement and sharply increase in frequency in the foreseeable future. Therefore, a more representative study with a larger sample in the future is only a matter of time. Second, although this study mentions the costs of block ownership and indirectly considers its impact on large shareholders' tunneling in empirical research for the first time, how to measure its exact size and determine what factors affect it is still unknown. It is an interesting and important issue for future research. Only after thoroughly understanding the costs of block ownership, would it be possible for policymakers to compensate for the additional costs of large shareholders for their block ownership and then make full use of the interest-alignment effect of ownership concentration.

Third, besides ownership structure and corporate governance, institutional settings (e.g., the level of market development, property rights protection) are also very important in restricting controlling shareholders' tunneling and thus protecting minority investors' interests (La Porta et al., 2002). China's diverse markets and geographic regions provide sufficient variation in institutional settings (Fan et al., 2009). Future researchers could examine the relationship between institutional settings and controlling shareholders' tunneling in China, which is an issue not hitherto well examined by previous studies but would provide useful implications for Chinese policymakers and investors.

Finally, much more research attention should be paid to the management of organizations located in the Asian context in comparison with their Western counterparts in the future. In contrast with the fact that Asia is the largest and most populous continent of the world incorporating a large number of countries that vary a great deal in terms of cultural underpinnings and state of globalization, there are few management theories that are uniquely grounded in the national and cultural context of these countries (Bhagat, McDevitt, & McDevitt, 2010). Thus, there is a distinct need for scholars to developing management theories grounded in the culture-specific norms, practices, and values of Asian countries.

Conclusion

The ultimate goal of the studies for the principal–principal conflicts is to reduce large shareholders' tunneling and protect minority shareholders' interests. Before developing effective regulatory policies and corporate governance mechanisms, a better understanding of why large shareholders extract PBC and what determines their tunneling behaviors is critical not only for scholars, but also for both regulators and investors. The primary reason for this study is to refresh our understanding of the relation between the level of ownership concentration and large shareholders' tunneling. Combining the interest-alignment and the entrenchment effects of increased ownership concentration for the first time, this study suggests and documents that there is a nonlinear U-shaped relation

between controlling shareholders' cash flow rights and their extracting PBC. This study finds that having a large number of independent directors on the board or/and the presence of multiple large shareholders can effectively restrict controlling shareholders' tunneling and thus reduce their PBC. Our findings indicate that, for China and perhaps other emerging economies, both strengthening the independence of the boards and constructing multiple large shareholders structure are effective solutions to solving severe principal–principal conflicts.

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