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Abstract

This study focuses on the incentives and risk-taking behavior of large shareholders in Thailand before and after the 1997 financial crisis. The results show that there is a negative association between risk and firm performance. However, the effect of risk matters less in the firms in which controlling shareholders hold more cash flow rights. Strikingly, after the crisis, the second largest shareholders from families appear to have significant and positive influence on firms, especially when they are members of top management. Furthermore, there is weak evidence that a move to more transparent direct control structure benefits the firms. Overall, the results indicate that ownership-based incentives are an effective means of aligning the interests between controlling shareholders and minority shareholders particularly in the post-crisis period.

JEL classification: G32

Keywords: Cash flow rights; Incentives; Financial and business risk; Thailand

1. Introduction

How can agency problems be alleviated? What are disciplinary devices that reduce the scope for expropriation and managerial opportunism? These are among other issues since Berle and Means (1932) raised the concern over the separation between management and ownership in widely held firms. One possible solution to the problems created by dispersed shareholding structure is to have ownership concentrated in the hands of a few large shareholders (Shleifer and Vishny, 1997).

Recent studies contrast with Berle and Means (1932) in that ownership is highly concentrated rather than dispersed, and that large shareholders are often involved in the management (La Porta et al., 1999; Claessens et al., 2000). With concentrated ownership, it is expected that the interests between large and minority shareholders should be more aligned. However, as controlling shareholders have sufficient power to control firms and have control rights in excess of cash flow rights, they have more incentives to expropriate minority shareholders (Grossman and Hart, 1988; Burkart et al., 1998; Wolfenzon, 1999). Accordingly, the incentives to expropriate vary with their financial incentives or cash flow rights (Jensen and Meckling, 1976).

A growing number of studies have investigated the efficacy of concentrated ownership of the largest shareholders as a monitoring incentive. However, very little is known about the role of other large shareholders in reducing the consumption of private benefits of control by controlling shareholders particularly in emerging markets. Given two contradicting arguments with respect to the share of control, there is no clear consensus if the share ownership of other shareholders provides monitoring role or facilitates managerial entrenchment. Therefore, the effect remains an empirical issue.

Although the literature within an agency framework focuses on how the risk of

expropriation by managers and controlling shareholders should be managed, we still need a broader conceptualization of how the alleviation of the risk exposure is important. Given that risk and effort are comparably important in principal-agent framework, it is important to integrate other types of risks in addition to expropriation risk into agency-based research to understand whether risks and incentives influence the agent's decision making that subsequently affects firm performance.

Agency theory argues that managers are self-interested, risk- and effort-averse. When managers (controlling shareholders) are not well diversified, they may have incentives to reduce variability in the firm's return since they do not like variability in their wealth (Eisenhardt, 1989). The literature on capital structure suggests that greater firm risk hurts shareholders because it reduces the present value of the firm's tax benefits of debts (Leland, 1999), and increases the present value of financial distress costs. Thus, in high-risk firms, the controlling shareholders without incentives that are aligned with other shareholders may be unwilling to take actions that reduce risk exposure, which can subsequently produce deleterious effect on firm performance. Despite its importance, the impact of risk on performance has frequently been ignored.

This study extends agency theory research by focusing on the joint effects of ownership mechanism and internal corporate risk on firm performance. The objectives of this paper are: (1) to investigate whether the effect of risk-taking behavior on firm performance depends on ownership-based incentive-alignment mechanism in emerging market, (2) to examine whether the role duality of the largest shareholder and the presence of the second largest shareholder affect firm performance, and (3) to study the impact of unwinding indirect shareholding structure.

This study uses non-financial firms listed on the Stock Exchange of Thailand in

1996 and 2000. The Thai sample provides a unique opportunity to study governance issues since the Thai economy was affected dramatically from the 1997 financial crisis. Covering pre- and post-crisis periods, this study investigates changes in corporate governance. It is important to note that, after the onset of the financial crisis in 1997, there are at least three important changes in corporate governance context. First, ownership becomes more concentrated. Second, large investors turn to use direct control mechanism rather than pyramidal or cross-shareholding structures. Khanthavit et al. (2003) and Anuchitworawong et al. (2003) confirm this evidence for non-financial and financial firms respectively. Third, the Stock Exchange of Commission has enforced the code of best practice that focuses on fairness, transparency, accountability, and responsibility. Thus, these changes are expected to have certain implications in the alleviation of agency problems in a country that experiences financial turmoil

The results show that ownership concentrated in the hands of the largest and second largest shareholders becomes important governance mechanisms after the crisis. Their higher ownership stakes raises interest alignment and reduces the effect of risk-taking behavior. After financial crisis, there is an apparent and positive linkage between ownership and firm performance in the firms that encounter high financial and business risk. This may reflect the improvement in corporate governance practices that have been promoted by the authority. Next, the concentration of power through role duality exacerbates potential conflicts of interest. But once the role duality of controlling shareholders is tied with their equity wealth, the effect of agency problem is smaller. Lastly, there is relatively weak evidence that supports the benefits from unwinding such indirect control mechanisms as pyramid or cross-shareholding method.

The paper proceeds as follows. Section 2 summarizes theoretical background

and hypotheses. Section 3 presents information on data and methodology used in the study. Empirical results are presented in Section 4. Section 5 concludes the paper.

2. Theoretical background and hypotheses

2.1 Ownership-based incentives

The costs and benefits of having large shareholders are at least theoretically clear. The research on managerial discretion and firm performance dates back to Berle and Means (1932), who caution against separating ownership and control and argue that managers do not pursue the interests of shareholders. Such behavior causes a principal-agent problem as suggested by Jensen and Meckling (1976).

Jensen and Meckling (1976) point out that managers are expected to raise excess perquisite consumption when they own only a fraction of the firms' shares. Therefore, increasing managerial ownership may mitigate the problem. Although monitoring by large shareholders may restrict the misuse of resources ex post, it may blunt ex ante managerial initiative (Burkart et al., 1997). This suggests that there is a trade-off between control and initiative.

However, large shareholding does not come without a cost. Demsetz and Lehn (1985) argue that large shareholders are not well diversified and have to bear excess risks due to wealth vested in firms. Recent studies provide convincing evidence that, especially in countries with lax minority protection, ownership concentration creates private benefits of control in which a controlling (or large) shareholder may hurt the interests of minority shareholders through expropriation (La Porta et al., 2002). The problem becomes more serious if this shareholder holds less cash flow rights. Specifically, a high discrepancy between cash flow rights and control rights of controlling shareholders exerts a negative and significant effect on firm value

(Claessens et al., 2002 for eight East Asian economies; La Porta et al, 2002 for 27 wealthiest economies). To the extent that control mechanisms lead to deviations from one-share-one-vote rule, the controlling shareholders will have control and opportunity to pursue for private interests incompatible with other shareholders' interests (Shleifer and Vishny, 1997; Bebchuk et al., 1999).

From these arguments, higher cash-flow rights of large shareholders may benefit atomistic shareholders, by increasing monitoring of management and by raising the costs of expropriation for the large shareholders. . Hence, we expect that:

H1: The level of cash flow rights held by the largest controlling shareholders is positively associated with firm performance.

Recent research suggests that firms do not have only one large shareholder. Lehmann and Weigand (2000) document that about 34 percent of 361 firms in their Germany sample have more than one large owner. Similarly, Faccio et al. (2001) report that about 45 percent and 32 percent of firms in Europe and Asia respectively have multiple large shareholders with at least 10 percent of control rights.

La Porta et al. (1999) show that large controlling shareholders are often involved in the management of firms. Therefore, the effectiveness of the monitoring by controlling shareholders who are also in control is questionable. To resolve the problem in question when other mechanisms such as takeover threats and the monitoring by large blockholders do not work effectively, Gomes and Novaes (1999) argue that bargaining problems among shareholders may constrain the controlling shareholders' behavior and enforce them to be less prone to tunneling. However, it could happen that the sharing of control may create internal conflicts among controlling shareholders. In addition, it is possible that they collude and pursue private benefits at the expense of

other small shareholders (Bennedsen and Wolfenzon, 2000).

Empirically, Lehmann and Weigand (2000) find that the presence of another large owner improves profitability, consistent with Boehmer (2000). Faccio et al. (2001) examine the effect of multiple large owners on dividends. They find that the presence of multiple large shareholders helps to limit the expropriation of minority shareholders by controlling shareholder in Europe, but exacerbates agency problem in Asia countries like Japan, Philippines, and South Korea. However, they report no multiple large owners in their sample of 137 Thai firms.

These studies have focused only on the presence of multiple large shareholders. However, it is relatively important to account for incentives and control power. By taking the ownership-based incentives into consideration, we expect that:

H2: The level of cash-flow rights held by the second largest shareholder who is involved in the management is positively associated with firm performance.

2.2 Firm risk and ownership

The impacts of instability in the firms' operations on firm performance are mixed. There are two competing arguments on how ownership concentration affects the risk-taking behavior of managers. On one hand, the corporate finance literature suggests that increases in firm risk or cash flow volatility are positively associated with firm value for firms with growth opportunities. According to the view relating to asset substitution problem, the implication of option pricing model reveals that a firm's equity will be more valuable if it chooses more risky investments. Essentially, by increasing the risk of assets, shareholders transfer wealth from creditors to themselves.

On the other hand, by relaxing the Modigliani-Miller assumptions in the literature on capital structure, we are in an imperfect world with transaction costs and

asymmetric information. Under the setting, firm value can be improved if rational wealth maximizing agents reduce variability in a firm's future cash flows. Thus we expect a negative association between variability and firm value. Himmelberg et al. (1999) argue that riskier firms have lower Tobin's q. But the impact depends on how much a risk-averse manager can be incentivized via equity ownership. The risk management literature also suggests that risk management activities benefit principals and agents when the incentives of the agents are aligned with those of the principals.

Smith and Stulz (1985) argue that the greater the managerial ownership, the more risk averse the managers are and hence they may prefer to adopt more hedging and other risk management strategies. The reason is that a manager's portfolio might not be well diversified and, therefore, as her ownership increases, she has an incentive to reduce the risk of the firm's assets. Zhang (1998) notifies that the under-diversified controlling shareholder is more averse to risky projects than small minority shareholders. Similarly, Chen et al. (1998) show that as ownership concentration increases, the incentives to take excessive risky activities decrease.

Since neither risk reduction nor wealth transfer argument precludes the existence of the other effect, the relationship between ownership and risk taking behavior will depend on which effect dominates the other. However, investing in riskier assets increases the risk of the manager's portfolio, and usually requires greater effort on the part of manager whose earning will be affected by the decisions made. One way that may reduce the effect from risky behavior is to have managers hold some ownership so that their welfare will be tied with their own effort and performance.

H3: The level of cash flow rights of the largest controlling shareholders reduces the negative effect of risk on firm performance.

2.3 Role duality

The issue of CEO duality has received considerable attention with conflicting results. Theoretically, the interests of shareholders will be protected when executives have the same interests aligned with shareholders, or when board decisions are independent of the influence of the management, implying that the positions of board chairman and chief executive should not be held by the same person. Proponents of CEO duality argue that a chairman who holds the CEO title provides better strategic vision and leadership than an independent chairman. Rosenstein and Wyatt (1997) demonstrate that insiders are more effective because they have superior knowledge of a firm and its industry than outside directors.

However, from agency perspective, when a CEO is also chairman of the board of directors, this CEO may not separate private interests from the shareholders' interests (Jensen, 1993). Corporate board would also be unable to effectively control this CEO who has considerable managerial influence over the board (Fama and Jensen, 1983; Jensen, 1993). This would lead to lower efficiency of the board. Given that the costs from decreased monitoring of the CEO dominate the benefits from better strategic perspectives, potential agency problems caused by the concentration of power are worse.

By accounting for the incentives of the CEO with a chairman of the board title, we expect that the interests of a CEO with board chairman title should be better aligned with the interests of other shareholders when CEO ownership increases higher.

H4: Firms with the largest shareholder who serves as both board chairman and CEO have performance poorer than firms without such a shareholder.

H5: The level of cash flow rights held by the largest shareholder who serves as both

board chairman and CEO is positively associated with firm performance.

2.4 Indirect control mechanism

Classical studies by Grossman and Hart (1988) and Harris and Raviv (1988) show that a deviation form one-share-one-vote rule is associated with the costs of private benefits that controlling shareholders can extract. Burkart et al. (1997) examine the trade-off between ownership structure and managerial initiative and conclude that highly concentrated voting rights are beneficial in terms of enhancing effective monitoring of managers, but reduce their non-contractible efforts because it constitutes an ex-ante expropriation threat to managers.

Indirect shareholding structures such as pyramiding, cross-ownership, and dual-class shares cause a separation between ownership and control rights, and are likely to create large agency costs (Grossman and Hart, 1988; Harris and Raviv, 1988; Bebchuk et al., 1999). When controlling shareholders hold large control rights but very small cash flow rights, they can secure private benefits of control, while internalizing only part of the cost of investment when it fails because the cost will be shared with other shareholders. Hence, we expect that:

H6: Firms that have control mechanism changed from indirect to direct shareholding structure have better performance.

3. Data and measurements

3.1 Sample characteristics

We examine the empirical hypotheses developed above using a cross section of data for firms listed on the Stock Exchange of Thailand (SET) in 1996 and 2000. The separate time periods aim at comparing the effects in the pre- and post-crisis periods. The 2000 sample is used since firms become more stable after being affected by the

financial crisis in 1997. We include listed firms: (1) that are not financial institutions because their capital structure and financing decisions are highly affected by regulatory restrictions, and (2) that have same accounting year ended December. Additional requirement for the 2000 sample is that firms must not be in the Companies under Rehabilitation section since their operations are not independent of the controlling authority. As a result, two principal sub-samples of 270 firms in 1996 and 244 firms in 2000 are available in this study. The paper covers at least 79 percent of all firms listed in the stock market. At least 32.28 percent of all firms in the sample belong to top 100 wealthy families that own the largest number of shares in Thailand.

This study is based on a unique ownership database and different sources of information about family relationship. The sources include Phipatseritham (1981), Phipatseritham and Yoshihara (1983), Suehiro (1989), and Sapphaibun (2001a and 2001b). Importantly, the information on all registered firms used in tracing ownership of private firms at the layers of control chains is obtained from Business Online (BOL) that offers the on-line database service with official data from the Ministry of Commerce. Using these sources of information allows us to trace for ultimate shareholders of each firm and to compute their control and cash flow rights. I also collect additional data from annual reports and disclosure statements (Form 56-1) that are filed to the Securities and Exchange Commission (SEC) annually by all listed firms.

Insert Table 1 about here

Table 1 reports the distribution of the sample by industry classifications. Our classifications differ from those of the SET. Because there are less than three listed

firms in certain industries, I thus reclassify industry group as shown in the table. Our sample accounts for about 53.09 and 67.27 percent of the book value of total assets of all non-financial firms in 1996 and 2000 respectively. Total market capitalization of all firms in the sample is about 67.53 and 92.42 percent in 1996 and 2000 respectively.

With careful identification of ultimate owners, the sample firms are classified into two groups – single and multiple large shareholders. A single large controlling shareholder is the largest shareholder of a firm, provided that he holds at least 25 percent of voting rights. For a firm with multiple large shareholders, it has a controlling shareholder with at least 25 percent of control rights and other large shareholders with at least 10 percent of control rights.

However, it is worth discussing whether the controlling and other large shareholders are competing for the control of a firm or colluding. In order to minimize the potential problem that both shareholders may collude, I carefully identify ultimate shareholders to see that they are not related especially through blood or marriage, or linked through cross-ownership, which might lead to collusion.

The data shows that nearly 43.5 percent and 50 percent of firms with multiple owners in 1996 and 2000 respectively are made up of or owned by foreign investors and local families. The literature shows that foreign investors may avoid investing in firms with poor governance and high corruption. Reduced level of potential support from foreign shareholders can thus exert pressure to improve governance within a firm. Therefore, foreign investors tend to provide monitoring roles rather than to collude to obtain private benefits. For firms that are owned by a group of unrelated families, they are prone to collusion. Past evidence suggests that although unrelated firms may form a coalition, the disputes between families can lead to breaking up. Therefore, we believe

that each family prefers to protect its own long-term benefit. For instance, Euarchukaiti and Kantamanond families took a major stake in the Bank of Asia. However, due to the failure of family-business management, the Euarchukiati family looked for new partner, and the Phatraprasit family replaced the Kantamanond family. The other evidence is between Piyaoui and Bulakul families that had large stake in Mah Boonkrong Drying and Silo. However, the firm faced serious financial problems. Therefore, the Piyaoui family that held nearly 45 percent of the firm's shares managed to remove the Bulakul family that previously controlled the firm.

Insert Table 2 about here

Table 2 reveals several features of ownership concentration based on types of shareholders and managerial involvement. First, regardless of whether firms had single or multiple owners, control rights are mostly concentrated in the hands of an individual or a group of related families, followed by foreign investors. Although not reported in the table, the data shows that nearly 23.36 percent of all the firms in 2000 had new investors who emerged as the first or second largest shareholders in the firms. Out of 103 firms with multiple shareholders in 2000, 45 firms were owned by those investors. Second, the proportion of firms with multiple large shareholders increases higher after the 1997 crisis, i.e. from 34.07 percent in 1996 to 42.21 percent in 2000 (Panel C). In both periods, more than 53 percent of all firms with multiple control structure were owned by individuals or related family members as the second largest shareholders. Third, the founders of the firms were still present as large shareholders in more than one-third of all firms. Lastly, there was an increase in number of firms where the first

and second largest shareholders were involved in the firms' management as board chairman or chief executive officer.

3.2 Methodologies and variables for analysis

The study mainly examines the relationship between firm performance and ownership concentration together with its interaction in reducing the effect of the firm's financial and business risks. Furthermore, we investigate whether the unwinding of indirect shareholding structure and the role of the largest controlling shareholder improve firm performance. The hypotheses we examine in this study are tested using OLS regression and White heteroscedasticity-consistent estimator of the covariance. Table 3 gives summary definitions of variables used in this paper.

Dependent variable: Industry-adjusted cash flow return on assets (ADJCFROA)

Industry-adjusted cash flow return on assets (ADJCFROA) equals the sample firm's earnings before depreciations, interests, and taxes divided by total assets (CFROA) less the industry median of CFROA. CFROA reflects the economic efficiency of asset utilization, which provides a more focused measure of current performance. Industry-adjusted measure is used in order to exclude industry effects. The industry median is the median CFROA of the publicly traded firms in the same industry as the sample firm. Accounting-based measure is likely to represent better performance measure than stock market-based measure for two reasons.[1] First, when stock market shows inefficiency, stock prices are less likely to reflect available information especially

[1] Industry-adjusted Tobin's q as a stock market-based measure that reflects growth opportunity is alternatively used as a dependent variable. However, explanatory variables in focus do not enter the regression models significantly.

for infrequently trading stocks. Second, accounting profitability is more directly related to financial survivability of the firm.

Following are a series of explanatory variables that I use to capture underlying factors for firm performance.

a) Cash flow rights of the largest shareholders (CFRIGHT1ST)

Following Claessens et al. (2000), I compute cash flow rights of the controlling shareholder as the sum of direct ownership and the product of the ownership stakes along the chain of control. The *CFRIGHT1ST* variable is the percentage of cash flow rights held by the largest controlling shareholder. In this study, a controlling shareholder is defined as a shareholder who directly and indirectly owns more than 25 percent of the firm's voting rights in aggregate.[2]

I collect the ownership structure data as of December 1996 and 2000, or the closest date. Note that the shareholdings of individuals related through blood or marriage are aggregated and reported as a single shareholder. In the sample, I make sure that the ownership structure of the firms has been stable during the most recent 3 years for each sample period. Thus the potential problem of reverse causality that may arise between firm performance and ownership might not be much relevant in the sample.

b) The presence of multiple large shareholders

[2] According to the Public Limited Companies Act B.E. 2535 (1992) of Thailand, a shareholder can have absolute power over a firm if she owns more than 75% of the shares. Therefore, if a shareholder controls at least 25%, absolute control can be eliminated. This shareholder can block all major board decisions. This is also documented by Wiwattanakantang (2001).

To examine whether the presence of multiple large shareholders provides any monitoring role or facilitate entrenchment, this study uses a dummy variable (DSECONDLAR), which takes the value one if a firm has other large shareholders who hold at least 10 percent of voting rights and zero otherwise. Specifically, the variable is used to investigate whether the competition between multiple blockholders is successful in limiting tunneling and private benefits pursued by the largest shareholder.

c) Identity of the second largest shareholders

In so far as the influence of the shareholders might vary with their identity (La Porta et al., 2002; Boehmer, 2000; Megginson et al, 1994), I categorize firms with multiple large shareholders according to types of the second largest shareholders, which include: 1) an individual or a group of related families, 2) a specially organized investment company of the royal family (Crown Property Bureau or CPB), 3) the government, and 4) foreign investors. The identity is assigned as four dummy variables associated with the types mentioned earlier. The firms with single large controlling shareholder are used as the reference group.

d) Cash flow rights of the second largest shareholders (CFRIGHT2ND)

To account for the incentives of other large shareholders, I construct a variable using cash flow rights of the second largest shareholders who hold at least 10 percent of voting rights (CFRIGHT2ND). This variable represents their effort in controlling and monitoring the firms' business. Furthermore, I test the incentives of the second large shareholders when they are involved in the management by using the percentage of the cash flow rights owned by the second largest shareholders who serve as chairman of the board of directors or chief executive (CFRIGHT2NDBD).

d) Financial risk (FINRISK)

Financial risk is the variability of net returns due to financial obligation associated with the use of borrowed funds. This research uses the standard deviation of first differences in return on equity for the most recent five years to capture the effect of financial risk on firm performance. Return on equity is the ratio of net income to total shareholders' equity. The higher value of the variability reflects higher financial risk.

e) Business risk (BUSRISK)

This measure is computed as the standard deviation of first differences in operating profit margin during the most recent five years. Operating profit margin is earnings before interests and taxes divided by total sales. This variable reflects the uncertainty of income arising from the firm's characteristics, independent of the way a firm is financed. The higher value of this measure implies higher business risk.

f) Indirect shareholding structure

From the literature, indirect control mechanisms like pyramids, cross-shareholdings cause a deviation from one-share-one-vote rule, that causes a separation of ownership and control. To account for such indirect mechanism, I classify firms into three groups – firms that have control mechanism changed from direct to indirect method, firms that have control mechanism changed from indirect to direct method, and firms that have no change in control mechanism. Then I construct 2 dummy variables – *TODIRECT* and *TOINDIRECT* – by using the last group as a base group for comparisons. The *TODIRECT* variable takes the value one if a firm has its control mechanism changed from indirect shareholding in 1996 (1992) to direct shareholding in 2000 (1996) for the 2000 (1996) sample, and zero otherwise. The *TOINDIRECT* variable takes the value one if a firm has its control mechanism changed from direct shareholding in 1996 (1992) to indirect shareholding structure in 2000

(1996) for the 2000 (1996) sample, and zero otherwise.

g) The role duality of the largest shareholder

This paper considers the role of the largest controlling shareholder who serves as both the chairman of the board and the chief executive officer (CEO). A person who holds both positions have a significant power to control a firm and makes it difficult for the board of directors to effectively monitor the firm. So this is considered an agency problem. I construct the *OWNDUAL* variable that is a dummy equal to one if the largest shareholder holds both board chairman and CEO titles, and zero otherwise.

I also include firm size, leverage, asset uniqueness, capital expenditures, and market power of a firm into models to control for firm-specific characteristics that may affect performance. All measures except market power are measured as of the end of the sample year. First, firm size is measured by the natural logarithm of total assets. When a firm is large, it is more difficult to monitor and control task. However, large firm can enjoy economies-of-scale and more market opportunities. Second, leverage is the natural logarithm of the ratio of total liabilities to total assets. In the event of adverse conditions, it is the more highly geared companies that suffer, because of their obligations to make interest payments. Third, asset uniqueness is a measure of selling intensity that captures a firm's willingness to spend on marketing- and selling-related activities to differentiate the firm from its competitors. Fourth, capital expenditures are measured by dividing the firm's net capital expenditures by its sales. Lastly, market power is captured by average Lerner index over the most recent 5 years. The index is the difference between sales and cost of sales, which is then divided by sales.

Insert Table 3 about here

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4. Results

4.1 Descriptive statistics

Table 4 provides descriptive statistics on a set of variables employed in the analysis. Firms on average have performance relatively similar to other firms in the same industry in 1996 while performing a little better in 2000 with median industry-adjusted ROA at nearly 0.34 percent.

With respect to ownership concentration, we find that the largest controlling shareholders on average hold about 39.79 percent and 41.12 percent of cash flow rights in 1996 and 2000 respectively. Khanthavit et al (2003) also report similar figures for the cash flow rights of controlling shareholders in Thai firms with average cash flow rights at 44.66 percent and 45.27 percent in 1996 and 2000 respectively.

For the second largest shareholders, their cash flow rights are on average 6.10 percent and 7.93 percent in 1996 and 2000 respectively.[3] In 1996, 96 out of 270 firms have other major shareholders holding cash flow rights of about 17.90 percent. In 2000, 103 out of 244 firms have other major shareholders who hold at least 10 percent level of voting rights. Within the sub-sample of 103 firms, these shareholders on average hold 18.77 percent of cash flow rights. In addition, controlling shareholders who serve the dual roles of chairman of the board and the CEO are present in about one-third of all firms.

[3] Maury and Pajuste (2002) show that the largest, second, and third largest shareholders of Finnish listed firms on average hold the cash flow rights of about 31.82 percent, 9.28 percent, and 5.68 percent respectively.

The table also reports that the sample firms have quite high level of leverage, averaging 42.32 percent and 39.46 percent in 1996 and 2000 respectively. Average asset size of the firms is relatively the same for both periods. With respect to correlation relationships with industry-adjusted CFROA, we find that industry-adjusted CFROA is negatively correlated with financial and business risks in both periods. These preliminary results suggest that higher business and financial risk may reduce firm performance. Large firms tend to be outperformed by smaller firms prior to crisis. Firm leverage and asset uniqueness have significant and negative correlation with firm performance.

Insert Table 4 about here

Next, Table 5 summarizes firm performance based on types of dominant shareholders and ownership level. In Panel A, it is noticed that the firms with multiple large shareholders perform much better than those with single large shareholders. The median value of ADJCFROA in 2000 is about 1.37 percent for firms with multiple controls, compared to –0.99 percent for firms with single large control, although the difference is not significant at conventional level. Interestingly, in the firms in which families or foreign investors are the second largest shareholders, firm performance is well above the industry average. It is further shown in Panel B that, in the firms with multiple owners, the higher the control and cash flow rights held by the second largest shareholders, the better the firm performance.

Insert Table 5 about here

4.2 Regression results

4.2.1 The role of large shareholders

This section first presents multivariate analysis to determine whether large shareholders enhance firm profitability. Comparing the results for 1996 and 2000, Table 6 indicates that firms in which the largest shareholders have high cash flow rights are more profitable, implying that higher cash flow rights may reduce their incentives to pursue private benefits at the expense of other shareholders. The coefficient for CFRIGHT1ST is positive and significant, providing support to Hypothesis 1. However, the evidence is more pronounced in 2000 when compared with 1996. Similar results can be found in Claessens et al. (2002) who study eight East Asian countries in 1996 and find stronger support for the view that firm value increases with cash-flow ownership of the largest shareholder.

We next explore whether other large blockholders positively affect firm performance. The coefficient associated with the presence of other large shareholders after the crisis in 2000 is positive and significant, indicating that multiple blockholders may limit expropriation of minority shareholders by the controlling shareholders. However, the coefficient is not significant in 1996. The results may illustrate that investors come to recognize the importance of monitoring and supervising roles. This result is similar to Lehman and Weigand (2000) who report that the presence of a strong second largest shareholder enhances profitability in German firms. However, it is different from Faccio et al. (2001). They find that the presence of multiple large shareholders exacerbates expropriation in Asia. Although their study includes Thai firms, the authors report that no Thai firms in their study have multiple large shareholders.

We next take into account the incentives associated with cash flow rights of the second largest shareholder (CFRIGHT2ND). I run the regression using their cash flow rights. The result shows that the larger the cash flow rights, the higher the firm profitability.

However, it is still questionable whether the largest and second largest shareholders are competing for the control of a firm or informally colluding. Although careful identification of formally unrelated shareholders can reduce the potential that they may vote in a coalition, it is still possible that the controlling shareholders and other large shareholders may form an informal link in such a way that they would prefer to collude rather than to play monitoring roles. Since I do not have any information that can be used to capture informal relationship, I leave this issue for future research. Although it is not possible to identify such relationship, it is plausible to suppose that the ability of the controlling shareholder to enjoy private benefits of control is limited by an increase in ownership stakes of other large shareholders.

Insert Table 6 about here

4.2.2 Ownership concentration and firm risk

This section mainly explores the association between firm risk and ownership concentration on one side and firm performance on the other side. In Table 7, Panel B confirms the results shown in previous section that the second largest shareholders are important to corporate performance improvement after the crisis. However, we now take into account the incentives of the second largest shareholder who serves as chairman of the board or CEO in a firm. Higher cash flow rights by this shareholder enhance firm

profitability. The coefficient for CFRIGHT2NDBD is positive and significant at the 5 percent level. The result provides support to Hypothesis 2, consistent with our expectation that multiple large shareholders will have relatively better influence on firm performance. It may also imply that the concentration of cash flow rights by the second largest shareholder in Thai firms may act as a substitute for poor legal protection of minority non-controlling shareholders in the post-crisis period. The findings in support of this hypothesis are also robust in other specifications for the post-crisis sample.

With respect to the incentives of the largest controlling shareholders, the first model in both panels shows that cash flow rights of the controlling shareholders are positively associated with firm performance. However, the coefficient is marginally significant for the 2000 sample, but insignificant for the 1996 sample. This suggests that, after the 1997 financial crisis, controlling shareholders may have incentives and interests that are aligned with the interests of non-controlling shareholders. The result for the post-crisis sample supports Hypothesis 1, a convergence-of-interest hypothesis.

I then present the regressions in which the effect of risk is allowed to differ based on ownership-based incentive of the largest owner. The results are shown in models 2-4 shown in Table 7. In both panels, model 2 uses financial risk variable and its interaction with cash flow rights to examine whether ownership concentration moderates the relationship between firm risk and performance. If equity ownership as an incentive helps reduce the effect from risk exposure, the estimate of the interaction between risk and ownership should show positive sign. The result shows that financial risk is negatively related with firm performance. However, when the largest shareholders increase their cash flow rights that proxy for ownership-based incentives, this helps alleviate negative effect caused by financial risk.

Next, I consider separate effect of business risk on firm performance in model 3. The result shows that the interaction between business risk and cash flow rights has positive sign, implying that the concentration of cash flow rights is an effective mechanism, which can be used to align the interests between controlling and minority shareholders, especially after the onset of the 1997 financial crisis when a lot of effort has been taken by the authority to promote better corporate governance practices.

I then account for both types of risk and their interactions with ownership variable in model 4 of both panels. Interestingly, the effect of financial risk on firm performance dominates that of business risk in the pre-crisis sample while the effect of business risk dominates that of financial risk in the post-crisis sample.[4] Nevertheless, the result still suggests that high ownership concentration by the largest shareholder is positively associated with firm performance in firms that have high-risk exposure. Overall, the results support Hypothesis 3 regarding greater cash flow rights that reduce the large shareholders' incentives to take too excessive risk and exploit minority shareholders. Note that I also check robustness by running regressions, using the 2-period samples of listed firms that exist in both periods. The regression results are qualitatively similar to the results reported, however.

To summarize, the results in Table 7 offer strong evidence that, in 2000 after the crisis, a controlling shareholder's large equity wealth vested in a firm may help weaken the negative association between firm risk and performance. Greater cash flow

[4] To check the robustness of the results, I use average value of interest coverage ratio between the most two recent years and sales variability to proxy for financial and business risk respectively. The concluding results do not change importantly.

rights by both the largest and second largest shareholders reduce their incentives to pursue private benefits at the expense of minority shareholders. Regarding control variables, there is strong evidence that large firms and high leverage firms have poorer performance before the crisis. In addition, we find only weak evidence that it is not efficient for a firm to invest too much in differentiating themselves from the rivals. The coefficient for the market power proxy tends to provide a broad support for the positive influence of competitive conditions on firm performance.

Insert Table 7 about here

4.2.3 Control mechanism and the role duality of the largest shareholder

The argument that pyramidal and cross-shareholding structures adversely affect firm performance is tested in this section. Table 8 provides weak support to the benefits from unwinding indirect shareholding structure. All regressions show that unwinding structure (TODIRECT) has a positive association with firm performance, although its estimate is only marginally significant in 2000, but not 1996. The evidence weakly supports Hypothesis 6, which suggests that the firms, which turn to use direct control mechanism that reduces the degree of separation between voting and cash flow rights, may benefit from becoming more transparent and consequently have better performance than the firms that do not implement changes.[5]

[5] Focusing on the difference between control and cash flow rights, Claessens et al. (2002) show that separating control and cash flow rights through indirect control mechanisms (pyramidal and cross-shareholding structures) can create larger agency

Although the structure can change the culture of a firm, there is still another important factor that should be considered, that is, the role of large shareholder. When large shareholder holds top management position, he has significant control over the firm. His decisions result in the outcomes that can be good or bad to the firm.[6] This section further focuses on the role duality of the largest controlling shareholder.

Controlling for firm characteristics, all regressions in Panel B show a strong and negative association between the role duality and firm performance. The firms in which the largest controlling shareholders serve as both board chairman and CEO have poor performance relative to the firms in which they do not. The result is consistent with entrenched argument, which expects that a CEO who is also the chairman of the board is more likely to be entrenched (Hypothesis 4). In other words, firms with entrenched CEOs need more monitoring, but an entrenched CEO may have greater control over the board and therefore reduce the efficiency of the board control.

The result also confirms our descriptive statistics that shows significant and negative correlation between industry-adjusted CFROA and the existence of the CEO/Chair duality. In addition, when we compare the results with those of the pre-crisis sample in Panel A, it is clear that internal control mechanism and the unwinding of complicated control structures prior to the financial crisis fail to work effectively in influencing firm performance.

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costs that are detrimental to firm value.

[6] Kole and Lehn (1999) conclude that corporate culture inhibits the ability of a firm to quickly respond to changes. And it is collectively described by internal control mechanism of the firm.

Insert Table 8 about here

4.2.4 Ownership concentration and board independence

Table 9 investigates the effect of cash flow rights as a commitment to limit the expropriation of minority interests by the controlling shareholder who holds the dual role of chairman and CEO. Regression 1 shows that firm profitability is larger for firms with the controlling shareholders who have greater cash flow rights and do not hold dual role responsibilities. The size of the coefficient for CFRIGHT1ST* (1-OWNDUAL) on industry-adjusted CFROA is higher relative to that of CFRIGHT1ST*OWNDUAL. The former is positive and significant at the 5% percent level. To the extent that concentration of cash flow rights in the hands of the controlling shareholder aligns the interests between controlling and non-controlling minority shareholders, the result suggests that an increase in incentives of large shareholders can be a way to restrict their self-interest behavior, thus reducing agency conflicts and increasing performance. Thus this provides support to Hypothesis 5.

Insert Table 9 about here

Next, we account for the effects of these groups to see if firm risk varies with their incentives. It is evident that the firms in 1996 were enormously affected by business risk. Greater cash flow rights held by the controlling shareholders who hold both positions do not reduce the risk effect on firm performance. Nevertheless, non-CEO-Chairman shareholders may monitor the firms more to help reduce the risk

and to enhance firm value.

For the post-crisis sample, when we separately examine the effects of financial risk and business risk on firm performance, we find that both types of risk affect firms inversely, consistent with the results described in previous section. Furthermore, it appears that, regardless of the positions they hold in firms, when controlling shareholders hold more cash flow rights, the incentives to protect the interests that are aligned with those of minority shareholders may be higher, causing them to be more cautious in decision-makings. From the results, the interaction terms between risk and cash flow rights are positive and statistically significant. This finding indicates that ownership concentration as a corporate governance mechanism works to alleviate the effect from risk exposure. But when both types of risk and their interactions are included into the model, the effect of business risk dominates that of financial risk.

5. Conclusion

Using Thai firm-level data in 1996 and 2000, we have shown that ownership concentration works effectively as an important corporate governance mechanism in the post-crisis period when the authority attempts to promote better governance practices that bring transparency and accountability. This paper highlights the need to look into not only the risk of expropriation but also other types of risk that are central to agency framework.

This paper suggests that ownership concentration in the hands of the largest and second largest shareholders is positively associated with firm profitability after the financial crisis. Holding greater cash flow rights, the controlling shareholders have more incentives to protect their wealth vested into the firm. Thus, this aligns their interests with those of other shareholders. However, their concern for risk tends to differ in these

two periods. Financial risk tends to be more important to the firm's survival before the crisis while business risk is significantly focused after the crisis. The presence of other large shareholders and the ownership-based incentives of the second largest shareholder may act a substitute for poor legal protection in emerging markets.

The results partially suggest that the unwinding of complicated control structures can be a way to help improve firm performance. This is consistent with the view for good governance practice since simple control mechanism is more transparent. Furthermore, internal control through the large shareholders who assume the dual roles of chairman and CEO is effective if they hold large enough ownership.

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Table 1
Distribution of listed firms by industry
This table presents the distribution of non-financial listed firms classified by industry for the years 1996 and 2000. Industry types are reclassified by combining certain industries together.

	1996		2000	
Industry	No.	%	No.	%
Agribusiness	26	9.63	18	7.38
Building materials and Property development	54	20.00	44	18.03
Chemicals and plastics	11	4.07	12	4.92
Commerce	11	4.07	11	4.51
Communication, Energy and Transportation	20	7.41	21	8.61
Electrical products and computers, and Electronic components	15	5.56	13	5.33
Entertainment and recreation	5	1.85	8	3.28
Foods and beverage	23	8.52	21	8.61
Health care services, Hotel, Professional services, and Warehouse and Silo	29	10.74	28	11.48
Household goods	16	5.93	13	5.33
Machinery and equipment, and Vehicles and parts	10	3.70	9	3.69
Packaging	15	5.56	13	5.33
Printing and publishing	9	3.33	8	3.28
Pulp and paper	5	1.85	5	2.05
Textiles, clothing and footwear	21	7.78	20	8.20
Total	270	100.00	244	100.00

Table 2
Distribution of the sample firms by types of shareholders and involvement

This table reports the distribution of firms by types of shareholders and their involvement in 1996 and 2000. Shareholders are classified into 5 categories which are individual, specially organized CPB, government, foreign non-institutional investors, and foreign institutional investors. Involvement is presented in terms of being involved as the founder of a firm and as board chairman or chief executive officer (CEO). The percentage column represents the number of firms for each category divided by total number of firms in a year.

	1996		2000	
	N	%	N	%
Panel A: For all firms with the largest controlling shareholders				
Individual/Family	213	78.89	178	72.95
CPB	5	1.85	5	2.05
Government	9	3.33	10	4.10
Foreign investors	43	15.93	51	20.90
Total	270	100.00	244	100.00
Panel B: For firms with single large controlling shareholders				
Individual/Family	150	55.56	113	46.31
CPB	5	1.85	4	1.64
Government	5	1.85	4	1.64
Foreign investors	18	6.67	20	8.20
Total	178	65.93	141	57.79
Panel C: For firms with multiple large shareholders				
The first largest shareholders:				
Individual/Family	63	23.33	65	26.64
CPB	0	0.00	1	0.41
Government	4	1.48	6	2.46
Foreign investors	25	9.26	31	12.70
Total	92	34.07	103	42.21
The second largest shareholders:				
Individual/Family	56	20.74	55	22.54
CPB	7	2.59	4	1.64
Government	4	1.48	3	1.23
Foreign investors	25	9.26	41	16.80
Total	92	34.07	103	42.21
Panel D: By involvement				
As founder:				
The first largest shareholder	61	22.59	71	29.10
The second largest shareholder	33	12.22	32	13.11
As board chairman or CEO :				
The first largest shareholder	44	16.30	52	21.31
The second largest shareholder	14	5.19	23	9.43

Table 3
Definitions of variables
The definitions of variables are applied for both the 1996 and 2000 samples. All variables except ownership variables and firm risk variables are measured as of the end of each sample year. Cash flow rights of the largest and second largest shareholders are measured as of the last book closing date in a sample year which varies among the firms and is not exactly at December 31.

Dependent variable:	
ADJCFROA	Cash flow operating return on assets of a firm (CFROA) minus the industry's CFROA (CFROA = earnings before depreciation, interests and taxes/total assets)
Corporate governance variables:	
CFRIGHT1ST	Percentage of cash flow rights held by the largest shareholder
CFRIGHT2ND	Percentage of cash flow rights held by the second largest shareholder
CFRIGHT2NDBD	Percentage of cash flow rights held by the second largest shareholder who serves as board chairman or chief executive offer of a firm
DSECONDLAR	Dummy variable that takes value one 1if a firm has the second largest shareholder who holds at least 10 percent of control rights and zero otherwise.
OWNDUAL	Dummy variable that takes value one if the largest shareholder serves the chairman of the board and the chief executive officer, and zero otherwise
XXXFAM	Dummy variable that takes value one if the second largest shareholder is an individual or family and zero otherwise.
XXXCPB	Dummy variable that takes value one if the second largest shareholder is a specially organized CPB of the royal family and zero otherwise.
XXXSTATE	Dummy variable that takes value one if the second largest shareholder is the government and zero otherwise.
XXXFOREIGN	Dummy variable that takes value one if the second largest shareholder is a foreign investor and zero otherwise.
Control mechanism:	
TOINDIRECT	Dummy variable that takes value one if control mechanism was changed from direct to indirect method, and zero otherwise
TODIRECT	Dummy variable that takes value one if control mechanism was changed from indirect to direct method, and zero otherwise
Firm risk:	
FINRISK	Standard deviation of first differences in return on equity (ROE) over the most recent five years (ROE=Net Income/Total equity)
BUSRISK	Standard deviation of first differences in operating profit margin (OPM) over the most recent five years (OPM=Earnings before interests and tax/Total sales)
Control variables:	
Firm Size	Natural logarithm of the book value of total assets
Leverage	Natural logarithm of the ratio of total liabilities to total assets
Asset uniqueness	The ratio of total selling and administrative expenses to total sales
Capital expenditure	The ratio of net capital expenditures to total sales
Market power	The value of total sales deducted by the cost of sales divided by total sales averaged over the most recent five years

Table 4
Descriptive statistics
This table provides descriptive statistics for variables used in the analysis, and also shows sample correlations between explanatory variables and dependent variable.

	(A) 1996 Sample					(B) 2000 Sample				
Variables	Obs.	Mean	Median	Std. Dev.	Corr.	Obs.	Mean	Median	Std. Dev.	Corr.
ADJCFROA	270	0.005	0.005	0.06	1.00	244	-0.030	0.003	0.37	1.00
Governance variables:										
CFRIGHT1ST	270	39.79	39.81	18.80	0.06	244	41.12	41.01	19.37	0.09
CFRIGHT2ND	270	6.10	0.00	9.32	-0.08	244	7.93	0.00	10.33	0.08
CFRIGHT2NDBD	270	0.75	0.00	4.40	0.02	244	1.63	0.00	5.55	0.04
TOINDIRECT	270	0.08	0.00	0.27	-0.12	244	0.04	0.00	0.19	0.02
TODIRECT	270	0.01	0.00	0.11	0.06	244	0.09	0.00	0.29	0.01
OWNDUAL	270	0.31	0.00	0.46	-0.06	244	0.34	0.00	0.47	-0.15**
Firm risk:										
FINRISK	270	0.13	0.06	0.43	-0.20**	244	1.28	0.32	3.35	-0.02
BUSRISK	270	0.15	0.05	0.43	-0.14**	244	0.93	0.15	3.13	-0.29**
Control variables:										
Firm size	270	7.77	7.59	1.18	-0.16**	244	7.71	7.51	1.27	0.07
Leverage	270	-0.86	-0.68	0.63	-0.16**	244	-0.93	-0.76	0.88	-0.37**
Asset uniqueness	270	0.20	0.15	0.25	-0.20**	244	0.36	0.16	1.08	-0.64**
Capital expenditure	270	0.25	0.07	1.11	-0.26**	244	-0.08	0.02	2.06	0.06
Market power	270	0.29	0.24	0.20	0.09	244	0.25	0.21	0.20	0.08

** denotes significance at the 5 percent level.

Table 5
Accounting performance
This table presents the median values of industry-adjusted cash flow operating return on assets (ADJCFROA) by types of dominant shareholders and levels of ownership concentration of the second largest shareholders in Panels A and B respectively. In Panel A, firms are divided into two groups - firms with a single large shareholder and firms with multiple large shareholders. For the latter group, the median values are reported based on four sub-groups according to types of the second large shareholders, which are individual, specially organized CPB, government, foreign non-institutional investors, and foreign institutional investors. In Panel B, ownership concentration is reported in terms of control and cash flow rights. Concentration levels are divided into 4 ranges - 0-10%, 10-20%, 20-25%, and more than 25%. A controlling shareholder is a shareholder who holds at least 25 percent of control rights. The second large shareholder is a shareholder who holds control rights below those held by the largest controlling shareholder but in excess of 10 percent. Control and cash flow rights are calculated according to Claessens et al. (2000).

	1996		2000	
	N	ADJCFROA (%)	N	ADJCFROA (%)
Panel A: By types of dominant shareholders				
Firms with single largest controlling shareholders	178	0.235	141	-0.990
Firms with one largest controlling shareholders and at least one large shareholder:	92	1.090	103	1.370
Individual/Family	56	1.849	55	1.790
CPB	7	2.271	4	-9.550
Government	4	0.980	3	-4.010
Foreign investors	25	-0.400	41	1.460
Total	270	0.475	244	0.340
Panel B: By levels of ownership concentration of the second largest shareholders				
Control rights:				
0 - 10	-	-	-	-
10 - 20	61	1.940	67	0.670
20 - 25	19	1.960	20	2.385
More than 25%	12	-2.535	16	2.745
Total	92	1.090	103	1.370
Cash flow rights:				
0 - 10	20	2.410	11	-4.010
10 - 20	46	1.850	62	1.415
20 - 25	16	1.180	16	2.385
More than 25%	10	-2.990	14	1.875
Total	92	1.090	103	1.370

Table 6
The role of large shareholders
This table presents OLS regressions that examine the importance of the role of the second largest shareholders. The dependent variable is industry-adjusted cash flow return on assets (ADJCFROA). CFRIGHT1ST and CFRIGHT2ND are the percentage of cash flow rights held by the largest and the second largest shareholders respectively. DSECONDLAR equals 1if a firm has the second largest shareholder who holds at least 10 percent of control rights and 0 otherwise. XXXFAM equals 1 if the second largest shareholder is an individual or family and 0 otherwise. XXXCPB equals 1 if the second largest shareholder is a specially organized CPB and 0 otherwise. XXXSTATE equals 1 if the second largest shareholder is the government and 0 otherwise. XXXFOREIGN equals 1 if the second largest shareholder is a foreign investor and 0 otherwise. FINRISK is the standard deviation of first difference in return on equity during the five most recent years. BUSRISK is the standard deviation of first difference in operating profit margin during the five most recent years. Firm size is the natural logarithm of total assets. Leverage is the natural logarithm of the ratio of total liabilites to total assets. Asset uniqueness is the ratio of selling and administrative expenses to total sales. Capital expenditure is net capital expenditures divided by total sales. Market power is sales minus cost of sales expressed as a percentage of sales. The values of White heteroskedastic-consistent t-statistics appear in parentheses below each estimate.

	(A) 1996 Sample				(B) 2000 Sample			
Variable	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
Intercept	0.023	0.027	0.030	0.026	-0.700**	-0.744**	-0.721**	-0.801**
	(0.736)	(0.846)	(0.938)	(0.798)	(-2.052)	(-2.099)	(-2.094)	(-2.171)
Firm size	-0.006*	-0.007**	-0.007**	-0.006*	0.045**	0.038*	0.040*	0.044**
	(-1.926)	(-1.976)	(-2.041)	(-1.922)	(2.069)	(1.924)	(1.929)	(2.053)
Leverage	-0.015*	-0.015[a]	-0.015[a]	-0.015[a]	-0.231**	-0.223**	-0.226**	-0.224**
	(-1.664)	(-1.633)	(-1.609)	(-1.633)	(-2.244)	(-2.245)	(-2.224)	(-2.228)
Asset uniqueness	-0.053*	-0.053*	-0.052*	-0.052*	-0.415[a]	-0.414[a]	-0.417[a]	-0.414a
	(-1.742)	(-1.718)	(-1.705)	(-1.667)	(-1.571)	(-1.573)	(-1.576)	(-1.565)
Capital expenditure	-0.013***	-0.012***	-0.012***	-0.013***	-0.023*	-0.020*	-0.021*	-0.019
	(-3.287)	(-3.137)	(-3.167)	(-3.156)	(-1.760)	(-1.665)	(-1.725)	(-1.504)
Market power	0.063***	0.062***	0.062***	0.060**	0.111	0.157	0.122	0.172
	(2.643)	(2.635)	(2.602)	(2.486)	(0.602)	(0.875)	(0.657)	(0.934)
CFRIGHT1ST	0.0003[a]	0.0003	0.0003	0.0003[a]	0.005*	0.006*	0.005*	0.006*
	(1.574)	(1.507)	(1.503)	(1.638)	(1.724)	(1.845)	(1.881)	(1.867)
DSECONDLAR		-0.004				0.113*		
		(-0.570)				(1.886)		
CFRIGHT2ND			-0.0005				0.004*	
			(-1.202)				(1.882)	
XXXFAM				-0.005				0.170**
				(-0.496)				(2.148)
XXXCPB				0.018				0.043
				(1.521)				(0.644)
XXXSTATE				0.015				0.068
				(0.523)				(1.072)
XXXFORE				-0.012				0.052
				(-1.068)				(0.949)
Adjusted R-squared	0.1464	0.1441	0.1472	0.1401	0.4838	0.4861	0.4868	0.4819
N	270	270	270	270	244	244	244	244

***, **, * and [a] denote significance at the 1, 5, 10 and 12 percent levels respectively.

Table 7
Ownership concentration and firm risk
This table presents OLS regressions that examine the effects of firm risk and ownership concentration on firm performance. The dependent variable is industry-adjusted cash flow return on assets (ADJCFROA). CFRIGHT1ST represents the percentage of cash flow rights held by the largest shareholders. CFRIGHT2NDBD represents the percentage of cash flow rights held by the second largest shareholders who serves as board chairman or CEO. FINRISK is the standard deviation of first difference in return on equity during the five most recent years. BUSRISK is the standard deviation of first difference in operating profit margin during the five most recent years. Firm size is the natural logarithm of total assets. Leverage is the natural logarithm of the ratio of total liabilites to total assets. Asset uniqueness is the ratio of selling and administrative expenses to total sales. Capital expenditure is net capital expenditures divided by total sales. Market power is sales minus cost of sales expressed as a percentage of sales. The values of White heteroskedastic-consistent t-statistics appear in parentheses below each estimate.

	(A) 1996 Sample				(B) 2000 Sample			
Variable	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
Intercept	0.024	0.042	0.018	0.035	-0.763**	-0.781**	0.003	-0.043
	(0.750)	(1.357)	(0.539)	(1.104)	(-2.133)	(-2.407)	(0.020	(-0.292)
Firm size	-0.006*	-0.007**	-0.005[a]	-0.006*	0.046**	0.053**	-0.007	-0.005
	(-1.929)	(-2.230)	(-1.642)	(-1.956)	(2.093)	(2.184)	(-0.513)	(-0.329)
Leverage	-0.015*	-0.012	-0.014	-0.011	-0.239**	-0.270***	-0.116***	-0.132***
	(-1.660)	(-1.409)	(-1.527)	(-1.295)	(-2.276)	(-2.574)	(-3.409)	(-3.516)
Asset uniqueness	-0.053*	-0.049*	-0.040	-0.038	-0.413[a]	-0.468**	-0.697***	-0.699***
	(-1.740)	(-1.687)	(-1.305)	(-1.299)	(-1.573)	(-2.029)	(-4.681)	(-4.774)
Capital expenditure	-0.013***	-0.013***	-0.014***	-0.013***	-0.024[a]	-0.026**	-0.101**	-0.099**
	(-3.274)	(-3.420)	(-3.265)	(-3.435)	(-1.809)	(-2.112)	(-2.091)	(-2.059)
Market power	0.063***	0.060**	0.073***	0.069***	0.132	0.246	0.320**	0.345***
	(2.633)	(2.519)	(2.912)	(2.751)	(0.726)	(1.530)	(2.409)	(2.578)
CFRIGHT2NDBD	-0.0001	-0.0001	-0.0001	-0.0001	0.010**	0.013**	0.011**	0.011**
	(-0.176)	(-0.211)	(-0.211)	(-0.236)	(2.401)	(2.423)	(2.470)	(2.429)
CFRIGHT1ST	0.0003	0.0002	0.0003	0.0002	0.005*	0.001	-0.001	-0.001
	(1.543)	(0.853)	(1.264)	(0.723)	(1.827)	(1.073)	(-1.011)	(-1.470)
FINRISK		-0.092**		-0.087**		-0.133*		-0.017
		(-2.518)		(-2.295)		(-1.667)		(-0.740)
FINRISK*CFRIGHT		0.001*		0.001*		0.005*		0.001
		(1.868)		(1.703)		(1.732)		(1.137)
BUSRISK			-0.043*	-0.034			-0.291***	-0.279***
			(-1.815)	(-1.495)			(-3.406)	(-3.306)
BUSRISK*CFRIGHT			0.0005	0.0003			0.009***	0.009***
			(1.185)	(0.896)			(4.202)	(4.082)
Adjusted R-squared	0.1432	0.1791	0.1513	0.1839	0.4881	0.5447	0.7732	0.7749
N	270	270	270	270	244	244	244	244

***, **, * and [a] denote significance at the 1, 5, 10 and 12 percent levels respectively.

Table 8
Unwinding of indirect shareholding structure
This table presents OLS regressions that further examine the importance of transparent control structure. The dependent variable is industry-adjusted cash flow return on assets (ADJCFROA). CFRIGHT1ST represents the percentage of cash flow rights held by the largest shareholders. CFRIGHT2NDBD represents the percentage of cash flow rights held by the second largest shareholders who serves as board chairman or CEO. FINRISK is the standard deviation of first difference in return on equity during the five most recent years. BUSRISK is the standard deviation of first difference in operating profit margin during the five most recent years. TODIRECT is a dummy variable equal to 1 if control mechanism in a firm was changed from indirect to direct method and 0 otherwise. TOINDIRECT is a dummy variable equal to 1 if control mechanism was changed from direct to indirect method and 0 otherwise. OWNDUAL is a dummy variable equal to 1 if the largest owner serves as the chairman of the board and the chief executive officer and 0 otherwise. Firm size is the natural logarithm of total assets. Leverage is the natural logarithm of the ratio of total liabilites to total assets. Asset uniqueness is the ratio of selling and administrative expenses to total sales. Capital expenditure is net capital expenditures divided by total sales. Market power is sales minus cost of sales expressed as a percentage of sales. The values of White heteroskedastic-consistent t-statistics appear in parentheses below each estimate.

	(A) 1996 Sample				(B) 2000 Sample			
	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
Intercept	0.025	0.042	0.020	0.035	-0.688**	-0.720**	0.006	-0.034
	(0.801)	(1.334)	(0.615)	(1.104)	(-2.126)	(-2.362)	(0.042	(-0.239)
Firm size	-0.006*	-0.007**	-0.005[a]	-0.006*	0.038*	0.046**	-0.009	-0.007
	(-1.899)	(-2.174)	(-1.628)	(-1.910)	(1.936)	(2.035)	(-0.646)	(-0.479)
Leverage	-0.015[a]	-0.012	-0.014	-0.012	-0.214**	-0.248***	-0.108***	-0.123***
	(-1.632)	(-1.409)	(-1.500)	(-1.296)	(-2.357)	(-2.625)	(-3.325)	(-3.450)
Asset uniqueness	-0.047	-0.045	-0.034	-0.034	-0.430*	-0.478**	-0.703***	-0.704***
	(-1.544)	(-1.555)	(-1.103)	(-1.155)	(-1.687)	(-2.105)	(-4.790)	(-4.862)
Capital expenditure	-0.013***	-0.013***	-0.014***	-0.014***	-0.027*	-0.029**	-0.100**	-0.098**
	(-3.447)	(-3.582)	(-3.376)	(-3.549)	(-1.931)	(-2.199)	(-2.113)	(-2.083)
Market power	0.060**	0.058**	0.070***	0.067***	0.144	0.247	0.319**	0.342**
	(2.529)	(2.441)	(2.842)	(2.700)	(0.792)	(1.538)	(2.332)	(2.499)
CFRIGHT2NDBD	-0.0001	-0.0001	-0.0001	-0.0001	0.008**	0.010**	0.010**	0.010**
	(-0.169)	(-0.207)	(-0.205)	(-0.233)	(2.105)	(2.233)	(2.298)	(2.263)
CFRIGHT1ST	0.0003	0.0002	0.0003	0.0002	0.006*	0.002*	-0.0004	-0.001
	(1.668)	(1.019)	(1.370)	(0.873)	(1.948)	(1.787)	(-0.311)	(-0.695)
FINRISK		-0.086**		-0.082**		-0.126[a]		-0.016
		(-2.231)		(-2.028)		(-1.644)		(-0.739)
FINRISK*CFRIGHT1ST		0.001[a]		0.001		0.005*		0.001
		(1.633)		(1.490)		(1.717)		(1.090)
BUSRISK			-0.048**	-0.039*			-0.284***	-0.273***
			(-2.193)	(-1.776)			(-3.394)	(-3.292)
BUSRISK*CFRIGHT1ST			0.001[a]	0.0004			0.009***	0.009***
			(1.570)	(1.175)			(4.197)	(4.071)
TODIRECT	0.037	0.034	0.036	0.034	0.282[a]	0.232[a]	0.178*	0.165*
	(1.422)	(1.292)	(1.387)	(1.268)	(1.561)	(1.562)	(1.762)	(1.670)
TOINDIRECT	-0.018	-0.012	-0.018	-0.012	0.072	0.047	0.021	0.021
	(-1.440)	(-1.133)	(-1.405)	(-1.106)	(0.745)	(0.515)	(0.364)	(0.388)
OWNDUAL	-0.010	-0.008	-0.011	-0.009	-0.173**	-0.140**	-0.056*	-0.056*
	(-1.188)	(-0.976)	(-1.345)	(-1.114)	(-2.383)	(-2.491)	(-1.697)	(-1.720)
Adjusted R-squared	0.1472	0.1783	0.1560	0.1837	0.5052	0.5545	0.7761	0.7772
N	270	270	270	270	244	244	244	244

***, **, * and [a] denote significance at the 1, 5, 10 and 12 percent levels respectively.

Table 9

Board independence and ownership-based incentives of the largest controlling shareholders

This table presents OLS regressions that examine the importance of board independence and incentives in alleviating the impacts of risk on firm performance. The dependent variable for each regression is industry-adjusted cash flow return on assets (ADJCFROA). CFRIGHT1ST represents the percentage of cash flow rights held by the largest shareholders. CFRIGHT2NDBD represents the percentage of cash flow rights held by the second largest shareholders who serves as board chairman or CEO. FINRISK is the standard deviation of first differences in return on equity during the five most recent years. BUSRISK is the standard deviation of first differences in operating profit margin during the five most recent years. TODIRECT is a dummy variable equal to 1 if control mechanism in a firm was changed from indirect to direct method and 0 otherwise. TOINDIRECT is a dummy variable equal to 1 if control mechanism was changed from direct to indirect method and 0 otherwise. OWNDUAL is a dummy variable equal to 1 if the largest owner serves as the chairman of the board and the chief executive officer and 0 otherwise. Firm size is the natural logarithm of total assets. Leverage is the natural logarithm of the ratio of total liabilites to total assets. Asset uniqueness is the ratio of selling and administrative expenses to total sales. Capital expenditure is net capital expenditures divided by total sales. Market power is sales minus cost of sales expressed as a percentage of sales. The values of White heteroskedastic-consistent t-statistics appear in parentheses below each estimate.

	(A) 1996 Sample				(B) 2000 Sample			
	[1]	[2]	[3]	[4]	[1]	[2]	[3]	[4]
Intercept	0.023	0.039	0.017	0.031	-0.741**	-0.750**	-0.037	-0.076
	(0.739)	(1.249)	(0.513)	(0.991)	(-2.145)	(-2.358)	(-0.247)	(-0.479)
Firm size	-0.006*	-0.007**	-0.005[a]	-0.006**	0.039**	0.046*	-0.007	-0.005
	(-1.935)	(-2.301)	(-1.587)	(-1.998)	(1.965)	(1.953)	(-0.494)	(-0.349)
Leverage	-0.015*	-0.012	-0.014	-0.012	-0.219**	-0.252***	-0.113***	-0.128***
	(-1.647)	(-1.408)	(-1.526)	(-1.303)	(-2.333)	(-2.609)	(-3.118)	(-3.199)
Asset uniqueness	-0.046	-0.043	-0.029	-0.030	-0.434*	-0.482**	-0.690***	-0.691***
	(-1.535)	(-1.531)	(-0.877)	(-0.948)	(-1.683)	(-2.104)	(-4.644)	(-4.689)
Capital expenditure	-0.013***	-0.012***	-0.014***	-0.013***	-0.025*	-0.027**	-0.113**	-0.111**
	(-3.480)	(-3.617)	(-3.371)	(-3.570)	(-1.802)	(-2.074)	(-2.215)	(-2.168)
Market power	0.059**	0.057**	0.068***	0.065***	0.143	0.247	0.329**	0.351***
	(2.486)	(2.391)	(2.709)	(2.610)	(0.779)	(1.533)	(2.435)	(2.592)
CFRIGHT2NDBD	-0.0001	-0.00004	-0.0002	-0.0001	0.009**	0.011**	0.010***	0.010***
	(-0.202)	(-0.064)	(-0.255)	(-0.096)	(2.191)	(2.314)	(2.601)	(2.582)
CFRIGHT1ST*OWNDUAL	0.0001	0.0001	0.0001	0.0001	0.004*	0.0012	-0.0004	-0.001
	(0.721)	(0.516)	(0.410)	(0.326)	(1.699)	(1.109)	(-0.280)	(-0.480)
CFRIGHT1ST*(1-OWNDUAL)	0.0005**	0.0005*	0.0004*	0.0005[a]	0.007**	0.003*	-0.0004	-0.001
	(2.056)	(1.760)	(1.694)	(1.634)	(1.940)	(1.819)	(-0.283)	(-0.635)
FINRISK		-0.037		-0.030		-0.120[a]		-0.014
		(-0.574)		(-0.469)		(-1.593)		(-0.773)
FINRISK*CFRIGHT1ST*OWNDUAL		0.0004		0.0003		0.004[a]		0.001
		(0.290)		(0.214)		(1.617)		(1.147)
FINRISK*CFRIGHT1ST*(1-OWNDUAL)		-0.001		-0.001		0.005*		0.001
		(-0.488)		(-0.534)		(1.721)		(1.095)
BUSRISK			-0.065**	-0.050*			-0.266**	-0.256**
			(-2.271)	(-1.953)			(-2.554)	(-2.453)
BUSRISK*CFRIGHT1ST*OWNDUAL			0.001	0.0005			0.008*	0.007[a]
			(1.559)	(1.292)			(1.663)	(1.566)
BUSRISK*CFRIGHT1ST*(1-OWNDUAL)			0.001*	0.001			0.009***	0.008***
			(1.672)	(1.345)			(3.630)	(3.481)
TODIRECT	0.038	0.035	0.037	0.034	0.291[a]	0.226	0.175*	0.159[a]
	(1.381)	(1.250)	(1.329)	(1.211)	(1.575)	(1.515)	(1.756)	(1.606)
TOINDIRECT	-0.018	-0.012	-0.016	-0.010	0.049	0.033	0.018	0.020
	(-1.390)	(-1.072)	(-1.160)	(-0.903)	(0.509)	(0.345)	(0.310)	(0.347)
Adjusted R-squared	0.1537	0.1873	0.1618	0.1911	0.4990	0.5491	0.7758	0.7759
N	270	270	270	270	244	244	244	244

***, **, * and [a] denote significance at the 1, 5, 10 and 12 percent levels respectively.