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—Ownership Structure, Debt Financing, and Corporate Diversification—

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1. Introduction

East Asia, the focus of the financial crisis of 1997, was a region¹ that had only recently achieved unparalleled economic development. The conventional view has held that investor attitude, along with economic fundamentals, helped to cause the collapse. Also coming in for analysis have been the mechanisms which could allow a country to suffer substantial successive damage after the crisis.

However, our analysis – which used firm-level data on the East Asian area – indicated that the outbreak of the Asian crisis was followed not only by a generally negative impact on the performance of firms, but also by expanded cross-firm variation in performance. This suggests that the effects of the Asian crisis were not necessarily uniform across the corporate sector. Another possibility to be considered is that performance may have been influenced significantly by elements peculiar to individual firms.

In this paper we focus on the corporate governance problems in a firm's idiosyncratic elements. We develop our argument around the close relationship of corporate governance problems, such as immaturity and inefficiency, to the Asian crisis. We use firm-level data from the five East Asian crisis economies of Indonesia, Korea, Malaysia, the Philippines, and Thailand to study the impact of corporate governance on the performance of firms. We examine three aspects of corporate governance in particular. We will now briefly summarize our findings on how these factors affected corporate performance during the crisis.

The first aspect, ownership structure, is one of the key determinants of corporate governance. We highlight the agency problem between large shareholders and minority shareholders, and measure it in terms of the ownership concentration of controlling shareholders and the divergence between the voting rights and cash flow rights of the controlling shareholders in the firm. We find that in general, these two variables are associated with significantly worse performance during the Asian crisis.

The second aspect is debt. We examine two hypotheses here – the free-cash-flow hypothesis and the debt-overhang hypothesis. We find that the debt-overhang hypothesis is supported in a very limited number of cases, and fail to detect a mechanism by which the free-cash-flow hypothesis asserts itself. Rather, higher debt is associated with significantly worse corporate performance during the Asian crisis. This finding suggests that banks did not efficiently monitor the firms to which they lent their money, and that they tended to engage in “crony lending.”

The last aspect is corporate diversification. We investigate the effects of

diversification on the performance of firms and find strong evidence that diversification worked to worsen performance during the crisis, perhaps because inefficiency involving diversification surfaced at that time.

2. Macroeconomic and Microeconomic Theory on the Asian Financial Crisis

2.1 Traditional Theory on the Asian Financial Crisis

The causes of the Asian financial crisis of July 1997 have been analyzed mainly from the viewpoints of macroeconomics and international finance theory. These theories form the basis for several explanations, such as mid-term acceleration of external debt (from the private as well as the public sector), an aggravation tendency among economic fundamentals, and panic fund recovery by some investors². The IMF is also accused of accelerating the crisis by insisting on conditionality involving major structural reform in the midst of the crisis.

The mechanism of the Asian financial crisis

Although there are several theoretical models that dealt with the mechanism of the currency crisis³, we focus here on the contagion model.

The characteristic feature of the Asian financial crisis is that currency collapsed simultaneously with the contraction of production. Other conditions being equal, currency depreciation will enlarge external demand; this is not, however, observed here. The positive effect of relative price change on the demand side is offset completely by its negative effect on the supply side.

Kiyotaki and Moore (1997), in analyzing a dynamic economy, demonstrate that in such an economy durable assets, such as land, play a dual role. Not only are they factors of production, but they also serve as collateral for loans. The dynamic interaction between credit limits and asset prices turns out to be a powerful transmission mechanism by which the effects of shocks persist, amplify, and spill over to other sectors. The land collateral system equalizes the idiosyncratic features, such as differences in credit risk, possessed by individual firms. While it makes external financing easier for firms, the system cannot serve as an effective barrier to a macroeconomic shock that influences land prices throughout the country.

Miller and Stiglitz (1999) try to explain why the East Asian crisis worsened, using the collateralized borrowing model by Kiyotaki and Moore (1997), hereafter referred to as the KM model. In their model, bankruptcy law and balance sheets play the same roles as land in the KM model. Bankruptcy law is designed to solve problems of

creditor coordination in the absence of contracts. It aims to restructure credits so as to avoid premature liquidation and to divide up the assets in cases where liquidation is necessary. In normal times, bankruptcy conveys a lot of information about the quality of a firm's management and the firm's long-term viability. But in the context of a system-wide failure, little information is conveyed. The mechanisms designed to handle small, idiosyncratic shocks simply cannot cope with a macroeconomic shock of this magnitude. This is because when a large number of firms, say two-thirds of the firms in a country, are insolvent, there are no sufficient resources – human or pecuniary – to address each bankruptcy individually. Moreover, the systemic nature of the bankruptcies makes sorting out net asset positions even more difficult than in normal situations, since the assets of bankrupt firms consist of claims on other firms that are also bankrupt. A further problem is the difficulty of finding new managers or trustees to oversee all of the restructured firms. In the context of the Asian crisis, therefore, even a well-managed firm could easily go bankrupt, simply because it failed to plan for a large-scale devaluation and a substantial rise in interest rates. It thus could generate large-scale connective bankruptcy as a result⁴. Miller and Stiglitz suggest that the Asian crisis had a serious, uniform influence on corporate sectors in the countries concerned.

2.2 Is the Influence of the Asian Crisis Uniform?

In this section, we use firm-level data to investigate whether the Asian crisis had a uniformly negative influence on each country's corporate sector.

Data description

We collected financial data from the Worldscope database for all firms in Indonesia, Korea, Malaysia, the Philippines, and Thailand from 1994 until 2000. The five countries suffered disproportionately in terms of currency depreciation and stock market decline (Mitton 2001). We eliminate firms for which there is not sufficient data from 1994 to 2000. We exclude the period before 1994, as Worldscope covers little data for this period. We eliminate firms that include an unusual value of financial variables even in one year⁵. This process is done twice, as after the first deletion we can still find unusual values included in the data set. Data that exceed plus-or-minus three standard deviations from the average value are defined as unusual values. By performing these processes we obtain a balanced data set⁶.

Since the crisis clearly began in July 1997, we compare a within-country deviation of performance index between firms before 1997 with that after 1997. If the deviation

after 1997 shows little change or shrinks, we will conclude that the Asian crisis had a uniform and serious influence on the corporate sector of the country concerned. If the deviation grows larger after 1997, we will conclude that the Asian crisis had varied influences on the corporate sector in light of the idiosyncratic factors of each firm. We use three typical performance indices of individual firms. The first is *ROA* (the current return on firms' total assets); the second is *ROE* (the net return on firms' equity); and the third is *PMA* (the business profits-to-sales ratio). Summarized statistics for the three indexes are shown in Table 1. We also include *standard deviation*, *standard deviation/mean*, and *standard deviation/median* in Table 1 as deviation indices.

Enlarged deviation

We differentiate Table 1 by performance indices. A general deterioration tendency of performance can be observed after 1997 by mean and median. However, by the indices characteristic, the deterioration of *PMA* is smaller than that of *ROA* and *ROE*. Except for the Philippines, performance indices in all our sample countries are negative; the Philippines was comparatively stable during the crisis period both by mean and by median.

The deviation enlarges after 1997 in general, although the extent of expansion varies by country and index. The deviation indices for Indonesia, Thailand, and Korea showed particular expansion. On the other hand, the expansion was comparatively smaller for Malaysia. For the Philippines, *standard deviation/mean*, *standard deviation/median* expanded due to declining mean and median, but *standard deviation* did not.

The result indicates that the Asian crisis had different influences on corporate sectors in light of the idiosyncratic factors of individual firms. This contradicts any idea that the Asian crisis had a uniform influence on the corporate sector of a specific country.

3. The Influence of the Asian Crisis Analyzed from the Viewpoint of Corporate Governance

3.1 The Features and Problems of Family Control

In the West and Japan, ownership of big firms is comparatively dispersed. East Asian firms, even large ones, are generally owned by one family or by a group corporation under the family's control. These families have close connections with the government and politicians, and dominate the national economy to a significant extent.

Claessens, Djankov and Lang (2000) indicate that families control two-thirds of firms in Indonesia and Korea, over half in Malaysia and Thailand, and 40% in the Philippines⁷. To discuss corporate governance in East Asian firms, we have to take the family control problem into consideration.

Ownership of firms and the agency problem

One important issue in the organization of firms is how to solve or mitigate the agency problem that derives from asymmetric information⁸. But the problems that arise when firm ownership is dispersed are different than when it is concentrated. When ownership is dispersed, as in the US, conflicts of interest between managers and shareholders are the central problem. When ownership is highly concentrated, as in the firms in East Asia, conflicts of interest between controlling shareholders and minority shareholders become the main problem. As Shleifer and Vishny (1997) point out, controlling shareholders may not have a convergence of interests with minority shareholders. A greater degree of control by controlling shareholders implies a greater ability to expropriate minority shareholders⁹.

Voting rights and cash flow rights

Separation of voting rights and cash flow rights is another dominant view concerning the ownership structure of family-controlled firms in East Asia. “Voting rights” refers the degree of control of a company, while “cash flow rights” refers to shareholdings in the firm. If, for example, a family owns 60% of Firm A’s equities, and Firm A owns 30% of Firm B’s equities, the family owns 30% of the voting rights but only 18% of cash flow rights in Firm B.

When voting rights and cash flow rights diverge, the agency problem between large shareholders and minority shareholders becomes more serious. This is because when family-controlled firms suffer a loss, the family is required to pay only 18% for the loss, not 30%.

Ultimate ownership structure

Claessens, Djankov, and Lang (2000)¹⁰ show that the widespread use of pyramidal ownership structures in East Asian firms allows insiders to exercise effective control over a company even when they own relatively few of its cash flow rights. Pyramid structures¹¹ and cross-shareholdings are two of the ways in which families tend to control firms. To clarify the ultimate ownership structures¹², therefore, we have to take pyramid structures and cross-shareholdings into consideration.

Based on this view, we examine the link between ownership structure and firm performance during the crisis using firm-level data.

Survey

We discuss some relevant literature which focuses primarily on the relationship between the Asian crisis and corporate governance.

Johnson, Boone, Breach and Friedman (2000) study country-level data and find that the extent of exchange rate depreciation and stock market performance decline are indeed correlated with aggregate measures of legal protection.

Mitton (2001) studies five East Asian countries at the firm level and finds evidence that during the crisis period, firms with greater disclosure performed better than other firms; corporate diversification is associated with significantly worse performance; and the separation of cash flow rights and control rights did not affect firm performance to a significant extent.

Lemmon and Lins (2001) study eight East Asian countries, also at the firm level, and find strong support for the view that firms with greater separation of cash flow rights and control rights performed worse than others.

3.2 Examination of the Hypotheses concerning the Ownership Structure

In this section, we examine whether firm-level differences in corporate governance can explain differences in corporate performance during the Asian crisis. To that purpose, we match the initial sample of firms that we described in Section 2 with ownership data from Claessens, Djankov and Lang (2000) which contains data from the 1995/1996-time period on control rights and cash flow rights. To assess the impact of corporate governance variables on corporate performance during the crisis, we estimate the following model using the random effects method¹³:

$$PER_{it} = a + b_0 \times CG_{it} + b_1 \times CG_{it} \times D95 + b_2 \times CG_{it} \times D96 + b_3 \times CG_{it} \times D97 + b_4 \times CG_{it} \times D98 + b_5 \times CG_{it} \times D99 + b_6 \times CG_{it} \times D00 + c \times LTA_{it} + \sum d_j \times DIN_j + u_{it} \quad (1)$$

in which the corporate governance variables included will change according to the specification, and other variables are defined as follows:

PER: performance indices (that is *ROA*, *ROE*, *PMA*).

CG: corporate governance variables which will be indicated afterwards according to the specification.

D95~*D00* : year dummies.

LTA: natural logarithm of the book value of total assets

DIN: industry dummies (based on 4-digit SIC level)

while t is time unit; i is individual firm cross-section unit; j is individual industry cross-section unit.

Formula (1) aims at measuring how the impact of corporate governance variables on corporate performance changes over time, using total firm assets and industry dummies as control variables. We particularly want to detect changes in the parameters concerning corporate governance variables just prior to and after the Asian crisis of 1997¹⁴.

Concentration of ownership in firms

As we have stated, family control and concomitant high ownership concentration are predominant in East Asian firms. Claessens, Djankov and Lang (2000) find that at the end of 1996, the ratio of the voting rights of the largest shareholder to total voting rights is 10% for Japan, but 35% for Thailand, 34% for Indonesia, 28% for Malaysia, 24% for the Philippines, and 18% for Korea.

The following hypothesis is drawn by the existence of controlling shareholders who have substantial control and may actually expropriate minority shareholders when conflicts of interest exist between them:

Hypothesis 1: The greater the ultimate control rights of the controlling shareholders, the more serious the agency problem between the controlling shareholders and minority shareholders, and the more inefficient the firm's management. Therefore, these kinds of firms should exhibit larger declines in performance than others during the crisis.

We substitute the voting rights of the controlling shareholders of the firm (VR) for CG in formula (1) to investigate differences in the voting rights effect on performance before and after the crisis.

Table 2 presents the regression results. The coefficients on VR are positive and significant in Korea, Thailand and Malaysia for 1994, but not significantly different from zero in other countries. The coefficients on VR for 1995 are not significantly different from those for 1994. These results indicate that high ownership concentration may not have a negative effect on the performance of firms per se.

However, the coefficients on VR after 1997 shift downward significantly in all specifications of all countries except the one in which the dependent variable is PMA in Indonesia. The magnitude of the shift is largest in 1997 for Thailand, in 1998 for Indonesia, Korea and Malaysia, and in 1998 and 1999 for the Philippines. And the

downward shift continues until 2000 in most specifications.

This result should be interpreted as indicating that higher ownership concentration is correlated with poorer performance during the crisis period, a deterioration that lasts right up until 2000. This result is consistent with our hypothesis.

Separation of voting rights and cash flow rights

The separation of voting rights and cash flow rights is another consequence of a family-controlled ownership structure. Claessens, Djankov and Lang (2000) find that compared with voting rights, cash flow rights are 20% less in Indonesia, 15% less in Korea and Malaysia, 10% less in the Philippines and 6% less in Thailand.

If the separation of voting rights and cash flow rights has the potential to intensify the agency problem between controlling shareholders and other shareholders, then we hypothesize that:

Hypothesis 2: The greater the separation of voting rights and cash flow rights, the greater the incentive for controlling shareholders to engage in expropriation and the more inefficient the firm's management. Therefore, firms of this sort should exhibit larger declines in performance than others during the crisis.

We substitute difference of voting rights and cash flow rights (*DI*) of the firm for *CG* in formula (1) to assess how the effect on performance of the separation of voting rights and cash flow rights will differ before and after the crisis. We eliminate firms in which there is no separation of voting rights and cash flow rights. In doing so we can assess the data set including only those firms with a divergence between voting rights and cash flow rights.

Table 3 presents the regression results. The coefficients on *DI* are significantly positive only in some specifications of Malaysia and the Philippines before the crisis. This result is not evidence that the separation of voting rights and cash flow rights must negatively affect the performance of firms, at least before the crisis. However, the coefficients on *DI* after 1997 significantly shift to negative in all specifications where the dependent variables are the *ROA* of all sample countries. But the coefficients on *DI* in the specifications where the dependent variables are *ROE* and *PMA* of Korea are not significant, neither are the coefficients on *DI* in 1997 significant in specifications where the dependent variables are *ROE* and *PMA* of Thailand, where separation of voting rights and cash flow rights is relatively smaller.

This result is not identical in all specifications and all countries. But most

specifications proved that a greater separation of voting rights and cash flow rights is related with worse performance during the crisis period in countries where the separation of voting rights and cash flow rights is notably large¹⁵.

3.3 The Role Played by Debt

In the previous section we analyzed the ownership structure effect which is the central issue regarding corporate governance in East Asian firms. But other corporate governance mechanisms exist as well. In this section we discuss the role played by debt.

Free-cash-flow hypothesis

The free-cash-flow hypothesis proposed by Jensen (1986, 1989) indicates that debt exerts disciplinary mechanisms on corporate management. Excess cash flow can allow managers to pursue perquisite consumption for themselves. Firms with debt, meanwhile, will manage more efficiently under the monitoring of their creditors.

East Asian firms in general are more likely to run into a certain amount of debt than to have a surplus cash flow. In fact, the average debt ratio (debt/total assets) of our sample firms at the end of 1996 was 51.3% for Indonesia, 75.0% for Korea, 44.8% for Malaysia, 39.8% for the Philippines and 57.1% for Thailand¹⁶.

The financial situation of East Asian firms suggests that we can expect debt to exert a disciplinary mechanism on corporate management if creditors monitor their debtors effectively.

Hypothesis 3: Firms with greater debt would manage more efficiently if creditors effectively monitor their debtors; therefore, these kinds of firms perform better than the others during the crisis period.

Debt-overhang hypothesis

Regarding the role played by debt, however, the debt-overhang hypothesis¹⁷ suggests that firms with excessive debt have trouble attracting new investment even if they bring in a profit, because profits gained from the new investment would be appropriated first to the payment of existing debt.

Hypothesis 4: Firms with excessive debt are likely to lapse into the problem of debt-overhang, lose opportunities to make new profits, and therefore become more fragile during the crisis.

These two hypotheses are contradictory regarding the role of debt. The free-cash-flow hypothesis suggests that debt has a positive effect on firm performance. The debt-overhang hypothesis, on the contrary, points to the negative effect of excessive debt.

We substitute one-period previous debt ratio ($DA_{i,t}$) of the firm for CG into formula (1) to examine the relationship between debt's disciplinary mechanism and the crisis. Then we group our sample firms into three sub samples based on the firms' debt ratio in 1996¹⁸. We define the firms with the lowest 20% of debt ratio as *low debt ratio firms*; those with the highest 20% as *high debt ratio firms*. We examine the debt-overhang hypothesis by comparing the regression result of these two sub samples.

Table 4 presents the regression results. Panel A of Table 4 assesses whether debt has a positive effect on performance as suggested by the free-cash-flow hypothesis. The coefficients on debt ratio are significantly positive for 1994 in all specifications in Thailand, two specifications in the Philippines, and one specification where the dependent variable is ROE in Malaysia. This result is consistent with what the free-cash-flow hypothesis suggests, although we cannot find similar results for Indonesia or Korea. After 1997, however, the coefficients on debt ratio become significantly negative in most specifications. These findings show that the disciplinary effect of debt becomes weaker, but still appears slightly in some specifications in Thailand and the Philippines. But most specifications provide evidence that debt has a negative effect on corporate performance that is contrary to the free-cash-flow hypothesis¹⁹.

We examine the debt-overhang hypotheses by comparing both the magnitude and significance of coefficients on debt ratio of low debt ratio firms (Panel B) and high debt ratio firms (Panel C). We find no significant coefficients for low debt ratio firms in specifications where dependent variables are ROA and ROE in the Philippines. Coefficients are significantly negative for high debt ratio firms, however, and the magnitude of coefficients becomes larger after the crisis. These findings suggest that debt-overhang problems occurred in high debt ratio firms of the Philippines. We find no evidence that debt-overhang problems occurred in other countries. In other words, excessive debt has not necessarily had the negative influence on performance that the debt-overhang hypothesis suggests.

These results are contrary to the free-cash-flow hypothesis and partly consistent with the debt-overhang hypothesis. They suggest that excessive debt did not necessarily have a negative effect on performance, but rather that the funds raised by

debt were used inefficiently, due to a lack of necessary skills, or a flawed monitoring system on the part of creditors, that prevented the disciplinary mechanism from working effectively. These facts might imply the moral hazard problem of crony lending – that lending by family-controlled banks went predominantly to firms controlled by the same family, that is the exposure of crony lending²⁰

3.4 Effects of Corporate Diversification

While it is not a direct corporate governance mechanism, corporate diversification could affect the expropriation problem and the effectiveness of corporate governance in the following ways.

First, diversified firms offer more opportunities for expropriation through misallocation of capital, such as cross-subsidization and over-investment. Second, diversification may hinder corporate governance simply because of the complexity it creates. The complexity of an organization can increase the level of asymmetric information. Expropriation may be more likely if it is more difficult to detect. Third, benefits might accrue to conglomerates, particularly in countries where capital markets are less developed. Diversification is beneficial in emerging markets, because conglomerates can perform through internal markets that allow greater access to capital needed to pursue worthwhile investments. The benefits of diversification are related to capital market development.

Benefits and costs of diversification

Whether corporate diversification benefits or harms firm valuation is a main concern in corporate theory. Chandler, Jr. (1977, 1990) indicates that diversification is beneficial theoretically when merits exist in the profit or cost side, in economies of scope for example. Benefits might accrue to diversification to a firm particularly when the know-how of one industry can be exploited in other industries, or when a firm is a multidivisional structure part of which can be shared inside conglomerates. Lewellen (1971) also indicates that conglomerates are favorable because it saves taxes with more access to external debt whose interest payments are income deductible. Moreover, Stein (1997) suggests that conglomerates might achieve more efficient management by allocating capital efficiently through an internal capital market.

Much of the literature, however, emphasizes the negative rather than the positive effects of diversification. Berger and Ofek (1995) and Rajan, Servaes and Zingales (2000) point to the inefficiency of cross-subsidization; Jensen (1986) stresses the evils of investing in projects that are not expected to turn a profit; and Scharfstein and Stein

(2000) find that rent-seeking activities by the division managers of conglomerates cause distortion in internal capital markets.

Empirical analyses of American firms find that corporate diversification harms firm valuation where, as in the United States, the problems of cross-subsidization, over-investment and inefficient allocation of capital predominate. These studies suggest that diversification is negatively related to efficiency as a consequence of over-investment²¹.

If similar problems exist in East Asian firms, we can make the following hypothesis²²:

Hypothesis 5: Diversified firms exhibit more inefficient management than others. Therefore, these kinds of firms should show relatively larger declines in firm performance during the crisis.

We substitute the numbers of segments (*NS*) used to measure diversification levels for *CG* into formula (1) to investigate how the diversification effect on performance will change before and after the crisis. We also describe the average diversification levels from Worldscope information as 3.5 for Indonesia, 3.4 for Korea, 5.0 for Malaysia, 3.4 for the Philippines and 2.7 for Thailand.

Table 5 presents the regression results. The coefficients on *NS* have a significantly positive effect on performance in the Philippines and Korea in 1994, but do not show any significant effect in other countries. This result does not indicate that diversification has a negative effect on corporate performance, at least before the crisis. However the coefficients on *NS* around 1997 have a significantly negative effect on performance in all countries, and this negative influence lasts right up until 2000.

Overall findings should be interpreted as follows: Diversification resulted in wrongs and inefficiencies that surfaced during the crisis. This is similar to Japan's experience, where diversification advanced during the bubble period but proved a serious constraint on corporate management after the bubble collapsed.

4 Conclusion

Using firm-level data on East Asia, we have shown that cross-firm variation in performance expanded after the outbreak of the Asian crisis. Much of the disparities between firms can be explained by corporate governance problems among each firm's idiosyncratic elements.

Based on firm-level analysis, this paper suggests that ownership concentration

enabling controlling shareholders to expropriate other shareholders; fund raising through debt that is short of effective monitoring by creditors; and inefficiency caused by the ill effects of diversification are all associated with significantly worse performance during the Asian crisis.

The region's predominant governance structure, characterized by family control and conglomerates, was considered a factor in its miraculous economic development but has been seen since the crisis as the origin of crony capitalism²³. We find evidence consistent with this view.

Many subjects remain for further research. The first is the causality issue: Did the crisis expose corporate governance problems, or did corporate governance problems trigger the onset of the crisis? Other exogenous factors may have brought out the problems of corporate governance and the crisis. The causality is unknown in our analysis.

Second, the analysis in this paper did not encompass such country-specific institutional characteristics as corporate law, bankruptcy codes, corporate accounting standards, and corporate finance, which are important factors in regulating the rights and actions of investors and creditors.

Third, we did not provide enough analysis of the issue's political implications. Corporate governance showed many problems deriving from a lack of transparency in corporate management, the lack of sufficiently fair and efficient financial and capital markets, and weak property rights. These institutional vulnerabilities should be checked and corrected. However little literature documents the quantitative effect of reform²⁴.

Our next endeavor is to deepen the economic understanding of corporate governance in East Asia, a subject which has generated much concern in recent years.

Endnotes

¹ Refer to World Bank (1993). Regarding the reconsideration after the crisis, refer to Stiglitz, Yusuf (eds.) (2001).

² Refer to Corsetti, Pesenti and Roubini (1999) and Stiglitz(2000) for the details.

³ For example, a model based on fundamentals (the first generation model) presented by Krugman (1979); a self-fulfilling speculative attacks model based on expectations of the private sector (the second generation model) by Obstfeld(1994); a crisis model by Goldfajn and Valdes (1997) analyzing the fragility of the banking sector as the cause of

crisis (the third generation model).

⁴ They show that crisis management can, in principle, avert collapse in two ways: through forced debt rollovers in the short run; and ultimately through debt write downs.

⁵ We also try to calculate deviation of performance indices including the unusual values from 1989 to 2000 and from 1994 to 2000 respectively. The results are qualitatively similar to those in Table 1. For simplicity, we only report results without unusual value.

⁶ Our database ends up having 564 companies for *ROA*, 558 companies for *ROE*, 615 companies for *PMA* with a total of 2,014 companies in the 5 countries covered by Worldscope. Broken down by economies, the sample covers 73 of 220 Indonesian companies, 136 of 775 Korean companies, 159 of 541 Malaysian companies, 46 of 188 Philippine companies, 150 of 290 Thai companies for *ROA*; and the sample covers 57 of 220 Indonesian companies, 144 of 775 Korean companies, 166 of 541 Malaysian companies, 40 of 188 Philippine companies, 151 of 290 Thai companies for *ROE*; and the sample covers 69 of 220 Indonesian companies, 164 of 775 Korean companies, 178 of 541 Malaysian companies, 40 of 188 Philippine companies, 164 of 290 Thai companies for *PMA*. Worldscope covers most of the listed companies in each country, for example, Worldscope provides the financial information for 750 of the total 857 Korean listed companies in 2003.

⁷ The calculation is based on a fixed cutoff of 10% ownership requirement. The calculation provides similar results even with a cutoff of 20%.

⁸ See Jensen and Meckling (1976).

⁹ There are several ways in which controlling shareholders might gain enough power to pursue objectives that may not coincide with the profit of the firm, at the expense of minority shareholders. They might use their control to link the business to other affiliated firms in which they hold shares. When the manager of the firm is a member of the controlling shareholders' family, the controlling shareholders might cause the firm's profits to be used inefficiently to enhance the manager's interest. Alternatively, they might purchase shares in troubled affiliated firms at artificially high prices as a form of bailout. Johnson, La Porta, Lopez-de-Silanes and Shleifer (2000) define as "tunneling" the actions of controlling shareholders to use their control to transfer resources away from the firm, and indicate that these actions have been carried out legally as well as illegally. Moreover, La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000), as well as Faccio, Lang and Young (2001), study the relationship between expropriation and dividends, and provide an empirical analysis on whether dividends are raised when minority shareholders have adequate institutional protection.

¹⁰ Wiwattanakantang (2001), Khanthavit, Plsiri and Wiwattanakantang (2002) provide a detailed analysis on Thailand.

¹¹ See Obata(2001) for examples of group firms with a pyramid structure in East Asia.

¹² The study by La Porta, Lopez-de-Silanes and Shleifer (1999) is the first to look at ultimate ownership structure in many firms throughout the world.

¹³ We also performed Hausman test (Hausman 1978) against the each model of Hypothesis 3, 4 and 5, and could not reject the null hypothesis in all cases except for the specifications where dependent variables are *ROE* in Indonesia, *ROA* and *ROE* in Korea, *ROA* in Malaysia, *ROA*, *ROE* and *PMA* in the Philippine, *ROE* in Thailand for Hypothesis 3; for the specifications where dependent variables are *ROE* in Indonesia, *ROA* and *ROE* in Korea, *ROE* in Thailand for Hypothesis 5.

¹⁴ From formula (1), it is obvious that b_0 is the coefficient on *CG* for 1994, b_1 is the difference between the same coefficient for 1994 and 1995, b_2 is the difference between the same coefficient for 1994 and 1996,....., and b_5 is the difference between the same coefficient for 1994 and 2000.

¹⁵ Our result is consistent with that of Obata (2001), who focuses on the relationship between firm value and the separation of cash flow rights and voting rights, and presents that the negative effect of the separation on firm value is predominant during the financial crisis, although it cannot be observed in normal times.

¹⁶ The debt ratios of East Asian firms are not particularly high compared with the average debt ratio of listed firms in Japan in 1996 (72.1%) as reported by the financial data bank of the *Japan Policy and Investment Bank*.

¹⁷ See Myers (1977), Myers and Majluf (1984).

¹⁸ The average debt ratio of *low debt ratio firms* as well as *high debt ratio firms* in each country at the end of 1996 is as following:

	<i>high debt ratio firms</i>	<i>low debt ratio firms</i>
Indonesia	74.5%	22.6%
Korea	93.9%	52.4%
Malaysia	76.3%	13.4%
The Philippines	81.9%	4.9%
Thailand	83.6%	28.7%

¹⁹ Among the three performance indices, ROE is directly influenced by debt level because of inclusion of after-tax profit in its numerator, however ROA and PMA are not directly influenced by debt level because they encompass before-tax profit in their numerators.

²⁰ See Laeven (2001), La Porta, Lopez-de-Silanes and Zamarripa (2002) as well as Wiwattanakantang, Kali and Charumillind (2002) about moral hazard problem caused by crony lending.

²¹ See Berger and Ofek (1995), Lang and Stulz (1994), Comment and Jarrell (1995), Servaes (1996), Denis, Denis and Sarin (1997), Shin and Stulz (1998), Denis, Denis and Yost (2002), Mansi and Reeb (2002)

²² Claessens, Djankov, Fan and Lang (2001), and Mitton (2001) study diversification in the East Asian firms, and show that diversified firms perform worse than other firms owing to inefficiency caused by diversification. However, Khanna and Palepu (2000) show that affiliates of diversified business groups outperform unaffiliated firms in India.

²³ See Krugman (1998).

²⁴ In a similar vein, Fan and Wong (2000) analyse the effect on performance firms of outside audit system that is a part of corporate governance.

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Table 1 Summary Statistics of Performance Indices

1. ROA		94	95	96	97	98	99	2000
Indonesia	Number of firms	73	73	73	73	73	73	73
	Mean	9.35	9.44	7.76	0.56	-2.14	9.22	1.15
	Min	-2.31	-6.40	-6.87	-32.35	-63.65	-18.94	-43.91
	Max	26.36	26.14	22.83	26.54	66.91	44.42	42.69
	Median	8.53	8.92	7.44	3.32	0.79	7.52	3.02
	Standard deviation	5.61	5.22	5.17	11.74	23.30	12.05	17.25
	Standard deviation/Mean	0.60	0.55	0.67	20.98	-10.90	1.31	15.05
	Standard deviation/Median	0.66	0.58	0.70	3.53	29.63	1.60	5.70
Korea	Number of firms	136	136	136	136	136	136	136
	Mean	5.27	5.27	3.38	2.56	1.37	4.31	3.60
	Min	-1.63	-0.09	-6.14	-9.80	-29.29	-18.80	-29.79
	Max	12.33	12.97	12.57	8.83	16.05	26.76	31.55
	Median	5.44	5.33	3.97	3.36	4.18	5.09	3.74
	Standard deviation	2.62	2.53	3.09	3.43	8.24	6.74	9.66
	Standard deviation/Mean	0.50	0.48	0.92	1.34	6.00	1.57	2.69
	Standard deviation/Median	0.48	0.48	0.78	1.02	1.97	1.33	2.58
Malaysia	Number of firms	159	159	159	159	159	159	159
	Mean	9.29	8.51	8.20	5.55	1.80	3.18	2.46
	Min	-3.55	-5.82	-6.12	-13.77	-31.46	-35.00	-19.69
	Max	29.96	29.11	30.21	24.33	28.06	30.92	25.25
	Median	8.33	8.17	7.50	4.94	2.31	3.28	2.41
	Standard deviation	5.89	5.54	5.57	6.26	8.54	8.93	6.08
	Standard deviation/Mean	0.63	0.65	0.68	1.13	4.74	2.81	2.47
	Standard deviation/Median	0.71	0.68	0.74	1.27	3.69	2.72	2.52
Philippines	Number of firms	46	46	46	46	46	46	46
	Mean	8.41	7.36	6.48	4.89	3.07	1.84	2.29
	Min	-7.81	-6.44	-9.98	-7.76	-22.41	-10.49	-12.90
	Max	26.98	27.87	23.99	21.59	24.79	14.22	14.63
	Median	6.35	5.56	4.29	3.50	2.31	1.00	2.58
	Standard deviation	8.28	7.48	7.44	5.02	7.64	5.25	5.21
	Standard deviation/Mean	0.98	1.02	1.15	1.03	2.49	2.85	2.28
	Standard deviation/Median	1.30	1.35	1.73	1.44	3.31	5.25	2.02
Thailand	Number of firms	150	150	150	150	150	150	150
	Mean	8.59	7.97	6.09	-8.16	5.41	2.79	4.48
	Min	-9.27	-4.65	-4.56	-50.73	-24.51	-24.00	-24.92
	Max	25.88	20.62	19.71	24.25	29.72	24.28	31.41
	Median	8.19	7.55	5.92	-4.39	5.93	3.38	4.66
	Standard deviation	5.75	4.70	4.25	15.84	9.63	8.27	8.76
	Standard deviation/Mean	0.67	0.59	0.70	-1.94	1.78	2.97	1.96
	Standard deviation/Median	0.70	0.62	0.72	-3.61	1.62	2.45	1.88

Table 1 Summary Statistics of Performance Indices (Continued)

2. ROE		94	95	96	97	98	99	2000
Indonesia	Number of firms	57	57	57	57	57	57	57
	Mean	15.33	14.61	13.47	1.07	-22.49	21.36	1.48
	Min	-5.82	0.74	-12.50	-28.68	-417.62	-244.98	-132.70
	Max	44.85	39.75	35.09	24.69	89.41	128.30	128.24
	Median	14.14	13.82	13.03	1.76	-0.80	15.31	7.76
	Standard deviation	10.57	8.58	9.76	9.57	83.90	54.04	40.97
	Standard deviation/Mean	0.69	0.59	0.72	8.96	-3.73	2.53	27.66
	Standard deviation/Median	0.75	0.62	0.75	5.43	-105.17	3.53	5.28
Korea	Number of firms	144	144	144	144	144	144	144
	Mean	7.58	6.08	-0.28	-3.99	-15.59	-3.30	-6.49
	Min	-25.73	-35.54	-30.65	-80.14	-323.06	-426.15	-302.06
	Max	46.26	44.73	25.70	10.29	502.25	374.82	131.76
	Median	6.58	6.20	2.39	-0.31	-0.90	7.75	3.39
	Standard deviation	7.82	8.87	9.34	12.05	94.60	79.54	59.55
	Standard deviation/Mean	1.03	1.46	-33.41	-3.02	-6.07	-24.10	-9.18
	Standard deviation/Median	1.19	1.43	3.92	-38.79	-104.61	10.27	17.57
Malaysia	Number of firms	166	166	166	166	166	166	166
	Mean	14.34	14.81	13.05	7.70	-0.57	3.58	3.23
	Min	-7.94	-13.82	-16.97	-31.03	-62.15	-71.87	-111.78
	Max	47.29	47.96	41.21	40.10	58.65	108.31	109.76
	Median	12.81	14.24	12.20	7.05	1.42	5.50	3.58
	Standard deviation	10.40	9.61	9.68	10.57	13.75	26.72	23.86
	Standard deviation/Mean	0.73	0.65	0.74	1.37	-24.33	7.47	7.39
	Standard deviation/Median	0.81	0.67	0.79	1.50	9.67	4.86	6.66
Philippines	Number of firms	40	40	40	40	40	40	40
	Mean	15.16	10.71	9.10	4.54	2.09	0.63	2.35
	Min	-17.36	-11.78	-17.38	-15.05	-51.22	-53.20	-29.23
	Max	54.18	32.84	34.08	16.97	51.40	39.61	51.17
	Median	12.19	11.99	10.81	4.17	1.97	2.48	2.17
	Standard deviation	15.67	9.75	11.48	7.46	17.66	15.23	12.77
	Standard deviation/Mean	1.03	0.91	1.26	1.64	8.45	24.01	5.44
	Standard deviation/Median	1.29	0.81	1.06	1.79	8.97	6.14	5.89
Thailand	Number of firms	151	151	151	151	151	151	151
	Mean	17.91	13.93	10.26	0.65	1.93	1.08	1.76
	Min	-38.07	-21.87	-21.30	-37.52	-334.84	-290.30	-172.97
	Max	76.20	51.86	45.52	38.59	264.36	412.36	118.43
	Median	17.62	13.20	9.37	1.35	7.86	2.97	5.72
	Standard deviation	15.00	11.28	10.38	12.74	72.65	76.64	36.02
	Standard deviation/Mean	0.84	0.81	1.01	19.66	37.66	70.74	20.41
	Standard deviation/Median	0.85	0.85	1.11	9.47	9.24	25.85	6.30

Table 1 Summary Statistics of Performance Indices (Continued)

3. PMA		94	95	96	97	98	99	2000
Indonesia	Number of firms	69	69	69	69	69	69	69
	Mean	14.95	14.97	13.17	12.47	13.03	10.00	9.75
	Min	1.29	0.32	-9.33	-14.40	-106.56	-62.28	-60.12
	Max	34.57	42.02	35.15	36.47	54.07	37.48	37.70
	Median	13.80	13.72	12.79	12.43	13.72	12.08	11.04
	Standard deviation	8.38	9.21	9.42	10.22	19.50	16.88	15.76
	Standard deviation/Mean	0.56	0.62	0.71	0.82	1.50	1.69	1.62
	Standard deviation/Median	0.61	0.67	0.74	0.82	1.42	1.40	1.43
Korea	Number of firms	164	164	164	164	164	164	164
	Mean	7.57	6.62	5.45	5.37	0.89	5.38	5.45
	Min	-4.42	-1.70	-9.57	-23.96	-118.09	-28.22	-54.27
	Max	24.00	19.59	18.10	20.93	25.47	32.78	48.35
	Median	7.12	5.87	5.53	5.89	5.29	5.91	5.95
	Standard deviation	4.72	4.49	4.42	6.40	16.62	8.17	10.59
	Standard deviation/Mean	0.62	0.68	0.81	1.19	18.75	1.52	1.94
	Standard deviation/Median	0.66	0.77	0.80	1.09	3.14	1.38	1.78
Malaysia	Number of firms	178	178	178	178	178	178	178
	Mean	15.81	16.57	15.96	14.51	7.34	6.29	6.80
	Min	-16.49	-25.15	-18.40	-24.44	-69.67	-107.29	-45.12
	Max	52.64	60.99	62.29	62.40	58.05	61.79	47.64
	Median	14.02	13.65	13.38	12.14	6.93	7.34	7.17
	Standard deviation	11.38	13.12	12.97	12.45	18.09	22.53	15.44
	Standard deviation/Mean	0.72	0.79	0.81	0.86	2.46	3.58	2.27
	Standard deviation/Median	0.81	0.96	0.97	1.03	2.61	3.07	2.15
Philippines	Number of firms	40	40	40	40	40	40	40
	Mean	21.25	21.39	19.93	19.06	12.26	11.87	13.64
	Min	1.61	0.20	-0.81	-37.00	-29.71	-31.22	-41.35
	Max	55.13	51.44	51.79	57.75	57.29	64.59	62.44
	Median	17.01	17.27	16.44	16.02	10.36	10.33	10.63
	Standard deviation	13.55	14.01	15.20	17.71	17.01	19.08	17.36
	Standard deviation/Mean	0.64	0.65	0.76	0.93	1.39	1.61	1.27
	Standard deviation/Median	0.80	0.81	0.92	1.11	1.64	1.85	1.63
Thailand	Number of firms	164	164	164	164	164	164	164
	Mean	13.14	12.16	10.09	5.57	1.35	1.38	5.24
	Min	-22.48	-21.25	-28.09	-36.24	-79.92	-113.10	-45.53
	Max	47.71	47.29	42.39	48.60	42.80	47.18	67.55
	Median	12.37	10.24	9.78	6.25	4.15	5.84	5.44
	Standard deviation	11.38	11.31	10.82	13.27	19.08	22.77	14.78
	Standard deviation/Mean	0.87	0.93	1.07	2.38	14.09	16.51	2.82
	Standard deviation/Median	0.92	1.10	1.11	2.12	4.59	3.90	2.72

Table 2 The Effect of Ownership Concentration on Performance

(1) Indonesia

Dependent Variables	ROA		ROE		PMA	
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value
Ownership concentration (VR)	0.07	0.51	-0.14	-0.08	-0.09	-1.14
$VR \times D95$	0.01	0.24	-0.04	-0.17	-0.01	-0.23
$VR \times D96$	-0.02	-0.32	-0.07	-0.33	-0.02	-0.44
$VR \times D97$	-0.18	-2.88 ***	-0.43	-1.81 *	-0.03	-0.46
$VR \times D98$	-0.20	-3.02 ***	-0.75	-2.93 ***	0.03	0.54
$VR \times D99$	0.09	1.33	0.09	0.36	-0.09	-1.57
$VR \times D00$	-0.13	-1.83 *	-0.54	-2.01 **	-0.08	-1.28
Log (total assets) (LTA)	-1.63	-1.17	2.43	0.41	-1.55	-1.41
Intercept	27.11	1.36	-0.75	-0.01	38.07	2.52 **
Overall R-squared	0.441		0.244		0.506	
Number of observations(Number of firms)	392(56)		294(42)		336(48)	

(2) Korea

Dependent Variables	ROA		ROE		PMA	
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value
Ownership concentration (VR)	0.12	2.24 **	0.18	0.47	0.17	2.32 **
$VR \times D95$	-0.01	-0.21	-0.05	-0.14	-0.05	-1.17
$VR \times D96$	-0.10	-2.74 ***	-0.32	-0.93	-0.11	-2.34 **
$VR \times D97$	-0.13	-3.63 ***	-0.44	-1.27	-0.10	-2.19 **
$VR \times D98$	-0.16	-4.42 ***	-0.93	-2.68 ***	-0.29	-6.09 ***
$VR \times D99$	-0.05	-1.24	-0.40	-1.15	-0.09	-1.97 **
$VR \times D00$	-0.08	-2.11 **	-0.34	-0.97	-0.07	-1.54
Log (total assets) (LTA)	0.75	2.25 **	-1.43	-0.63	1.49	3.35 ***
Intercept	-6.73	-1.15	20.01	0.50	-12.48	-1.62
Overall R-squared	0.206		0.107		0.280	
Number of observations(Number of firms)	777(111)		805(115)		812(116)	

(3) Malaysia

Dependent Variables	ROA		ROE		PMA	
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value
Ownership concentration (VR)	0.01	0.09	0.26	2.00 **	0.40	2.28 **
$VR \times D95$	0.01	0.38	0.03	0.42	0.01	0.23
$VR \times D96$	0.02	0.80	0.01	0.10	0.03	0.45
$VR \times D97$	-0.02	-0.81	-0.14	-1.85 *	-0.01	-0.20
$VR \times D98$	-0.13	-4.63 ***	-0.40	-5.22 ***	-0.21	-3.22 ***
$VR \times D99$	-0.11	-3.85 ***	-0.30	-3.95 ***	-0.23	-3.56 ***
$VR \times D00$	-0.11	-3.96 ***	-0.17	-2.19 **	-0.24	-3.66 ***
Log (total assets) (LTA)	-1.74	-2.95 ***	0.46	0.39	1.34	1.02
Intercept	27.48	4.73 ***	3.78	0.32	-7.54	-0.50
Overall R-squared	0.432		0.319		0.401	
Number of observations(Number of firms)	560(80)		595(85)		602(86)	

(4) Philippines

Dependent Variables	ROA		ROE		PMA	
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value
Ownership concentration (VR)	0.16	1.10	0.26	1.06	-0.18	-0.62
$VR \times D95$	-0.03	-0.45	-0.20	-1.64	0.03	0.29
$VR \times D96$	-0.09	-1.47	-0.36	-2.91 ***	-0.06	-0.56
$VR \times D97$	-0.15	-2.41 **	-0.54	-4.32 ***	-0.10	-0.96
$VR \times D98$	-0.29	-4.57 ***	-0.72	-5.70 ***	-0.44	-4.01 ***
$VR \times D99$	-0.30	-4.68 ***	-0.71	-5.57 ***	-0.43	-3.93 ***
$VR \times D00$	-0.27	-4.23 ***	-0.68	-5.25 ***	-0.32	-2.81 ***
Log (total assets) (LTA)	-0.02	-0.03	1.75	1.37	-0.75	-0.51
Intercept	19.31	2.52 **	-5.97	-0.48	46.78	2.96 ***
Overall R-squared	0.456		0.513		0.644	
Number of observations(Number of firms)	280(40)		252(36)		245(35)	

(5) Thailand

Dependent Variables	ROA		ROE		PMA	
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value
Ownership concentration (VR)	0.30	2.97 ***	0.21	0.64	0.09	0.70
$VR \times D95$	-0.03	-0.61	-0.09	-0.47	-0.03	-0.40
$VR \times D96$	-0.07	-1.52	-0.14	-0.71	-0.07	-0.97
$VR \times D97$	-0.51	-10.82 ***	-0.46	-2.27 **	-0.16	-2.29 **
$VR \times D98$	-0.10	-2.06 **	-0.19	-0.93	-0.33	-4.66 ***
$VR \times D99$	-0.15	-3.21 ***	-0.68	-3.37 ***	-0.39	-5.44 ***
$VR \times D00$	-0.13	-2.84 ***	-0.33	-1.64	-0.21	-2.93 ***
Log (total assets) (LTA)	0.59	0.56	-1.22	-0.35	-1.93	-1.22
Intercept	-14.99	-1.58	12.48	0.36	20.23	1.31
Overall R-squared	0.434		0.202		0.398	
Number of observations(Number of firms)	406(58)		427(61)		462(66)	

(Note 1), regression results of Industry dummies as explanatory variables have been omitted.

(Note 2), asterisks denote significance levels: * indicates significance at the 10% level, ** at the 5% level, *** at the 1% level.

Table 3 The Effect of Separation of voting rights and cash flow rights on Performance

(1) Indonesia							
Dependent Variables	ROA			ROE		PMA	
	Coefficient	Z-Value		Coefficient	Z-Value	Coefficient	Z-Value
Separation of voting rights and cash flow rights (<i>DI</i>)	-0.09	-0.17		0.06	0.02	0.38	0.92
<i>DI</i> * <i>D95</i>	0.08	0.45		0.10	0.15	-0.00	-0.01
<i>DI</i> * <i>D96</i>	0.09	0.52		0.14	0.21	0.00	0.00
<i>DI</i> * <i>D97</i>	-0.29	-1.54	**	-0.63	-0.89	0.10	0.55
<i>DI</i> * <i>D98</i>	-0.47	-2.40	**	-1.51	-2.06	**	0.29
<i>DI</i> * <i>D99</i>	0.35	1.81	*	0.52	0.71	-0.01	-0.05
<i>DI</i> * <i>D00</i>	-0.12	-0.59		-0.77	-1.02	-0.03	-0.14
Log (total assets) (<i>LTA</i>)	-3.05	-1.77	*	-1.69	-0.23	-2.21	-1.37
Intercept	50.00	1.69	*	40.89	0.32	29.62	1.10
Overall R-squared	0.404			0.220		0.451	
Number of observations(Number of firms)	238(34)			182(26)		196(28)	

(2) Korea							
Dependent Variables	ROA			ROE		PMA	
	Coefficient	Z-Value		Coefficient	Z-Value	Coefficient	Z-Value
Separation of voting rights and cash flow rights (<i>DI</i>)	0.32	0.90		0.46	0.25	2.82	0.53
<i>DI</i> * <i>D95</i>	-0.03	-0.26		-0.17	-0.17	-0.06	-0.53
<i>DI</i> * <i>D96</i>	-0.25	-1.85	*	-0.86	-0.88	-0.15	-1.27
<i>DI</i> * <i>D97</i>	-0.35	-2.51	**	-1.29	-1.28	-0.09	-0.68
<i>DI</i> * <i>D98</i>	-0.29	-2.01	**	-0.69	-0.68	-0.16	-1.10
<i>DI</i> * <i>D99</i>	-0.03	-0.23		-0.86	-0.84	-0.03	-0.24
<i>DI</i> * <i>D00</i>	-0.27	-1.80	*	-0.44	-0.42	-0.17	-1.17
Log (total assets) (<i>LTA</i>)	2.37	2.21	**	8.08	1.30	2.60	1.60
Intercept	-30.15	-1.79	*	-118.42	-1.23	-48.85	-0.75
Overall R-squared	0.152			0.115		0.387	
Number of observations(Number of firms)	189(27)			189(27)		161(23)	

(3) Malaysia							
Dependent Variables	ROA			ROE		PMA	
	Coefficient	Z-Value		Coefficient	Z-Value	Coefficient	Z-Value
Separation of voting rights and cash flow rights (<i>DI</i>)	0.48	1.96	**	1.22	2.87	***	0.12
<i>DI</i> * <i>D95</i>	-0.01	-0.11		0.05	0.17		0.11
<i>DI</i> * <i>D96</i>	0.01	0.05		0.01	0.03		0.06
<i>DI</i> * <i>D97</i>	-0.06	-0.62		-0.23	-0.76		0.05
<i>DI</i> * <i>D98</i>	-0.29	-2.68	***	-0.82	-2.67	***	-0.48
<i>DI</i> * <i>D99</i>	-0.27	-2.48	**	-0.80	-2.59	***	-0.59
<i>DI</i> * <i>D00</i>	-0.19	-1.77	*	-0.16	-0.51		-0.72
Log (total assets) (<i>LTA</i>)	-0.35	-0.33		2.30	1.39		-0.00
Intercept	2.42	0.21		-19.85	-1.63		6.91
Overall R-squared	0.414			0.280		0.537	
Number of observations(Number of firms)	182(26)			217(31)		210(30)	

(4) Philippines							
Dependent Variables	ROA			ROE		PMA	
	Coefficient	Z-Value		Coefficient	Z-Value	Coefficient	Z-Value
Separation of voting rights and cash flow rights (<i>DI</i>)	0.04	0.14		0.62	0.72	2.49	2.46
<i>DI</i> * <i>D95</i>	-0.01	-0.07		-0.13	-0.25	-0.24	-0.47
<i>DI</i> * <i>D96</i>	0.18	1.05		-0.07	-0.13	-0.57	-1.05
<i>DI</i> * <i>D97</i>	-0.02	-0.13		-0.78	-1.40	-1.09	-1.82
<i>DI</i> * <i>D98</i>	-0.16	-0.81		-1.18	-2.06	**	-1.68
<i>DI</i> * <i>D99</i>	-0.46	-2.23	**	-1.22	-2.05	**	-2.19
<i>DI</i> * <i>D00</i>	-0.30	-1.32	*	-1.32	-2.05	**	-1.51
Log (total assets) (<i>LTA</i>)	-2.29	-1.59		1.99	0.78		12.35
Intercept	37.49	2.24	**	-9.91	-0.35		-110.02
Overall R-squared	0.728			0.572		0.615	
Number of observations(Number of firms)	49(7)			42(6)		49(7)	

(5) Thailand							
Dependent Variables	ROA			ROE		PMA	
	Coefficient	Z-Value		Coefficient	Z-Value	Coefficient	Z-Value
Separation of voting rights and cash flow rights (<i>DI</i>)	0.06	0.33		0.27	0.25	-0.00	-0.00
<i>DI</i> * <i>D95</i>	-0.06	-0.31		-0.30	-0.27	-0.20	-0.33
<i>DI</i> * <i>D96</i>	0.00	0.01		0.15	0.13	-0.36	-0.59
<i>DI</i> * <i>D97</i>	-0.36	-1.73	*	-0.54	-0.48	-0.56	-0.92
<i>DI</i> * <i>D98</i>	-0.16	-0.79		-0.07	-0.06	-0.75	-1.23
<i>DI</i> * <i>D99</i>	0.03	0.15		-0.55	-0.48	-0.67	-1.10
<i>DI</i> * <i>D00</i>	-0.06	-0.30		-0.43	-0.37	-0.28	-0.45
Log (total assets) (<i>LTA</i>)	-0.85	-0.67		-4.98	-0.74	-2.35	-0.53
Intercept	10.36	0.83		49.47	0.53	29.20	0.48
Overall R-squared	0.314			0.172		0.109	
Number of observations(Number of firms)	42(6)			56(8)		63(9)	

(Note 1), regression results of Industry dummies as explanatory variables have been omitted.

(Note 2), asterisks denote significance levels: * indicates significance at the 10% level, ** at the 5% level, *** at the 1% level.

Table 4 The effect of Debt on Performance

(1) Indonesia

Panel A: full sample firms

Dependent Variables	ROA			ROE			PMA	
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value
Debt ratio ($DA_{i,t}$)	-13.98	-3.03	***	11.23	0.57		-2.51	-0.46
$DA_{i,t} * D95$	0.63	0.19		0.11	0.01		0.60	0.15
$DA_{i,t} * D96$	-1.60	-0.48		-4.53	-0.34		-2.92	-0.72
$DA_{i,t} * D97$	-14.17	-4.14	***	-31.13	-2.25	**	-3.34	-0.77
$DA_{i,t} * D98$	-15.99	-4.77	***	-69.47	-5.09	***	-3.10	-0.72
$DA_{i,t} * D99$	3.56	1.07		-2.09	-0.15		-5.71	-1.33
$DA_{i,t} * D00$	-9.59	-2.83	***	-25.19	-1.81	*	-6.70	-1.53
Log (total assets) (LTA)	0.42	0.50		2.79	0.84		0.43	0.35
Intercept	15.08	1.30		-11.61	-0.23		2.50	0.56
Overall R-squared	0.509			0.289			0.417	
Number of observations (Number of firms)	455(65)			385(55)			441(63)	

Panel B: high debt ratio firms

Dependent Variables	ROA			ROE			PMA	
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value
Debt ratio ($DA_{i,t}$)	-1.83	-0.15		53.88	0.91		11.73	1.02
$DA_{i,t} * D95$	0.56	0.09		3.21	0.11		2.64	0.44
$DA_{i,t} * D96$	-1.31	-0.21		4.68	0.16		-3.30	-0.51
$DA_{i,t} * D97$	-11.90	-1.73	*	-17.39	-0.61		-4.13	-0.54
$DA_{i,t} * D98$	-21.44	-2.85	***	-100.21	-3.57	***	-0.76	-0.09
$DA_{i,t} * D99$	-4.83	-0.64		11.19	0.40		-10.89	-1.27
$DA_{i,t} * D00$	-12.06	-1.59		-24.88	-0.88		-9.19	-1.02
Log(total assets) (LTA)	3.89	1.15		-8.45	-2.06	**	2.06	0.53
Intercept	-38.58	-0.83		87.82	2.08	**	-22.00	-0.42
Overall R-squared	0.382			0.335			0.493	
Number of observations (Number of firms)	91(13)			77(11)			84(12)	

Panel C: low debt ratio firms

Dependent Variables	ROA			ROE			PMA	
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value
Debt ratio ($DA_{i,t}$)	-17.18	-1.28		-11.71	-0.47		-15.25	-0.62
$DA_{i,t} * D95$	-3.07	-0.27		-20.03	-0.65		-1.87	-0.07
$DA_{i,t} * D96$	-2.82	-0.27		-15.82	-0.59		0.48	0.02
$DA_{i,t} * D97$	-13.75	-1.28		-53.51	-1.83	*	-14.85	-0.55
$DA_{i,t} * D98$	-6.20	-0.61		-32.75	-1.30		-23.99	-1.03
$DA_{i,t} * D99$	10.91	1.06		-18.390	-0.76		13.84	0.60
$DA_{i,t} * D00$	-3.45	-0.33		-53.03	-2.10	**	7.16	0.31
Log(total assets) (LTA)	-1.52	-1.64	*	9.67	1.58		2.59	0.42
Intercept	33.03	2.76	***	-110.95	-1.19		-6.40	-0.07
Overall R-squared	0.275			0.520			0.388	
Number of observations (Number of firms)	91(13)			77(11)			84(12)	

(Note 1), regression results of Industry dummies as explanatory variables have been omitted.

(Note 2), asterisks denote significance levels: * indicates significance at the 10% level, ** at the 5% level, *** at the 1% level.

Table 4 The effect of Debt on Performance (continued)

(2) Korea

Panel A: full sample firms

Dependent Variables	ROA			ROE			PMA		
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value	
Debt ratio ($DA_{i,t}$)	-2.69	-1.46		18.12	1.11		0.01	0.01	
$DA_{i,t} * D95$	-0.16	-0.17		-2.02	-0.24		-1.62	-1.54	
$DA_{i,t} * D96$	-2.73	-2.95	***	-11.03	-1.32		-2.94	-2.79	***
$DA_{i,t} * D97$	-3.84	-4.16	***	-17.07	-2.05	**	-2.82	-2.66	***
$DA_{i,t} * D98$	-5.04	-5.54	***	-29.04	-3.55	***	-6.24	-5.95	***
$DA_{i,t} * D99$	-2.08	-2.26	**	-22.70	-2.73	***	-2.90	-2.75	***
$DA_{i,t} * D00$	-3.51	-3.72	***	-22.85	-2.68	***	-4.59	-4.29	***
Log (total assets) (LTA)	0.91	3.82	***	1.23	0.62		1.38	4.25	***
Intercept	-3.67	-0.87		-24.51	-0.71		-6.86	-1.23	
Overall R-squared	0.221			0.116			0.330		
Number of observations (Number of firms)	931(133)			973(139)			889(127)		

Panel B: high debt ratio firms

Dependent Variables	ROA			ROE			PMA		
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value	
Debt ratio ($DA_{i,t}$)	0.03	0.01		120.97	1.31		18.40	2.42	**
$DA_{i,t} * D95$	0.32	0.22		-2.16	-0.09		-3.59	-1.25	
$DA_{i,t} * D96$	-0.49	-0.34		-8.33	-0.35		-3.81	-1.31	
$DA_{i,t} * D97$	-1.99	-1.37		-20.23	-0.84		-7.80	-2.64	***
$DA_{i,t} * D98$	-6.33	-4.37	***	-57.98	-2.39	**	-15.56	-5.35	***
$DA_{i,t} * D99$	-4.36	-3.01	***	-37.74	-1.58		-7.62	-2.61	***
$DA_{i,t} * D00$	-3.62	-2.51	**	-53.92	-2.24	**	-6.92	-2.38	**
Log(total assets) (LTA)	0.38	0.69		0.22	0.02		2.80	2.21	**
Intercept	1.51	0.17		-89.53	-0.60		-40.22	-2.04	
Overall R-squared	0.428			0.177			0.356		
Number of observations (Number of firms)	182(26)			189(27)			175(25)		

Panel C: low debt ratio firms

Dependent Variables	ROA			ROE			PMA		
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value	
Debt ratio ($DA_{i,t}$)	-10.22	-1.86	*	-31.64	-1.49		-4.70	-0.92	
$DA_{i,t} * D95$	-0.34	-0.11		-5.98	-0.39		-1.86	-0.60	
$DA_{i,t} * D96$	-5.08	-1.54		-18.86	-1.24		-5.49	-1.72	*
$DA_{i,t} * D97$	-7.03	-2.11	**	-24.36	-1.62		-3.56	-1.12	
$DA_{i,t} * D98$	-6.54	-2.04	**	-22.39	-1.57		-3.89	-1.26	
$DA_{i,t} * D99$	-3.57	-1.07		-36.15	-2.51	**	-3.79	-1.19	
$DA_{i,t} * D00$	-0.16	-0.05		-9.05	-0.63		-14.59	-4.60	***
Log(total assets) (LTA)	0.53	0.50		6.30	4.09	***	2.23	2.76	***
Intercept	2.72	0.14		-57.93	-2.51	**	-16.19	-1.07	
Overall R-squared	0.235			0.148			0.475		
Number of observations (Number of firms)	182(26)			189(27)			175(25)		

(Note 1), regression results of Industry dummies as explanatory variables have been omitted.

(Note 2), asterisks denote significance levels: * indicates significance at the 10% level, ** at the 5% level, *** at the 1% level.

Table 4 The effect of Debt on Performance (continued)

(3) Malaysia

Panel A: full sample firms

Dependent Variables	ROA		ROE		PMA	
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value
Debt ratio ($DA_{i,t}$)	-0.44	-0.25	10.31	2.41 **	-6.13	-1.65 *
$DA_{i,t} * D95$	-1.42	-1.05	-0.30	-0.09	0.45	0.17
$DA_{i,t} * D96$	-2.13	-1.54	-5.22	-1.48	-1.39	-0.51
$DA_{i,t} * D97$	-6.78	-4.86 ***	-16.71	-4.76 ***	-4.52	-1.62
$DA_{i,t} * D98$	-13.82	-9.99 ***	-35.09	-10.09 ***	-17.74	-6.44 ***
$DA_{i,t} * D99$	-11.09	-8.17 ***	-28.52	-8.29 ***	-19.94	-7.36 ***
$DA_{i,t} * D00$	-10.34	-7.65 ***	-24.63	-7.17 ***	-15.23	-5.61 ***
Log (total assets) (LTA)	0.16	0.49	1.64	2.44 **	2.61	3.15 ***
Intercept	2.25	0.77	0.72	0.11	-0.93	-0.10
Overall R-squared	0.434		0.348		0.439	
Number of observations (Number of firms)	1099(157)		1148(164)		1127(161)	

Panel B: high debt ratio firms

Dependent Variables	ROA		ROE		PMA	
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value
Debt ratio ($DA_{i,t}$)	-2.54	-0.65	14.25	1.20	-3.14	-0.37
$DA_{i,t} * D95$	-0.13	-0.07	-1.55	-0.27	0.76	0.19
$DA_{i,t} * D96$	-1.56	-0.77	-6.42	-1.08	-1.13	-0.27
$DA_{i,t} * D97$	-2.15	-1.03	-13.06	-2.13 **	-5.33	-1.25
$DA_{i,t} * D98$	-6.70	-3.21 ***	-30.75	-5.01 ***	-16.48	-3.87 ***
$DA_{i,t} * D99$	-7.34	-3.52 ***	-31.17	-5.06 ***	-25.84	-6.05 ***
$DA_{i,t} * D00$	-4.88	-2.37 **	-21.59	-3.56 ***	-13.65	-3.19 ***
Log(total assets) (LTA)	0.19	0.32	3.36	1.82 *	5.29	4.16 ***
Intercept	7.28	1.17	-17.12	-1.03	-25.05	-2.11
Overall R-squared	0.293		0.417		0.465	
Number of observations (Number of firms)	217(31)		224(32)		224(32)	

Panel C: low debt ratio firms

Dependent Variables	ROA		ROE		PMA	
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value
Debt ratio ($DA_{i,t}$)	5.67	1.20	23.13	1.64	2.48	0.21
$DA_{i,t} * D95$	-2.14	-0.42	-1.18	-0.07	5.23	0.44
$DA_{i,t} * D96$	-4.91	-0.96	-3.41	-0.18	3.02	0.26
$DA_{i,t} * D97$	-8.89	-1.16	-25.14	-1.07	3.64	0.26
$DA_{i,t} * D98$	-23.13	-3.99 ***	-52.12	-3.04 ***	-2.11	-0.18
$DA_{i,t} * D99$	-14.71	-2.79 ***	-42.51	-2.72 ***	-8.19	-0.75
$DA_{i,t} * D00$	-27.17	-5.14 ***	-13.59	-0.91 **	-30.61	-2.79 ***
Log(total assets) (LTA)	2.05	2.99 ***	4.38	2.63 ***	0.29	0.17
Intercept	-0.50	-0.19	-26.00	-1.72 *	11.84	0.99
Overall R-squared	0.394		0.203		0.525	
Number of observations (Number of firms)	217(31)		224(32)		224(32)	

(Note 1), regression results of Industry dummies as explanatory variables have been omitted.

(Note 2), asterisks denote significance levels: * indicates significance at the 10% level, ** at the 5% level, *** at the 1% level.

Table 4 The effect of Debt on Performance (continued)

(4) Philippines

Panel A: full sample firms

Dependent Variables	ROA			ROE			PMA		
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value	
Debt ratio ($DA_{i,t}$)	9.62	2.59	***	39.66	5.79	***	9.96	1.16	
$DA_{i,t} * D95$	-2.17	-0.89		-9.91	-2.10	**	-0.04	-0.01	
$DA_{i,t} * D96$	-2.86	-1.17		-12.40	-2.65	***	-2.06	-0.47	
$DA_{i,t} * D97$	-5.63	-2.28	**	-24.11	-5.18	***	-4.32	-0.95	
$DA_{i,t} * D98$	-8.42	-3.50	***	-27.80	-6.08	***	-17.45	-3.95	***
$DA_{i,t} * D99$	-11.19	-4.61	***	-32.81	-7.12	***	-21.17	-4.74	***
$DA_{i,t} * D00$	-9.24	-3.85	***	-28.04	-6.19	***	-15.34	-3.39	***
Log (total assets) (LTA)	-0.04	-0.06		1.06	1.02		1.22	0.91	
Intercept	1.81	0.41		-2.50	-0.32		19.93	1.79	*
Overall R-squared	0.410			0.533			0.616		
Number of observations (Number of firms)	322(46)			280(40)			252(36)		

Panel B: high debt ratio firms

Dependent Variables	ROA			ROE			PMA		
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value	
Debt ratio ($DA_{i,t}$)	-22.54	-4.67	***	32.15	0.69		-135.27	-1.83	*
$DA_{i,t} * D95$	-0.61	-0.75		-9.07	-2.44	**	-1.68	-0.29	
$DA_{i,t} * D96$	0.03	0.03		-7.54	-2.00	**	-0.55	-0.10	
$DA_{i,t} * D97$	-1.25	-1.49		-18.86	-4.92	***	-3.79	-0.65	
$DA_{i,t} * D98$	-2.37	-2.86	***	-20.43	-5.38	***	-16.76	-2.89	***
$DA_{i,t} * D99$	-3.89	-4.60	***	-25.24	-6.41	***	-20.05	-3.38	***
$DA_{i,t} * D00$	-3.03	-3.58	***	-20.62	-5.21	***	-11.59	-1.95	*
Log (total assets) (LTA)	-0.22	-1.01		0.84	0.74		-1.32	-0.79	
Intercept	25.55	6.91	***	-13.27	-0.30		139.79	1.95	*
Overall R-squared	0.596			0.726			0.660		
Number of observations (Number of firms)	63(9)			56(8)			49(7)		

Panel C: low debt ratio firms

Dependent Variables	ROA			ROE			PMA		
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value	
Debt ratio ($DA_{i,t}$)	-3.38	-0.35		22.58	1.04		8.57	0.34	
$DA_{i,t} * D95$	2.54	0.17		14.48	0.53		-7.83	-0.28	
$DA_{i,t} * D96$	13.47	0.93		48.43	1.74		-32.65	-1.33	
$DA_{i,t} * D97$	16.45	0.72		52.52	1.30		-54.56	-1.73	*
$DA_{i,t} * D98$	3.66	0.26		15.65	0.61		-74.63	-2.95	***
$DA_{i,t} * D99$	4.00	0.36		8.83	0.38		-35.91	-1.59	
$DA_{i,t} * D00$	12.03	1.26		23.87	1.12		-15.81	-0.72	
Log (total assets) (LTA)	-2.66	-2.38	**	-3.47	-1.76	*	1.88	1.04	
Intercept	19.02	2.53	**	24.75	1.84	*	-1.35	-0.08	
Overall R-squared	0.647			0.595			0.246		
Number of observations (Number of firms)	63(9)			56(8)			49(7)		

(Note 1), regression results of Industry dummies as explanatory variables have been omitted.

(Note 2), asterisks denote significance levels: * indicates significance at the 10% level, ** at the 5% level, *** at the 1% level.

Table 4 The effect of Debt on Performance (continued)

(5) Thailand

Panel A: full sample firms

Dependent Variables	ROA			ROE			PMA		
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value	
Debt ratio ($DA_{i,t}$)	6.36	2.78	***	54.17	4.94	***	17.70	4.63	***
$DA_{i,t} * D95$	-1.32	-0.75		-9.14	-1.08		-2.41	-0.94	
$DA_{i,t} * D96$	-4.72	-2.73	***	-18.50	-2.22	**	-7.19	-2.84	***
$DA_{i,t} * D97$	-31.92	-18.50	***	-37.13	-4.47	***	-15.99	-6.31	***
$DA_{i,t} * D98$	-4.71	-2.88	***	-41.15	-5.22	***	-22.27	-9.14	***
$DA_{i,t} * D99$	-10.04	-6.08	***	-44.21	-5.55	***	-25.30	-10.40	***
$DA_{i,t} * D00$	-7.86	-4.72	***	-37.93	-4.73	***	-17.52	-7.16	***
Log (total assets) (LTA)	0.87	1.86	*	2.45	1.21		1.77	1.86	*
Intercept	-2.39	-0.65		-22.22	-1.37		-4.61	-0.61	
Overall R-squared	0.478			0.226			0.408		
Number of observations (Number of firms)	1008(144)			1043(149)			1064(152)		

Panel B: high debt ratio firms

Dependent Variables	ROA			ROE			PMA		
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value	
Debt ratio ($DA_{i,t}$)	9.41	1.41		116.03	3.06	***	29.44	2.66	***
$DA_{i,t} * D95$	-0.99	-0.26		-5.24	-0.26		-3.97	-0.57	
$DA_{i,t} * D96$	-1.96	-0.52		-13.39	-0.67		-7.11	-1.03	
$DA_{i,t} * D97$	-29.70	-7.97	***	-36.23	-1.81	*	-19.50	-2.85	***
$DA_{i,t} * D98$	-5.09	-1.35		-89.29	-4.50	***	-33.54	-5.00	***
$DA_{i,t} * D99$	-8.86	-2.37	**	-53.20	-2.70	***	-42.99	-6.39	***
$DA_{i,t} * D00$	-8.08	-2.17	**	-35.54	-1.80	*	-22.95	-3.40	***
Log (total assets) (LTA)	-0.43	-1.02		-6.00	-3.02	***	-1.66	-2.44	**
Intercept	3.57	0.68		-8.27	-0.31		7.10	0.77	
Overall R-squared	0.354			0.150			0.272		
Number of observations (Number of firms)	196(28)			203(29)			210(30)		

Panel C: low debt ratio firms

Dependent Variables	ROA			ROE			PMA		
	Coefficient	Z-Value		Coefficient	Z-Value		Coefficient	Z-Value	
Debt ratio ($DA_{i,t}$)	18.41	3.45	***	26.50	1.71	*	25.53	2.59	***
$DA_{i,t} * D95$	-4.12	-0.82		-10.37	-0.72		-5.15	-0.66	
$DA_{i,t} * D96$	-13.00	-2.69	***	-22.04	-1.58		-16.72	-2.24	**
$DA_{i,t} * D97$	-40.33	-7.91	***	-50.50	-3.34	***	-27.00	-3.44	***
$DA_{i,t} * D98$	-15.33	-3.22	***	-60.02	-4.35	***	-37.57	-5.21	***
$DA_{i,t} * D99$	-19.43	-3.79	***	-58.93	-4.00	***	-37.13	-4.96	***
$DA_{i,t} * D00$	-14.29	-2.85	***	-46.83	-3.23	***	-26.96	-3.59	***
Log (total assets) (LTA)	3.24	3.15	***	-1.03	-0.35		2.03	0.96	
Intercept	-24.30	-2.42	**	20.29	0.70		-3.60	-0.28	
Overall R-squared	0.577			0.490			0.441		
Number of observations (Number of firms)	196(28)			203(29)			210(30)		

(Note 1), regression results of Industry dummies as explanatory variables have been omitted.

(Note 2), asterisks denote significance levels: * indicates significance at the 10% level, ** at the 5% level, *** at the 1% level.

Table 5 The effect of Diversification on Performance

(1) Indonesia							
Dependent Variables	ROA		ROE		PMA		
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value	
Number of segment (NS)	-0.20	-0.25	0.01	0.20	1.23	1.50	
NS*D95	0.05	0.10	-0.00	-0.08	-0.01	-0.02	
NS*D96	-0.30	-0.61	-0.00	-0.25	-0.29	-0.64	
NS*D97	-2.15	-4.22 ***	-0.03	-1.65 *	-0.26	-0.51	
NS*D98	-1.87	-3.58 ***	-0.06	-2.98 ***	-0.06	-0.12	
NS*D99	0.17	0.34	-0.00	-0.04	-0.90	-1.74 *	
NS*D00	-1.86	-3.55 ***	-0.03	-1.21	-0.96	-1.81 *	
Log (total assets) (LTA)	-1.38	-1.49	-0.01	-0.19	-1.02	-0.89	
Intercept	31.99	1.97 **	0.46	0.77	22.26	1.36	
Overall R-squared	0.388		0.186		0.400		
Number of observations(Number of firms)	511(73)		399(57)		483(69)		

(2) Korea							
Dependent Variables	ROA		ROE		PMA		
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value	
Number of segment (NS)	0.39	1.36	0.01	0.53	0.21	0.64	
NS*D95	-0.03	-0.16	-0.00	-0.20	-0.24	-1.13	
NS*D96	-0.43	-2.56 ***	-0.02	-1.06	-0.51	-2.36 **	
NS*D97	-0.75	-4.36 ***	-0.03	-1.72 *	-0.61	-2.76 ***	
NS*D98	-0.91	-5.30 ***	-0.05	-3.15 ***	-1.62	-7.39 ***	
NS*D99	-0.27	-1.57	-0.01	-0.96	-0.61	-2.77 ***	
NS*D00	-0.71	-4.09 ***	-0.04	-2.47 **	-0.52	-2.37 **	
Log (total assets) (LTA)	1.16	4.02 ***	0.01	0.28	1.26	3.81 ***	
Intercept	-11.43	-2.29 **	-0.07	-0.22	-6.37	-1.08	
Overall R-squared	0.196		0.103		0.279		
Number of observations(Number of firms)	952(136)		1008(144)		1141(163)		

(3) Malaysia							
Dependent Variables	ROA		ROE		PMA		
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value	
Number of segment (NS)	0.17	0.62	0.01	1.24	-0.82	-1.10	
NS*D95	-0.15	-1.32	0.00	0.23	-0.08	-0.35	
NS*D96	-0.26	-2.22 **	-0.00	-1.14	-0.30	-1.31	
NS*D97	-0.72	-5.86 ***	-0.01	-4.05 ***	-0.75	-3.12 ***	
NS*D98	-1.41	-11.43 ***	-0.03	-8.90 ***	-2.01	-8.30 ***	
NS*D99	-1.21	-9.86 ***	-0.02	-6.76 ***	-2.17	-9.03 ***	
NS*D00	-1.25	-10.20 ***	-0.02	-7.46 ***	-2.17	-9.03 ***	
Log (total assets) (LTA)	0.58	1.41	0.02	2.04 **	3.61	4.38 ***	
Intercept	2.39	0.66	0.01	0.11	-4.30	-0.45	
Overall R-squared	0.437		0.321		0.406		
Number of observations(Number of firms)	1106(158)		1155(165)		1246(178)		

(4) Philippines							
Dependent Variables	ROA		ROE		PMA		
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value	
Number of segment (NS)	1.43	2.10 **	0.03	2.21 **	3.24	1.42	
NS*D95	-0.43	-1.50	-0.01	-2.19 **	0.16	0.27	
NS*D96	-0.57	-1.93 *	-0.02	-2.77 ***	-0.31	-0.51	
NS*D97	-1.01	-3.33 ***	-0.03	-4.74 ***	-0.48	-0.74	
NS*D98	-1.31	-4.28 ***	-0.03	-4.81 ***	-1.76	-2.70 ***	
NS*D99	-1.70	-5.51 ***	-0.04	-5.64 ***	-2.07	-3.14 ***	
NS*D00	-1.67	-5.39 ***	-0.03	-5.25 ***	-1.60	-2.36 **	
Log (total assets) (LTA)	0.18	0.27	0.02	1.28	-0.55	-0.36	
Intercept	-1.37	-0.22	-0.05	-0.50	26.97	1.61	
Overall R-squared	0.447		0.476		0.656		
Number of observations(Number of firms)	322(46)		280(40)		280(40)		

(5) Thailand							
Dependent Variables	ROA		ROE		PMA		
	Coefficient	Z-Value	Coefficient	Z-Value	Coefficient	Z-Value	
Number of segment (NS)	1.39	3.13 ***	0.06	3.28 ***	0.91	1.24	
NS*D95	-0.24	-0.79	-0.01	-0.92	-0.32	-0.69	
NS*D96	-0.68	-2.27 **	-0.02	-1.53	-0.87	-1.87 *	
NS*D97	-4.66	-15.50 ***	-0.05	-3.22 ***	-2.15	-4.60 ***	
NS*D98	-0.83	-2.79 ***	-0.03	-2.10 **	-2.78	-6.00 ***	
NS*D99	-1.49	-4.99 ***	-0.02	-1.58	-2.71	-5.85 ***	
NS*D00	-1.09	-3.67 ***	-0.04	-2.97 ***	-2.10	-4.54 ***	
Log (total assets) (LTA)	0.32	0.51	0.01	0.52	0.74	0.78	
Intercept	2.04	0.33	-0.06	-0.35	5.29	0.73	
Overall R-squared	0.404		0.195		0.367		
Number of observations(Number of firms)	1050(150)		1057(151)		1148(164)		

(Note 1), regression results of Industry dummies as explanatory variables have been omitted.

(Note 2), asterisks denote significance levels: * indicates significance at the 10% level, ** at the 5% level, *** at the 1% level.